What are the attributes of inspirational leadership? A case study of principals of four large schools in Queensland.

Dr. Judi Newman

Thesis

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Professor Ken Purnell Dip Teach, BEd (Dist) [Syd], MA(Hons) [W Mich], Ph.D.

Professor Bruce Knight Dip Teach, B.Ed., MEd(SpEd), Ph.D.FIARLD

Dr. Pete Stebbins BAppSci(Hons), M Clin Psych, MAPS, GAICD

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“The words of a leader matter.

They either inspire or incite.”

President Joe Biden, (2021).

RHD Thesis Declaration

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Abstract

Inspiring teams to engage actively in the teaching and learning improvement agenda of the school is the challenge for every school leader (see, Drago-Serverson & Blum-Destefano, 2018; Fullan, 2018; Green et al., 2013; Kalkan et al., 2020; Kotter et al., 2012; Leithwood et al., 2020) and that inspiration is embedded in the "function of the team's motivation", beliefs and values (Leithwood et al., 2020, p.12). This study aims to determine how a high school principal's leadership impacts the self-reported inspirational levels of their teams. In particular, to identify leadership attributes principals utilise to appeal to the team's inner motivations to inspire them to engage, thus, understand the behaviours and means through which such principals do so.

Contextualised by a literature review, this research is informed by a historical examination of *leadership styles*. Styles based on theories that are inherently human in their approach and, in particular, dependent on the inspirational leader being tuned into people's needs and motivations, are examined from a neuroscientific and psychological perspective.

The research question that addresses a clear gap in the literature is, 'How does a high school principal's leadership, impact staff reported inspiration perceived by their teams?' To answer this question, a case study design using a mixed methods approach, with largely a qualitative focus was used, with data collection from interviews, observation, artefacts and surveys forming the research design. This research examines the extent of *inspirational leadership* of four Queensland high school principals as they interact with their teams. An analysis of the data revealed three clear themes: these high school principals inspire their staff by building *trust*, establishing *rapport and* providing *opportunities for personal and organisational growth*. The research findings add to the evidence base which signifies the crucial attributes of an inspirational leader in Australian high schools.

The findings also provide evidence to support the *social cognitive neuroscience* approach to leadership and have broad implications for development programs beyond schools. It is anticipated that the research findings will assist in considering neurologically based, developmental interventions to enhance inspirational behaviour of school leadership associated with engaging teams in schools and optimising the cooperation of staff.

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Authors: Judi Newman Ph.D. Candidate

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Professor Ken Purnell

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NATURE OF CANDIDATE'S CONTRIBUTION, INCLUDING PERCENTAGE OF TOTAL

In conducting the study, I was responsible for forming the research question, collating literature, collecting data, analysing data, interpreting results and drafting the paper. This publication was written by me and my contribution was 85 % contribution.

NATURE OF CO-AUTHORS' CONTRIBUTIONS, INCLUDING PERCENTAGE OF TOTAL

The co-author, Professor Ken Purnell contributed by critiquing the draft of the article, supervising research and guiding data analysis. His contribution was 15% of co-author's contribution.

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Contents

Abstract v
Acknowledgements vi
Publications related to this study vii
Milestones ix
List of tables xvi
Table of figures xix
List of acronyms xxi
Chapter 1. Introduction 1
1.1 Personal relationship to topic 1
1.2 Purpose 3
1.3 Neurology, inspiration and leadership 5
1.4 Background 6
1.5 The problem of practice 7
1.6 Aims and scope of research 9
1.6.1 Aim 9
1.6.2 Objectives: 9
1.7 Research questions 10
1.7.1 Key questions 10
1.7.2 Sub questions: 10
1.8 Key definitions 11
1.8.1 Further definitions for key terms in this thesis 11
1.9 Limitations and boundaries of this research 12
1.9.1 Researcher bias and assumptions 13
1.10 Summary of research design 14
1.11 Structure of the thesis and scope 15
Chapter 2. Literature Review 16
2.1 Chapter Introduction 16
2.2 Review of dominant leadership styles 21

2.2.1 The term leadership 22
2.2.2 Historical view of leadership 22
2.3 Two general leadership approaches emerge 23
2.3.1 Ego-centred leadership can get results but at the cost of inspirational levels. 24
2.3.2 Relational leadership is more effective by building inspiration 27
2.3.3 Brain patterns show why inspirational leadership is effective 30
2.4 Leadership attributes 31
2.4.1 Comparison of studies in leadership attributes 35
2.5 Motivation, influence and inspiration 36
2.5.1 A critical view of human motivation theory 37
2.5.2 Patterns in motivational inspirational theories 41
2.5.3 Connectedness: Relatedness and belonging 42
2.5.4 Integrity: Trust and fairness 45
2.5.5 Certainty: Expectations, control and clarity 46
2.5.6 Status and appreciation 46
2.5.7 Pleasure and joy 48
2.5.8 Choice, autonomy and freedom 49
2.5.9 Challenge, mastery and growth 49
2.5.10 Purpose 50
2.6 The role of leadership in motivation 50
2.6.1 Personal power over positional authority 50
2.7 Redefining leadership in schools and the gap 53
2.8 Neurobiology and leadership 55
2.8.1 Neuroplasticity and the brain 55
2.8.2 Neuroscience and personal interaction to inspire 59
2.8.3 Humans are hardwired to detect threat and are highly socially sensitive 63
2.8.4 Social interaction reveals emotion that taps into human motivation 69
2.9 Significance and contribution to the field 73
2.10 Chapter summary 74

Chapter 3. Research Design 76
3.1 Chapter Introduction 76
3.2 Overall design 76
3.2.1 Ontology and epistemology background 77
3.2.2 Positionality statement 79
3.3 Recruitment 79
3.4 Conceptual framework 81
3.5 Case study method 88
3.5.1 Defining case study 89
3.5.2 Rationale for case study 90
3.5.3 The rationale for multiple case study 94
3.5.4 Benefits and risks of case study 94
3.5.5 Rationale for mixed methods 96
3.6 Data collection methods 97
3.6.1 Interviews 97
3.6.2 Observation 99
3.6.3 Survey 101
3.6.4 Artefacts 103
3.7 Data analysis methods 103
3.7.1 Protocols for data analysis 104
3.7.2 Coding 106
3.8 Identification of themes 109
3.8.1 Latent and semantic codes 111
3.8.2 Negative and positive coding 112
3.9 Comparing data 113
3.10 Design quality 113
3.10.1 Ethics 113
3.10.2 Credibility 115
3.10.3 Trustworthiness 115

3.10.4 Consistency 116
3.10.5 Transferability 117
3.10.6 Limitations 117
3.10.7 Delimitations 118
3.10.8 Strengths 119
3.10.9 The role of the researcher 119
3.11 Chapter summary 120
Chapter 4. Findings and analysis of results 121
4.1 Chapter introduction 121
4.2 Interview data 122
4.2.1 Coding 122
4.2.2 Analysis of interview data 132
4.2.3 Principal to staff variance 140
4.1 Survey data 142
4.1.1 Variance from school to school 152
4.2 Observation data 154
4.2.1 Analysis of principal observation data 157
4.3 Artefact data 158
4.3.1 Newsletters 158
4.3.2 School Annual Reports 159
4.4 The cases 160
4.4.1 Case 1: School Yellow 161
4.4.2 Case 2: School Red 166
4.4.3 Case 3: School Green 171
4.4.4 Case 4: School Blue 176
4.5 Cross-case analysis 181
4.6 Comparing the different data sources 184
4.6.1 Comparing schools in regard to principal observation 189
4.7 Observations from comparing data 191

4.8 Chapter summary 193
Chapter 5. Discussion 194
5.1 Chapter introduction 194
5.2 Interpretation of findings 194
5.2.1 Link to the conceptual framework: Trust, rapport and growth/purpose 197
5.2.2 The theme of TRUST 197
5.2.3 The theme of RAPPORT 206
5.2.4 The theme of GROWTH 215
5.3 Comparison 222
5.3.1 Is one factor more important than the other? 223
5.3.2 Not all leadership is inspiring 225
5.4 Implications of findings 225
5.5 Contribution of new knowledge 238
5.6 Limitations (and strengths) 239
5.7 Recommendations 239
5.8 Chapter summary 244
Chapter 6. Conclusion 245
6.1 Chapter introduction 245
6.2 Key findings and link to the research aims 245
6.3 Contribution to the field 246
6.4 Recommendations and implications for school leadership development 247
6.5 Future research 249
6.6 Limitations and delimitations of study 250
6.7 Bridging the discipline gap and redefining leadership 251
6.8 Concluding statement 252
References 254
Appendix A: Approval letters 289
Appendix B: Consent forms and information sheets 294
Appendix C: Interview documentation 300

Appendix D: Survey documentation 340

Appendix E: Observation Documentation..... 353

Appendix F: Artefacts..... 381

Appendix G: Cross-case analysis and comparison data..... 385

Appendix H: Other relevant information..... 388

Appendix I Publication summary 413

Appendix J Curriculum vitae..... 414

List of tables

Table 1: Table of definitions 11
Table 2: Key research timeline and data extraction and analysis 19
Table 3: Comparison of leadership attributes to show common themes 33
Table 4: Patterns in motivational inspirational theories 41
Table 5: Interrelated brain processes adapted from Rock, (2008) 65
Table 6: Gordon (2022) framework of emotions to behaviour 66
Table 7: Reward and threat mode combination of integrated research 68
Table 8: Research design systematic procedure 76
Table 9: Metaphor for the three brains 82
Table 10: Case study framework based on Merriam, (2016). 90
Table 11: Case study unit of analysis 92
Table 12: Sample of units of analysis from interviews 93
Table 13: Interview question framework for teachers 98
Table 14: Attributes associated with each survey question 102
Table 15: Response legend for survey Likert Scale 102
Table 16: Data analysis protocol 104
Table 17: Code definitions 107
Table 18: Theme definitions 110
Table 19: Semantic and latent coding 111
Table 20: Inspirational and uninspiring sub-factors 112
Table 21: Tables: Attribute: Integrity 123
Table 22: Attribute: Humility 124
Table 23: Attribute: Strength 124
Table 24: Attribute: Positivity 125
Table 25: Attribute: clarity and certainty 125
Table 26: Attribute: Connectedness 125
Table 27: Attribute: Support 126
Table 28: Attribute: Appreciation 126
Table 29: Contribution: Collaboration 127
Table 30: Attribute: Challenge 127
Table 31: Attribute: Autonomy 128
Table 32: Attribute: Communication 128
Table 33: Attribute: Purpose 128
Table 34: Categories after data analysis 129
Table 35: How principals uninspire their staff 131

Table 36: Comparing staff and principal interviews 140
Table 37: Principal compared to staff frequency of codes in rank order 141
Table 38: PART A of survey, questions 1 – 48 school F and R 142
Table 39: PART A of survey, questions 1 – 48 school B and Y 143
Table 40: Non-factor and factors in survey 145
Table 41: Part B The way I like to be appreciated. 146
Table 42: Part C What value to I place on the person 147
Table 43: Rank order attributes from surveys 148
Table 44: Survey question 73-85 Principal behaviour 149
Table 45: Part E Survey questions 151
Table 46: Scale for survey question 1-48. 152
Table 47: Principal observation, Theme tally: 155
Table 48: Top responses and purpose of principal interaction 156
Table 49: Evidence of words, behaviour, values, feelings and artefacts 156
Table 50: Reasons for not using artefacts in office 158
Table 51: Staff newsletter data 159
Table 52: SAR report 160
Table 53: SAR School Y 161
Table 54: School Y Principals leadership style 162
Table 55: Staff and principal interview response 165
Table 56: School R SAR report 166
Table 57: School Y Principals leadership style 167
Table 58: School R interview results 170
Table 59: SAR School F 171
Table 60: Principal's leadership style 172
Table 61: School F interview results 175
Table 62: SAR School B 176
Table 63: Principal's leadership style 177
Table 64: School B interview results 180
Table 65: Similarities and differences of school cases. 184
Table 66 Triangulation of data 185
Table 67: Observation data cross-case analysis 191
Table 68: Conceptual framework alignment with research data findings 195
Table 69: Quotes reflecting strength 199
Table 70: Quotes reflecting integrity 201
Table 71: Quotes reflecting humility 203
Table 72: Quotes reflecting clarity and certainty 204

Table 73: Quotes representing positivity 206
Table 74: Quotes representing connectedness 209
Table 75: Quotes representing support 210
Table 76: Quotes representing appreciation 212
Table 77: Quotes representing collaboration 215
Table 78: Quotes representing purpose 217
Table 79: Quotes representing challenge 219
Table 80: Quotes representing communication 220
Table 81: Quotes representing autonomy 222
Table 82: Theme alignment 223
Table 83: Survey and interview data comparison 224
Table 84: Implications of findings 226
Table 85: Principal behaviours 234
Table 86: Ways of maximising reward and minimising threat 235
Table 87: Feedback tool to build self-awareness 241
Table 88: Question 1 – 48 showing individual schools 348
Table 89: Rank order of 13 attributes 348
Table 90: School F Question 73-85 349
Table 91: School R Question 73-85 350
Table 92: School B Question 73-85 350
Table 93: School Y Question 73-85 351
Table 94: Frequency of attributes identified in principal observation 378
Table 95: Cross-case analysis data interview coding 386
Table 96: Cross-case analysis data from survey questions 1- 48 386
Table 97: Principal behaviours as reported by school F Survey Q 73-85 387
Table 98: Principal behaviours as reported by school R Survey Q 73-85 387
Table 99: Leadership attributes table series 1. 389
Table 100: Leadership attributes table series 2 390
Table 101: Leadership attributes table series 3. 391
Table 102: Leadership attributes table series 4. 392
Table 103: Leadership attributes table series 5. 393
Table 104: Leadership attributes table series 6 395
Table 105: Scope and rigour of attribute research 396
Table 106: Leadership theory 402
Table 107: The concept of leadership 405
Table 108: Other neuroscience common understandings about leadership behaviour 406

Table of figures

Figure 1: Attributes for inspirational leadership by Bain & Company 36
Figure 2: The parts of the neuron 57
Figure 3: The three brains 83
Figure 4: Conceptual framework 87
Figure 5: Overall bar graph of attributes and themes 130
Figure 6: Attributes in order of frequency drawn from collective interview data..... 130
Figure 7: Integrity 134
Figure 8: Humility 134
Figure 9: Strength 135
Figure 10: Positivity..... 135
Figure 11: Clarity and certainty 136
Figure 12: Connectedness 136
Figure 13: Support 137
Figure 14: Appreciation 137
Figure 15: Collaboration..... 138
Figure 16: Challenge..... 138
Figure 17: Autonomy..... 139
Figure 18: Communication 139
Figure 19: Purpose 140
Figure 20: Line graph showing the Part A Survey, Q. 1- 42..... 144
Figure 21: Line graph showing value placed on praise Survey, Q. 58-59 147
Figure 22: Bar graph showing principal behaviour as reported by school staff 150
Figure 23: Comparison of schools, survey question 1- 48 152
Figure 24: Schools by location 153
Figure 25: Schools by gender 154
Figure 26: Survey, Q. 73-85, Staff reported principal behaviour school Y..... 163
Figure 27: Survey Q. 1-48, Staff reported importance of attributes..... 164
Figure 28: Survey, Q. 73-85, Staff reported principal behaviour in school R..... 168
Figure 29: Survey Q. 1- 48, Staff reported importance of attributes in school R 169
Figure 30: Survey, Q. 73-85, Staff reported principal behaviour in school F 173
Figure 31: Survey, Q. 1-48, Staff reported importance of attributes at school F..... 174
Figure 32: Survey, Q. 73-85, Staff reported principal behaviour in School B. 178
Figure 33: Survey, Q. 1-48, Staff reported importance of attributes in School B. 179
Figure 34: Rank order of attributes by staff for school Y 182
Figure 35: Rank order of attributes by staff for school R..... 182

Figure 36: Rank order of attributes by staff for school F 183
Figure 37: Rank order of attributes by staff for School B 183
Figure 38: Comparing principal and staff interview responses..... 186
Figure 39: Survey questions compared to survey rank order..... 187
Figure 40: Principal behaviour by observation and principal behaviour by survey as reported by staff 189
Figure 41: Comparing the four cases 193

List of acronyms

Acronym	Meaning
PFC	Prefrontal Cortex
vmPFC	Ventromedial Prefrontal Cortex
OFC	Orbitofrontal Cortex
DMN	Default Mode Network
TPN	Task-positive Network
DOE	Department of Education
SAR	School Annual Report
CQU	Central Queensland University
PNT	Positive Neuroplasticity Training
OECD	Organisation for Economic Cooperation and Development
ACEL	Australian Council Educational Leadership
EUA	Units of Analysis
NMT	Neurosequential Model of Therapeutics
PEN	Psychology, Education and Neuroscience
QELI	Queensland Educational Leadership Institute
RAS	Reticular Activating System
fMRI	Functional Magnetic Resonance Imaging
DMN	Default Mode Network

Chapter 1. Introduction

1.1 Personal relationship to topic

I experienced first-hand the impact and influence of different school leadership approaches in my early days as a middle leader in high schools and more recently, as an executive coach to principals and senior leadership teams. I have poignant memories of observing two particular school leaders as they interacted with their team within their role as principal and the deep interest and curiosity I have for this research topic was born out of the social dynamics I observed as I followed two (seemingly) similar leaders whose impacts on the motivation and inspiration levels of their teams were dramatically different, leading to significantly contrasting results.

Rod and Mark (not their real names) were both experienced, senior high school principals, being of similar age and academic backgrounds. They both had a strong work ethic and were considered intelligent men by their peers. Each was kind to me and taught me much about leadership. However, they had very different stories. Our *story* is what others say about us when we are not in the room and represents how others perceive us. Leaders are constantly judged and watched by their teams and a narrative quickly evolves as a result of their behaviours, perceived intent, the decisions they make and how they make others feel. The conversation that transpires during an interaction has a lasting impact on how we feel and can make or break the relationship (Scott, 2010). This story tends to follow us, sometimes uninvited, to job interviews and sits beside us at meetings. We are known by our story, by reputation; seen through other people's eyes. Despite both principals having served just over two years in the principal role, consecutively, of roughly the same group of people, in the same school, Rod and Mark left the school with narratives worlds apart regarding the strength of the inspirational footprint they left behind.

Rod was held in high esteem and the team was in awe of the way he led and interacted with others. They loved working for him and would do anything he asked. He had the capacity to build trust and inspire staff, which over time raised staff morale and united a strong team effort. The high-performance learning culture he established as a result raised school results. Rod was promoted after only a couple of years at the school.

Mark was generally disliked; some avoided him, others didn't trust him and as a result, he attracted minimum cooperation. He appeared to dishearten staff, breed confusion and defensiveness, leading to passive and sometimes active resistance over time. Mark's words often incited and divided his team, and fragmented loyalties and in-fighting soon prevailed. Everyone seemed to have their own agenda and as a result, academic success was difficult

to attain due to the power struggles. After attracting a critical mass of staff complaints to Central Office, he was transferred and given alternate duties in another town.

During this time, in my role as deputy principal, I worked alongside both men, giving me a front-row seat to these events. A deputy principal in a large high school has to be able to step in and out of the principal's role as required. As a result, I was included in most critical conversations and planning meetings in order to keep up to date, as a normal part of my duties.

Although at the time I could not pinpoint why or how the principal's two stories were so different, I learned that year through other staff, that we can't control what others think of us, however we can influence how others think about us through our social interactions and how we make others feel. Staff opinions of Mark and Rod as leaders seemed to have very little to do with how smart the principal was, the time invested on the job, or how many qualifications they had. I wondered then, what magic that Rod seemed to possess that Mark did not? I wanted to assess the interaction dynamics between school principals and the staff, and understand how these can carry such different and life-changing impacts.

These events formed a watershed moment and learning opportunity in leadership. At this time, I had already completed a Bachelor of Education and a Master of Learning Management with a school leadership focus, so I felt my next step was to study for a psychology degree, hoping it would shed light on human behaviour, which in turn introduced me to fascinating insights from neuroscience. Hence, this led to a transdisciplinary approach to my Ph.D., the nature of which emerged from my desire to understand what transpires in the space between a high school principal's interactions with his or her team members; to capture what would at first appear as an invisible dynamic of influence in the form of inspiration. I wondered, what **crucial attributes of a principal's leadership can inspire a team** to engage and cooperate, or not.

The leaders I work with today inspire me on a daily basis. As a consultant, I work with principals across private and state schools, military officers, police, public servants and industry captains across Australia. My brief is to walk alongside these leaders to bolster their influence in their ability to motivate their professional teams to engage to the best of their ability. As I work with them, I aim to communicate their leadership potential so clearly, that they are inspired to see it in themselves (Covey, 2006). During these coaching sessions, principals often confide that they know what to do and why they are doing it but they are not always clear about how to put this into practice. They understand that the technical components of operational management (such as information technology, curriculum, timetabling, facilities and finance) are much easier to learn than the human component of the

strategic leadership work (such as growing other leaders, shaping high-performing learning cultures, establishing collective efficacy and building collaborative practices). To that end, through the research of this thesis, I have captured a bit of Rod's magic in order to clarify the 'how'.

1.2 Purpose

There is consensus in educational leadership literature that the task of improving school culture and systems lie within the leadership. Emerging research suggest why building trusted relationships and inspiring leadership is important (Boyatzis, 2012). Influencing teachers and inspiring them to actively engage in the school improvement agenda, towards a vision (improving student outcomes), is the leadership challenge of all high school principals (Drago-Serverson & Blum-Destetano, 2018; DuFour & Mattos, 2013; Fullan, 1993, 2007, 2009, 2018; Grenny et al., 2013; Kalkan et al., 2020; Leithwood et al., 2020; Shilling, 2017; Wells & Feun, 2013). An improvement agenda requires a leader to lead a team through change (Kotter, 1996; Kotter, 2012) and the success of school change relies heavily on the expertise of the principal (Hattie, 2017; Sharratt & Fullan, 2009) as their actions can promote or impede teacher engagement (Shilling, 2017). Change can be perceived as "a threat to the brain's organising principle and that is safety first. Any change even if it is perceived as beneficial is perceived as a "non-conscious threat to the brain's stability, [threatening] peoples comfort zone" (Gordon, 2022, p. 49) and making the principals role more difficult.

School principals are motivating and coaching their staff while simultaneously trying to adapt to the expectations of change, accountability and renewal (Elliot & Hollingworth, 2020; Kalkan et al., 2020). However, inspiring school teams in a volatile, uncertain, complex and ambiguous (VUCA) world is challenging (Elliot & Hollingworth, 2020). High School principals are expected to have an inherent skill set that allows them to collaborate with their staff teams, keep them focused on students' needs as a priority and inspire the school community to work together and move forward. There is very little empirical research on the nature of inspirational leadership in Australian schools, in order to guide principals to achieve this, but we can look towards business and industry for insight. IBM in a white paper (2012) studied over 1700 Chief Executive Officers (CEO) representing 64 countries and 18 industries and found that the top three leadership traits for effective leadership were:

1. The ability to focus intensely on client needs;
2. The ability to collaborate with colleagues and
3. The ability to inspire.

The three leadership attributes outlined above could easily be applied to schools as they are central to the principal's work in schools (Sharratt & Planche, 2016). John Hattie, (2018) shows collective teacher efficacy as the top factor, out of 252 factors, that impacts on improving student outcomes in schools. This would suggest that an essential role of principals is to be able to inspire their teachers to believe in and engage with the *improvement agenda* of the school. There is much discussion in educational leadership about the relationship between leadership and inspiration of the followers but very little on what specific attributes underpin a principal's leadership that makes a team member actually feel inspired.

National surveys have reflected school principals' concerns about the enormity of their role. Principals report that they feel unprepared for the leadership aspects of the role, which involved motivating teams through change when they start the principalship (Freeman et al., 2014; NSW Report, 2017; OECD Report, 2018). Additionally, Australian principals experience less formal training which supports the transition into their role, than other OECD countries. Clearly, there is room for improvement in supporting school principals in their leadership role, especially when it comes to dealing with others. This thesis aims to examine how a school leader can increase their influence and raise inspiration levels in their team as well as explore whether a neurologically based lens can be considered to enhance behaviour associated with an inspirational leadership approach.

Keying into the neurological and psychological emotive triggers inherent in all individuals is essential for inspiring school teams. There is significant support for this line of thought which relies on an understanding of the brain and how it responds during social interaction. A leader's behaviour that reflects an inspirational leadership approach, taps into the emotional needs of team members so they are much more likely to feel motivated to engage (Feser, 2016; Kouzes & Posner, 1990; Leithwood, et al., 2006; Levin, 2017; Rock & Ringleb, 2013; Waldman et al., 2011; Wang, 2020). Alternately, a leader who relies on power and ego, choosing to lead through fear will be more likely to reduce team motivation and inspiration to engage in the long term, so this type of leadership is not sustainable as it establishes a culture of compliance not one of growth and learning (Boyatzis et al., 2014; Feser, 2016; Rock, 2010a; Waldman et al., 2011). Coercive leadership can get results but there is no correlation between high team inspiration levels with leader-centred leadership styles. I argue that school leadership needs to be redefined and informed by the nature of social cognitive neuroscience.

1.3 Neurology, inspiration and leadership

In the educational setting, an understanding of social cognitive neuroscience and the brain function related to motivation is important. The **way we feel about something, or someone will either inhibit or enable our willingness to engage** (Swart et al., 2015) Feelings cannot be dismissed from social interactions and decision-making as it is almost impossible to think without feeling due to the deeply interrelated neural circuits associated with cognition and emotion (Immordino-Yang, 2016; Perry, 2012). When leaders are not mindful of their emotional wake (Scott, 2010) as they interact with their team, they risk feelings being hurt (Eisenberger, 2012; Holt-Lunstad, 2017). Arguably one of the top Neuroeducationalist in the world, Dr. Judy Willis, (2016) points out that a learner who likes their teacher is less anxious and tries harder, so it could be inferred that a teacher who likes their principal will be more likely to be willing to engage. The argument in this thesis is that neuroscience shows that if a leader tries to influence in an autocratic way in regard to their daily approach (for example, telling, directing, insisting, or coercing) humans are more likely to resist as these methods of influence are incompatible with how the brain operates (Feser, 2016; Henson & Rossouw, 2013; Kelleher, 2016; Perry, 2012; Sharot, 2018; Willis, 2016). Thus, this thesis will define effective leadership as inspirational and relational in nature (Feser, 2016; Waldman et al., 2011)

The central argument of my thesis is based on five themes that have emerged from social cognitive neuroscience, with reference to leadership influence, synthesised from the literature review. **First**, the brain is hard-wired to detect threats (Goleman, 2002; Gordon, 2000, 2022; Lieberman, 2007; Rock, 2008; Rossouw, 2016; Sharot, 2018; Willis, 2016); negative emotions are more easily aroused and negative memories are longer lasting and more deeply felt than positive emotions (Baumeister, et al., 2001; Gordon, 2022; Kennedy, 2021; Rock, 2008).

Second, the brain evolved to operate and belong to a social group (Cacioppo & Patrick, 2008; Carson, 2022; Cozolino, 2014; Eisenberger & Lieberman, 2004; Holt-Lunstad, 2017). Social interactions draw upon the same brain circuits to maximise reward and minimise threat as the brain networks used for instinctive survival needs (Lieberman & Eisenberger, 2008). Correspondingly, the brain responds similarly to social pain as it does to physical pain. Scanning technology shows activation in the dorsal anterior cingulate cortex in response to social rejection as it does for physical pain (Cacioppo & Patrick, 2008). This infers that negative social experiences can easily arouse individuals into a threat response, such as being defensive or resistant (Rock, 2008).

Third, humans have an innate urge to learn and achieve (Arsten, 2015; Willis, 2016). When individuals finish something, move forward by achieving something, or master a challenging skill, the brain releases dopamine. Dopamine is a neurotransmitter that makes humans feel good, is addictive, motivating humans to seek more of the same and some have said giving humans an achievement bias.

Fourth, the motivation driving social behaviour is governed by an overarching organising principle of minimising threat and maximising reward (Gordon, 2000). Individuals, while in reward response, move towards something they want or is pleasurable and avoid something while in threat response, they fear or don't like (Gordon, 2022). Reward mode is described as slightly happy and inspired. Threat mode is described as defensive and resistant (Rock, 2008).

Fifth, the key brain areas of the brain stem (often termed the survival or emotional brain), the limbic system (often termed the social brain)and the neocortex (often termed the thinking or rational brain) responses to social interaction are interrelated and sequential (Perry, 2012). Therefore, emotion and cognition are fundamentally interrelated (Gordon, 2022; Immordino-Yang, & Sylvan, 2010;) and sequentially processed (Perry, 2012). This means feeling and thinking cannot be separated in decision making, therefore, decision making is not a dispassionate process. How we feel about someone or something will drive our motivation and willingness to engage or not (Swart et al., 2015). Thus, if a person feels inspired by a social interaction, they are more likely to make the decision to cooperate and engage. Adversely, if a person feels defensive and resistant, they are more likely to make a decision to resist or disrupt, reducing their desire to engage.

The five underpinning themes together explain why social interactions between a leader and a follower (such as a high school principal and staff member) have an emotional wake (Scott, 2010) impacting a person's willingness to engage. Inspiring people comes down to keying into neurological and psychological triggers in all of us (Feser, 2016). Using this knowledge allows school leaders to better understand how to adjust their behaviours to algin with how the brain operates to maximise inspiration levels.

1.4 Background

The combined insights of psychology and neuroscience in an educational setting have been steadily establishing a body of knowledge about the brain and its relationship to influential leaders (Rock, 2006a). This "emerging transdisciplinary science of mind is in its infancy, but some patterns have emerged", shedding light on some key leadership questions

with regard to what inspires us to connect, cooperate and engage (Fox, 2011; Rock, 2006b p. 41). There is much knowledge that can be drawn from the field of psychology relevant to researching leadership influence and the literature review outlines the dominant theories. However, shifting the focus from psychology to neuroscience is a new way of identifying common themes that influence behaviour to deepen and refine our existing understandings (Perry, 2012) of inspirational leadership.

Social cognitive neuroscience was born out of the field of cognitive neuroscience, an academic field that focuses on understanding mental processes at the neural level. It addresses how the brain thinks, feels and drives behaviour. George Miller coined the term 'cognitive neuroscience' in the early 1980s. Miller (1980) at the time was the co-founder with Jerome Bruner of the Centre of Cognitive Studies at Harvard. Boyatzis et al. (2014) argues that exploring the research of influence within a transdisciplinary approach offers a greater perspective on human behaviour and how it relates to inspirational leadership. Neuroscience and particularly social cognitive neuroscience have many of the same research purposes as leadership development (Rock & Ringleb, 2013) making a strong case for drawing on insights across a number of disciplines to inform leadership influence research.

Some basic understanding of the brain and its neuroplasticity processes are fundamental to the literature review. Innovations in brain scanning technologies add new insights and demystify why certain leadership processes are more effective than others. Waldman et al., (2011) agree that there is much interest in what insights the study of the human brain may hold for understanding effective leadership influence, its assessment and development. Inspirational leadership development is a social phenomenon, so it must occur through biological processes manifesting in the brain (Lieberman, 2007; Ochsner & Lieberman, 2001). Thus, an understanding of how the brain operates is fundamental to understanding the drivers of human social behaviours, hence the neuroscientific focus of the study.

1.5 The problem of practice

The key problem of practice for inspirational leadership in schools is inspiring professional teams who are change fatigued and experiencing high stress levels. Professor Mark Brackett (2010) from Yale University, an emotional intelligence expert, studied the way teachers felt at school; his findings revealing that teachers love the nature of their job but feel overwhelmed. He asked teachers how they felt during their school day. The top four answers, in order, were reported as:

- Frustrated;

- Overwhelmed;
- Tired and
- Happy.

This was an American study, but it would not be a huge leap to interpret the teacher response as a reflection of any large school in the western world. As I work in Australian schools, I converse with teachers weekly , finding that most teachers love their job and find their work very rewarding but also stressful and often overwhelming. There are many studies and reports to support that teaching teams in Australian schools are stressed. In 2020, the Australian Council for Educational Research (ACER), reported that the Organisation for Economic Co-operation and Development (OECD) surveyed teacher stress levels in 48 participating countries, finding that 58% of Australian teachers were feeling medium to high levels of stress; higher than the study's mean stress levels across countries of 49%. The report stated that the causes of stress were grouped into three categories, workload, student behaviour and stakeholder relationships (Thomson, 2020). This survey was conducted prior to the COVID-19 pandemic, so stress levels may have compounded since then. Furthermore, figures obtained from a wide range of reports (AITSL, 2017; Cook, 2016; Gillard, 2019; McCallum et al., 2017; Stebbins, 2017; Thomson, 2020) show that work claims for mental injury have doubled in the last five years, retention rates are declining, pathological levels of stress are increasing and sick leave (due to burn out) is on the rise. Given the importance of the work that teachers do today and reported stress levels, it is important to study how a principal can raise inspirational levels to maximise staff engagement, cooperation, morale and motivational levels. Specifically, understanding what, why and how school staff are inspired in their everyday interactions with their principal may help change the trajectory of the decline in teacher wellbeing and the loss of teachers through illness and resignation.

Another problem of practice regarding the inspiring of teams in schools is that school leaders can no longer rely on their positional power and title to influence others in order to bring about change (Schwantes, 2018; Sharratt & Planche, 2016). Therefore, there is a heavy reliance on the school principal having the ability to build their personal and relational power and therefore develop particular character attributes so that they are in the best position to motivate their team. Inspiring a team to engage is complex and challenging as our brain is hard-wired to detect threats and is socially sensitive (Cacioppo & Patrick, 2008; Perry, 2012; Willis, 2016); requiring more than a technical skillset and is reliant on the leader having a deep understanding of their impact on and ability to connect with others (Goleman et al., 2002; Goden, 2012). Thus, the key problematic challenge for a school principal is to develop their personal power to use alongside their positional power, to bring their authentic and unique self to engage, build trust and inspire others (Feser, 2016; Waters, 2022).

School principals are expected by the system to achieve their goals while establishing a culture where teachers feel supported as valued professionals (Graham, 2015). In busy high schools where principals are responding to a broad range of demands on their time, including finance, facilities, staff training, technology, curriculum development, classroom observations, system requirements, data collection and analysis, parent speeches, staff meetings and strategic planning, it would not be surprising that leaders rarely use inspiration as a tool. Feser, (2016) suggests that this is because inspiring people takes competence and for some leaders, confidence. Inspirational success is dependent on the school principals, training, attitude and character, rather than an innate skill set so inspiring others is grounded in a set of conscious, intentional and learnable behaviours that require experience and maturity (Feser, 2016). Identifying the attributes of a principal's leadership that inspire will provide the opportunity for principals to adjust and adapt their behaviours to motivate their teams.

1.6 Aims and scope of research

1.6.1 Aim

The overall aim of this research is to examine the ways in which high school principals can better understand and strengthen their leadership influence to inspire. This is chiefly from a neuroscience perspective as well as relevant understandings from psychology. The research explores the contemporary understandings of the brain and a principal's human interaction behaviours with their teams to identify the crucial attributes of principal's leadership to inspire. In addition, the research explores if neurologically based interventions can be considered to enhance behaviour associated with inspirational leadership.

1.6.2 Objectives:

1. Case study four high school principals as they interact with their staff to identify how they inspire and if they do so.
2. Interview and survey five teachers from each school to seek their perspectives on how a principal inspires them and how they don't inspire them.
3. Review current PEN literature, leadership styles and motivation literature to identify leadership attributes that have a positive and negative effect on inspiration levels of teams.
4. Create a conceptual framework using a neuroscience lens that will underpin the methodology to investigate principal inspirational leadership.

5. Report the results in alignment with the research questions and conceptual framework in the form of a set of leadership attributes that inspire.
6. Identify leadership interventions (tools or training) that can be utilised to strengthen a school principals influence to inspire based on the leadership attributes.

1.7 Research questions

1.7.1 Key questions

How does a high school principal's leadership impact on staff reported inspiration perceived by their teams? (How)

What are the attributes of a high school principal's inspirational leadership as perceived by teams? (What)

What can neuroscience offer to best understand a principal's inspirational leadership behaviour? (Why)

1.7.2 Sub questions:

1. During an interaction with the principal and staff member, how is the staff member inspired and uplifted and how are they demotivated or disheartened?
2. Are there words, actions, characteristics (values), feelings, or artefacts which are reflective of reward and threat state, in the workplace, used by the principal that affect inspiration? If so, how and to what extent?
3. Can a link be made from the understandings of the brain to a principal's attributes that inspire his or her team members?
4. What are the most significant factors that impact on influence to inspire? Is any one of these more important and do principals utilise these?
5. What additional factors need to be considered regarding a leader inspiring and motivating their teams in a high school context?
6. Is there a difference between school staff expectations and a school principal's intent to inspire?
7. Is there a difference between staff expectations of inspirational attributes and actual principal behaviour?

1.8 Key definitions

This thesis explores the attributes of *inspirational leadership*. A number of inspirational leadership theories describe leaders that have a profound social influence on follower's behaviours, values and motivations to bring about visionary change (see, for example, Feser, 2016; Hogg et al., 2012a; Howell & Shamir, 2005; Rock 2008; Waldman et al., 2011). Indeed, there are variances within the literature, on how to define *inspirational leadership*. While all the definitions informed by the above authors, have some correlation with inspiration, none completely aligns with the nature of this study. In order to reconcile these theories and arrive at a relevant understanding of inspirational leadership to define this thesis, I look to Lieberman, (2007) and Feser, (2016). ***Inspirational leadership*** is a social phenomenon, occurring through biological processes manifesting in the brain (Lieberman, 2007; Ochsner & Lieberman, 2001). Feser, (2016) defines inspirational leadership as a "process of social influence in which you enlist the support of individuals and teams to achieve a common goal". He defined inspirational leadership as "a set of attributes that leaders use to appeal to followers 'inner motivators' with the aim of creating commitment to action and change, empowering them to act" (Feser, 2016). He defines being inspired as creating passion and drive that has an uplifting influence on one's intellect, emotion and energy to transform people and organisations. Thus, I have used this as the grounding for the definition of inspirational leadership in this thesis. Further definitions for key terms used in this thesis are shown in Table 1.

1.8.1 Further definitions for key terms in this thesis

Table 1: Table of definitions

Term	Definition
Leader	In this study, a leader is defined as a person who has the responsibility to unite and inspire a team towards a common vision. For the purposes of the study, the high school principal at each school is the leader.
Team members or staff, followers	For the purpose of this study, team members are any adult in the school that has been employed full time and has a Band 5 – 11 position. This group includes teachers, head of departments and deputy principals. Some leadership research refers to staff as followers and the principal as the leader. So, team members, staff, or followers are interchangeable for the purpose of this study.
Inspire	To **be motivated, a person must feel inspiration** so these two terms are intertwined and sometimes interchangeable for the purpose of the study. Synonyms from the dictionary for inspire include, spark, motivate, excite, uplifted, cause and encourage. These emotional states are characteristic of a reward state, a term used in the study of neuroscience. The words inspire and motivate have been used interchangeably. Technically, inspire in one type of motivation.

Motivation	"Motivation is a state that appears to involve the body and the mind in a dynamic interaction that produces an alertness, arousal and a profound readiness to engage in meaningful action." Immordino-Yang and Sylvan, (2010)
Factors of inspiration or crucial attributes	For the purposes of this study, inspirational factors refer to the aspects of a leader that have an uplifting influence on one's intellect, emotion and energy. The study uses the term *crucial attributes* as factors of inspiration.
Uninspired	Synonyms from the dictionary for uninspired include, dishearten, dissuade, discourage, inflame and defensive. These emotional states are reflective of a threat state.
Influence	To affect or change how someone develops, behaves or thinks. The power to have an effect on people. Cambridge Dictionary, (2020). In this study, influence means influence to inspire. (Note that inspiration is one way to influence)
Threat state	A neuroleadership term used to describe a state of emotion where the brain prioritises processes and neural networks used in survival mode. In threat state the amygdala is over activated and the person is prepared for flight or fight and neurochemicals and hormones are release such as cortisol to enable a rapid response. (Gordon, 2000; Rock, 2006). Similarly, Arsten (2015) refers to reward state as being in a reflective brain state. Also called the *avoid response* (Rock, 2008).
Reward state	A neuroleadership term used to describe a state of emotion where the brain has access to neural networks in the prefrontal cortex. In this state a person is more able to think logically, learn, empathise and make clear decisions. Dopamine is realised to support this conscious thinking process. (Gordon, 2000; Rock, 2006a). Similarity, Arsten, (2015) refers to the threat state as being in a reflexive state. Also called the *approach response* (Rock, 2008).
Principal's behaviour	For the purposes of this thesis when the behaviour of the principal is referred to in the research questions it means their actions and words.
Emotion	There are six universal emotions of sad, angry, surprised, disgust, happy and fear and they are a neurological non conscious response (Kennedy, 2021).
Feelings	There are over 500 feelings and they are a psychological response that are associated to our values and beliefs. Feelings are the contextualising of the emotion that are experienced after an emotion (Kennedy, 2021, Gordon, 2020).

1.9 Limitations and boundaries of this research

Given the expansive nature of neuroleadership literature, it is important to clarify the boundaries of research including what it is about and what it is not about. There is much that could be studied in the area of inspirational leadership. The definition itself expands the scope of the potential research. The definition (stated above in section 1.8) identifies being inspired as creating passion and drive that has an uplifting influence on one's intellect, emotion and energy to transform people and organisations (Feser, 2016). Specifically, this study examines what leadership attributes are evident in how a leader inspires their team. Therefore, this study is focused on only the human elements of influence factors of inspiration, rather than the technical elements such as culture, systems, curriculum or training.

The theoretical groundings of educational leadership in regard to influence have been undergirded in the literature by the constructs of leadership style, change management, visioning, building culture, governance systems and change management systems, all of which could potentially contribute to inspirational levels of staff (Edwards & Martin, 2016). Leadership styles are not central to the study but rather a starting point for the literature review. It is not about examining culture and vision. Although these may be variables and have some impact in how the principal inspires, this study is focused on the construct of how a principal inspires his or her team members through their personal social interaction and behaviours as viewed through a neuroscience lens. Indeed, it is not about measuring inspirational 'levels' in teams as the principal interacts with them, however, this could be an extension of further research in the future. Measuring levels requires a more quantitative research approach, incorporating existing measurement tools of inspiration and using statistical analysis software to assess significance. Therefore, this research is about exploring the perceptions of the school staff on how a high school principal inspires them in their daily work day in context.

1.9.1 Researcher bias and assumptions

Cognitive psychology indicates that humans generate assumptions based on information and past experience (Argyris, 1992). As information comes into the brain through our senses, it detects patterns, based on past experience and develops new wiring aligned with existing neural networks, putting humans at risk of cognitive bias. Some of those assumptions remain unconscious and others become conscious. As a researcher, it is important to acknowledge bias to assist in the transparency of the thinking processes (Birks & Mills, 2011). I was mindful that assumptions born from my experience as a high school principal were brought to awareness as much as possible in order to create trustworthiness and transparency in my data analysis and conclusions drawn from that data.

There are a few assumptions I brought to my study from many years of experience as a high school principal and Lead Principal for the Education Department. I believe that all high school principals are aware that their people skills are just as important as their technical expertise and therefore should be able to talk about their own personal and relational contributions to successful interactions with staff. I believe that staff will have a strong opinion of their principal's leadership style and judge them in part by their ability to build interpersonal connections. This bias is born from my long history as a teacher and principal in schools. I acknowledge that as a former high school principal coach I will have bias, inherit in my thinking, that has emerged out of a deeply lived experience working with principals. My strategy to

mitigate bias was to be mindful and open-minded, focusing on open-ended (non-leading) interview questions and using active listening during the interview phase of this study.

Second, I assumed that school leaders due to their busy agendas do not invest as much time as they would deem useful to reflecting on how they personally impact their staff's emotions as they interact and to what extent an emotional wake is felt by their staff (Scott, 2010). Also, the time taken to differentiate their leadership approach to enhance inspiration levels to consider individual personalities (for example, passions, fears, agendas) in their team may sometimes be neglected when they are consumed by the busy work.

I am also aware that of the bias that has arisen during the literature review. The literature review revealed integrity, trust, connectedness, certainty, appreciation, purpose, pleasure and status as social factors of inspiration. I understand this is a grounding and the appropriate starting point for a study but realise that my empirical data may reveal different factors which I have not considered. Thus, I went into the research with an open mind.

1.10 Summary of research design

Four experienced Australian school principals from large Queensland high schools in Band 10 and 11 State Schools were the key participants in the study. These are some of the largest schools in Australia that have been staffed with experienced principals who have a long history of success. Using a multiple case study methodology with a mainly qualitative approach to data collection, the research aimed to identify the leadership attributes that inspire team members. The data collection methods included interviewing the principals and five of their staff members at each school and observing the principal across a normal workday to capture their interactions with staff in context. Artefacts in the form of newsletters and School Annual Reports were another source of data. The interviews were coded to reveal patterns in themes, using content thematic analysis, to identify the leadership attributes and their associated sub-factors. After the interviews were analysed, a survey was designed to help further deepen and refine categories to determine the most significant influence factors. The twenty teachers who were interviewed were surveyed. Cross-case analysis was used to identify similarities and differences within the four case studies and the collective data was compared across the different data collection methods.

1.11 Structure of the thesis and scope

The literature from three relevant fields: Psychology (especially human motivation), neuroscience (focusing on threat and reward states) and leadership theory (particularly inspiration styles), are incorporated in this transdisciplinary study. The interdisciplinary nature of the study seeks to apply the sciences to educational leadership in order to gain fuller and scientific insights about how to influence to inspire, than any one discipline can provide alone.

Given the key concept regarding the focus of the study is the inspirational behaviour of leaders, the literature review will first be informed by a historical review of leadership styles, then narrowed to identify styles based on theories that are inherently more human focused in approach and dependent on the leaders being tuned into the social-relational needs of their team. Leadership attributes that motivate and inspire teams in the workplace will be explored. The literature review then turns to motivational theories in mainstream psychology and influence factors informed by neuroscience to explore alignment and build on the insights. A conceptual framework emerged from the literature review, as a framework to examine a social experience and the associated brain processes, informed by a threefold model incorporating the survival brain, social brain and the learning brain to deepen understanding of what happens during social interaction, therefore shedding light on the implications for inspirational leadership.

Chapter 2. Literature Review

2.1 Chapter Introduction

Chapter 1 introduced the research question and study aims, presented the underpinning inspiration for my personal interest and passion in the subject of this thesis, outlined the importance of the study and provided a brief background statement to explain the context. This chapter is a literature review to contextualise the study and explore what is known about dominant theories in leadership styles, leadership attributes to inspire teams, the links between neuroscience and behaviour, the role of emotion in interpersonal connections, motivational theory from psychology and ways of influencing. These are the topics that are associated with inspirational leadership and can shed light on the research questions.

A systematic qualitative literature review (Pickering & Byrne, 2013) was conducted starting with leadership studies through to inspirational theories. A systematic qualitative literature review bridges the gap between a traditional narrative review and a formal systemic review (Research tools, Library, CQ University; Professor Catherine Pickering, of Griffith University (2020), incorporating an analytical synthesis of all known literature on the research question. This study was guided by Hallinger's (2013) conceptual framework for systematic literature reviews. Hallinger specified five questions to address and shape the direction of the research, including the central topic of interest, conceptual perspectives, data sources, data analysis and major results. This kept the references chosen on track (as there are many more popular media neuroscience textbooks than research papers). Many of the neuroscience textbooks oversimplified complex brain processes to tailor the content to the target audience so I filtered my selection.

Halinger's (2013) question responses that shaped the literature review incorporated:

(i) Topic of interest: Inspirational leadership;

(ii) Conceptual perspectives: leadership styles; relational leadership, leadership attributes, links of brain and behaviour, five emerging neurosocial themes, approach and avoid response, interpersonal connections and emotion; ways of influence, motivational theory, the three brain conceptual model;

(iii) 414 data sources: including empirical research papers, textbooks, thesis and survey reports;

(iv) Data analysis: Brain scanning technologies and behaviour studies, with both qualitative and quantitative data methods; and

(v) Major findings of key authors: Arsten; Boyatzis, Cacioppo; Cozolino; Feser; Gordon; Holt-Lunstad; Immoralino-Yang; Lieberman; Perry; Rock; Sharot; Wang, Waldman et al.

A scoping review was conducted initially to help identify the volume and type of literature published in the study area. A protocol for the literature research was established.

The protocol used was:

- Define the research question;
- Identify databases to be searched;
- List keywords to be used in the research strategy;
- Develop inclusion and exclusion criteria as a screening process;
- Assess the quality of the study (Peer reviewed, the influence of findings, author credentials, trustworthiness of method and analysis, empirical evidence);
- Analysis and synthesis of key information from relevant literature;
- Develop a matrix of a timeline showing the evolution of key research;
- Identify themes, topics and flow to create coherent chapters;
- Analyse and present results (Draw comparisons, connections, strengths, assumptions, limitations, deficiencies and gaps);
- Summary of research to be reported;
- Interpret the results; and
- Implications and conclusions.

The following scholarly databases, search engines and resources were used to source the literature review and my wider reading:

- ERIC: Educational Resource Information Centre;
- SAGE Journals online;
- Harvard Business Review online;
- ProQuest Social Science Database;
- Informit data base;
- Psychology Collection;
- A+ Education;

- Google Scholar;
- POD casts;
- Textbooks; and
- University curriculum.

The key terms used during online searches included: Neuroleadership; Leadership and neuroscience; school leadership; inspirational leadership; the social brain; leadership influence; inspire; leadership attributes; leadership styles and human motivation theories.

The inclusion criteria used were:

- Any study assessing the effectiveness of school leadership style;
- Any study examining social interaction in regard to motivation;
- Any study exploring leadership attributes;
- Any neuroscience research explaining the brain and influence;
- No restrictions regarding country, gender, age, race;
- Studies written or conducted in the last five to ten years;
- Any key study, despite the date that was considered essential to the research topic; and
- Grey literature was included: Dissertations, reports, newspaper articles.

The exclusion criteria used were:

- Duplicated or redundant research;
- Articles without full text available; and
- Leadership studies in health, business, or military that did not involve the study of inspiration or attributes.

In the initial review of the literature to assess the scope of the topic, I created a table to capture the key researchers to show the development of the research over time. All the authors in Table 2 below are researchers or leaders that who have published a number of academic publications or textbooks in their area of expertise, or a key study that held significant influence.

During the scoping review of existing literature, themes emerged that shaped the literature review and are shown in Table 2.

Table 2: Key research timeline and data extraction and analysis

Broad concept	Emerging themes	Key research over time
Historical view of leadership	Historical review	A range of history references
	Two leadership styles emerge having different impacts on motivation levels Leader-centred and relational	Servant leadership, Greenleaf (1977) Savage-Austin & Honeycutt (2011) Transformational leadership, Burns (1978); Mi et al. (2019) Situational leadership, Blanchard et al. (1993) Emotional leadership, Hargreaves (2000) Transformational leadership, Dvir et al. (2002) Distributed leadership, Gronn (2002). Authentic leadership, Avolio & Gardner, (2005) Charismatic leadership, DeHoogh et al. (2005) Quiet leadership, Rock (2006)a Compare styles, Bass & Bass (2009); McCleskey, (2014) Social identify theory, Haslam et al. (2013) Destructive leadership, Krasikova et al. (2013) Dems and Edwards, compare styles (2015) Two broad categories of leadership, Swart, et al. (2015) Adaptive leadership, Drago-Severson et al. (2018)
Leadership that inspires	Inspirational leadership from a neuroscience perspective Neuroleadership	Kouzes and Posner (1990) Definitions, Lieberman (2007) Defining Neuroleadership, Rock & Ringleb (2008) Definitions, Waldman et al, (2011) Linking Science to inspirational leadership, Boyatzis (2012) Prochilo (2013) Swart et al. (2015) Molenbergh, (2015) Bazigos et al. (2016) Dimitriadis and Psychogios (2016) Definition that defines this study, Feser (2016) Inspiration and leadership, Levin (2017) Olanrewaju & Okorie (2019) Cherry (2018) Van Bavel et al. (2018) Wang (2019) Kalkan, et al. (2020)
	Leadership attributes 24 studies	Kouzes and Posner (1990) Archer et al. (2010) Hossain (2015) Brain synchronisation in communication, Jiang et al. (2015) Enfroy (2021)
	Leadership in schools	My definition of leadership, informed by Lieberman (2007) & Feser (2016) Against mainstream assumptions, Bruer (1997) Using inspirational leadership, Waldman et al. (2011)

		School leadership, Fullan (2018) Leadership and efficacy, Elliot & Hollingsworth (2020)
Neuroscience implications for leadership	The primitive brain has implications for leadership	Stress and the prefrontal cortex, Arsten (1998) Stress and relaxed brain, Gordon (2000) Amygdala research, LeDoux (2002) Primitive man and his brain, Nicholson (1998) Dunbar's number, Dunbar (1990) Experience shapes our neural networks, Cozolino (2014) The Paleo perspective, DeCo (2018)
	The brain's overarching operational function is to maximise reward and minimise threat. Five emerging themes	Integrated and sequential brain, Perry (2012) Stress and PFC, Willis (2016) Emotion and cognition, Immordino-Yang et al. (2016) Integrative brain processes, Gordon (2008, 2010, 2022)
	Humans are wired to detect threat and are highly socially sensitive.	Approach and avoid motivation, Elliot (1999) Prevention and Promotion cues, Friedman and Foster (2001) Reward and threat state, Gordon 2008, 2022) Towards and away response, Lieberman (2007) Reflective and reflexive brain, Arsten (2015) PFC and limbic, Willis (2016)
	Emotion is central to inspirational levels. Emotion and cognition cannot be separated in social interaction	Ladder of inference, Argyris (1970) Mirror neurons, Keysers & Gazala (2006) Emotion and contagion, Phelps (2006) Gordon, (2020) Mood as contagion Bono and Ilies (2006) Insights and the PFC, Jung-Beeman et al. (2008) Emotion and empathy, Decety et. al (2010,2016) The role of positive emotion, Fredickson (2011) Cognitive bias, Kahneman, (2011) Emotions, influence, brain, Immordino-Yang (2016) Leadership and emotions, Lakomski and Evers (2017): Wang (2019). Emotion, feelings and the brain, Kennedy, (2019, 2021) Cues, emotions, bias, feelings, behaviours, Gordon, (2022)
Motivation and inspiration theories	From psychology	Hawthorne effect, Landsberger, (1932) Maslow's hierarch of needs, Maslow (1943) Learned needs theory, McClelland (1985) Equity theory, (Adams, 1963) Expectancy theory, Vroom (1964) Five human motivations, Glasser (1965) ERG theory, Alderfer (1972) Attachment theory, Epstein (1990) Three human motivations, Pink (2011) Human motivation, Hansen, (2014)b Human motivation, Calleghan, (2018)
	From neuroscience	SCARE model, Rock (2008) Three motivations, Rossouw (2016)

Factors of influence to inspire	Connectedness	The social brain, Lieberman (2007) The social brain, Cacioppo and Patrick (2008) Social rejection, Eisenberger (2012) In groups-out groups, Molenberghs (2013) Wired to connect, Lieberman, (2013) The social brain, Cozolino (2014) The social brain, Pinker (2015,2017) The social brain, Holt-Lunstad (2017) Benefits of social connection, Carson (2022)
	Autonomy	Patall and Robinson (2008) Rock (2008) Leotti and Delgado (2014)
	Challenge Growth	Challenge and motivation, Pink (2011) Coaching, Rock (2006) Coaching, Van Nieuwerburgh (2014)
	Status Appreciation	Appreciation, Schwartz (2012) Status, Keltner (2017)
	Purpose	Compelling moral purpose, Fullan 2003 The why, Sinek (2011, 2014)
	Integrity/trust/ Fairness Humility	Honesty and trust, Kouzes and Posner (1990) Trust, Zac et al. (2005) Fairness and the brain, Lieberman (2007) Neuroscience and fairness, Tabibnia et al. (2008) Trust, Tachannen-Morgan, (2014) Trust and vulnerability, Brown (2018)
	Control/choice Certainty/clarity	Choice and motivation, Patall and Robinson (2008) Expectations, Coghill (2015) Control, Kumar (2016)

2.2 Review of dominant leadership styles

This thesis begins with exploring leadership styles in order to determine if a particular style is more inspirational than another. A historical view of leadership styles can be viewed in Table 106, Appendix H. The literature review identified two general categories of leadership; relational leadership and a more leader-centred style, finding that relational leadership styles are more inspirational in nature. The literature review of leadership styles also revealed that inspirational levels are increasingly associated with a leader's behaviours (actions, words, values, feelings) rather than one particular style. The term 'leadership' is then refined and in particular, inspirational leadership. This search was followed by a critical analysis of the more dominant relational leadership styles to detect patterns, to explore insight around the first research question.

2.2.1 The term leadership

For decades, leadership styles and theories have been the source of numerous studies. As a result, there are hundreds of definitions of leadership. In actuality, there are over two hundred differing theories (Bass & Bass, 2009; McCleskey, 2014). Stories of leadership in earlier times were often based around military, royal and political figureheads, with a male-dominant autocratic leadership style. Later as industry expanded, leadership became centred around systemic and management processes and in modern times relational leadership evolved. Before discussing leadership, the literature review starts with defining the concept of leadership. Having identified hundreds of definitions across time, (a sample can be viewed in Appendix H, Table 107), I found three components that repeatedly emerged in leadership definitions:

1. Followers.
2. Purpose/vision.
3. Inspire and Influence.

Followers refers to a group or a team. If a leader is leading and no one is following, then who are they leading? Purpose means a leader has a goal or vision, so they are moving the team towards a preferred future. Third, leaders make a difference by influencing others and inspiring them to move through a change process or changing the group's behaviour.

For the purpose of this thesis, informed by my research and the literature review, particularly Lieberman (2007) and Feser (2016), I argue that leadership needs to be redefined in schools. The style I advocate for would sit neatly under the area of neuroleadership as it is a social phenomenon, occurring through biological processes that manifest in the brain. I define leadership as a process of social influence in which you enlist the support of a team, by appealing to their inner motivations and values with the aim of creating a commitment to action towards a vision. I argue that a school principal needs a set of leadership attributes that have an uplifting influence on the team's intellect, emotions and energy (Feser, 2016) to transform and grow people and organisations. It is helpful at this point to look to leadership styles over time to reveal if one type of leadership style is more inspirational than others.

2.2.2 Historical view of leadership

The first step in the literature review was to explore a historical review of leadership in search of insights to examine the nature of leadership approaches on inspiration. It was important that I invested time in this area initially to establish a firm grasp of leadership as a

construct. This information was descriptive in nature so it can be viewed in Table 106, Appendix H. However, my search highlighted a critical insight; that leadership approaches have evolved over time (to shift and align with the political and cultural context) revealing two main styles, one leader-centred, the other a more relational approach. The literature review that follows starts by exploring these two approaches.

2.3 Two general leadership approaches emerge

Two general types of leadership approaches emerge from the historical view. Over time, there has been a shift from a **leader-centred**, egocentric leadership approach to a more collaborative **relational style**. School leadership too has moved from a top down to a more distributed leadership style over time, transforming school cultures into learning places rather than work places (Hallinger, 2013). Conger & Kanungo (1987) differentiate between relational leadership and ego centred leadership by arguing that ego centred leadership is focused on power and relational leadership is focused on a desire to lead. A brief comparison of relational styles is explored in the next couple of paragraphs. A more relational leadership style moves away from focusing on the principal as an ego-centred, hero leader, and toward a collective interactive approach (Elliot & Hollingworth, 2020). The more leader-centred, fear-based approaches are embedded in positional power and were commonly practiced on the factory floor and in the military. Although autocratic leadership has been successful in the industrial era when the working culture and expectations were different, there is little evidence to show that it is successful today in schools. Examples of leader-centred approaches are autocratic, instructional, coercive and narcissistic leadership styles and are explained in Appendix H, Table 105. This approach to leadership is a simpler one-dimension model of leader and followers. There is a place for a command and control approach in the military and police where a leader cannot risk disobedience in life and death situations. However, for other areas, there is mounting evidence that although this type of leadership can get results, the outcome is at the cost of employee motivation, retention and trust and in the long-term disengagement (Schaufenbuel, 2014). The more relational leadership approach of collaborative leadership, calls for leaders who work with and through others as a reciprocal process (Boyatzis, 2012; Dimitriadis & Psychogios, 2016; Duignan, 2012; Feser, 2016; Krouze & Posner, 1990; Rock & Ringleb, 2013; Wang, 2020). Thus, this type of leadership style is more reliant on being inspirational and relational, focused on motivating others to engage and is well documented in contemporary culture. Examples, outlined in Table 105, Appendix H in this category are servant leadership, distributed leadership, invitational leadership, neuroleadership, transformational leadership, authentic leadership, emotional leadership, adaptive leadership

and inspirational leadership. These theories describe leaders who have an effect on follower behaviours and motivations. A critical view of the different leadership styles to examine to what extent they are considered to be inspirational follows in the next section.

2.3.1 Ego-centred leadership can get results but at the cost of inspirational levels.

Wang (2019) states that more leadership egocentric leadership styles have been largely ignored, with most studies focused on positive relational approaches. However, the studies on leadership centred leadership show that they can get results but at some cost. Leader-centred styles of leadership are less likely to maximise the inspirational levels of the team over time, although they can get results. Leader-centred, ego-centric styles, such as coercive, narcissistic, or autocratic approaches are represented in the literature as being focused on self-interest, toxic behaviours and positional authority in achieving visionary outcomes. Such well documented leaders as Donald Trump, Adolf Hitler and Vladimir Putin, all entrusted to lead a nation in their time, are well documented as coercive narcissistic leaders who have been able to motivate a groundswell of action from their followers, so in that sense, align with the definition of leadership. Those who buy into a more inspirational relational leadership style might find this mystifying. There has been some research showing that collective fear combined with strength from the leader can have a motivating effect on people in times of uncertainty (Hamblin, 2020). Hamblin (2020) in his article 'How Trump sold failure to 70 million people, explains how so many people can follow a leader who is not defined as relational. When a leader shows strength in times of fear (and if that leader tells their followers what they want to hear), they alleviate people's anxiety. This is the case of *identity fusion* which can act as a powerful galvaniser.

Professor William Swann (University of Texas, 2009), coined the phrase *identify fusion*, stating that Trump projected himself as an alternative to the scientists and doctors in a world struggling with a COVID-19 pandemic and an uncertain future. Swann asserted that Trump positioned himself to be the alternative truth and his followers would prefer to believe him rather than face a frightening reality. Swann, explains that the followers feel that Trump promises them a truth no one else can see but "him and them" and it "alleviates the cognitive and emotional load of thinking" for themselves (Swann in Hamblin 2020, p. 2). Once fused with a group or a leader, followers believe things are true, despite the scientific logic, as acting in one mind is ultimately a coping mechanism in terrible times. Orienting their sense of truth around a person (rather than logic) can be more comforting than the alternative.

Additionally, self-centred leadership approaches have been associated with socially aversive personality traits including narcissism, psychopathy and Machiavellianism (Galvin et al., 2010). The narcissistic leader can communicate a clear vision to motivate followers forward but compared to relational leaders, the narcissist is more focused on personal gain and does not connect with others through empathy and trust (Krasikova et al., 2013), hence the long term downfall. The psychopathic trait is associated with decreased activity in the vmPFC and amygdala, which is why psychopaths are incapable of empathising and don't detect fear expressed by others (Decety, et al., 2013). Psychopaths also have decreased activity in the amygdala resulting in a decreased stress response to fear (Blair, 2010). They can mimic empathy and may therefore be seen or perceived as building relationships.

Machiavellianism, manifested by social behaviours of manipulating others for personal and self-serving goals (Wilson et al., 1998) is undergirded by three psychological processes of empathy, emotional contagion and mentalising (Bagozzi et al, 2013). Bagozzi's et al. (2013) neuroimaging study found that a high number of Machiavellians exhibit relatively greater emotional contagion than others but a lower capability of mentalising. They are also more likely to violate trust and be dishonest (Fehr et al., 1992). A leader who is likely to be dishonest, lie and cheat without guilt will be unable to establish trust in their team in the long term (Krasikova et al., 2013; Tschannen-Morgan & Hoy, 2000).

Leader-centred styles of leadership also diminish motivational levels and create compliance culture rather than inspire a team within a learning culture. Howell and Shamir, (2005); Krasikova et al., (2013); Rock, (2010); Schaufenbuel, (2014); and Wang, (2019) found supportive evidence showing that leaders who align their approach with destructive leadership theory manipulate their followers by arousing people's fear and anger which is ultimately ineffective in achieving quality leadership goals in the long term. Neuroscience can shed much light on why destructive leadership outcomes are short-lived, not sustainable, or at the minimum, problematic.

The models of leadership that focus on the leader and discount the importance of the team feeling appreciated and valued do not align with how the brain operates and are explained further in the next section. Telling others what to do as the only approach in leadership, robs them of their own learning and initiative and motivation declines, creating a compliance culture rather than that of a learning one (Dweck, 2006, 2017). If a leader always directs in an autocratic way, motivation comes from the leader's approval and the focus will be on being right, impression management and winning (Dweck, 2006, 2017). Conversely, if a leader asks questions to build capacity, motivation comes from mastery and the focus will be to learn, develop and get better.

There has been very little research in schools on leader-centred styles. However, Blasé and Blasé, (2002) reported one such study of school principals whose leadership approach was destructive, resorting in self-serving, intimidating and retaliation tactics including belittling, disempowering followers, bullying, threatening, coercing and flaying favourites. When processing destructive behaviours, team member's brain areas that are activated are the orbitofrontal cortex and anterior cingulate cortex, the same regions supporting the processing of the identifying of social violations (Fusar-Poli et al., 2009) and heightened activity in the amygdala, sending the team member's brain into the flight-flight response. In this environment, where both leader and follower are in threat mode, innovation and learning reduce, creating a toxic culture of emotions in the organisation (Fusar-Poli et al, 2009). Many neuroscience studies support this concept, demonstrating that an uncomfortable level of stress rapidly evokes chemical changes in the brain that impair the higher cognitive function in our prefrontal cortex (See, for example, Arsten, 2015; Willis, 2016). This would suggest that when we are under pressure or perceived threat from an authoritative micromanager, we are not in the best mindset for feeling inspired, problem solving, critical thinking, taking on feedback or building trust in relationships as these functions are processes that are activated in the PFC.

Alternately, there is a call for a more direct leadership style in schools by some researchers. The above leadership approaches are the extreme end of leader-centred approaches, however there is emphasis currently in the literature placed on instructional leadership being leadership of learning in schools. Some research has found that schools are more successful at improving student outcomes when the school leadership is instructional (Bendikson et al., 2012; Robinson et al., 2008). Instructional leadership is a leader-centred approach and is defined as a direct style with a focus on the higher moral purpose around core business to improve teaching and learning practice (Timperley, 2011). However, Timperley (2011) concedes that to do this well the principal needs to support and encourage their staff and have a high level of emotional intelligence. In a study conducted by Dr. John Hattie and his colleagues, it was shown that in high schools, the principal has a less direct role in practice (compared to primary school principals), in regard to instructional leadership of learning as they have heads of departments and deputy principals to direct learning (Bendikson, et al., 2012). They found that high school principals are more likely to have an indirect style with a focus on establishing a climate and culture in the school, distributing their leadership where others can direct the learning. Reeves, (2008) has a different view and states that to promote improvement in schools, principals need to change behaviours through modelling by creating the appropriate learning culture where teachers can do their best work, rather than focus on direct instruction.

2.3.2 Relational leadership is more effective by building inspiration

Decades of research into effective leadership practice have culminated in several paradigms of relational leadership theory, including transformational, charismatic, servant, neuroleadership, invitational leadership and inspirational leadership, all of which have been identified as effective models for schools (Avolio et al., 2009; Bass & Bass, 2009; Balthazard et al., 2012; Black, 2010; Feser, 2016; Legros & Ryan, 2015; Leithwood & Jantzi, 2006; Mi, et al., 2019; Rock, 2010a; Sergiovanni, 2004) grouped because these theories are inherently human in their approach and dependent on the leader being highly self-aware, tuned into other people's needs and are concerned with follower behaviour and motivations (Bass & Bass, 2009). There is general agreement that leadership influence is more effective if teams are inspired by their leaders rather than coerced into action. For example, Haslam and Platow, (2001) concluded that leaders who focus on the group (rather than themselves) connect with others to create a shared identity with leaders are the most capable of inspiring followers.

The importance of leadership being about a relationship, started with Maslow's hierarchy of needs, developed by Abraham Maslow in 1956, highlighting the importance of connection, love and belonging, following food, water and safety. This was the first well-documented study that indicated that social interaction and behaviour tap into human motivation and values. The conversation about relational leadership ramped up during the late 1970s. Relationships that were strong and close between leaders and their followers were defined as *'in group'* and those that had cultured a more distant relationship were defined as '*out-group'* (Brower et al., 2000; Haslam et al., 1013; Hogg, et al., 2012b). More recently, social identity theory has focused on three factors: making salient the role of followers as a key part in leadership, the leader making personal sacrifices for the team and the leader engaging in 'we' and 'us' language rather than 'I' and 'me' language (Haslam et al, 2013). Thus, leadership became more relational, although even to this day, history will show how leaders who were indeed self-focused and autocratic remain in industry and politics. It will be demonstrated that leaders who are self-focused can get things done, however they often leave a trail of destruction and division (such as, Hitler, 1936; Putin, 2022 Trump, 2020). Today, there are many names for different types of relational leadership approaches, each representing its own characteristics and behaviours.

Charismatic leadership is inspirational as it has been reported as being the most powerful in inspiring others and meeting emotional needs. The key attributes and behaviours of charismatic leaders include the ability to inspire, magnetic personalities, vision and the ability to communicate (DeHoogh et al., 2005). Charismatic leaders motivate their staff through empathy, which refers to their ability to recognise another person's values, emotions and

motives (Salovey & Mayer, 1990); through an understanding of the person's world view; and sensitivity to that person's needs and emotions (Choi, 2006; Conger & Kanungo, 1998) focusing their attention on what their employees want and what is important to them (Pillai et al., 2003). Charismatic leaders establish unity and bond creating a feeling of being on the one team and belonging to the one loyal tribe and having the ability to inspire their teams (DeHoogh et al., 2005; Salovey & Mayer, 1990).

Servant leadership is another approach that is inspirational in nature. Feser (2016) and Bass (2008) stated that servant leadership is altruism to the extreme and argue that servant leadership would be the least ego centred approach. Parris and Peachey (2013) and Liden et al. (2014) concluded in their research that servant leaders create workplace cultures that are trusting, helping, collaborative and fair. Servant leadership is at the opposite end of the spectrum with a leader-first culture at the other (Parris & Peachey, 2013).

Much of the recent research invested in education around relational leadership, has been focused on transformational leadership. Studies show a general pattern that transformational styles increase staff engagement and energy (Elliot & Hollingworth, 2020). Kalkan, et al. (2020) supported this finding by comparing different leadership styles and the impact each had on the team in schools and showed that transformational leadership had a high impact on school culture in relation to staff cooperation and trust. Similarly, Mi et al., 2019 found that school principals with an ability to motivate staff tend to adopt more transformational leadership characteristics (Mi et al., 2019). However, this empirical study was limited to schools in Turkey.

Charismatic leadership style, emotional leadership, neuroleadership, inspirational and servant leadership have strengths in common to align with how the brain operates, and are inspirational in nature. However, charismatic leadership, by definition requires a character trait in a leader's personality that attracts others to them, that others find highly desirable and magnetic. Not all leaders have that innate trait, and for some it is hard to learn as everyone is wired differently. In fact, some school principals may be introverted and have to consciously work hard to outwardly express their personality when they would prefer to be more private. Similarly, servant leadership can attract a personality that is reserved, caring and kind and may find it challenging to have hard conversations when dysfunctional behaviour needs to be addressed. Unlike, transformational leadership which is characterised by leaders of strength as they focus on transforming and growing their teams and school cultures (Judge & Piccolo, 2004). By comparing leadership styles, it can be concluded that although several approaches have merit in regard to their ability to inspire, not one single leadership style ticks all the boxes.

Neuroleadership, inspirational leadership and emotional leadership could be grouped into the same category as they all tap into emotion and values to motivate a team's performance. Although they may have different origins drawn from different research, they are all brain wise approaches of leaders and dependent on the individual's self-esteem being invested in the success of school goals and vision. They are also all highly relational in approach and a process of social influence (Avolio & Gardener, 2005; Boyatzis, 2012; Feser, 2016; Grenny et al., 2013; Gronn, 2008; Hargreaves, 2014).

Josanov-Vrgovic and Pavlovic (2014) found that the school principal's leadership style significantly influences teacher satisfaction. Principals that are people-orientated and relational in their leadership had a positive influence on teacher inspiration and principals that were task orientated had a negative influence on teacher inspirational levels, as inspirational levels address people's inner motivations, values and emotions (Feser, 2016). Inspirational leadership as a process of social influence that manifests jointly in the relationship between leaders and followers is a reciprocal process that derives power by communicating a compelling and shared vision that invests the emotion of the team (Hogg et al., 2012a; Joshi et al., 2009; Kouzes & Posner, 1990; Waldman, et al., 2011). Being inspired creates the energy, passion and drive to transform people and organisations (Feser, 2016). Feser (2016) argues that inspirational leadership is the most effective leadership approach when organisations need to massively change and improve. Given high schools are complex contexts driving improvement agendas through change to improve teaching and learning outcomes, this aligns well with school leadership approaches. Feser (2016), in a more recent study, surveyed 165 organisations and over 370 000 employees, stating that relational leaders are much more effective in inspiring their teams but practiced well by few.

In recent years there has been a shift in the educational leadership discourse from viewing the principal as the one person at the top to distributed leadership. Distributed leadership depends on the principal to establish a culture and system that provides the collective opportunity for others to lead (Harris, 2012). Distributed leadership (Gronn, 2008; Harris, 2012; Spillane, 2012) has been called different names as it has evolved, including shared leadership (Patterson & Patterson, 2004; Pearce & Conger, 2003) and collaborative leadership (Hallinger & Heck, 2010). his type of leadership requires a highly relational inspirational principal as it relies on the principal to build a high level of trust across the team and a high level of collective efficacy.

2.3.3 Brain patterns show why inspirational leadership is effective

One of the most dominant speakers in the literature about inspiration being at the heart of leadership influence is Sir Richard Branson. In his speech at the 63rd SHRM Annual Conference in Las Vegas, (2011) he shared with the audience, “Hire the type of leaders who inspire their teams” and went on to say that “Inspiration was in short supply.” He quoted a range of studies including a Gallup Poll (2011) which surveyed 2400 employees, showing that without inspiration, employees are demoralised, disinterested and disengaged. Sir Richard Branson may not be a neuroscientist however brain studies using scanning technology would support this view.

fMRI scans have shown that different leadership styles have been linked with certain brain patterns. Specifically, neuronal coherence has been evident and studied in relational leadership approaches. Coherence is used to measure and track corresponding brain activity (blood flow, electric activity and oxygen levels) between the different areas of the brain (Waldman et al., 2011). Relational leadership requires different areas of the brain to work together having a high level of coherence (Waldman et al., 2011) such as emotional intelligence (Limbic system) , reasoning and regulating their own emotions (PFC).

In particular, a link between relational leaders and their ability to inspire for effective leadership has been shown in a study using scanning technology (Schaufenbuel, 2014). The study found that when staff interacted with their leader (resonant relational leaders) who they respected and were inspired by 14 regions of the brain were activated. The active regions of the brain included areas associated with exciting attention (anterior cingulate cortex), social and emotional networks (right inferior frontal gyrus), mirror neurons (right inferior parietal lobe) and other regions associated with the approach response (right putamen; bilateral insula). When asked to recall events and conversations with leaders, they were not inspired by, referred to as dissonant leaders, only six regions of the brain were activated and 11 regions were deactivated. Dissonant leaders deactivated the limbic systems in regard to the social systems (posterior cingulate cortex) and neural circuitry associated with mirror systems (left inferior frontal gyrus). The regions of the brain that were activated included regions associated with narrowing attention (bilateral anterior cingulate cortex), lowering compassion (left posterior cingulate cortex) and triggering negative emotion (posterior inferior frontal gyrus) (Boyatzis, 2012; Schaufenbuel, 2014).

Additionally, relational approaches in leadership have been correlated with increased activity in the brain in the areas associated with emotional intelligence and empathy. The ventromedial prefrontal cortex/orbitofrontal cortex (vmPFC/OFC) is the brain region just above the eye sockets, activate when we feel the emotions of empathy, guilt and regret (Wang, 2019).

People with brain damage in the vmPFC make “cold-hearted, emotionally detached, highly clinical decisions to maximise the greater good,” such as sacrificing one person to save a group (Thomas et al., 2011). They also have a lack of self-control and delayed gratification. De Young et al., (2010) found that relational leaders, specifically, transformational leaders were overrepresented by leaders who were extraverted as shown to have a larger volume of vmPFC a brain region involved in processing emotions and a strong trait of agreeableness (Judge & Bono, 2000). Agreeableness covariates with the volume of the superior temporal sulcus which processes emotional contagion as part of empathy and intense activity in the brain when processing injustice (Dulebohn et al., 2009). Graziano et al. (2007) state that the neural substrates of the agreeable personality are consistent with the psychology literature denoting that the prosocial behaviours of agreeable people, including empathising with others, understanding others’ intentions and mental states, as well as helping others”. These findings lend neuroscience support to the positive association between relational leaders, their emotional intelligence and their ability to inspire their teams (Barbuto & Burbach, 2006)

2.4 Leadership attributes

There are numerous business studies that have found that relational leadership relies on the leader having a number of leadership attributes that underpin a set of behaviours, that are grounded in values. A direct link has been found between the leadership attributes and organisational success (Olanrewaju & Okorie, 2019). Kouzes and Posner (1990) conducted a large study of more than 7500 managers nationwide from private and public organisations in the United States, “…asking what do you admire in your leader to enlist a team into a common goal?” They received a clear message that the majority look for leaders who are honest, competent, forward thinking and inspiring. Additionally, Bazigos et al. (2016) found that those organisations that outperform their competitors require leaders to have behaviours that were often described by their teams as inspirational, motivating and bring out the best in everyone. Likewise, Saad et al. (2018) found that leadership styles, personality attributes and communication (which in this thesis is considered an attribute) are significantly and positively correlated to team engagement. Not surprisingly, leadership style had the least impact on team engagement. The next section of the thesis examines the literature to explore what is known about leadership attributes.

In order to answer the research question ‘What are the attributes of a principal’s inspirational leadership as perceived by teams?’, a literature review of leadership attributes was examined. There is very little research available on the leadership attributes of school principals that inspire their staff (Wang, 2020). However, during the literature review, a number

of leadership attributes emerged from business and industry studies. Given that educational leadership is closely related to business management, it is logical to explore other industries in order to provide insight into how school leaders inspire. I read over 40 studies in the area collating 24 that were rigorous in their approach and were aligned with the research question (refer to Appendix H for the background of each study). The results were collated and compared to identify patterns in the leadership attributes across countries and industries.

A summary of leadership attributes has been collated in Table 3 below. The list of 24 attributes on the left are a total summary of all attributes found across the 24 studies. The yellow marker shows that a particular study identified that specific attribute. From this comparison, the most frequent attributes can be determined. Additionally, studies use different languages to describe the same category and the exact words from all the studies can be viewed in Appendix H, along with the scope, validity and source of the original studies. The studies feature a range of countries of origin from 1990 to 2021 and represent a variety of industries, business and government organisations. It is relevant to point out that the studies are very different and are not directly comparable however, collectively they do reveal an emerging pattern of which leadership attributes are considered most prized in the workforce in general and may reveal insight into the second research question for this thesis.

Table 3: Comparison of leadership attributes to show common themes

Attribute List	Clark 2010	Archer et al. 2010	Spous 2011	Enfroy 2021	Wang 2018	Saad et al. (2018)	Toor & Ofori 2008	Hossain, 2015	Lencioni 2008	Olanrewaju & Okorie 2019	Kouzes & Posner 1990	Dwyer 2018
Integrity/trust	■	■	■	■	■		■	■	■	■	■	
Accountability/ownership				■		■		■	■			
Rapport/Connectedness		■		■	■			■		■		
Humility	■	■	■	■						■		
Strength		■	■	■	■	■	■	■	■	■	■	■
Communication		■	■	■	■			■	■			■
Positivity		■		■		■	■	■	■	■		
Influence/inspire	■	■	■	■	■			■		■	■	
Delegation				■				■	■			
Growth/challenge	■											■
Culture												
Open to learning					■							
Risk taking					■	■						
Supportive	■											
Decision making		■						■				
Collaborative			■									
Wisdom								■		■		
Creativity								■		■		
Focus/Purpose /Vision				■	■		■	■		■	■	
Appreciation												
Change agent												
Clarity												
Flexible												
Autonomy												

Attribute List	IBM white paper 2012	Cuddy et al. 2011	Harvard Business Sch.	Feser, 2016	Grenny et al. 2013	Day, 2015	Sinek, 2014	Davis, 2021	Horwitch & Chipple, 2016	Zenger & Folkman, 2013	Leithwood et al., 2020	Willink & Babin, 2017
Integrity/trust				■		■	■	■	■	■	■	■
Accountability/ownership				■		■						■
Rapport/connectedness				■			■		■	■		■
Humility						■		■	■		■	■
Strength		■		■				■	■		■	■
Communication				■		■	■		■	■		■
Positivity		■		■		■			■		■	
Influence/inspire	■		■	■	■	■	■		■	■		
Delegation												
Growth/challenge				■			■		■	■		
Culture												
Open to learning									■		■	
Risk taking												
Supportive				■					■	■		■
Decision making				■								
Collaborative	■			■			■		■	■		
Wisdom								■				
Creativity										■		
Focus/Purpose/Vision	■			■	■	■	■	■	■	■		■
Appreciation				■			■		■			
Change agent				■						■		
Clarity				■								
Flexible				■							■	
Autonomy				■							■	■

2.4.1 Comparison of studies in leadership attributes

Integrity (trust, honesty, respect) and **strength** (courage, confidence, competence) have been identified as the most valued leadership attributes, as shown by identifying the patterns in a number of major studies and reports (Archer, et al., 2010; Day, 2015; Enfroy, 2021; Hossain, 2015; Kouzes & Posner, 1990; Lencioni, 2008; Olanrewaju & Okorie, 2019; Saad et al., 2018; Spous, 2011; Toor & Ofori, 2008; Wang, 2020), followed by the attributes of rapport/empathy; positivity; vision/purpose; a compelling communicator; humility and an influencer/ability to inspire, listed in no particular order. Most of the attributes identified above, are humanistic in nature and are related to social values or character traits. This would suggest that the leader's ability to inspire their teams to engage is more about developing their personal power rather than their positional power and more about the people element rather than a product focus.

A significant study by Horwitch and Chipple-Callahan, (2016) from Bain and Company in collaboration with the Economist Intelligence Unit, surveyed over 2000 employees across business and industry with the aim to examine what characteristics matter when it comes to a leader inspiring others, using a database of 10000 assessments to correlate profiles of strengths and weaknesses with the level of perceived inspiration levels by colleagues. They developed an analytical approach to define, measure and develop inspirational skills. Their research questions were:

1. What characteristics matter when it comes to inspiring others?
2. How many inspiring behaviours does someone need to demonstrate reliably in order to inspire others and what pattern of behaviours is most powerful?
3. How can we calibrate the strength of these characteristics in an individual?

They found 33 distinct attributes, shown in Figure 1 below, with connectedness being the most important attribute to inspire. Surprisingly, they found that **a leader only had to have strength in four of the 33 attributes to make some ground in terms of inspiration**, reporting an 18% increase. One distinguishing strength (an attribute that was rated in the top 70-90 percentile) doubles your chances of being inspiring and the more distinguishing strengths you have the more inspiring you are. There was no particular combination of strengths that were statistically more powerful than any others. The 33 attributes were very similar to the combined list shown in Table 3 above, but the difference being **connectedness** was the most frequent and strongest attribute.

Figure 1: Bain Inspirational Leadership model

Figure 1: Attributes for inspirational leadership by Bain & Company

2.5 Motivation, influence and inspiration

In the article 'Why Great Leaders Inspire Instead of Motivate" Levin (2012) states that a study by Harvard Business Review surveyed over 5000 leaders and found that the ability to inspire stood out as one of the most important competencies of a leader today. It is the trait that creates the highest levels of engagement and what separates the best leaders from others. It is what employers want most in their leaders (Horwitch & Chipple-Callahan, 2016).

In this thesis, motivation is used interchangeably with inspiration. However, not all researchers view the terms in this way. There has been a shift over time from authority to influence and from motivation to inspire. Levin, (2017) in the article 'Why great leaders inspire instead of motivate' explains this best, demonstrating that there is a subtle difference between motivation and inspiration. People often use the terms "inspire" and "motivate" interchangeably, as does this study and Levin states that "Conceptually they may seem related, but in fact, they are worlds apart. Inspire translates to in spirit. Inspiration comes from within. The root word of motivate is motive, which is an external force that causes us to take action. Motivation pushes you to accomplish a task, or work through a difficult event, even when you would rather be doing anything else. We are motivated by a result. Inspiration pulls

you towards something that stirs your heart, mind, or spirit. We are inspired by a person, an event, or a circumstance." When we feel inspired, we are intrinsically moved in the direction of what we want. Levin (2017) believes that inspiration is the most important attribute of leadership. This is supported by Simon Sinek (2014) who explained in a TED talk that teams do not require motivation if they have been inspired.

Kouzes and Posner, (1990) also have an important point that considers an alternate viewpoint. Although they agree that the ability to inspire is an important capability for leadership, they reported that some "react with discomfort" to the concept of inspiring. They stated that one Chief Executive Officer (CEO) said, "I don't trust people who are inspiring" They suggested that other CEOs are not confident in their ability to inspire others and therefore dismiss the trait as unnecessary (Kouzes & Posner, 1990). As previously mentioned, inspirational leadership may be effective but difficult to master for some leaders.

Leaders often fail to take into account how their behaviours and words impact inspiration levels. Furthermore, it is not always clear to a principal how much the positional authority of their role can impact team members' emotions. The principal's leadership attributes can be the difference between a willingness to engage and an unwillingness to cooperate. If inspirational leadership taps into people's emotions and motivations, then it is important to look to the dominant motivational theories as part of the literature review in order to examine principal inspirational behaviours. It is expected that high school principals are able to inspire their teams, and motivation is essential in building high performing teams. This is a very challenging part of the principal's role and despite its importance, motivation is practiced poorly in schools (Waters, 2022). Dwight D. Eisenhower once said, "Motivation is the art of getting people to do what you want them to do because they want to do it" ("Dictionary of Quotations," 1989, p. 376). The next section of this thesis will therefore explore human motivation theory.

2.5.1 A critical view of human motivation theory

To examine factors impacting the ability to inspire, motivate and influence others, a review of human motivation theories looking to the field of psychology is reviewed. Through examining motivational theories, this section aims to build an understanding of the different approaches to motivation in order to determine the best ways to inspire teams. A number of patterns or trends were revealed, however, first, a critical view is helpful to this study.

Henry Landsberger (1932) and his Hawthorne study, found that employees were motivated by money; but he also revealed a social phenomenon, something he termed the

Hawthorne effect. He found that individuals improved their performance and were motivated when they were told someone was observing their work. “Employee behaviours are linked to attitudes (Dickson, 1973; Ivancevich et al., 2008) The Hawthorne effect introduced a new concept into the workplace in that a leadership approach that considered the needs, emotions and values improved the motivational levels of employees (Bedeian, 1993). The research in this thesis as shown in the findings and discussion section, identified that school staff were highly motivated and inspired when a high school principal noticed what they were doing and how they were doing it, giving some truth to the Hawthorne effect.

Maslow’s (1943) hierarchy has been a ‘go to’ model of human motivation for many years and although this theory is now very old, it remains well documented. Maslow (1943) contended that certain human needs needed to be met before others and the hierarchy of needs included (in order from most important to least):

1. Physiological needs (water, food, sleep, sunshine);
2. Safety and security;
3. Love and belonging;
4. Self-esteem; and
5. Self- actualisation (Maslow, 1943).

According to Maslow, unless we meet that need of hunger and thirst first, that particular need will distract our attention until met. To apply this in a school setting, a staff member may arrive to school after having a significant fight with their loved one and they may be distracted until the need of love and belonging is satisfied again. This theory has been contested by Cozolino, (2014) who argues that the brain is primarily social, however Maslow has the social need at step three. Furthermore, Wahba and Bridwell (1976) found little evidence to support Maslow’s theory. Additionally, more recently, a large number of cross-sectional studies have found little support due to measurement and control weaknesses in the methodology and no record of empirical research (Wahba & Bridwell, 1976). However, despite this, Maslow’s theory remains popular in both the education and health industry. A more recent study by Tay and Diener (2011) found that the needs identified by Maslow were revealed in order to some degree and were dependent on where people lived and their economic status and cultural origins. These recent studies argue that in wealthy western societies, it is much easier and quicker to move up the hierarchical steps to self-actualisation.

Alderfer (1972) built on Maslow’s theory with the ERG theory. This theory has only three needs including existence (need for water, money, food, working conditions);

relatedness (a need for connectedness and social relationships; and growth (a need for employee productive contributions (Ivancevich et al., 2008). This is similar to Maslow, as Alderfer argues that if a need goes unsatisfied, he or she becomes frustrated and their energy is redirected. The similarity of the theories is that Alderfer grouped Maslow's theory into three groups but the key difference is that Alderfer believed that individuals prioritised needs rather than the needs being sequential. Researchers have pointed out a weakness inherent in both Alderfer and Maslow's theory and that is needs will differ greatly from one person to person depending on context. Additionally, Arnolds and Boshoff (2002) conducted empirical research on the ERG theory, finding that the growing need was prominent in workers' satisfaction levels but relatedness needs were did not impact motivational levels significantly, whereas pay had an impact on motivational levels; an example of the existence need being met.

Unlike Maslow and Alderfer's theory, Glasser (1965) introduced a different perspective on motivation (Osemeke & Adegboyega, 2017). William Glasser's (1965) model of motivation has been well documented over many decades and remains fundamental in our contemporary understandings. He maintains that humans are motivated by a sense of belonging, power, fun and freedom. Glasser believes that if humans have these four ingredients in their life, they will be happy and inspired to be at their best.

Similar to Glasser, the ability to turn work into play (as described earlier) has been coined the 'Sawyer Effect'. The key motivating factors were connectedness and fun but others that have been identified include common purpose, challenge and respect (Calleghan, 2018).

Seymour Epstein (1990) theory is closer to the neuroscience insights into human motivation. He showed that human needs are driven by attachment (to our mother – which can extend to our boss), control, pleasure maximisation, distress avoidance and self-esteem enhancement and protection This line of research would support the belief that we do want to be appreciated and valued by the boss, that we seek joy in our work and that we want some sense of control in the form of autonomy. Rick Hansen's (2014a) theory is similar and argues that we have three fundamental needs of safety (avoiding threat); satisfaction (approaching reward) and connection (attachment to others). Hansen (2014a) explains that when these needs feel unmet, this is, not enough safety, satisfaction, or connection, then there is a sense of deficit or disturbance, feeling something missing or something wrong. This produces the drive states of "craving" (broadly defined):

- fear, anger, helplessness;
- frustration, loss, drivenness; and
- hurt, resentment, shame.

More recently, Daniel Pink (2011) in his book 'Drive' talks about three human motivations of mastery, autonomy and purpose. Yet another view is McClelland's Learned Needs Theory, encompassing a need for achievement, a need for affiliation (connections with others) and a need for power (and control). He contends that the needs are learned and these learned behaviours lead to satisfaction (Ivancevich et al., 2008) unlike Maslow ad Alderfer, who believed that human needs are innate. More research is required on McClelland's theory as researchers question the scientific validity of the measurement instrument (TAT test) he used.

Vroom's Expectancy Theory (Vroom, 1964) argues that employees are more highly motivated if they perceive their efforts will lead to a successful result and rewards and recommends that leaders align rewards closely to performance (Jex & Britt, 2008; Lawler & Jenkins, 1992; Montana & Charnov, 2008). Many studies have tested Vrooms theory and found support and a higher validity to other more popular theories (Ivancevich et al, 2008). One drawback was that this theory did not account for other motivational factors at play.

Behavioural psychology is based on the belief that humans move towards what they want and away from what they wish to avoid. Schools understand this premise as the basis of their behaviour management programs, to be able to identify what students are avoiding or seeking so that they can implement the appropriate intervention strategies and shaped desired behaviours.

Professor Pieter Rossouw (2016) a Clinical Psychologist and Neuropsychotherapist had a similar framework but has only three categories; Attachment (Connectedness), Control and Motivation (maximising pleasure and minimising threat). He maintains that if someone has an integrated self (well-developed neural pathways in the prefrontal cortex [PFC] they are highly self-aware and these three factors will be a key driver of behaviour.

Fairness often is raised in leadership literature as important to the workplace to maintain satisfaction levels. Equity theory (Adams, 1963) states that a team member's motivation level correlates with their perception of how fairly she or he has been treated. Fair treatment is defined and refers to the fairness of individual outcomes, social justice and procedural justice (Ivancevich et al., 2008). Research on equity theory has been limited and focused on the fairness of pay structures. Additionally, most of the research has been conducted in the laboratory setting rather than in workplaces in context (Huseman et al., 1987).

There are very few studies on human motivation through a neuroscience lens. One theory that has dominated the literature is the SCARF model by David Rock (2008). The model was based on the work of Gordon (2000) and Jung Beeman (2007) and was not grounded in empirical research but informed by the literature review of the time. The SCARF model involves five domains of human social experience: Status, Certainty, Autonomy, Relatedness

and Fairness. Status is about how significant we feel. Certainty is about our sense of control and a desire to predict the future. Autonomy is about having a sense of choice and freedom in what we do. Relatedness is a sense of belonging to a social group or feeling rapport with another and fairness is a perception of fair exchanges between people. Rock (2010a) argues that the domains activate either a reward state or a threat state when interacting with others. For example, a perceived threat to our sense of fairness, lack of control, or threat to our status, will activate the similar neural networks that a physical threat activates. Similarly, a perceived increase in status, fairness, or certainty activates the same reward neural circuitry as receiving a monetary or tangible reward. Rock (2010b) believes that understanding these domains gives us insight into the drivers of behaviour. In particular, Rock, in collaboration with his colleagues has written many papers and books on how a leader can learn to inspire a team member to minimise the risk making a team member defensive or resistant.

Neuroscience studies have found that different brain chemicals such as neurotransmitters and hormones are associated with different emotions that impact motivation levels. Oxytocin is associated with trust (Cited in Wang, 2018, by Kosfeld, et al., 2005) and dopamine is associated with motivation and achievement (Cited in Wang, 2019, by Li, 2015). This infers that if a leader can adjust their behaviours in a particular way, they can impact on the emotional states of their team members as they interact.

2.5.2 Patterns in motivational inspirational theories

An analysis of the dominant theories in motivation revealed several clear themes. All the themes have one common overarching pattern; they are all humanistic in nature related to social values and inherent in human character, with the exception of the survival needs such as air, food and water. Table 4 shows the themes and sub themes.

Table 4: Patterns in motivational inspirational theories

Factor Theme	Historical view of sub-factors
Integrity/Trust	Fairness (Adams, 1963,Equity theory) Fairness (Rock, 2008) Respect/standards (Sawyer effect)
Connectedness/ Attachment	Love and belonging (Maslow, 1943) Belonging (Glasser, 1965) Relatedness (Alderfer, 1972) Affiliation (McClelland, 1985) Attachment (Epstein, 1990) Connection (Hansen, 2014)a Relatedness (Rock, 2008) Attachment (Rossouw, 2016)

	Relationships (Sawyer effect) Warmth (Cuddy, 2011)
Expectation/Certainty	Certainty (Rock, 2008) Rules (Sawyer effect)
Challenge/Mastery	Mastery (Pink, 2011) Challenge (Sawyer effect) Achievement and result (Vroom's, 1964) Achievement (McClelland, 1985)
Choice/Control	Freedom (Glasser, 1965) Power (Glasser, 1965) Power (McClelland, 1985) Control (Epstein, 1990) Autonomy (Pink, 2011) Autonomy (Rock, 2008) Control (Rossouw, 2016) Choice (Sawyer effect)
Purpose	Self-Actualisation (Maslow, 1943) Growth (Alderfer, 1972) Self Esteem enhancement and protection (Aptein,1990) Purpose (Pink, 2011) Common purpose (Sawyer effect)
Pleasure/Passion	Fun (Maslow, 1964) Pleasure maximisation (Epstein, 1990) Satisfaction (Hansen, 2014)a Joy (Sawyer effect)
Status/Appreciation	Self Esteem (Maslow, 1943) Status (Rock, 2006) Hawthorne effect (Landsberger,1932)
Strength	Competence (Cuddy, 2015)
Survival	Safety and security (Maslow, 1943) Physiological needs (water, food, sleep) Maslow, (1943) Stress avoidance (Epstein, 1990) Safety (Hansen, 2014)a Money (Landsberger, 1932) Existence: money, food, water (Alderfer, 1972)

From a psychological perspective, these factors can impact on motivational levels of people and from a neuroscience perspective, these factors can trigger someone into reward/approach or threat/avoid mode. A study of these themes is important to answer the research question because they are associated with inspiration levels. These factors are discussed individually below.

2.5.3 Connectedness: Relatedness and belonging

Connectedness is a strong theme revealed in human motivation theory that would suggest that people need to feel a sense of belonging to the team and bond with the tribe in

order to feel inspired. We are essentially social creatures (Cacioppo & Patrick, 2008; Carson, 2022; Cozolino, 2014; Henson & Rossouw, 2013; Holt – Lunstad, 2017; Lieberman, 2007), one of the five social cognitive neuroscience premises underpinning this study. As Corzolino (2014 p. 84) contends, “The brain involved into a social organ, shaped by the tribal environment to which it had to adapt for thousands of generations. As we evolved into social beings, our brains became incredibly sensitive to our social worlds”; connectedness, then relates to the feeling that a person belongs to a group. Cohen et al., (2009) concluded from their study in schools that school relationships and a feeling of being connected was one of the fundamentally important dimensions of a school culture.

The hypothalamus produces hormones releases oxytocin associated with trust and empathy when we feel connected to others (Barraza & Zak, 2009; Kosfeld et al., 2005). Additionally, many studies have found that the quality of the relationships we have with others will directly impact the level of cooperation. Teams with strong group identity have been shown to act to the benefit of the group, even when there are personal costs to that behaviour (Brewer & Kramer, 1986; Haslam et al., 2013; Hogg & van Knippenberg, 2012b; Molenberghs et al., 2015; Van Vugt & Hart, 2004; Zdaniuk & Levine, 2001). Strong group identity was found to have increased activity in the reward centres of the brain. Conversely, social pain and perceived unacceptance from the group activate negative emotions, releasing cortisol, producing a sense of threat and activating a different part of the brain in the cingulate cortex area (Eisenberger, 2012; Tabibna et al., 2008). Lack of social involvement, reported by a study at Brighham Young University, USA (2015), was shown to be on a par with smoking in shortening the life span. Dr. Susan Pinker (2017) agrees and has described social isolation as *the* public health risk of our time.

When the attachment emotions and feelings of excitement, joy, hope, gratitude and trust, properly engage, not only do people work willingly but they stretch themselves in the organisations interest (Swart et al.; 2015; Cozolino, 2014). When there is a connection with someone, the attachment emotions are felt and reinforced by a release of the associated neurotransmitters and hormones such as, serotonin, dopamine and oxytocin making it neurologically rewarding experience. A feeling of connectedness gives humans a drive to belong so it is hard-wired and is fundamental to human motivation (Cozolino, 2014). The connection we need goes back to our early developmental years when attachment was vital to survival (Cozolino, 2014; Epstein, 1990). Workplaces that value inclusivity, equality and diversity will promote connectedness within the group. Additionally, attachment to and connection with the boss is a strong motivator and this explains why team members like to feel good when they are in the ‘in-group’ (Molenberghs, 2015; Morrison et al., 2012).

The need for connectedness means that we instinctively merge and identify with a social group (Brown, 1991). There are numerous studies showing that humans will adapt and adopt a group identity shortly after joining a group (for example, Ashburn-Nardo et al., 2001; Goden, 2012; Molenberghs, 2013; Van Bavel & Cunningham, 2009; Van Vugt & Hart, 2004). The loyalty that comes with group identity is often expressed as an 'us' and 'them' or in-group, out-group mindset and outsiders are treated accordingly. The activity in the brain areas of the amygdala and insular cortex (the neural pathways associated with threat, distrust and disgust) increases when we are with people who do not share our social identity (Dimoka, 2010; Rilling et al., 2008). This view has been supported by experiments using functional Magnetic Resonance Imaging (Van Bavel et al., 2008; 2011) and extended with studies about how the words leaders choose can promote an in-group response; (Prochilo, 2013). Participants shown their in-group photographs (close colleagues and family), "had heightened activation in the fusiform gyrus and the amygdala suggesting that participants were paying more attention to their in-group" (Van Bavel et al., 2011, p. 3344). There was also elevated activity in the orbitofrontal cortex, a brain area involved in processing value, suggesting that the observer wanted to make friends with the person in the photograph. Other similar studies have shown increased activity in the ventral striatum and this was interpreted as a reward response. Rock, (2010)b adds that the concept of being inside or outside the group is probably a consequence of living in small communities for millions of years, where someone you did not know may have presented a safety risk and was avoided.

A leader's behaviour during a personal interaction, can strengthen or weaken a group's social identity. Numerous studies demonstrate that the language a leader uses can either inspire or incite group loyalties. In one such study by Haslam et al. 2013, the speeches of Prime Ministers were examined from 1901 to 2013, with the findings indicating that the Prime Ministers who used 'us' and 'we' language, rather than 'I' and 'me' language in their speeches won the election 80% of the time. School principals need to be strategic about how they use words to this end. Another way a leader can connect to others is by their emotional wake (Scott, 2000); what we leave after our social interaction with someone—essentially the feeling we leave them with. As a leader is engaged in a conversation with a team member, they will unconsciously give off a warmth or not (Fiske et al., 2006), with warmth making others feel rapport and a lack of warmth leaving them cold. Professor Amy Cuddy (2011), a lecturer at Harvard Business School, extended this theory, explaining that we judge someone in the first few minutes by their warmth and competence. Competent refers to how sharp and capable we appear. Fiske et al. (2006), as well as Carter and Pelphrey, (2008) suggests that in the Stone Age Era, humans needed to know quickly if a stranger was a friend or foe (warmth) and if they could do what they said they could do (competence); a survival necessity. When

someone is considered foe, different neural circuits are active compared to if we are considered the person a friend and when seeing someone as a competitor, the capacity to empathise declines significantly (Michell et al., 2006; Singer et al., 2006).

2.5.4 Integrity: Trust and fairness

Integrity is another strong theme revealed in the motivational theories suggesting that **humans need to feel trust in order to feel inspired**. Kouzes and Posner, (1990), indicated that the values of honesty and trust can be grouped into what social scientists and communications experts called credibility, finding in their research that followers want their leaders to be credible and the trust we have in our leader's credibility determines whether we are willing to engage and accept that person's leadership.

Trust is central to successful leadership but tricky to build and sustain between a boss and a team member (Covey, 2006) with Meacham (2013) maintaining that if the leader does not trust the person they are interacting with, the team member will pick up on subtle cues and mirror neurons and reflect that distrust back. Distrust is associated with increased activity in the insular cortex and amygdala being detected when we experience negative emotions of disgust and fear such as being stigmatised by others (Dimoka, 2010; Wicker et al., 2003). Trust is associated with increased activity in the ventral tegmental area and caudate nucleus, the release of oxytocin which process anticipating positive rewards and assessment of the fairness of a social partner's decision (Dimoka, 2010; Kruger et al., 2007; Schaufenbuel, 2014). The brain detects trust within milliseconds of meeting someone. The default of the limbic system is to first distrust until the brain has collected more information to continually update the impression. The brain takes in the person's appearance, tone of voice, gestures and what is said. The implication for leadership is that trust needs to be earned but it is possible to build trust with a team member even when it is lacking (Schaufenbuel, 2014). There are significant and numerous studies that support that trust is the cornerstone of inspirational leadership and essential for bringing out the best performance and engagement in workers (Covey, 2006).

Fairness is closely associated with integrity (Swart et al., 2015), in that we have an innate desire for fairness driven by dopaminergic systems, suggesting that we derive pleasure from being treated fairly (Tabibnia, et al.,2008 Tabibnia & Lieberman, 2007; Wang, 2019), thus, fairness activates the reward circuitry of the brain (Swart et al., 2015; Tabibnia et al., 2008). The brain responds strongly to perceived fair and unfair actions and situations in the workplace so they expect that a leader role models fair practice. Fairness and equity has a role in motivation; a core construct of educational leadership, rendering it as essential in how leaders motivate others (Bass & Bass, 2009; Hills, 2014; Wang, 2020).

Kouzes & Posner, (1990) found that **honesty** was reported in their surveys of over 7500 managers nationwide from a range of industries and organisation as the leading leadership characteristic, concluding that this was central to our need to trust a leader before we follow them onto the battlefield or into a board room. Specifically, they reported that for a leader to be perceived as honest they were seen to be truthful, ethical and principled. When they asked the teams how they measure trust, it was disclosed to be evident in the leader's behaviour. The survey participants reported repeatedly that when the leader does what they say they are going to do and were consistent about living their own values, participants perceive them as honest and more inclined to trust them. Cover-ups, taking credit for others' achievements, not following through, lying, breaking promises and inconsistency between word and action were all indications of a lack of honesty (Fehr et al., 1992). A dishonest leader is likely to violate a team's trust in their integrity, leading to the team's distrust in the leader themselves (Garrett et al., 2016; Krasikova et al., 2013; Tachannen-Morgan, 2014; Xu & Cooper Thomas, 2011).

2.5.5 Certainty: Expectations, control and clarity

A sense of certainty and control was a strong theme revealed in motivational theory, suggesting that in order to feel motivated a person needs clarity and consistency. **A sense of certainty makes humans feel safe and builds trust** (Hills, 2014; Kumar, 2016; Swart et al., 2015). The brain attempts to recognise patterns to attempt to predict the future. When we see or do something different the brain searches for familiar patterns to make sense of the world because it first connects the new learning or experience to existing neural networks (Swart et al., 2015). Some neuroscientists suggest that the tendency for the brain to detect patterns means that it can prepare for the future and additionally benefit from using less energy. Therefore, creating order and consistency to improve certainty in the workplace is calming for employees. Additionally, meeting expectations generates a dopamine release in the brain resulting in a reward response (Rossouw, 2016; Coghill, 2015; Rock, 2008).

2.5.6 Status and appreciation

Feeling valued is a theme revealed in the motivational theory suggesting in order to motivate inspiration a person needs to feel appreciated, significant and noticed. Status is about the relative importance to others (Rock, 2008) and how significant we feel in our world. We are hard-wired to seek status and when an individual feels important, the brain releases reward chemicals (Hills, 2014; Nicholson, 1998; Rock, 2006a; Sapolsky, 2004). The reduction

of status can generate a strong threat response (Eisenberger 2004; Keltner, 2017) and activates similar brain networks to the threat to one's life as the survival neural circuitry and social neural circuitry are interrelated (Rock, 2008). Professor Keltner (2017) studied status and the positional power of leaders and summarised his findings in his book '*The Power Paradox, How We Gain and Lose Influence*'. In one experiment he served a plate of biscuits to his research participants, making sure there was only one biscuit for each person plus one extra biscuit. He found that the person with the most positional power in the group would take the extra biscuit without saying anything. He also observed drivers at intersections at a stop sign, reporting that drivers of low-status cars would comply with road rules to a greater extent than drivers of high-status cars such as Audi, Mercedes, or Jaguar, finding that 42.6% of high-status drivers would cut a pedestrian off as those people who felt powerful and of high-status tend to feel good as they get a dopamine hit. There are numerous other studies that show the relationship between status and motivation and it can be observed in the way we live. People talk about their achievements, display their trophies and hang their degrees on the wall of the study (Sinek, 2014).

According to Dr. David Rock (2006b), when we walk into a room our unconscious brain checks for status, this is, who is taller, smarter, richer, prettier and more popular (Rock, 2006b). This concept has been well documented and claimed around the conference floors however I haven't found any significant empirical research to support this assumption.

To sustain a sense of status, reputation and pride there must be a coach, mentor, parent or leader relationship to back it up (Sinek, 2014). Status is comparison and relational based. This relational feature of status can be observed in tribal groups displayed in their elaborate head gear and jewellery to show their social position in the tribe. Status in tribal groups was often gained in public competitions, resulting in winners and losers (Nicholson, 1998). It is thought by evolutionary psychologists that males that had more status attracted a more desirable female because the females wanted a partner that could protect them and their families. Women tended not to be physically competitive but sought status by being the most attractive in a group so they could attract the strongest male (Nicholson, 1998). Likewise, Hills, (2014) found in her study that reputation was highly valued by individuals and were motivated by a leader that was mindful of this in their interactions with them.

Appreciation was also revealed in this category; feeling acknowledged and valued by others. In his article 'Why Appreciation Matters So Much' (Harvard Business Review) Tony Schwartz, (2012) says that whatever else each of us derives from our work, there may be nothing more precious than the feeling that we truly matter; that we contribute unique value to the whole and that we are recognised for it. We do not work well for people we don't like.

Leaders should not underestimate the role of ‘feelings’ in regard to motivating high performing teams as there is numerous studies to support the importance of feeling to motivations (such as Fox et al., 2015) If school leaders can help teams feel deeply valued and loyal to the work that they are doing, then leaders will have more influence to inspire. In the article called ‘Building a Better Workplace Starts with Saying Thanks’ by Locklear et al. (2020) Harvard Business Review, the authors conducted a study on establishing a gratitude culture at work. They found that managers who emphasise the importance of expressing thanks and appreciation at work, boost employee wellbeing and performance and help reduce workplace mistreatment. They recommended that leaders should serve as role models and make time for gratitude and thanking their teams in a show of appreciation. This study was extended later in 2021 in work by Dr Glen Fox a neuroscientist at USC, who suggesting that showing gratitude and appreciation lowers stress levels, builds confidence and raises motivation levels.

2.5.7 Pleasure and joy

Pleasure was revealed as a strong theme in motivational theory, suggesting that to feel inspired humans need to feel some sense of positivity or joy. Pleasure is about keeping the joy in our work. The ‘Sawyer effect’ from Psychology illustrates this well, describing young Tom Sawyer turning work into play when he was asked by his elderly Aunty to paint her white picket fence. By turning work into play, Tom accomplished much more than he had hoped for. Another view is that a positive mindset positions our state of mind for clearer and logical thinking. Dr. Judy Willis (2016), argues that if we remove joy from our classrooms and jobs, we distance ourselves from effective information processing and long-term memory storage. Additionally, there is much evidence to suggest that happy people are healthier and have less time off work. According to a study published in proceedings of the National Academy of Sciences in 2011, people who claim to be happy live 35% longer than less happy people.

Conversely, finding workplace cultures that inspire teams to connect and enjoy the work is a slim minority (Sinek, 2014). Sinek (2014, p.15) states that the “cultural norms of our major organisations today actually work against our natural biological inclinations”. This means that happy inspired and fulfilled employees are the exceptions. According to the Deloitte Shift Index, 80% of people are dissatisfied with their jobs. Interestingly, the brain tips to the negative more than it does to the positive, making it harder to access joy in the workplace. This is part of the brain’s hard-wired survival instincts and involves neural networks that take precedence over all others. The research clearly states the benefits of creating positive work cultures but in complex work places, such as schools, it is challenging work for the leaders in the school.

2.5.8 Choice, autonomy and freedom

Choice was a dominant theme in motivation theory, suggesting humans require a strong sense of autonomy in what they do if they are to be inspired. Choice is about having some degree of autonomy and control in what people do, and is a primitive and vital instinct (De Co, 2018; Patall & Robinson, 2008; Willis, 2006), meaning that having options, kept us alive thousands of years ago. Making choices means having two or three options to increase the chances of the desired outcome. Likewise, leaders and teams will be more likely to work at their best if they have some freedom of choice and a sense of control within the scope of their work and lessen their stress levels (Dworkin et al., 1995; Hills, 2014; Kumar, 2016; Mieka, 2019). People who reported to believe they had very little control at work had heightened levels of cortisol, whereas those with high control at work did not show high levels of cortisol (Fox et al., 1993). Several other studies have shown a strong correlation between a sense of control and health outcomes in workplaces (Rodin, 1986). As we often experience much better outcomes following our own choices (for example, choosing food, job or movie) the association between choice and reward has become so strong in our minds that the choice itself has become rewarding (Leotti & Delgado, 2014).

Expand people's sense of choice over their world and you increase their motivation and compliance. (Sharot, 2018); giving people a choice enhances their sense of control and control motivates them (Leotti & Delgado, 2011; Patall & Robinson, 2008; Sharot, 2018; Willis, 2006). Alternately, studies show that in Western cultures no one likes to be micromanaged as it takes away their freedom of choice. In fact, if you take away people's control, often they will express the survival emotions of anger, frustration and resistance, creating a state of mind not conducive to high inspiration levels (Sharot, 2018). The research confirms that some sense of choice is important to motivation levels and there are a number a ways a leader (such as a high school principal) can provide the opportunity for choice in a teacher's role such as agreeing on non-negotiables and allowing freedom in the way they go about achieving the agreed outcomes.

2.5.9 Challenge, mastery and growth

Challenge was revealed as a dominant theme in motivational theory suggesting that to feel motivated humans require some sense of challenge. We are more likely to be motivated when we can master something and become experts in our own area of interest (Pink, 2011; Willis, 2006). This would imply that if we are 'stretched' in our thinking we are more motivated,

given the right conditions. Mild-to-moderate challenge can be used to stimulate curiosity and engagement in learning so that the amygdala, is activated, (but not over-activated) to enhance the speed and efficiency of information flowing through to memory storage areas of the brain (Willis, 2006). A key way that school principals can challenge their team's learning is through coaching and feedback processes (Biswas-Diener, 2010; Kampa-Kokesch & Anderson, 2001; Knowles, 1980; Powell, 2021; Rock & Page, 2009; Van Nieuwerburgh, 2014; Witmore, 2002).

2.5.10 Purpose

A sense of purpose was a dominant theme in the motivational theory inferring that to feel inspired, a human need a purpose. Purpose is about knowing 'why' we are going in a certain direction; if our work is aligned with what is required to get us from A to B, then we are going to be more likely to be motivated along that pathway (Fullan, 2009; Sinek, 2011, 2014). Whether it is a team individual or a CEO, a higher compelling purpose will keep everyone on track and inspired to get there. Leaders and their teams need to know their 'why', otherwise they will at best waste time off track from the important work that matters and at worst, be disengaged (Sinek, 2011) and having a strong sense of purpose allows us a place of certainty to anchor into when making decisions. If we know our purpose, our priorities, our role and our accountabilities, then decisions are going to be made from a strong place. Research suggests that doing so increases attention, engagement and learning outcomes, (Sousa, 2008).

2.6 The role of leadership in motivation

As argued, leadership success is reliant on a leader's ability to inspire and motivate a team to engage in a change process towards a common vision. Leaders would therefore benefit from a deep knowledge of the nature of human needs of their own team and be able to use their personal power to influence them accordingly.

2.6.1 Personal power over positional authority

In order to inspire others, as discussed previously, a school principal can't rely on their positional authority and power to tell the team what to do, so they need to develop their personal and relational power. There are numerous studies that show that a combination of positional and personal power is the most effective (such as, Graham, 2015; Lymas, 1992; Waters, 2022) and positive perceptions from the team about the leader assist leaders to establish their personal power (Ensari & Murphy, 2003). If team members see their leader as

an effective leader, they are more likely to follow that leader's guidance, believe in decisions made and be more fully engaged (Ensari & Murphy, 2003; Pfeffer, 1998) as people buy into the leader before they buy into the vision (Maxwell, 2007). In order for leaders to be perceived as inspirational, team members must make a cognitive attribution (Ensari & Murphy, 2003; Lord & Maher, 1993), meaning the team members' perceptions are developed by a leader's traits (Ensari & Murphy, 2003) such as respectful, decisive, fair or humble, enhancing their personal power. To develop one's personal power is to develop one's positive leadership attributes.

Thus, leadership is about influence, not just authority. It is important to state that although a relational approach to leadership may be more effective, sometimes a school principal has to draw on their positional power in particular situations. School principals have the authority and accountability under the Education Act to direct school management, and within this policy, they have significant positional power to manage their school. At times, where appropriate, they will rely on this power, especially when managing critical incidents.

However, in general, school principals need to rely on their personal power. As one principal said to me in the interviews, "If you have to use your power, you haven't got any" (Interview 7). High school principals deal with teenagers and their families across all socioeconomic facets of society. There are many situations where a parent may visit the school principal with the purpose of sorting out a problem they are frustrated or angry about. A school principal can't use a command-and-control approach to tell parents what to do and that type of approach does not work on an angry adolescent. School principals haven't got handcuffs in their back pockets or other protective restraint tools as per the police force. A high school principal has to influence people by using their personal power along with structures that shape desired behaviours. In his book '*The Power Paradox: How we gain and lose influence'*, Keltner (2017, p. 233) states that "a leader's power is no longer a Machiavellian individual's grab for power over others with a hierarchy; instead, a leader's power is given to them by others in the team". Keltner, a professor of Psychology at the University of California has spent twenty years researching the power of leaders.

Alternately, the power given to the leader by the team has a flip side. Leaders can abuse that power if they don't keep a tight hold on their humility and integrity (Keltner, 2017). When power is given to a leader it can feel good, by raising dopamine levels and Kelter (2017) explains that effective leaders who inspire teams must be mindful of their power inequality and make an effort to put the team first, modelling humility and connectedness such as using 'we' rather than 'I', doing kitchen duties in the lunchroom, displaying group photographs on the

desk rather than status photographs with VIPs. He found that four practices are involved in power; being empathetic, giving to others, showing gratitude and telling stories to unite.

Correspondingly, school principals can use a combination of personal and position power to influence behaviour. A use of power can hinder or grow their influence to inspire and motivate others (Graham, 2015). In the article 'The Role of Power in Leadership' (published on the Creative Leaders website) (2019, October 4), seven ways (listed below) of using power are described, agreeing that using both positional and personal power in these ways is effective in engaging a team. There was no indication from the article which type of power was more effective but in other studies it was found that high school principals used more personal and expert power to influence and relied very little on coercive and reward power to engage their team (Lymas, 1992). I would agree that these are all types of power but argue that relational power is one of the most influential when combined with positional power. As Dr. Shonna Waters (2022) states, personal power cannot be taken away from you.

1. Positional power: Using your paid role.
2. Charisma power: Using your personality.
3. Relational power: Using your rapport with others.
4. Information power: Using a filter on the information.
5. Expertise power: Using your learned skill set.
6. Punishment power: Using consequences for non-compliance.
7. Reward power: Rewarding desired behaviour.

Willink and Babin, (2017, pp. 237 – 242), express another view of power, stating that a leader can't always use their positional power to inspire an individual to engage but need to rely on their "influence, experience, knowledge, communication and professionalism." Alternately, Gallo (2011) has developed a seven-part framework for inspirational leaders. This is shown in the following extract. His theory is based on the notion that leaders who can inspire are enthusiastic, visionary, collaborators for buy-in, optimistic and encouragers as well as master communicators, indicating that inspirational leaders have certain leadership attributes that are shown in their behaviour. This suggests that inspiration is born from a leaders words, actions and feelings rather than underpinned by one particular leadership style.

INSPIRE FRAMEWORK

1. **I**gnite your enthusiasm: Inspiring leaders are inspired themselves.
2. **N**avigate the way: Inspiring leaders articulate a vision that is bold, clear and consistently communicated.
3. **S**ell the benefit. What is in it for me?
4. **P**aint the picture. Inspiring leaders paint the world made better by the service or outcomes.
5. **I**nvite participation. Inspired leaders go beyond listening. They invite employees into the process of growing the company.
6. **R**einforce optimism. Inspiring leaders are more optimistic than the average person.
7. **E**ncourage potential. Inspiring leaders encourage people to be their best selves. Gallo, (2011, p2)

2.7 Redefining leadership in schools and the gap

Having examined leadership styles, leadership attributes and motivational theories earlier in this chapter, a number of factors need to be considered in order to define a leadership approach that will maximise inspirational levels of teams in schools. I look to neuroscience as the missing link to help better define and even redefine leadership in schools. The vast number of studies, in business about leadership styles, has shown that there “has been a scant effort in applying neuroscience to educational or school leadership” (Wang, 2019, p45). The empirical research incorporating brain scanning technology is emerging with Boyatzis (2012) as one of leaders in the field identifying brain regions associated with the influential leader behaviours. Largely, most of the work that combines neuroscience and leadership dominating the literature has been written by David Rock, (2006, 2008, 2010a, 2010b, 2013) and his colleagues, but my search found nothing that was specifically conducted in schools, with a neuroscience focus. The social-psychological constructs that are frequently used to conceptualise educational leadership research include trust, motivation, self-efficacy, collective efficacy and social capital (Wang, 2019) support a relational approach to school leadership. Thus, relational based leadership styles have been represented, there are limited school neuroleadership studies (such as Lakomski & Evers, 2017).

A case for redefining leadership in schools to enhance teacher engagement (Elliot & Hollingsworth, 2020) means looking beyond one leadership style. Effective leadership responds and adapts to the context demands of the day to day school events and while transformational, servant, charismatic, neuroleadership, distributed, emotional leadership are indeed inspirational in nature and are often held up as the most popular style for educational leaders, successful leadership may mean combining approaches (Day, et al., 2016) or rethinking how we define leadership in schools.

The literature review of relational leadership approaches, leadership attributes, motivation theories and my research, informed my position on a new leadership approach required in high schools. As stated earlier, it has become apparent that the leadership approach of school leaders needs to be redefined. **I define leadership as a process of social influence in which you enlist the support of a team, by appealing to their inner motivations and values with the aim of creating a commitment to action towards a vision** informed by Feser (2016)**.** It can be argued that a school principal needs a set of leadership attributes that have an uplifting influence on the team's intellect, emotion and energy (Feser, 2016) to transform and grow people and organisations. School principals need to be self-aware and know their strengths, areas of development and impact on others in their team, ensuring that they can lean into the leadership attributes that they have mastered and strengthen the others.

The Queensland Education Department has an expectation that school principals inspire and galvanise their teaching teams and school communities in unity to collaborate. However, there is a lack of a systematic approach to leadership development and how to support a leader's preparation for authentic relational leadership (Elliot & Hollingsworth, 2020; Kegan & Lahey, 2016; Leithwood et al., 2020). There have been a number of leadership frameworks for school management developed by the various states and national bodies over time, such as the Australian *Professional Standards for Principals* (AITSL, 2011); *Department of Education Queensland Leadership Strategy* 2020-2022; and QELI Leadership Framework and Behaviours of Effective Leaders (QELI, 2021) highlighting what principals should know, understand and do. Most of these programs and frameworks acknowledge that leadership development incorporates understanding the development of people however not all of the programs unpack what that looks like in the field, regarding behaviours, mindsets, values and beliefs. The QELI document comes closest to covering the human aspect of leadership, however, as a system there is still a gap where the character traits and personal capabilities of school leaders are addressed in a comprehensive way. Additionally, not all school principals are required to undergo such training. Responding to this gap, Elliot and Hollingsworth, (2020, p. 24), promote an adaptive leadership approach, "one in which school leaders act with insight

and understanding themselves and actively seek to influence the collective efficacy of their school team" This approach has promise as it is based on the premise that leaders need to be tuned in to the social and emotional sensitivities of their team as a starting point, being much more aligned with how the brain operates. Cunningham et al. (2019) agrees and indicates that many school leadership programs focus on learning about leadership rather than doing leadership or 'being' leadership. Further, Timperley et al. (2020, p. 47) states that "emotion, cognition and motivation" were considered separate and oppositional processes; however, it is now clear that they work together with the whole concept of leadership and it is about becoming a learning leader of people (Lui & Hallinger, 2018).

There is strong evidence evolving that leaders in the educational field agree that contemporary school leadership development needs to be anchored into humanity. Past studies have focused on the mechanics of leadership such as change management, school culture, reading programs and writing programs (see, for example, Aslan et al., 2009; Carpenter, 2015; Day et al., 2008; Elliot & Hollingworth, 2020; Fullan, 2003; and Yalcan & Akan, 2016) but no empirical studies on the relationship between school leadership attributes and cognition and behaviour (Leithwood, et al., 2020; Mumford, et al., 2015). In fact, the relationship of inspiration and school leadership has been largely ignored. Bennis and Thomas (2002) confirmed a need for this type of research, concluding that what makes a school leader effective is anchored in the ways they lead the human element in order to deal with challenges and opportunities, finding that the internal personal traits that define leaders were a large part of their success; more about who they are not what they know (Bennis & Thomas, 2002). Leithwood et al. (2020) revisited scholarly literature, finding a small number of recent research that led them to conclude there were leadership traits associated with school leadership. We must look to physiology of leadership behaviours to fully understand this type of relational, aspirational neuroleadership. The following section of this thesis is a deeper exploration into the neuroscience.

2.8 Neurobiology and leadership

2.8.1 Neuroplasticity and the brain

The research questions require an examination of the social interaction between a principal and their team members however, before discussing the social experience, a brief and basic description of what happens in the brain at the neuron level when humans engage in interpersonal interaction is appropriate as this study has a neuroscience lens. A deep understanding of the brain will explain how a leader can rewire their own brain and that of the

team they coach, by adjusting behaviours and words that can have an impact on how an individual feels, therefore influencing the chemical mix that creates a particular state of mind. The simple explanation of a very complex process in the following section of this thesis will demonstrate how emotion is central to our thinking.

Thinking and feeling start in the brain, with cognition being an emotional process (Immordino-Yang, 2016; Gordon, 2022). However, this emotional response at neural level is a physiological process involving electrical and chemical interaction. When a neuron is not active it is at resting state. In a resting state the inside of the nerve cell has a negative charge of around minus 70 millivolts. If enough brain specific chemicals connect into the receptors on masse via the dendrites and spines of the presynaptic neuron a number of gates open. As sodium ions (Na+), which have a positive charge, flow into the cell, the corresponding local area of the neuron becomes more positive and the depolarisation process starts. When positive 40 millivolts is reached, the neuron is said to have an action potential (Cluck et al., 2016). An action potential means the neuron has fired. At this point another series of gates open and close along the axon, allowing potassium (K+), which has a positive charge, flow out changing the environment inside the cell once again to a more negative state. This drop in charge starts the repolarisation process and eventually returns the neuron to resting state. Toward the end of the neuron, once a particulare threshold is created other gates open to allow chloride ions (Cl-) which have a negative charge, creating the environment for the vesicles in the neuron terminals to release a number of neurotransmitters and the whole process is repeated along the next network of neurons (Cluck et al., 2016). There are over one hundred different types of neurotransmitters and hormones (Gordon, 2022). Key to thinking, feeling and learning are the neurotrainsmitters and hormones adrenalin, cortisol, dopamine, serotonin, endorphins, oxytocin, GABA, norepinephrine, acetylcholine, glutamate each with their own specific roles. The neurotransmitter floats across the synaptic cleft (the gap between neurons) and docks into the receptor on the postsynaptic neuron. Every time a thought, feeling or action is repeated the synaptic connection between neurons is strengthened making it more efficient (Gluck et al., 2016; Gordon, 2022; Medina, 2008; Witman & Kelleher, 2016). The axon of the neuron is coated in myelin sheaths which insulate the neuron. The thicker the myelin, the faster the thinking process. The neuroplastic changes as shown in Figure 2, include:

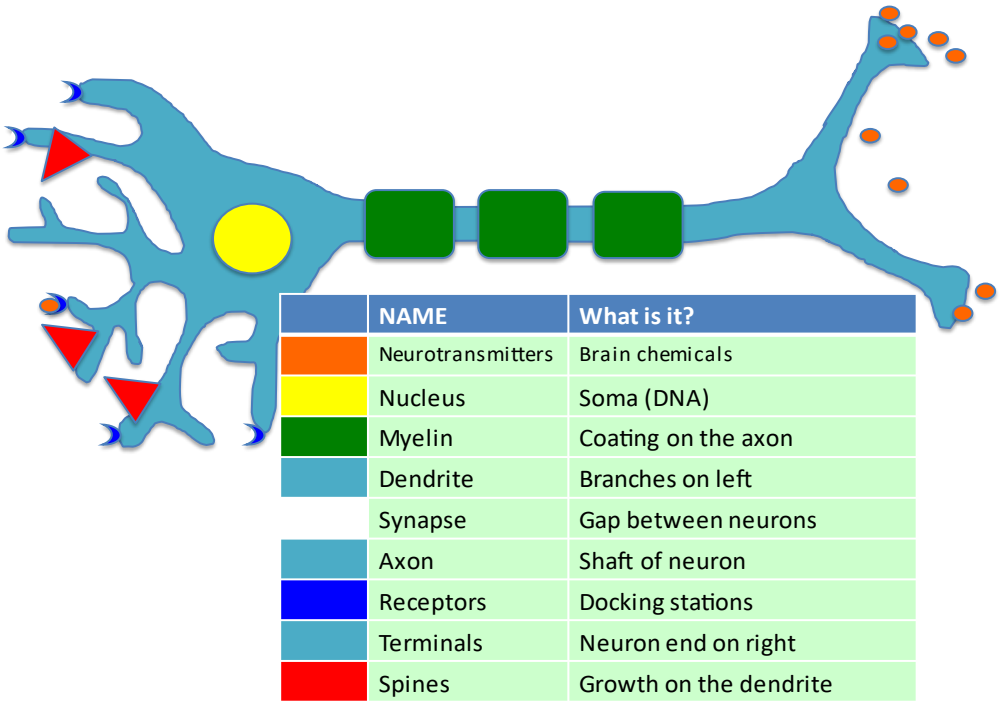

Figure 2: The parts of the neuron

- Dendrite growth: The development of branches off the end of the neuron are the most common way a neuron changes form
- Spine growth: Nodules swell out of the dendrite branches enhancing the neuron's ability to collect incoming messages
- Myelination: The coating around the axon is called myelin. The thicker the myelin the faster the thinking
- Pruning: During sleep unused dendrites are pruned. In this way the brain adapts and rewires in response to the experience to prepare for the future it predicts
- Receptors: Developing the sensitivity and precision of the receptors at the end of the neurons makes collecting of messages more efficient. Neuron density and connectivity thickens and widens (Gluck, 2016 et al.; Gordon, 2022)
- Neurogenesis: This refers to the development of new neurons much of which occurs in early life however, there is evidence of neurogenesis in the hippocampus of adults
- Brain density and connectivity: The of synaptic connections is at its peak by six to eight years old and as we age the brain density is thinned and refined. This might explain how age brings rigidity in thinking. As experiences are repeated,

the synaptic connections are strengthened and become more efficient. Dense connectivity provides multiple pathways for retrieving information

- Epigenetics: This is about genetic control factors other than the DNA sequence. Chemical compounds and environmental factors can change genetic function across generations (Gluck et al., (2016).

This ability of the brain to change shape and form in response to the environment is called ***neuroplasticity***. There are numerous studies to show evidence of neuroplasticity today but the concept has its origins in a theory developed by Gerald Edelman (1978) called Neural Darwinism. Everything we think, do, or feel through experience changes the brain as it strengthens and shapes neural pathways, to prepare for future experiences (Gordon, 2022). For example, as the principal and staff members interact in a conversation, each of their brains will be responding to the nature of that interaction and changing the brain, accordingly, establishing mental maps to form their world view. The mental maps shape and make meaning of the information coming in. As the same thoughts and feelings are continually experienced, our beliefs and values become increasingly dominant and hardwired. Once the neural circuitry is networked, the brain will search for existing wiring, so new thought processes will link to existing neural circuitry reinforcing what we think we know, which in turn drives our actions. This is why individuals make assumptions as they hear information, as the new data or learning links to prior learning to save brain fuel. Making assumptions with only some of the information which distorts our thinking is called cognitive bias. To express a very complex brain process in a simple way, the brain likes making assumptions as fast thinking uses much less fuel. Accordingly, the brain likes to hardwire everything it can to use less fuel in the future. This is why habits, once hardwired are very hard to change. As our belief systems are also neuron pathways this makes changing our thinking challenging and purposeful work.

Dr Evian Gordon, Neuroscientist, and Chief Medical Officer of TOTAL Brain adds to the evidence base on the view that the brain takes short cuts when wiring. He states that the **brain's priority is safety and our first language is emotion**. These two operating principles of the brain are non-conscious and happen in a split second when interacting with others. Emotions are the short cuts that respond to cues to get what we want, and avoid what we don't. This emotional language is our first instinctive response as interactions take place and results in us experiencing a feeling. Certain neurotransmitters when released, can further reinforce the moods that feelings create. For example, serotonin is associated with a sense of pride and bonding, dopamine is associated with feeling good and cortisol is released when we feel stress (Gordon, 2022; Medina, 2008). Therefore, the way we feel about someone or something will play a significant role in our decision making. Gordon (2022) further explains that what we say is only ten per cent of what others feel and hear when we interact. Forty per

cent is our tonality and fifty per cent is body language. To summarise, **human interaction cues reveal emotion, our cognitive bias come into play, tapping into our values and belief systems which have been shaped by past experience and learning, resulting in a feeling that drives our decision making and behaviour** (Gordon, 2022).

Thus, a leader or a school principal needs to understand that everything they say will have an effect on the brain of the listener and more importantly, motivation levels, as the impact of a conversation leaves the listener with a feeling (such as inspiration, anger, disappointment, or joy). Leaders also need to be aware that they too will have cognitive bias and need to override their own emotional responses and slow down their thinking in order to make rational decisions.

2.8.2 Neuroscience and personal interaction to inspire

The effectiveness of a leadership approach that is focused on inspiring staff can be further understood if we have an understanding of how the brain responds to cognition and emotion during a personal interaction. **The central argument of this thesis is based on five socio-cognitive neuroscience themes,** found in the literature review. The five themes were not found together in any one paper or study but rather synthesised from my wider reading as the foundation to inform the conceptual framework for this research (Arsten, 1998; Cacioppo & Patrick, 2008; Cozolino, 2014; Eisenberger & Lieberman 2008; Immordino-Yang & Gotlieb 2017; Lieberman, 2007,2013; Gordon, 2000, 2022; Perry, 2012; Rock, 2008; Rossouw, 2016; Wang, 2019; Willis, 2021). The five themes are important to understanding how a school principal can or cannot inspire a team member and sheds light on why.

First, humans are hardwired to detect threat. Many studies show that our brain is hardwired to detect threat and tips to the negative (De Co, 2018; Gordon, 2022; Kennedy, 2021; Rock, 2008; Rossouw, 2016; Sharot, 2018; Willis, 2021). Negative emotions are more easily aroused and negative memories are longer lasting and more deeply felt than positive emotions (Baumeister et al., 2001). Arousal of negative emotions stimulates the sympathetic nervous system which inhibits cognitive and perceptual impairment (Dickerson & Kemeny, 2004; Sapolsky, 2004). Clearly, threat mode is not the optimum state for collaborating and influencing others. However, this is the default response that often occurs in teams (Rock, 2009). The threat response is always on alert and does not take much to activate the amygdala which is highly tuned to emotions. Just having a conversation with someone higher in rank or positional power, being asked to come to the principal's office, or being given feedback can activate a threat response (Arsten, 1998; Baumeister et al, 2001; Rock, 2008). There is a strong negative correlation between the amount of threat response and the brain functions

involved in working memory and logical thought, which impacts conscious processing. When feeling threatened by a supervisor such as a principal, it is difficult to converse in a calm and logical manner or find the right words because of diminished cognitive resources (Rock, 2008).

Being hardwired to detect threats was essential for survival in the Paleo Era because the threat was a daily concern to early humans as they banded together to survive starvation, hunger, wild animals and weather. Early man needed to be on constant alert for danger, the brain unconsciously checking for threat five times a second (Gordon, 2022; Rossouw, 2016). Therefore, the brain has more primitive neural networks that take precedence over others when threat is perceived. The brain has four times the neural circuitry for negative emotions as it does for positive emotion functions. When the Amygdala is over activated by fear or anger, the brain instinctively responds to the flight, fight or freeze mode (Kennedy, 2021). In threat state, the key hormone released is cortisol. Cortisol prepares the body for flight or fight by shutting down unnecessary systems such as digestive, sex drive and immune systems, so the brain can prioritise necessary and immediate functions such as pumping blood to the larger muscle systems to fight or flee.

Change can bring on a threat response. A leader's thinking rarely matches how a team member views a new change; the brain has circuits that detect differences in what is expected and what actually happens and the orbital frontal cortex is activated when there is this mix match in expectations and reality. Located close to the amygdala's fear centres, this wiring sets off a fear response minimising activity in the PFC, the area of executive function (Rock, (2006)a. As change is a constant part of school leadership, school teams are at risk of feeling threatened by new innovation and this should not be underestimated by school principals.

Second, the brain evolved to operate and belong to a social group (Cacioppo & Patrick, 2008; Carson, 2022; Eisenberger & Lieberman, 2004). In today's workplace, the threat might not be a lion that is about to eat us but maybe threat from the social hurt from fellow humans. Fear and anxiety that can result from social interactions and social isolation can cause us to withdraw, freeze, give up, or resist rather than take action and engage (Cacioppo & Patrick, 2008; Sharot, 2018). Social discomfort and pain are under-considered as significant causes of stress in the workplace (Rock, 2006)a. The brain is fundamentally designed to be social, much more than had been previously realised (Cozolino, 2014; Gazzaniga, et al., 2013) and a new paradigm will emerge when there is a much deeper understanding in organisations of the forces that connect human beings together (Swart, et al., 2015) and the subtleties of social dynamics. Social pain and pleasure is processed and treated by the brain as it does physical pain and pleasure (Eisenberger et al., 2003; Eisenberger et al., 2007; Rock, 2010; Wang, 2019) and both are stressful, as shown in FMRI scan studies. We are biologically wired to socially connect to our tribe and that need for connection is essential for how motivated we

are feeling. Connection reveals emotion, driven by what is valued, making it integral to how we go about leading others (Gordon, 2022; Rock, 2010; Wang, 2019).

Research using brain scans has shown that the brain perceives little difference between physical pain and social pain. Both physical and social pain can impact and change a person's behaviour. Embarrassment, isolation, rejection and hurt feelings affect the degree to which a team will cooperate and engage with the supervisor or other team members. Feeling pain often demotivates employees (Gutierrez-Shackelford, 2016) and causes a neural impulse that causes social pain (Eisenberger & Lieberman, 2004). This "pain then limits the employee's motivation and his/he engagement" (Gutierrez-Shackelford, 2016, p 11). School principals who understand this are more likely to engage their employees more effectively, motivate them, enhance cooperation and involve them in change (Rock, 2009).

Third, humans have an innate urge to learn and achieve. When an individual achieves something, masters, something, or completes something, the brain releases dopamine which makes them feel good and is highly addictive (Willis, 2006). Dopamine gives humans an achievement bias. Unlike, other mammals, humans have an advanced neocortex. The very front of the neocortex is called the prefrontal cortex (PFC) and is where all our conscious thinking occurs such as problem solving, critical thinking, empathy, planning, prioritising, ability to see another perspective and the regulation of our emotions. This ability of the PFC has also been called the executive function and enables a drive to plan, think rationally, achieve and learn. Damage to the PFC typically results in a change in personality so it is often said where our personality lie. Access to the higher order thinking neural networks is only fully available when the brain stem is calm and we don't feel threatened.

When feeling calm and inspired we are more likely to be able to think creatively and generate insights. When threatened, the amygdala is overactivated, inhibiting people from detecting the subtle messages required for our brain to problem solve and innovate, because messages cannot get through to the PFC (Willis, 2016).

Fourth, motivation driving social inspirational behaviour is governed by an overarching organising principle of minimising threat and maximising reward (Gordon, 2000, 2022). The dopaminergic system is the brain's reward centre, responding with feelings of satisfaction and joy when activated (Wang, 2019). When this area of the brain is stimulated, the hedonic pleasure drives a reward-motivated decision-making cycle. The dopamine release makes us more likely to repeat that pleasurable behaviour repeatedly as we move towards things that make us feel good. The dopaminergic system is activated when alcohol and comfort food is consumed (Demos et al., 2010). The dopamine centre is also activated when we are treated fairly (Tabibnia et al., 2008) or given a complement. The role of inspiration as a motivator and

the resultant reward-motivated behaviours, the dopaminergic system is central to inspirational leadership interactions (Wang, 2019). Conversely, cortisol is released when feeling insulted or angry.

Fifth and last, the brain's response to social interaction and learning are interrelated and sequential, incorporating the survival, social and thinking brain. Emotion and cognition cannot be separated, so feeling and thinking are fundamentally interrelated (Gordon, 2008; Immordino-Yang, 2017, 2019). Social experience draws upon the same brain networks to maximise reward and minimise threat as the brain circuitry used for instinctive survival needs (Lieberman & Eisenberger, 2008). Dr. Bruce Perry's Neuro-sequential Intervention Model (2009, 2012) sheds some light on this integrated neural response in his work on brain development, which he applies to learning and childhood trauma, showing that the brain components during social interaction do not act in isolation. Although his focus is not on leadership influence, there are insights that can be gained from drawing on the emerging knowledge of neurobiology to understand complex thinking and behaviour functions and the developmental processes that are active in human social interactions. Perry (2012) recommends approaching human personal interaction through a developmental lens that addresses how humans respond to threat and reward and incorporates what is currently known about how the brain rewires and changes. In order to make a decision, individuals need to have feelings about their thoughts (Goleman et al., 2002) This neuroscience perspective complements other theoretical frameworks (Gordon, 2000, 2020; Lieberman & Eisenberger, 2008; Ringleb & Rock, 2008; Rossouw, 2016; Willis, 2016).

It might be inferred from Perry's sequential brain model that to optimise the success of positive interaction between a staff member and the principal, sequential processes are activated, starting with calming the brain stem to avoid activating threat mode, followed by the utilisation of what Perry (2012) calls 'relational buffers' (building rapport and trust) in order to access the thinking part of the brain, the prefrontal cortex. Therefore, for effective interaction between a leader and a follower that is to be inspirational, one must **first regulate the emotional brain (calm the brain stem to build trust), relate to the social brain (establish connection and rapport), followed by the ability for rational thinking using the thinking brain (for learning and achievement).** This concept forms the basis of the conceptual framework in this study.

2.8.3 Humans are hardwired to detect threat and are highly socially sensitive

The implications of the interrelated and sequential neural processes of the brain outlined above imply that humans are hardwired to detect threat and are socially sensitive. This means it is very easy for a leader who has positional power to trigger a team member into threat/avoid mode or reward/approach mode just by his or her mere social interaction. This concept has so many implications for personal interaction and leadership and is born from our need to survive in the Stone Age (refer to some examples in Appendix H, Table 108) however for the purposes of this thesis, the key point is that **once a team member is in threat mode their ability to be inspired by the leaders reduces significantly**.

The terms *approach and avoid* have roots in early psychology motivational theory, Elliot (1999) being one key author in this area. Higgins (1997) first developed a theory that went some way in clarifying the link between motivation and creativity, naming it promotion and prevention theory. The approach-avoid domain has since been documented under a number of different names and has its origins in experiments conducted by Friedman and Foster (2001) who tested whether cues in the form of pictures, associated with promotion (approach) and prevention (avoid) influenced creativity and problem solving. They found that promotion cues bolstered creative insight and creative generation, relative to the prevention cues, associating promotion cues with pictures that were inspiring and positive and prevention cues that were associated with things that people usually tend to avoid or feel threatened by. A promotional focus engenders pleasure and people are motivated to move towards nurturance (something they want). Alternately, a prevention focus engenders pain and people are motivated to move away from something they want to avoid (Higgins, 1997). Higgins, (1997) explains that consequently when a cue has affected a prevention focus, it may be viewed as signalling that of a threatening environment, thereby resulting in adopting a more risk averse mindset, narrowing higher order thinking and impairing creativity.

Later, research raised the profile of approach-avoid theory and was carried out by Friedman and Foster (2001). The participants were asked to complete a pencil and paper maze with the aim of taking a mouse through the shortest route to food. One group had a maze with an illustration of an owl at the end of the maze and the other group was given a maze with the illustration of a block of cheese at the end. They were hoping to support their approach-avoid theory by showing that the group with the cheese on their maze would perform better in problem solving exercises allocated directly after the participants completed the maze activity. A t-test comparing the total number of correct responses in the owl and the cheese groups was carried out. Participants in the cheese group performed significantly better than

the participants in the owl group. This constitutes the first evidence that cues associated with a motivational focus (avoid and approach) may impact cognitive clarity and motivational levels.

This principle is analogous to the concept of the threat-reward domain that has been well documented in the literature more recently by Dr. David Rock and his colleagues. Based on the work of neuroscientist Evian Gordon, (2000), the overarching organising principle of the brain is to minimise threat and maximise reward. Rock (2008) has built on this work extensively, contending that the reward-threat response principle represents the likelihood that when a human perceives a threat their brain will respond in a very different way compared to when they encounter something they enjoy or want. The brain releases chemicals (neurotransmitters and hormones) unique to each, responding with very different emotional states. If the stimulus encountered is associated with positive emotions and feelings of joy, hope and inspiration, the individual is more likely to move towards the stimulus. Rock and Ringlab (2013) refer to this as ***reward state*** and they are characterised by the attachment emotions (Swart et al., 2015). If the stimulus encountered is associated with negative emotions and feelings of fear, embarrassment, or anger, the individual is more likely to avoid the stimulus. Rock and Ringlab, (2013) refer to this state as ***threat state*** and they are characterised by the survival emotions. Due to the overly vigilant amygdala, more tuned to threats than rewards, the threat response is often just below the surface. The brain has four times more neural circuits for negative thoughts. Since fear is processed faster than any other emotion, there needs to be a significant possibility and probability of gaining a reward to bring about an approach/reward response (Gordon, 2022). Additionally, the brain unconsciously processes threat cues within a fifth of a second (Gordon et al., 2008) and is the default situation that often occurs in teams (Rock, 2008). For some staff just having a conversation with one's principal is likely to activate a threat response. When a person is in threat mode, the survival emotions take precedence, there is an absence of rational thinking and small stresses are more likely to be more intense (Phelps, 2006; Willis, 2016). Additionally, Lieberman (2007) refers to it as towards and away response and more recently, Arsten (2015) refer to this as a reflective (reward) and reflexive (threat) state. Thus, a reward-approach state is synonymous with the concept of engagement and inspiration, and it is linked to positive emotions. (Rock, 2008).

There are a number of studies that support that people experiencing positive emotions (Frederickson, 2011) are more open to innovation of ideas (Jung-Beeman et al., 2008), collaborate better and are more cooperative to engage (Rock, 2008). There is a large (and growing) number of studies which indicate that when positive emotions are experienced people perceive more options when trying to solve problems (Frederickson, 2011). This would

be a strong argument for a leader to foster positive cultures as innovation and initiative are prized skills in schools and industry.

The factors revealed by the literature review that may bring on an approach or avoid response involve both social and physical stimuli. It is the social factors that are the focus of my thesis research, however, both physical and social factors are outlined in the following Table 5 modified from Dr. David Rock, (2008) outlined in the article "SCARF: a brain-based model for collaborating with and influencing others, *Neuroleadership Journal, 1*(1), 2-3.

Table 5: Interrelated brain processes adapted from Rock, (2008)

Brain response	Brain area	Physical factor	Social factor
Reward/approach	Ventral Tegmental Area, Medial Forebrain bundle, Nucleus Accumbens	Money, water, food, shelter, achievement, sex, safety, alcohol.	Connectedness, friendship, certainty, control, freedom, order, love, appreciation, fairness, integrity, praise, happy faces, warmth, novelty, familiarity, beauty/symmetry.
Threat/avoid	Lower more primitive brain functions, Amygdala hijack of flight or fight.	Punishment, loss of money, hunger, being physically hurt by a bullet or a knife. Bitten by a snake.	Conflict, unfairness, micromanaging, loss of control, loneliness, lack of choice, embarrassment, disgust, revenge.

David Rock (2008) built on the work of Friedman and Foster, (2001) and Gordon's (2008) earlier work, developing a framework called the SCARF model that has had significant worldwide exposure in the business domain. The SCARF model is underpinned by the premise that humans have avoidance and approach responses to certain stimulus (Gordon, 2008). SCARF is an acronym for status, certainty, autonomy, relatedness and fairness (SCARF). According to David Rock (2008), the five social values can influence others into a reward response or a threat response. This was ground-breaking work as it was the first time that academics had aligned neuroscience with leadership theory and name social factors that could impact inspiration or defensiveness. However, it is probable there are other factors which are at the heart of social interactions to inspire as Dr David Rock's SCARF model is informed by experience and interpreting a small number of early neuroscience papers, as opposed to being empirically based. The data analysis in this thesis has revealed additional factors and introduces new information into this debate. The SCARF model was later updated by Rock and his colleagues to be called the SCARE model, an acronym for significance, certainty, autonomy, relatedness and equity.

Dr Evian Gordon (2022) adds a new perspective on the approach-avoid debate but agrees that emotions and feelings in turn, drive behaviour. Table 6 shows that there may be more than two behavioural responses associated with the avoid-approach theory, each emotion aligned with a particular behavioural response. He has over 30 years' experience in this field and is a researcher on an international scale, having created a standardised brain data bank, and having written over 200 peer reviewed papers. He explains that the six universal emotions that are the first response of our emotional brain trigger feelings that drive our behaviour and decision making. He explains it as follows shown in Table 6.

Table 6: Gordon (2022) framework of emotions to behaviour

Emotion	Example of a feeling	Behaviour
Anger	Frustration	Reactive
Fear	Anxious	Flight-fight
Disgust	Revulsion	Avoid
Sad	Empty	Withdraw
Surprised	Excited	Explore
Happy	Joy	Approach

Professor Amy Cuddy a social psychologist from Harvard University explained in her key note address for the 2022 National ACEL Conference that individuals in approach and avoid response are in different mindsets due to the chemical and physiological changes in the body and brain. Cuddy, refers to avoid response as the inhibition system and the approach response as the approach system. Her presentation expanded the concept explaining that when individuals have activated their inhibition system they are focussed on scarcity (rather than abundance), defensiveness (rather than security), rigidity (rather than cognitively), threat (rather than opportunity) and inaction (rather than take action). .

Judy Willis, a medical doctor and neurobiologist (and now classroom teacher) studies support the view that the brain has chemical changes when in threat mode interfere with the neural pathways for logical thought and inspiration. Willis (2016) explains that the survival emotions inhibit neural networks and processes dedicated and required for critical and logical thinking. Other neuroscience studies (such as Arsten, 2015; Swart et al., 2015) showed that an uncomfortable level of stress rapidly evokes chemical changes in the brain that impair the higher cognitive function in our prefrontal cortex. This would suggest that when we are under pressure or threat from an authoritative micromanager, we are not in the best mindset for problem solving and trust building in relationships.

The following Table 7 is a combination of research informed by: Arnsten, (2015); Boyatzis, (2011); Friedman & Foster, (2001); Gordon, (2000, 2022); Henson and Rossouw, (2013); Hansen, (2014), Lieberman, (2007); Rock, (2006b); Sharot, (2018); Wang (2019) and Willis, (2016). The different conditions of threat mode and reward mode, utilise different neural pathways in the brain and have different associated chemical responses.

As a result of my research I have represented the approach response as ‘contribute state’ and the threat response as ‘agitate state’ meaning if individuals feel high levels of stress and threat they are more likely to play safe and defend their ground thus feel agitated and may agitate. Alternately, if individuals feel comfortable and positive they are more like to contribute in positive ways. This is indicated as part of my conceptual framework in Chapter 3.4

Table 7: Reward and threat mode combination of integrated research

Avoidance response	Approach response
Threat mode (Gordon, 2000) Stress state (Gordon, 2020) (Neuroscientist and MD)	Reward mode (Gordon, 2000) Relaxed state (Gordon, 2020) (Neuroscientist and MD)
Prevention cues (Friedman & Foster, 2001) (Psychologists)	Promotion cues (Friedman & Foster, 2001) (Psychologists)
Thinking narrows (Frederickson, 2011) (Horwitch & Chipple-Callahan, 2016)	More innovate (Frederickson, 2011; Jung-Beeman et al., 2008)
Move away (Lieberman, 2007) (Psychologist)	Move towards (Lieberman, 2007) (Psychologist)
Defensive or frustrated (Rock, 2008) (Coined the term neuroleadership)	Inspired and engaged (Rock, 2008) (Coined the term neuroleadership)
Stressed, flustered and high alert	Calm, comfortable and focused
Release of cortisol, adrenaline (brain chemistry)	Release of oxytocin, dopamine, serotonin & noradrenalin (brain chemistry)
Emotions inhibit synaptic growth (Hansen, 2014) (Psychologist)	Emotions build neural architecture (Hansen, 2014) (Psychologist)
Reflexive brain state (Arsten, 2015)	Reflective brain state (Arsten, 2015)
High stress response, flight or fight	Low stress response, rest and digest
Survival emotions of fear, anger, disgust, distrust, shame and sadness (Swart et al., 2015) (Former psychiatrist) (Wang, 2019) (Neuroscientist and educator). Aversive feelings (Kandel, 2012)	Attachment emotions of trust and joy, inspiration, hope, gratefulness and curiosity. (Swart et al., 2015) (Former psychiatrist) (Wang, 2019) (Neuroscientist and educator) Appetitive feelings (Kandel, 2012)
Heart rate increases, blood pressure rises, inflammation, muscles tight, sweating, fast breaths, gut inactive, pupils dilate (Gordon, 2022) (Neuroscientist)	Pupils constrict, flexible, slow breaths, gut active, muscles relaxed, feeling of satisfaction (Gordon, 2022). (Neuroscientist)
Limbic response inhibits executive brain (Willis, 2016) (Neurologist, MD & educator)	Prefrontal Cortex active and accessible. More open to logic and critical thinking (Willis, 2016) (Neurologist, MD & educator)
11 brain regions deactivated including: Posterior cingulate cortex (social network) Left inferior frontal gyrus (mirror system) 6 regions activated including: Bilateral anterior cingulate cortex (narrowing attention) Left posterior cingulate cortex (less compassions) Posterior inferior frontal gyrus (negative emotions) (Boyatzis, 2011)	14 regions activated including: Anterior cingulate cortex (attention) Right inferior frontal gyrus (social network) Right inferior parietal lobe (mirror system) Right putamen and bilateral insula (Relationships approach) (Boyatzis, 2011)
Activates the sympathetic nervous system (Sapolsky, 2004)	Activates the parasympathetic nervous system (Sapolsky, 2004)
Inhibition system (Cuddy 2022) Scarcity, defensive, rigidity, threat, inaction	Approach system (Cuddy, 2022) Abundance, secure, cognitively, opportunities, action
Agitate state (Newman, 2022)	Contribute state (Newman, 2022)

Table 7 above is a synthesis of the review of literature on the evolution of the concept of reward-threat mode. This is important to the fundamental position of this thesis as it shows that the reward-threat mode evolved, its origins in psychology later built on by neuroscientists. The prominent researchers tabled above have credible biographies and include Amy Arnsten, Professor of Neuroscience and Psychology at Yale School of Medicine; Matthew Lieberman, Psychologist at University of California, Dr. Evian Gordon, is Executive Chairman and Chief Medical Officer of TOTAL Brain and former Senior Lecturer of Department of Psychological Medicine University of Sydney, considered as one of the originators of the field of integrated neuroscience; Dr Judy Willis, Neurologist, Medical doctor and classroom teacher; Dr. Rick Hanson, Psychologist and former lecturer at Oxford and Harvard University; and Dr Tara Swart, former psychiatrist, executive coach. Amy Cuddy is a social psychologist from Harvard University who created the second most watched U Tube in the world. There are some neuroscientists that point out that the link between science and leadership behaviour cannot be made, as it is too early in the evolution of ideas. However, I argue, along with the esteemed researchers listed above, that there are enough common understandings across studies, nationalities and time that reveal some fundamental shared understandings about how a deep knowledge of the brain can shed light on effective social interactions in leadership.

2.8.4 Social interaction reveals emotion that taps into human motivation

It is widely accepted that there are six universal emotions of anger, sad, fear, disgust, surprise and happy shown above in Table 6. Additionally, some reports state that there are over 500 feelings. Feelings can be categorised into two groups, positive (such as, hope, trust, admiration, and pride) and negative (such as, embarrassment, jealous, revengeful, and distrust) states (Kandel, 2012). The positive feelings are associated with the approach mode and the negative feelings are associated with the avoid mode. Positive feelings and emotions have been called appetitive or attachment emotions (Kandel, 2012; Swart, et al., 2015). Negative feelings and emotions have been called aversive or survival emotions (Kandel, 2012; Swart, et al., 2015).

Raising emotion during interactions between a leader and follower is unavoidable. Within leadership discourse, Dimitriadis and Psychogios, (2016), Feser (2016), Gordon, (2010, 2022); Henley, (2022), Kennedy, (2021), Maxwell (2007), Rock (2008) and Wang (2019) agree on views on interpersonal connection, in **that emotion is at the heart of motivation**. Gordon (2022) shows that as one interacts with another, emotions emerge as a non-conscious neurological process which reveal cognitive bias based on past experiences that are

associated with values and beliefs, resulting in a range of feelings (such as, humiliation or joy) which are a psychological response (Kennedy, 2021). Cognitive bias is a systematic non-conscious error in thinking that leads an individual to misinterpret or distort information (See examples in Appendix H). Cognitive bias is the way the brain reserves fuel and is essentially a short cut to thinking based on past experience and learning. Therefore, our beliefs influence what is selected from a conversation and impact on what behaviour and decisions that are made as a result. Chris Argyris (1970) a former professor of Harvard Business School formulated an earlier but similar theory called the Ladder of Inference, arguing that as individuals observe and interact, they select data, add meaning to that data based on past experiences, make assumptions about what is happening, draw conclusions, which in turn form beliefs, which drive our behaviour and decisions in a loop of reinforcing beliefs. This concept is an important part of the conceptual framework underpinning this research indicated by the words: **Cue, Emotion, Cognitive Bias, Beliefs/Values, Assumptions/Conclusions, Feelings and Decision** shown on Figure 4 in Chapter 3.4. When we interact with another person, the brain responds to social cues, revealing feelings which influence our willingness to cooperate and engage. It is not surprising that what happens in the personal interaction space is mysterious as much of what occurs is nonconscious and happens in a split second. The firing of the limbic system aroused by a nonconscious emotion occurs within eight milliseconds and shows in the face first and it takes 40 milliseconds for the information to appear in the neocortex for processing as a conscious cognition in the form of a decision (Kennedy, 2021; LeDuox, 2002).

Maxwell's (2007) leadership theory, the Law of Connection, extends these perspectives and asserts that leaders use emotion to connect with others. Colan (2009) argues that when leaders engage the heart and emotions of followers, they meet the need of intimacy. Intimacy creates connection and connectedness enhances a bond and builds trust and inspiration. How leaders regulate and express their emotions can determine whether or not people will be inclined to follow them (Lambruschini, 2016). Henley, (2022) discusses the role in emotion in interactions in regard to showing gratitude and appreciation. He cites Dr. Glen Fox (Neuroscientist of USC) who suggests that expressing your gratitude and following up with how you feel about will build trust and motivate team members. Such as "You handled the management of speech night with style and attention to detail. Seeing you approach events like that makes me feel proud and inspired." Fox suggests that if you make a habit of this type of acknowledgment, a leader can elevate their influence to inspire by conveying their personal experience of contribution and impact. This expression of emotion is bonding between leader and team member. Another important leadership consideration in regard to emotion is more recent in the literature, explaining that leaders who thrive are able to regulate

their emotions and reset their composure to regain their cognitive function quickly from one personal interaction to another (Immordino-Yang, 2016; Wang, 2019).

Humans are not wired to react dispassionately to information (Boyatzis, 2012; Evers & Lakomski, 2022; Feser, 2016; Gordon, 2022; Sharot, 2018; Wang, 2019). Neuroscience research has shown that emotion is an integrated part of our decision making as we have instinctive responses to cues that we are unaware of because they happen at a non-conscious level (Gordon, 2010). As humans, we attach our feelings to what we think about something and this emotional connection determines how we respond (Gordon, 2000; Kennedy, 2021). Feser (2016) agrees and explains that rational thought never drives human motivation the way emotions do. Feelings therefore either enable or block our motivation to engage and allow the individual to move towards or away from someone or something (Dimitriadis & Psychogios, 2016; Gordon, 2000; Rock, 2006; Willis, 2006). If people addressed human needs, desires, motivations and emotions, rather than assuming they make the best or right decision after receiving the facts (Sharot, 2018), they would have more success at inspiring others to engage. The implication for school principals is that they need to not only be able to regulate their emotions but to read other people's emotions as they interact with them. The best decisions are made when emotion is aligned with thinking (Gordon, 2010, 2022). Thus, a school principal needs to stay calm and composed to stay in control.

It is widely held that humans react to cues in the environment that allow them to rapidly avoid danger and get what they want. The six primary emotions, fear (for fight), sadness (for withdrawal and seeking comfort), anger (for fight), happiness (for social bonding and approach behaviours), disgust (for avoiding toxic food and social mismatches) and surprise (for dealing with novel situations) influence the action we choose to take (Gordon, 2022; Kennedy, 2021). Emotions emerge non-consciously and are tied to our ***cognitive biases***, which are also non-conscious, such as confirmation bias and loss aversion bias, just two of over three hundred biases. A list of other cognitive biases can be viewed in Appendix H. Confirmation bias is especially relevant to this research as this bias is when people only notice things that reinforce what they already believe. This makes changing one's mindset or beliefs very challenging. If people's beliefs are challenged, they may feel that their status has been threatened and will not be in a position to feel inspired. Both emotion and cognitive bias are a short take saving the brain fuel, reportedly taking a fifth of a second (Gordon, 2022). Emotions drive both stress and reward feelings. Unlike the few emotions, there are hundreds of feelings documented humanly possible to experience. Emotion is the cause and feelings are the effect.

Positive states, build neural traits. Dr. Rick Hansen (2014, p. 244) explains, "Inner strengths are grown mainly from positive mental states that are turned into positive neural

traits." Neural pathways are shaped in response to the environment and how people feel and respond to events. Integrating the attachment emotions and feelings of excitement, joy, gratitude, trust and respect into organisational cultures and reducing the defensive survival emotions and feelings of fear, anger, disgust, shame, embarrassment and sadness which are much more easily triggered, will create a setting where people feel comfortable, safe, calm and focused (Swart, et al., 2015). The brain has many more negative neural circuits to support negative emotion compared to the positive ones (Gordon, 2000) so this needs to be intentional work by a leader. The Default Mode Network (DMN) is a networked of interrelated brain regions that are activated when a person is focussed inward (Kennedy, 2021). A leader who can notice their feelings by arousing the DMN by being introspective will be more likely to be able to change mental states. Leadership behaviour that raises the release of dopamine (to provide an opportunity for reward), oxytocin (to bond the people involved), serotonin (to generate a safe satisfied feeling) and epinephrine (to motivate action) can galvanise positive action (Kennedy, 2021). Thus, a school principal can raise inspirational levels by building positive performance cultures that make it easier for a team to stay open to ideas and connect with their team. **Emotions feed mood and mood is contagious**. Emotions have been discussed as the survival and attachment emotions in this study. However, other researchers go further in regard to defining these. Emotions are a instinctive neurological response so they are physiological (such as anger or fear), feelings are psychological, (such as jealousy or overwhelmed) and mood is defined as having a longer duration and is less intense (Bekoff, 2007; Kennedy, 2021; Salovey & Mayer, 1990). As stated earlier, emotional states set mood and the different states are linked intrinsically to specific chemical mixes particularly of serotonin, dopamine, oxytocin, noradrenaline and cortisol, having unique levels for each emotion (Sharot, 2018). Neuroscience scanning technology has shown evidence of mood being replicated from one brain to another, sometimes across a group, when a team or crowd is listening and interacting with a speaker or leader. **The followers are shown to take on the leader's mental disposition.** Their brains seemed to unify and emotion was the conductor or contagion (Boyatzis, 2012; Decety & Michalska, 2010; Gordon, 2022; Sharot, 2018). Therefore, the emotional intelligence of the leader is essential as they can evoke emotion and read the emotions of others (Dasborough & Ashkanasy, 2002; Said, 2012) There are several implications for school leaders (or any leaders), from numerous sources (such as Willink & Babin, 2017, p49) that the "leader's attitude sets the tone for the whole team". Specifically, a part of the brain called the parahippocampal place area, processes contextual cues with memory; both spatial cues and mental state. This means the way a person feels at the time of the memory and where they are, are stored as part of the complete memory (Cooney Harvath, 2019). An empirical study by Visser et al. (2013), showed that when people are exposed to a leader exhibiting positive affect, they experience a more positive feeling state than those

exposed to a leader expressing negative affect. It could be inferred from these findings that if a school principal is conversing with a teacher and the teacher perceives that the principal is in a bad mood or angry at them, it might not be conducive to an inspiring interpersonal interaction. This means that if a leader is in a bad mood and can't regulate their emotions, that unease will be picked up by team members and has the potential to change the brain chemistry of the whole team. "The brain to brain transmission occurs primarily below consciousness" (Boyatzis, 2012, p. 32). This would suggest that if a leader has the trust of the team, emotion is a powerful motivating factor and change agent.

Empathy is defined as the "ability to comprehend another's feelings and to re-experience them oneself" (Salovey & Mayer, 1990, p. 194), and is an important trait of leaders who manage emotion. Many studies agree that empathy plays a central role in effective leadership showing that empathy is a predictor of the emergence of leadership (Boyatzis, 2012; Colan, 2009; Coleman et al., 2002). Leaders with empathy make better relational leaders because they are more able to read people's emotions.

2.9 Significance and contribution to the field

Inspirational leadership from a neuroscience perspective has been recognised and explored in various articles globally and nationally, but there has been very limited research conducted in schools and most professional articles are focused on the corporate sector. At the time of writing, there were no systematic reviews, meta-analyses, or peer-reviewed research papers in the literature that comprehensively examined the nature of high school leadership attributes to inspire, in Australian schools. This study assists in bridging the gap in the literature by reporting on research that was conducted in Australian schools to respond to the research question.

All key perspectives need to be captured in a literature review; therefore, it needs to be highlighted that there is some scepticism in the literature about making practical links and drawing conclusions from the science to leadership behaviours. Dr Evien Gordon (2008) rejected this view as he states that the authors who describe neuroleadership as oversimplified or just repackaged usually have a vested interest in maintaining the current status quo in their line of thought. Additionally, he explains that scepticism almost always occurs in the early infancy of new science. Gordon, (2008) is a medical doctor and neuroscientist who works with over 150 networked scientists who share an international data bank and peer reviewed journal articles. Alternately, Gordon, (2008) and his colleagues advocate the many benefits of studying neuroleadership including improved thinking, improved learning, overcoming

cognitive bias, benefits of positive mood, managing stress, making better decisions and optimal motivation for work teams.

Identifying the leadership attributes that capture the common factors that can activate reward or threat responses in social interactions between a principal and their team members, will significantly contribute to the design of school leadership programs, enabling principals to more easily identify and modify their own interpersonal behaviours that impact others. Knowing the drivers that can cause a threat response can bring them to conscious awareness so a principal can plan interactions with their staff to minimise threat and maximise inspiration (Rock, 2010).

By nature of the case study methodology, the research examines school leadership behaviour on a school sideband in context. The depth of empirical data collected in this study has deepened the understanding of earlier theories such as the SCARE model (Rock, 2008). The SCARE model, created by Dr. David Rock in 2006 is the only well-documented theory in social cognitive neuroscience that goes some way in explaining leadership inspirational behaviour. As reported in Dr. David Rock's theses, his SCARE model was drawn from interpreting the findings of neuroscience before 2006, combined with his experience as an executive coach. Although the SCARE model has been widely used worldwide to assist leaders in adjusting their behaviours to maximise reward state and minimise threat state, it was not built from empirical data in research in context. This study is an opportunity to extend his work and apply it to the high school context.

Existing school leadership programs that are focused on management and curriculum will do little to develop authentic leaders that are equipped to lead and inspire humans. This research recognises that leadership programs need to be focused on the human element of leadership and incorporate knowledge around building trust, motivating and engaging a team. Relational knowledge does not happen in the classroom but must be learned on a personal journey of lived experience. This study will inform such leadership development programs. Neuroscience can offer much more insight to the field of school leadership and 'we ignore such knowledge at our peril' (Lakomski & Evers, 2017 p. 58).

2.10 Chapter summary

The literature review provided a brief description of a broad range of leadership theories and insight into the more relational leadership approaches that were shown to be more likely to inspire. Motivation is an essential aspect of developing peak performance in school teams and it is within the school principal's role to identify how to inspire his or her

team to maximise engagement and cooperation. A neuroleadership approach is effective in inspiring a team by appealing to emotions and values during professional interactions between the principal and team members. This type of inspirational leadership is a social phenomenon occurring through biological processes manifesting in the brain (Lieberman, 2007). It requires the leader to have a set of attributes that leaders use to appeal to the followers 'inner motivations' with the aim of creating commitment to action and change, empowering them to act (Feser, 2016). Business studies shed light on the attributes that leaders embody as reported by teams when asked what they look for in a leader in relation to what inspires and engages them. The most frequently reported attributes can be categorised as integrity, connectedness and strength. There is very little specific research on school leadership concerned with what transpires in the space between a school principal and a team member when they interact. Motivational theory from psychology and avoid-approach theory from neuroscience provides clues into why humans may be inspired or not and provides clear links between the brain and behaviour, in terms of how we think and feel, explain the nature of inspiration and the impact it has on a follower's willingness to engage and cooperate with a leader. This understanding reveals that the way we feel about someone will either inhibit or enable our willingness to engage. This thesis argues that successful leaders adjust and customise their leadership behaviours, based on a deep understanding of the brain, and a recognition of the important role emotion plays in face to face communication. In order to respond to individual differences rather than use a one-size-fits-all approach or attempt to align with a specific leadership style, a leader differentiates their approach to be repsonsive to individual needs. Inspirational leadership is a powerful influencer but practiced poorly or very little.

Chapter 3. Research Design

3.1 Chapter Introduction

Chapter 2 in the literature review showed that leadership over time has moved from an instructional to a more relational approach and highlighted two general types of leadership styles, leader-centred and relational. Key to the argument of this thesis, it outlined five themes emerging from socio-cognitive neuroscience to explain the reward-threat response in personal interactions, particularly between a leader and a team member. This chapter summarises the research design explaining the epistemological perspective, methodology, data gathering and analysing methods used in this case study research.

3.2 Overall design

This research incorporates a mixed methods approach, chiefly qualitative, with a multiple case study design based on Merriam's case study model utilising interviews, survey, observation and artefacts as data collection methods (Merriam & Tisdell, 2016). The case studied four high school principals, as they interacted with their staff in context. Jack and Raturi (2006); Meriam, (2016); O'Leary (2017); and Yin (2017) informed the following systematic procedure and questions to shape my research design shown in Table 8.

Table 8: Research design systematic procedure

	Procedure	Strategic question	My design
1	Ontology	What is out there that we know?	Bounded relativism
2	Epistemology	How do we know we know?	Social constructionism
3	Inductive or deductive	How do we acquire knowledge?	Inductive
4	Literature review	What are the dominant theories and literature, that will inform the research question about what we know already?	Leadership styles Leadership attributes Approach and avoid theory Motivational theory
5	The problem	What problem is this study exploring?	It is instinctive, quicker and easier to tell others what to do in busy schools but inspiring others is more effective. Teachers are overwhelmed with workload which makes inspiration difficult and humans are easy to tip into threat mode.

6	The gap	What don't we know that would be helpful?	School leadership attributes that align with how the brain operates, to better inspire.
7	The significance	How will this study contribute to the literature?	It will inform educational leadership development programs, principal reflective tools to build capacity and add to the neuroleadership body of research.
8	Conceptual framework	Why is the research design appropriate and rigorous?	Interrelated and sequential three brain concept (Informed by Gordon, 2000; Perry et al., 2012)
9	Methodology	What tools can we use? Qualitative or Quantitative?	Largely qualitative with mixed methods
10	Method	What method frames your research?	Case study
11		Which case study model? Yin, Stakes or Merriam?	Merriam, (2016)
12		What type of case study? Historical & observational Intrinsic and instrumental Multisite or multi case study	Multiple case study
13		What are the boundaries of the case?	Four Queensland Secondary State Schools, Band 10 & 11. Leadership attributes in regard to the behaviour (actions and words) of the principal.
14	Data collection	How is the data collected?	Semi structured interviews Observation Survey Artefacts
15	Data analyse	How is the data analysed?	Content thematic analysis Units of analysis Sematic and latent coding Cross-case analysis

3.2.1 Ontology and epistemology background

Researchers' views about the nature and generation of knowledge, is underpinned by their ontological and epistemological perspective and will shape the design of their study. A research philosophy is a belief about the way in which data about a phenomenon should be gathered, analysed and used (Blaikie , 2000; Grix, 2019). Such positioning declares the researcher world view. Ontology is the starting point of all research, "after which the epistemological approach and methodology positions logically follow" (Grix, 2019, p. 53).

Crotty (1998, p.10) refers to ontology "as the study of being" concerned with what constitutes reality or what exists for people to know. The concept of ontology is about one's

view of reality (Scott & Usher, 2010) so claims and assumptions that are made about the nature of reality, claims about what exists and what it looks like, shape the research design (Blaikie, 2000). As my research question requires a largely qualitative approach and relies on making meaning dependent on the social context in schools as a group, the ontological stance is bounded relativism. This world view acknowledges that the reality is constructed within the human mind and is relative according to how individuals experience reality in a given context. Relativism believes that facts are dependent on the viewpoint of the observer.

Epistemology is associated with ways in which individuals know the knowledge and how they come to understand it, derived from the Greek words episteme (knowledge) and logos (reason). After studying the different philosophies and considering the nature of my research question, I identified social constructivism as my epistemic stance as the best fit for my research question and design. Constructivists believe that there is no single reality or truth, thus aligning with my choice of ontology. Therefore, reality is open to interpretation and understandings rise out of the engagement with realities and from interactions with others in context (Patel, 2015). My study attempts to capture individuals' perceptions about how they have made meaning of their high school principal's inspirational leadership in a school context and their perspective on how they have been inspired or not. Social constructivism is not about an assessment of true or false but rather the understandings and findings emerge from the informed, deeply lived experiences and perspectives of the people themselves, for richly descriptive outcomes. The learnings and findings are co-constructed by the researcher and the participants as they draw conclusions about the data. This largely qualitative study searches for meaning and understanding, through an inductive approach so a constructivist stance is appropriate (Merriam, 2016).

After reading the three dominant case study approaches of Yin, Stake and Merriam and discussing my views with my research supervisors, I assessed Merriam as the best fit for my epistemological perspective. Merriam's (2016) approach to case study is largely qualitative but she does support mixed methods. Much of Merriam's model is informed by Stake and some fundamental aspects of case study are found in all three models of case study. Therefore, although I largely reference Merriam throughout this chapter, when relevant, I also include Yin and Stake when their view is compatible. Merriam defines case study as 'an in-depth description and analysis of a bounded system that is fenced within a phenomenon.' A case can be a person, a department, a program or a group but she agrees with Stake that recommends that the case should be a noun and is particularistic in nature, meaning it is focused on a particular situation or phenomenon. Hence, my case is the high school principals and the study is focused on his or her influence to inspire, which is the phenomenon. Merriam emphasises that the case is defined by the units of analysis which in this research means the

principal's behaviour, specifically their words and actions. Merriam's case study method constructs knowledge in context, through an inductive process forming categories or themes to make meaning of that knowledge. This approach is the best fit to answer the research question in this study as I am studying school principals to identify behaviours in context.

3.2.2 Positionality statement

I acknowledge that my positionality on my world view has influenced all aspects of this study including understanding the literature and interpretation of data analysis. I understand that as a researcher, I have beliefs and perspectives that impact on how I view the chosen topic and data analysis (Foote & Bartell, 2011; Hammersley & Atkinson, 1995). To that end, I have reflected about how my cultural background and work experience will affect my worldview in how I approach this thesis. I acknowledge my position as an educational leader and accept it was not possible to remain completely outside of my study as I may have been influencing the dialectical process or the analysis process through the narrative of a principal (Patel, 2015; Patton,2015). I feel that Merriam (2016, p. 9) succinctly frames my position by arguing that 'we can only know what we experience by attending to perceptions and meanings" explaining that we interpret our experiences, construct our worlds and make meaning in context to form our world view.

3.3 Recruitment

My research in four schools involved observing and interviewing four high school principals and interviewing and surveying twenty teachers, five at each school. Merrium, (2016) recommends nonprobability sampling for qualitative research. Thus, I used the most common form of nonprobabilistic sampling called purposive, also referred to as purposeful sampling (Patton, 2015). Purposive sampling is based on the premise that the researcher aims to understand and gain insight and therefore recruits a sample of participants from which the most can be learned. For my study, this meant I needed to find four very experienced principals in very large schools. My reasoning for this, was that the larger high schools are much more complex to manage and have a number of leadership positions and layers in the governance structure. Generally, the larger the school, the higher the leadership expertise of the principal because the large schools are allocated experienced principals who have proven a long history of effective school leadership and have been selected on merit to win the position. This narrowed my search to a number of Band 10 and 11 schools which are defined as being complex and over 1000 students. Each of these schools have a number of senior officers

including two to four deputy principals, 10 to 18 heads of departments and a number of other leadership roles. Some qualitative researchers, such as Merriam, (2016), use the term criterion-based selection. In criterion-based selection, the criteria that is important to the sample is identified and participants are found to meet that criteria. Principals were selected on the following criteria:

- willing to participate in the research over the allocated time (to ensure they would remain in the research study over time);
- managing a large Band 10 or 11 Queensland State school of 1000 – 2000 students (to show they had achieved executive status);
- a balance of gender;
- a balance of locality in terms of metropolitan and regional schools;
- schools I had not been employed as a staff member in my career (to minimise bias);
- principals that had not been under my direct supervision (to minimise bias) and
- principals who I had not been under their supervision as a staff member (to minimise bias)and
- At least ten years in a principal position (to show they had experience)

I used my educational network to as a start to find four principals who were viewed as high performing, but contacted Band 10 and 11 principals in the localities of my research. Once a principal expressed interest in participating in my study, they were sent an information sheet via email. When, they had all the information and made a commitment to participate, they were presented with a consent form. The information sheets and consent forms can be viewed in the Appendix A.

The twenty school staff were not a random sample. Instead they were purposefully selected by the timetabling deputy principal in each school, based on who had over ten years' experience in schools and who was interested in taking part in the research. This meant that the participants would have experience under the supervision and leadership of a number of principals in their careers and it also meant that new teachers to the school or new teachers to their careers were not part of the sample group. Purpose sampling is more credible than convenience sampling so I had a discussion with each deputy principal on the criteria for selection (Merriam, 2016). Without a simple criterion for selection, the deputy principal would have selected staff that were on spares (off class) as the key criteria. The deputy principal was provided information sheets and approached teachers who had at had been working in their school for at least a year and represented a mix of professional staff (head of departments, deputy principals and teachers). No unclassified roles were considered i.e. no teaching aides,

public servants or ancillary staff. This way, the sample reflected the average experienced professional on the school team as recommended by Merriam (2016). My relationship with all twenty-five participants was professional not personal, nonbiased and noncoercive. All staff selected by the deputy principal were sent a consent form and each agreed to invest their time for interviews and surveys. Consent forms and information sheets can be viewed in Appendix B. Every participant that invested in my research study committed for the whole research period with all surveys returned and all interviews completed on time.

3.4 Conceptual framework

In order to design a conceptual framework a literature review was conducted to examine the dominant theories and the range of current research relevant to the research question (Merriam & Simpson, 2000). Merriam prefers to call this framework a theoretical framework. The conceptual framework for my research was designed to illustrate an argument about why the topic matters and why the means to study it are appropriate and rigorous (Rockinson-Szapkiw, et al., 2014). It also provides a framework that acts as a means of understanding the problem to be investigated (Merriam, 2016). It is a series of sequenced, logical propositions the purpose of which is to “convince the reader of the studies importance and rigor” (Rauitch & Riggan, 2012, p. 7). The three brain concept of the conceptual framework, explained below in Figure 4, fits into what is already known, illustrating the relationship to the existing theory informed by research of Perry, (2012), Gordon (2022) and Immordino-Yang (2018), showing how this study can make a contribution to the topic of neuroleadership to the field of educational leadership (Rockinson-Szapkiw et al., 2014), as a lens to identify leadership attributes that strengthen high school principals ability to inspire.

As mentioned above, during the literature review, three researchers' work inspired and informed the development of my conceptual framework for this thesis. Firstly, Dr. Bruce Perry (2012), a psychiatrist, neurobiologist and researcher, from Texas, USA, is known for his Neurosequential Model of Therapeutics (NMT). Secondly, Dr. Mary Helen Immordino-Yang, Professor of Education, Psychology and Neuroscience, at the University of Southern California, USA and her research work as part of the Brain and Creative Institute in the area of emotion and cognition and thirdly, Dr. Evian Gordon (2022) a medical doctor and PhD, is the former Director of the Brain Dynamic Centre at Westmead Hospital, Sydney and currently the Chief Medical Officer of TOTAL BRAIN. He is well known for his research on neuroscience as an integrated discipline and one of the original leaders in this field.

Dr.Bruce Perry (2012), states that the brain processes social interaction during learning, in three integrated and sequential layers. This is, the brain stem, (often termed as the survival brain or the emotional brain) which needs to be regulated; the social brain (often termed as the limbic system) which drives a desire to relate and bond and finally the neocortex, (often termed as the thinking brain or rational brain) which allows us the ability to reason as shown in Table 9.

Table 9: Metaphor for the three brains

	Area of the brain	Purpose	In social interactions
The emotional brain	The brain stem	Regulate	Calm emotions
The social brain	The limbic system	Relate	Relate and connect
The thinking brain	The neocortex	Reason	Access rational thought

Perry maintains that the three brain circuits are interrelated and sequential meaning reason is not accessible without first regulating and relating. The three brain model is a simplistic metaphor representing a very complex brain, however it is useful as I discuss key aspects of information flow during social interaction. Perry examined child maltreatment through a neurodevelopmental lens and clinical application of the Neurosequential Model of Therapeutics (NMT). However, it is not his treatment that is relevant to this thesis but Perry's underpinning premise for his work. Starting with the lower brain function, he moves up to the higher brain functions as improvement is evident. This involves focusing on self-regulating and calming the brain stem as the first intervention with repetitive, somatosensory activities such as music, breathing or drumming. Once the brain stem is calm and the child becomes less anxious, he moves to the relational related problems and embraces the limbic system to strengthen relationships and connection. Only then, he recommends that learning and higher cognitive processes can be addressed as part of a holistic approach. Perry's sequential and interrelated approach to human interaction for engagement and growth informs my conceptual framework. The associated components of the brain are found in Figure 3.

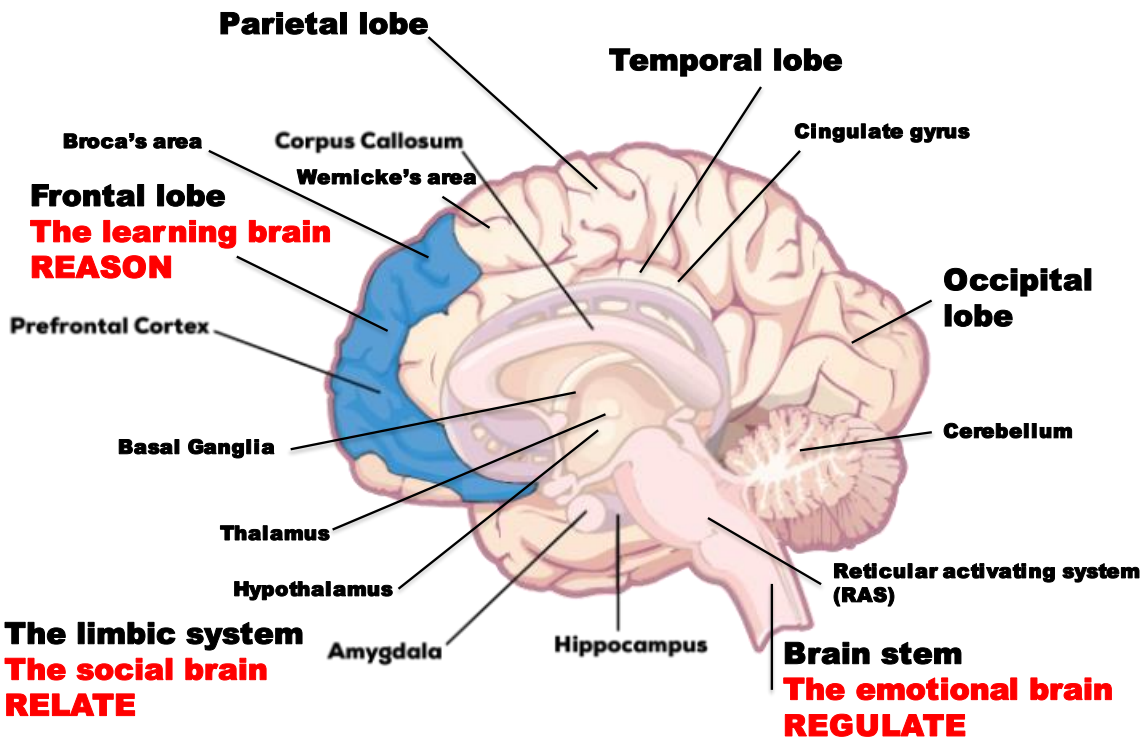

Figure 3: The three brains

In order to better understand how the brain processes personal interaction, I will refer to a three brain metaphor to simplify a very complex organ. The **first brain** is the brain stem and its key function is to regulate body temperature, heartbeat and breathing. The midbrain is part of the brain stem and has a key function in regulating movement. Spanning a portion of the brain stem is the reticular activating system (RAS), its key role being to regulate sleep-wake function and arousal in terms of what we pay attention to. All reptiles have a brain stem so it is sometimes called the reptilian brain, indicating that it is our most primitive brain and the first to develop in the womb (Gluck et al., 016). The brain stem maintains life and is **hardwired to detect threat** (Arsten, 2015; Berlin (2021); Lieberman, 2007; Rock, 2010). Gordon (2008), states that our brain unconsciously checks for threat five times a second and has five times more neural circuits for negative survival emotions than for positive attachment emotions. The survival of human kind meant that brain three responds with emotion and thus I have named it the emotional brain. An implication for leadership is that a school principal needs to learn ways to override their instinctive response of the emotional brain to sustain composure as discussed later in this thesis.

The **second brain** is called the social brain and is a combination of brain components called the limbic system. It is also sometimes referred to as the emotional brain. The limbic system manages key aspects of emotion and memory. Although there is debate about which specific parts of the brain comprise the limbic system most neurobiologists agree that the limbic system includes the hypothalamus, thalamus, amygdala and the hippocampus. This area of the brain is complex and has many interrelated functions with other parts of the brain but for the purposes of this thesis, it is relevant to explore the specific function of the amygdala and its role in emotional response during social interaction (Cacioppo & Patrick, 2008; Cozolino, 2014; Gluck et al., 2016; Holt-Lunstad, 2017; Molenberghs, 2013).

The amygdala is central to the flight-fight response when a physical or social threat is detected. The thalamus relays and filters what sensory stimuli coming into the cerebral cortex (except for smell, which has its own more direct relay system and this is why an aroma can be a powerful factor to retrieve memory). If threat is perceived, (either a physical or social threat) the thalamus, which sits just above the brain stem, sends sensory information (what we see, hear, touch, or taste) to the amygdala (part of the second brain) and the neocortex (third brain) simultaneously. If the threat continues, the lower brain neural circuits will take precedence over higher more logical brain processes (Baumeister et al., 2001).

In times of continued threat, the amygdala reacts with a flight-fight response instinctively activated before the neocortex has time to override it, triggering cortisol and adrenaline release. This response shuts down unnecessary systems, such as the immune system and digestive system, to prioritise blood flow to the big muscle groups to prepare us for fight or flight. While in this threat state, we are in survival or feeling mode and our brain cannot access the logical thinking part of our brain effectively (Gordon, 2008; Immordino-Yang, 2016; Willis, 2006). When neural pathways are prioritised for survival, problem-solving, learning and calm logic become difficult. If there is no perceived or actual threat, the thalamus relays information directly to the neocortex and then to the amygdala, which responds with the appropriate emotional response. In this case, the higher brain functions of logic and problem-solving can more easily be accessed (Gordon, 2008; Immordino-Yang, 2016; Willis, 2006).

The underpinning premise of the social brain is that **our brain evolved to operate and belong to a social group** (Cacioppo & Patrick, 2008; Cozolino, 2014; Lieberman, 2007; Holt-Lunstad, 2017) so connection is vital to our sense of well-being. It is not surprising then that we are highly sensitive and emotionally charged during social interactions. There are several triggers that are inherently human in nature that can tap into our social values and bring about an emotional response (Ringleb & Rock, 2013). Numerous studies support the concept of relationships building and emotional intelligence being an important part of effective leadership

(Such as Goleman, 2009). It has been well documented that connectedness and relational trust are significant factors impacting inspirational levels after social interactions. Cooperation is dependent on the quality of the relationship the teacher has with the principal and is impacted by the degree to which they feel socially accepted and connected. This may imply that a teacher who likes their principal and feels a valued member of their tribe is less anxious and tries harder.

The **third brain** is the rational thinking brain or prefrontal cortex (PFC), where all executive function or conscious thinking occurs, including problem-solving, critical thinking, self-reflection, empathy, planning, prioritising, our moral compass and the regulation of emotions (George, 2020; Gluck, 2016; Willis, 2016). The third brain allows humans to have an **innate ability and desire to learn and achieve** (Arsten, 2015; Willis, 2010) and when activated we are in thinking mode. However, the thinking brain can only be accessed effectively if the survival brain is calm and our social brain is connected (Arsten, 2015; Perry, 2012; Willis, 2010).

The three brains, metaphorically speaking, are therefore **interrelated and sequential** because their connections are a complex circuitry of overlapping processes. Human motivation is governed by an overarching organising principle of minimising threat and maximising reward and its chief priority is to keep us safe (Gordon, 2000, 2022). Social experience draws upon the same brain networks to maximise reward and minimise threat as the brain circuitry used for instinctive survival (Lieberman & Eisenberger, 2008). This means the human need for social connection is treated by the brain in much the same way as the need for survival, such as water (Cacioppo, 2008; Cozolino, 2014; Eisenberger & Lieberman, 2004; Rock, 2008). Therefore, social hurt such as loneliness, or humiliation looks the same (on a brain scan) in the brain as physical hurt (Cozolino, 2014). Approaching human interaction can be viewed through a lens that addresses how humans respond to threat and should incorporate what we know about how a brain rewires (Perry, 2012). Social interaction is emotionally loaded and therefore how we feel about someone, or something will enable or inhibit our willingness to engage.

Dr. Immordino-Yang, (2008), has captured this concept of how we feel when we think, in her research by explaining that you **can't separate emotion and cognition** so feeling and thinking are fundamentally interrelated. As explained previously, if the survival emotions are experienced (such as anxiety, fear, frustration, anger and embarrassment) after social interaction, our brain responds in threat mode. If the attachment emotions are experienced after social interaction, the brain responds in reward mode. Gordon's (2008) work on this concept is central to this thesis.

Dr. Evian Gordon (2008, 2022) explains the brain's tendency is to be triggered into threat mode, when stressed (defensive and anxious) or reward mode when relaxed (inspired and motivated) during social interaction. As principals interact with their team, that social experience draws on the same brain neural networks to maximise reward and minimise threat as the brain circuitry used for instinctive survival needs (Lieberman & Eisenberger, 2008). Therefore, as a result of the interaction with the principal, that team member could either be prompted into reward mode with the release of dopamine, feeling inspired and motivated to cooperate and engage or pushed into threat mode with a blast of cortisol, feeling defensive or disheartened.

My research into the interaction experience between a principal and a team member to identify inspirational attributes is anchored into this notion and captures the central concept. The conceptual framework shows the interrelated and sequential nature of the three brain model and the corresponding propositions. I argue that an in-depth understanding of the key principles of neuroscience and neurodevelopment can improve practice in the matter of the principal-team member interactions.

As social interaction is dependent on this sequential interrelated concept relating to the brain, a principal can adjust their behaviour during interaction with team members with the intent to position one into reward mode where the prefrontal cortex circuits are active. In this state, the neural networks for problem-solving, critical thinking, empathy, trust and innovation are accessible. If the principal understands that the brain needs to be calm, they can modify their manner to be non-threatening to enable trust to build and ensure a climate of psychologically safety. Secondly, if they have an understanding that the team member needs to feel warmth and rapport at some level, they can invest time into building the relationships. **As trust and rapport is established, team members will be more willing to engage and be more likely to be inspired**.

The following diagram, Figure 4, represents the components of the conceptual framework, informed by the work of Gordon (2008, 2022); Immoralino-Yang, (2017) and Perry, (2016). Merriam, (2016) states that the theoretical framework should show the problem being studied. In this thesis, this means that as a leader interacts with a team member (i.e., a principal and a staff member), they will have an impact on feelings as the brain is socially sensitive and hardwired to detect threat. The interaction could leave the team member feeling either inspired (reward mode) or the opposite (threat mode). In a personal interview with Dr Evian Gordon on 20 July 2022, an expert in this field, he explained that emotions come non-consciously before a feeling; emotions are the cause and feelings are the effect. To capture the components of this interaction Gordon (2022) demonstrates that when humans experience

a personal interaction, i.e. a conversation, the interaction itself will instinctively reveal emotions corresponding to our personal cognitive bias based on past experiences that have been shaped by our values and beliefs, responding in emerging feelings. Additionally, it is easier to trigger someone into threat mode than reward mode because the brain has four times the neural wiring for negative feelings than positive ones and the brain's first priority is to keep us safe and is therefore hardwired to detect threat. Thus, the importance of having ways to inspire others is essential for positive interactions. The conceptual framework illustrates that brain one (the brain stem), regulates, brain two (limbic system), relates and brain three (prefrontal cortex), reasons. Emotions are at the central core of the social interaction (as shown in the SIM framework) implying that the way we feel about someone will either inhibit or enable us to engage.

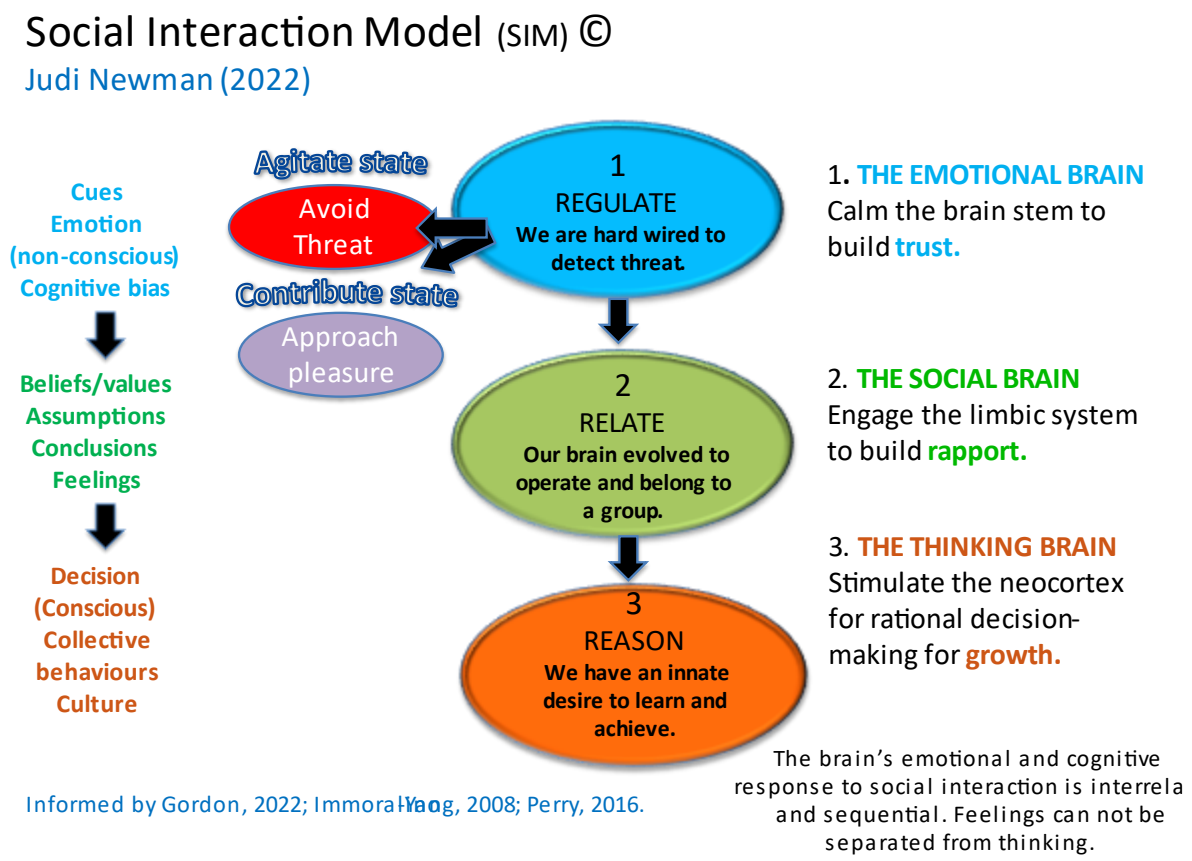

Figure 4: Conceptual framework

3.5 Case study method

Case study has been used in this project as the approach to investigate interactions with high school principals and their staff, thus enabling a pragmatic and flexible approach to gain an understanding of complex issues within context. Before I developed my research design, I needed to decide on which case study approach would best answer my research question and best align with my philosophical position. From an epistemological orientation, I required a case study approach that would have an inductive investigative strategy and explored the case in context. A literature review revealed many case-study models but three approaches dominated; Yin (2017), Merriam (2016) and Stake (2006). Each have their own epistemic perspectives which impact on their case study methodology. I chose Merriam, (2016) as she demonstrates constructionists' orientations (Yazan, 2015). From a Merriam perspective, my case study investigates and categorises themes through coding, the units of analysis defining the study. Merriam (2016) highlights that these conditions are the quality control regarding credibility, consistency and transferability. She replaces internal validity (Yin, 2017) with credibility and trustworthiness, suggesting comparing different sources of data.

All three researchers recommend that a case study should draw its data from multiple sources to "capture the case in its complexity and entirety" (Yazan, 2015). Yin, unlike Stake and Merriam, advocate for a mixed methods approach using both quantitative and qualitative data sources that can be triangulated to form a chain of evidence. Stake proposes the use of qualitative data alone and Merriam recommends research that is chiefly qualitative using observation, interviews and artefacts, but she states that some case study research benefit from using a survey to add value to the data collection, after the categories have been formulated from the coding process. Thus, this study is predominantly qualitative in approach with mixed methods. A feature that sets Merriam (2016, p. 38) apart from Yin and Stake 'lies in delimiting the object of study: the case.' She also suggests that the unit of analysis, not the topic of investigation, characterises a case study. As my data analysis unfolded during the research period, this became clearer for me as I realised that the topic of my investigation (a principal's leadership), did not characterise my case study but the units of analysis; the principals' behaviour, words, values and emotions, developing the categories that answered the research question. In summary, I find myself epistemologically discordant with Stake and Yin and much more consonant with Merriam.

3.5.1 Defining case study

I designed my case study on Merriam, (2016) for the reasons stated above, who defines case study as an empirical method that is an in-depth description and analysis of a bounded system. As stated earlier, Merriam's model is informed by some components of Stake but also all three researchers key case study researcher's Stake, Yin and Merriam agree on certain components of case study.

My case study design involved intensive and detailed qualitative and a small amount of quantitative data collection about the phenomenon or case (Luck et al., 2006). Through case study, the researcher seeks to explain how a phenomenon occurs within a real-life, real-time context and enquires about contemporary events over which the researcher has little or no control (Yin, 2017). How, what and why questions in social and educational settings are best utilised with a case study design (Yin, 2017). Accordingly, my three research questions investigate how, what and why a school leader inspires others in his or her daily work routine as events happen organically and in context during a school day.

To expand on case study as a methodology, Merriam (2016) states that a person, place or program can be a case and the case should be associated with a phenomenon within boundaries. In other words, in this study the school principal can be specified as the case, the principal's inspirational leadership (or lack of inspirational leadership as the case may be) would be the phenomenon within its boundaries of a principal's behaviour and interaction in context. The case study method is beneficial in researching people and social phenomenon with the intent to provide a rich description of events and experiences arising in that particular case (Merriam, 2016 Yin, 2017). The case study relied on multiple sources of evidence, with data converging in a triangulating fashion (Hartley, 2004; Merriam, 2016; Yin, 2017) or a more fitting term reflecting my epistemology perspective would be comparing multiple sources of data. Some researchers would disagree with the word triangulation in qualitative research. The case study research benefited from prior development of theoretical propositions drawn from the literature review to guide data collection and analysis (Hartley, 2004; Yin, 2017). Hence, numerous propositions informed by the literature review have been outlined in section 3.5.2 and will guide the data collection and analysis. Case studies can be further defined by categorising different types.

Merriam, (2016), suggests that multiple-case study designs are preferred over single case study designs as they provide richer and more detailed information. For the purpose of the study, **a multiple-case design** has been chosen to address the research question and provide the opportunity for rich and in-depth exploration. This case study is multiple, as I am investigating four high school leaders, rather than a single case. There are several units of

analysis (EUA) that form the criteria to identify what are coded in the interviews to identify themes or categories (Merriam, 2016; Yin, 2017). Using the EUA's the researcher can identify single words or short phrases in the data collection phase that are important to answering the research question. The EUA's in this study are values, feelings, artefacts, behaviours and words that are the 'how' of inspiration. This means that after I asked the interview participant how a principal inspired them, I would look for the EUA's in their response. This is outlined in Tables 12 and 13 below.

3.5.2 Rationale for case study

My study has utilised Merriam's (2016) components of case study, which lent itself well to answer the research question and address the nature of the research problem in the most effective and efficient manner. Merriam recommends starting the research phase by identifying a clear purpose, understanding the problem and deciding on the theoretical framework (conceptual framework). The other core components of this case study research are shown below in Table 10.

Table 10: Case study framework based on Merriam, (2016).

Rigour	My study
The case The phenomenon	The principal The principal's influence to inspire
The study question	How does a high school principal's leadership impact on staff reported inspiration perceived by their team? What are the attributes of a principal's inspirational leadership as perceived by their teams? What can neuroscience offer to best understand a principal's inspirational leadership behaviour?
Propositions (Informed by the literature review)	In order to make a decision, we need to have feelings about our thoughts. The brain's emotional and cognitive response to social interaction is interrelated, so feelings cannot be separated from thinking. A leader needs to override their bias to make rational decisions. Inspiring others is more successful than telling or insisting, as it aligns with the way the brain operates Humans are hardwired to detect threat and are highly socially sensitive. Trust is the default of the brain, so trust must be earned. If trust and rapport are established, cooperation and engagement are more likely. Social interaction triggers emotion that taps into human motivation and values. Social attributes inherent in human character can trigger humans into threat or reward mode. Leadership is about influence, not just authority.
Purpose	The purpose of this study is to identify the leadership attributes of a high school principal that inspire school staff to engage using a neuroscience lens.

Problem statement	Human personal interactions reveal emotion. How we feel about someone will either inhibit or enable our willingness to engage others. It is very easy for a leader to trigger someone into threat mode because our brain is highly socially sensitive and hardwired to detect threat and therefore challenging to inspire them.
Conceptual framework	Neuroleadership: The three brain framework. See Figure 4.
Units of analysis (EAU)	Behaviours including: Feelings Values Actions Artefacts Words
The logic linking the questions to the propositions	Neuroleadership/Neuroplasticity as the conceptual framework that informs the propositions. Refer to Figure 6.
The criteria for interpreting the findings.	Code criteria (EAU): The collected data was coded around the following behaviours of the principal: Action, feelings, words, artefacts and values. This means I coded everything that fell into one of those criteria (these were the reasons why a team member reported they had felt inspired or not). Pattern matching: I searched for patterns in the coded data and noticed that nearly all the categories were associated with human behaviours, which I called leadership attributes. Alignment: I used a dictionary and a matrix to ensure the codes accurately reflect the retrieved words and phrases.
Data collection	Conduct Interviews, observation and artefacts Design and send out survey after interviews are coded. Merriam suggests that data collection can stop once beyond saturation of data meaning when no new data is revealed.
Data analysis:	Merriam states that data collection and data analysis is a simultaneous process and is integrated. Conduct first interview and code to identify patterns and insights. Conduct second interview and code. Examine for patterns int the codes. Start broad groupings and name the categories. As you code more interviews, narrow the categories. Finish with a refining of the names of the categories to ensure the most appropriate name represents the group of codes. Merriam proposes that naming categories is largely an intuitive process, but also systematic informed by the studies purpose, the researcher expertise and the meaning made by the participants themselves (Merriam, 2016 p. 211). Pattern matching was used as a key strategy. Interviews were examined and coded. Codes were sorted into broad categories. Categories criteria: exhaustive, mutually exclusive, sensitive, conceptually congruent (Merriam, 2016, p. 213). Broad categories were reduced as coding progressed. Categories were tabulated and aligned to the conceptual framework for three themes. Survey results were tabulated and graphed. Observation data was examined for evidence of themes. Data collection compared the different sources of data (triangulate) for a chain of evidence that tested the trustworthiness of the themes and confirmed findings.

Trustworthiness Validity and credibility of data	Collecting multiple sources of data to compare to strengthen findings (interviews, observations, artefacts and survey). Collecting data from the case (the principal) and the staff they are inspiring (or not inspiring) to compare responses. Collecting data from four different schools to check for patterns. Peer or supervisor checking of data coding. Aim to interview beyond saturation of data (Saturation of categories was reached in interview 7 and there were 25 interviews). Minimising researcher bias by being open and aware of assumptions. Using open-ended questions so they are not leading. Maximising researcher training and expertise.

Yin, (2017) explains if a case study is to be rigorous, there needs to be alignment between the literature review, conceptual framework, propositions, the research questions and the data. As Merriam also supports alignment, a strong alignment between components of this study is evident. The conceptual framework for this thesis was informed by the literature review; the propositions informed by the conceptual framework used to frame the research questions. The research questions lead to the collection of data that confirm (or not) the propositions and the findings of this research align with the conceptual framework.

Table 11, shows the case study structure, with four school principals making it a multiple case study and five units of analysis for each case.

Table 11: Case study unit of analysis

Central phenomenon: Inspirational influence of the principal; Case: the principal	
Case 1 Y High school principal 1 EUA 1: words EUA 2: actions EUA 3: feelings EUA 4: values EUA 5: artefacts	Case 2 R High School principal 2 EUA 1: words EUA 2: actions EUA 3: feelings EUA 4: values EUA 5: artefacts
Case 3 F High school principal 3 EUA 1: words EUA 2: actions EUA 3: feelings EUA 4: values EUA 5: artefacts	Case 3 B High school principal 4 EUA 1: words EUA 2: actions EUA 3: feelings EUA 4: values EUA 5: artefacts

The five units of analysis (EUA's) shown in Table 11 above, are the criteria I used to identify the attributes during coding, associated with how a principal inspired their staff as reported by the interview participants. Merrium states that it is the units of analysis that are

the focus on the case, therefore reasons for inspiration were identified from the words and actions of the principals. As the participants answered the questions, I looked for words (for example, the principal always said good morning or said thank you), feelings (for example, the principal made me feel appreciated, hopeful), actions (for example, the principal checked in on my well-being daily, he coached me), values (for example, the principal was humble and honest) and artefacts (for example the principal writes thank you notes, gives flowers, presented an award, has a photograph on his desk). Therefore, the criteria can be defined as:

- Words: What the principal says;
- Actions: What the principal does;
- Feelings: How the principal makes me feel or the emotion he or she shows;
- Values: What traits seen in the principal and
- Artefacts: Items you can hold and see.

Table 12 shows the criteria and a sample of coded units of analysis from the interviews. I looked for the reasons the participants reported for being inspired (or not) and coded them. Actual examples from the interviews are in Table 12. For a full set of data, refer to Appendix C.

Table 12: Sample of units of analysis from interviews

Criteria	Coded word from interview	Code
Feeling	He made me feel strong	250
	Enthusiastic and hopeful	350
	He made me feel supported	249
Value	Challenge	370
	Trust is important	342
	Clarity	227
	Respect	134
Words	He was a good speaker	336
	My profuse apologies	86
	Used positive language	658b
Actions	He follows through	343
	Coaching	344
	Modelling	854
	Knowledge sharing	348
	Listen to all views	397
	Attended and involved in the event	405
	Walked the talk	865
	Organised	816

Artefact	I won teacher of the year (certificate)	254
	Handwritten postcard	814

It is important to highlight that the EUAs (Merriam, 2016; Yin, 2017) were a way of identifying the data that was to be used for coding, a way of capturing the data for analysis, however, there was no weighting on which EUA was used or which was more important. There was overlap between the EUA's, meaning it was possible for one data to fit into more than one EUA. This was not significant, as long as the data was captured. Once captured, it was then reviewed and assessed for categories.

3.5.3 The rationale for multiple case study

The rationale for the selection of the type of case study design:

- Viewing leadership behaviour across schools, rather than one isolated single case, provided more in-depth and meaningful data (Merriam, 2016);
- The opportunities for comparison of similar and contrasting results added trustworthiness of data analysis (Lapan & Armfield, 2009);
- More confidence in the findings as they are more robust using multiple cases;
- Viewing principals through a range of lenses will provide more comprehensive findings (Merriam, 2016; Stake, 2006; Yin, 2017);
- Multiple case study will provide a multidimensional perspective that is a shared view of the situation across a number of cases (Yin, 2017);
- The case study is predominantly qualitative in nature but has the scope for quantitative data which can add to a more comprehensive picture (Merriam, 2016);
- Data collection and analysis in a case study can be developed together in an interactive process (Hartley, 2004; Merriam, 2016), confirming or adjusting the propositions and themes as empirical evidence informs the categories (Merriam, 2016);

3.5.4 Benefits and risks of case study

There are many benefits of using case studies. The analysis of the data usually occurs within the context on site (Merriam, 2016; Yin, 2017) which tends to capture a more accurate picture of the complexities of the phenomenon. Gerring (2007) similarly highlights that case studies gather data from the inside of an organisation, and this internal data can reveal truths that may of not have been revealed through other methods. This contrasts with experiments,

which purposefully separates the phenomenon from its context, focusing on individual variables in more quantitative research. Case studies are also typically good at showing strong causal insight and causal links (Gerring, 2007). Finally, the detailed in-depth outcomes produced through case study show the complexities of real-life situations, which cannot always be measured by solely numerical research. Mixed methods, with a largely qualitative approach, fits the multifaceted phenomena of the nature of my research question to generate more rigorous findings (Fetters et al., 2013).

A common criticism of case study research is in its generalisability (Punch, 2009). The possibility of making subjective and vulnerable findings in case studies is dependent on the perceptions and assumptions made by the researcher (Harland, 2014) so some researchers suggest that qualitative case study research cannot be generalised. Merriam, (2016) does not entirely agree but recommends protocols be created to guide the case study research. Yin, (2017) argues that rigour should be built into the design to ensure that equivocal evidence or biased perspective do not impact on the direction of the findings and conclusions. Thus, I built in the appropriate rigour shown in Table 12. In my study, I need to be mindful of this potential risk and protect sufficiently against confirmation bias, (only seeing what I set out to find).

For this reason, Yin (2017) indicates that the task of conducting this type of research is best suited to professionals who both work in the field (which I do) and who are highly trained in this type of study. As a PhD candidate, I am a beginner researcher, however, as a past high school principal, I am confident that I have the experience to read the nuances of the exchanges that take place in an unbiased way which will allow accurate and meaningful interpretation of the data collected. As an inexperienced researcher, I have built on my skill set with training on conducting interviews, case study methodology, data analysis and survey design. Additionally, I have collaborated with my research supervisors to guide my research design.

The rich detail and depth demanded of the case study required the researcher to access ‘inside’ conversations, so the researcher’s ability to build rapport and trust with the participant’s was essential to the high level of access (O’Leary, 2017) I required. There was a potential for the trust not to be established in the short time frame of the research case, resulting in the data may not being a true representation of what is actually happening. However, while the problems are not different from other forms of research in case study research, they may have been more “frequently encountered and less frequently overcome.” (Yin, 2017, p. 143), so I was mindful of the potential risk. In mitigating said potential risk, my experience in talking to school staff over thirty years gave me the confidence and skillset to put participants at ease. I also enrolled in and completed a course by Griffith University on

interview techniques for qualitative research, which incorporated curriculum, practice, coaching and assessment. This professional development and training served me well in the interview process for my research.

3.5.5 Rationale for mixed methods

The nature of the research question drives the choice of methods (Fetter et al., 2013). Therefore, in consultation with my research supervisors and capturing Merriam's approach to case study, a largely qualitative approach with mixed methods including some quantitative methodologies was considered the most appropriate fit to answer my research question. It would not be incorrect to call my research design qualitative but Merriam, (2016) states that a survey in case study would allow for mixed methods. However, it should be stated that the quantitative component is minimal. The observations, interviews and artefacts were a qualitative component with the survey being the only quantitative component. However, the survey did not aim to identify a point of truth with the use of SPSS statistical software, as this would have required a more quantitative approach. Qualitative methodologies are applied to research questions to examine why or how a phenomenon occurs, to develop a theory, or describe the nature of an individual's experience Fetter et al. (2013) and my study encompasses these characteristics.

A mixed methods approach draws upon the strengths of both qualitative and quantitative methods and provides an innovative approach for addressing contemporary issues (Fetter et al., 2013). The mixed approach of my study provided a complete a more profound understanding of what factors are associated with inspiring teams and provides more detail than any one method. The qualitative data can be used to compare to the quantitative findings (Fetter et al., 2013) and thus the triangulation of the data improves its potential trustworthiness (Merriam, 2016). Punch (2009) suggests that case study methodology provides an intensive analysis of many details that can be more easily captured via mixed methods and are often overlooked with a narrower approach. Merriam explains that using both qualitative and quantitative methodologies is a key element in the improvement of social science, including educational research, and it can lead to less wasted potentially useful information.

3.6 Data collection methods

The types of data collection methods are decided by the nature of the case, the type of research question being asked and feasibility issues (Fetter et al., 2013; Lapan & Quartaroli, 2009; Merriam, 2016; Stake, 2006; Stake, 1995; Yin, 2017). According to Merriam (2016) there are many sources of evidence for case studies: documents, archival records, interviews, observation and artefacts. The qualitative component of my research utilised three of these: interviews, observation and artefacts. The mixed methods design provided the opportunity to integrate the data in an exploratory sequential design where the qualitative data was collected and analysed, with the findings informing the quantitative data collection and analysis (Onwuegbuzie et al., 2010). After I had analysed the interview data, I used the categories from the interview analysis to design a survey. The intent of the survey was to explore which of the leadership attributes, (that had been identified in the interviews) were more important and to what extent was the principal exhibiting behaviours that reflected the leadership attributes.

Specifically, the data collection included field observation of school leaders, semi-structured interviews (twenty teachers and four principals) and artefacts (annual school reports and newsletters). The survey of five teachers from each school collected additional data after the interviews were complete. I extended the data collection to teachers (school staff) as the aim of the study is to explore the principal's influence, so I needed to seek data from the people who have been influenced (or not). As characteristic of mixed methods, the data collected was combined as part of the data analysis process to further add confidence in the accuracy of the findings (Merriam, 2016). As suggested by Hartley (2004) and Fetter et al. (2013), data collection and analysis in case study are developed together in an integrative convergent process, which can be a benefit as it allows for theory development which is embedded in empirical evidence. This was a useful technique as I analysed the data from the first interview to make general assessments, then interviewed another group of teachers to refine the themes and finally continued to refine the categories as more interviews were analysed. The sub-factors for each category did not fully reveal themselves until well into the research process.

3.6.1 Interviews

The semi structured interview questions, shown in Table 12, were designed after I participated and completed investigative interview training at Griffith University, Australia. The course work aimed to prepare qualitative researchers for quality interview techniques, within ethical guidelines. In response to the training, the research questions were refined to establish

more open questions. Before the training, the research questions were more content focused and there were several leading questions. The training showed that open, no content (subjective) questions such as “Tell me about a time when you had an interaction with a school principal?” “Tell me more about that.” “What makes you say that?” have been shown to reveal more reliable information (Powell, 2021). Thus, after the training, I reshaped my questions to be more open.

All interviews began with stating the purpose of the interview intent, which was to explore ways the principal’s leadership inspire teams. Each staff interview started with the question, “Tell me about a time when you were inspired by an interaction with the principal. Tell me everything that happened.” The types of questions included:

- IOQI: Introduction open question;
- OQB Open question to build breath and
- QQD: Open question to build depth.

Once the participant had the opportunity to tell their story in their words in their time, the next questions focused on relevant points where the interviewer identified that might deepen insight into something they said previously. These questions were more specific and were called specific questions cued recall. Table 13 shows the interview script.

- SQCR: Specific question cued recall

Table 13: Interview question framework for teachers

No.	Question	Code
1	Have you had a **positive interaction** with a principal?	SQYN
	Tell me everything that happened …. Start from the beginning.	IOQI
	What happened then?	OQB
	What else happened when…….?	OQB
	Tell me more about the part where….	OQD
	What happened when….	OQD
	Tell me how that made you feel?	SQCR
	What was it in the principal’s behaviour that made you feel like that?	SQCR
2	How did the principal make you feel inspired and motivated?	SQCR
3	Have you had a **negative interaction** with a principal?	SQYN
	Tell me everything that happened…. Start from the beginning.	IOQI
	What happened then?	OQB
	What else happened when…….?	OQB
	Tell me more about the part where….	OQD

	What happened when….	OQD
	Tell me how that made you feel?	SQCR
	What was it in the principal's behaviour that made you feel like that?	SQCR
4	How did the principal make you feel inspired, good and motivated?	SQCR
5	If you were a principal, what could you do to inspire your team?	SQCR
6	Think back to a proud moment when you had an interaction with a principal. What made you feel so good?	SQCR
7	Tell me about a time when the principal's influence has been greater than expected.	SQCR
8	What characteristics do you see important for an inspirational leader?	SQCR

The interviews were recorded digitally, providing a high level of accuracy and detail to be captured compared to taking notes by hand and relying on memory (Powell, 2021). It also allowed the participant to be more relaxed and myself as researcher to be more attentive to what the interviewee was saying as I was able to make eye contact. The interviews were conducted in a relaxed and confidential space where the session could not be interrupted, and the deputy principal allowed a generous time period so that the participants would not feel pressured or rushed. I began each interview with an open question as these are more likely to elicit accurate information, allowing the participant to have more control and therefore feel calmer. It also allows the participants' perspective to emerge naturally, revealing cues that arise within the narrative which trigger more detail and relies on the interviewees own language (Powell, 2021).

3.6.2 Observation

Observations were a way of collecting more data that may provide a more in-depth understanding with how principals inspire. Merriam, (2016) states that observations benefit case study research as notes can be recorded as the interactions are happening in context. She recommends that observations are used with interviews and document analysis to 'triangulate the emerging findings and substantiate the findings' (Merriam, 2016 p.139). As a result, I compared the different collection sources of observation data, interview data and survey data as part of my data analysis. I shadowed each of the four principals during a normal school day over ten hours to observe their interaction with their staff members at each school. I asked each principal to go about their role as if I wasn't there, leaving only if they had an interaction with a student, as I was only researching their interactions with staff members.

I had initially planned to record the observation data electronically, but I found this approach was too intrusive as some interactions were very personal. As teachers discussed

sensitive matters with the principal, it did not feel right to interrupt their conversation to provide information about my research and role, seek their permission and stop the conversation while I started the recorder. Therefore, to not interrupt the flow of the conversation I used pen and paper and the principal informed each person about the purpose of my presence and I added that I would not be recording what their side of the conversation and would only be writing notes about what the principal was saying to capture themes. My note-taking focused on identifying the purpose of the interaction. This method as a result, was more ethical and respectful.

Merriam (2016) states that in order to reduce subjectivity in observation data, researchers should plan the focus of the observation notes, as the observer cannot record everything. Merriam (2016) contents that the nature of the research questions and purpose of the study will guide the focus of the observation. My key aim was to examine the observation notes for evidence of the leadership categories I had recorded in the interviews. Therefore, I drew up a coding chart and focused on recording the purpose of the principal's interaction, writing down the phrase they stated to the team member. Additionally, Merriam recommends remaining flexible and adaptable as new information comes in and to note anything remarkable or unique. As I was observing the principal interact with staff members, I noticed they used strategic phrases to influence and persuade. After collecting, collating and coding the data, I sought evidence of the leadership attributes in the principal's behaviour. I also identified the use of pronouns in the conversation, identifying when the principal used 'I' or 'We'. At each of the four schools, I observed the principal chair a leadership team meeting with his or her senior leadership team and noted the ratio of questions to statements made by the principal. This threefold focus of the observation data collection phase served to deepen the insights I explored around the research questions. The format, notes and results can be viewed in Appendix E.

Merriam, (2016) recommends that the researcher write up the observation notes as soon as possible after the observation took place to ensure as much as possible the conversations were recalled accurately. This was especially important for my study as I had taken handwritten notes; thus, I typed up my data the same day of the observation.

Biklen (2011) highlight that it can be difficult for an outsider to gain entry into the group's world to witness a normal interaction because of the sensitivities and trust of the participants. However, I did not feel this. Understanding school culture, I felt I was accepted in the inner circles and confidences of the group at each school and in some cases, was surprised with their openness and honesty. A few comments have been struck from the observation notes

as they were too personal to include. However, this data was not relevant to my research purpose, so did not affect the authenticity of my study.

3.6.3 Survey

The purpose of the survey was to collect information on the inspirational attributes revealed after the interviews were coded and analysed for patterns, with the aim of deepening and narrowing insight into the following research sub questions:

- Which factor or factors were more important than the other (if any)?
- Do principals show evidence of the leadership attributes in their actions and behaviour?

To maximise the quality of the survey, I participated in survey design training contracted by Central Queensland University and consulted a senior researcher on my draft survey design. As a response to the feedback on the draft survey, I took the following action:

- To added questions that were not attributions of inspirational leadership which were revealed in the interviews to test against the attributes from the interviews (I added, Q 5,10,15,20,25,30,35,40,45). This means every fifth question was not written around a leadership attribute that was identified in the interview data;
- To anchor the scale into words of degree (refer to Table 17); and
- To ask participants to rate the attributes in order of importance (refer to question 60-72, Section D of survey).

3.6.3.1 Designing the survey

After interviewing twenty staff across the four high schools, I identified thirteen inspirational attributes through the coding process. After survey design training, I designed the survey questions using a Likert scale. Likert-type questions are useful when you already have some sense of what the target group is thinking (Griffin, 2021), so I asked four questions to represent each of the thirteen factors using a Likert scale from 1-7. The words I used to shape the questions were drawn directly from the teachers' words in the interviews to define each of the attributes.

Part A of the survey asked how strongly a teacher agreed or disagreed with a statement. All statements started with 'In regard to inspiring me to engage, it is important for a high school principal to…' Each question represented a different attribute, with the aim to determine if any of the attributes were more significant than the other. Every fifth question was **not** focused on an attribute that emerged from the interview data. The questions and the associated attribute are shown in Table 14 below.

Table 14: Attributes associated with each survey question

Survey question	Attribute	Survey question	Attribute
1.2.3	Integrity	19,21,22	Connectedness
4,6,7	Humility	23,24,26	Support
8,9,11	Strength	27,28,29	Appreciation
12,13,14	Positivity	31,32,33	Collaboration
16,17,18	Clarity and certainty	5,10,15,20,25,30,35,40,45	Non attributes

Part B of the survey explored the ways a teacher would prefer to be acknowledged by their principal. All questions started with, 'Rate the following principal behaviours, regarding the extent to which you feel inspired or demotivated to engage.' This information may add insight into the attribute of appreciation. Part B incorporated question 40-48 and can be viewed in Appendix D.

Part C of the survey measures the strength of inspiration felt from an acknowledgement from the principal as boss compared to a colleague. This information may further explore the strength of the impact of a principal's behaviours on perceived inspirational levels. Part C incorporated question 49-50 and can be viewed in Appendix D.

3.6.3.2 Analysis and interpretation of survey data

Each response was assigned a point value, from 1 to 7, based on the number of response options available. Values for each option were created with the following, as shown in Table 15 below.

Table 15: Response legend for survey Likert Scale

PART	VALUE	Scale
A	1	Strongly disagree
	2	Somewhat disagree
	3	Disagree
	4	Do not agree or disagree

	5	Agree
	6	Somewhat agree
	7	Strongly agree
B	1	Highly demotivating
	2	Very demotivating
	3	Demotivating
	4	Neither demotivating nor motivating
	5	Motivating
	6	Very motivating
	7	Highly motivating
C	1	Of very little value to me
	10	It would mean the world to me

Data responses were collated into a table to show results. The mode (number of times something occurs) and the mean (the average response) were highlighted. The mode informed the most common response from participants to each statement, while the mean gave the overall average response.

3.6.4 Artefacts

The artefact that was explored in this study was the principal newsletter to staff. I collected three newsletters from three of the four schools and coded them to identify themes identified in the interviews. The aim was to find evidence of the themes in the principal's written words. I also viewed the Annual School Report (SAR) for each school to inform the background statement for each school case. The artefacts can be viewed in Appendix F.

3.7 Data analysis methods

Kohibacher, (2006), recommends all researchers who are conducting case study research use and apply thematic content analysis in their research design as it is the most complimentary data analysis process that suits qualitative data when identifying themes. The content thematic analysis offered scientific rigour to reveal meaningful and relevant data to answer the research question. Content analysis identified keywords and phrases to reveal the common themes in the survey and interview scripts. Content analysis can be defined as an empirical method of controlled analysis of text and is a step-by-step process following content analytical protocols (Mayring, 2000). Thus, I based the protocol on Merriam, (2016) who maintained that the data analysis consisted of **investigate, categorise, code and review** to address the initial propositions. In other words, analysis of data regarding case studies requires a search for patterns of data (Neuman, 1997) which is then interpreted in context.

The goal is to derive conclusions from these patterns. Patton and Appelbaum, (2003) believe that in a mixed methods case study, the data can be linked through connecting, building, merging and embedding and this was explored during the analysis of the data. The nature of using Merriam's process of data analysis to identify themes necessitated careful organisation and interpretation of the data (Maguire & Delahunt, 2017) but allows for the themes to start broad and narrow as more interviews are analysed. It was important to identify themes which reflected the intent of the research questions (Braun & Clarke, 2014) to inform the categories. In accordance with Merriam's approach to data analysis, individual cases were coded and analysed first, followed by a cross-case analysis to assess if the same themes emerged, which they did. "A qualitative, inductive, multi-case study seeks to build abstractions across-cases" suggests Merriam. (Merriam, 2016, p. 234). A general explanation can be established to fit all cases (Merriam, 2016).

3.7.1 Protocols for data analysis

Merriam (2016) recommends that data collection and analysis should be a simultaneous process; emergent, recursive and dynamic in nature. As the first batch of data was read and analysed, the second set of data was viewed, building clarity as the process progressed to answer the research question. In this way, broad, tentative categories were identified early in the data collection and analysis process. As patterns became clearer, hunches were verified and categories refined as more data is analysed (Merriam, 2016). The final analysis is based on the notion of saturation, this is when there are no more new insights in the data. In the middle of data collection, I found the same repeated themes across all four schools. The saturation of categories was at interview seven, and saturation of sub-factors occurred at interview twenty.

Merriam (2016) has fairly flexible protocols and is not as structured as Yin (2018) Thus, I established the following protocols for my study framed on Merriam's analysis protocols of investigate, categorise, code and review. Each of these components and how they were used in this research are shown in Table 16.

Table 16: Data analysis protocol

Step	Action	Description
1	Training	Interview techniques: Griffith University (7 week training course). Survey design: Zoom training, CQU Coding: Professor Virginia Braun & Dr. Victoria Clark, University of West England. (on-line training)
2	Design interview script	Refer Chapter 3.6.1

3	Conduct interviews **INVESTIGATE**	Interviewed 25 participants
4	Transcribe interviews	Transcribe audio tape into word documents using an approved professional transcriber
5	Determine the criteria for codes	Code HOW the staff were inspired using the Units of Analysis (EAU) of behaviour, words, values, artefacts and emotion to find codes.
6	Code the first interview **CODE**	A number was allocated to each code
7	Analyse the first interview and Identify patterns in the codes **CATEGORISE**	Create very tentative broad categories
8	Code the second batch of interviews to finish School 1 **CODE**	Continue to use EAUs to find what to code
9	Analyse interview data from school 1	Build on broad categories finding the appropriate word to name the category.
10	Code the next batch of interviews from School 2 **CODE**	Continue to see EAUs to find what to code.
11	Analyse the school 2 interview data	The first pattern I noticed was that they were all humanistic in nature (values or character traits) so I called the factors leadership attributes.
12	Code interviews from school 3 & 4 **CODE**	Continue to see EAUs to find what to code.
13	Analyse interview data from school 3 & 4.	Attribute category **saturation** was reached at interview 7. Sub-factor **saturation** was reached at interview 20. Five more interviews were coded after that.
14	Cross-case analysis	Compare each school for themes
15	Refine the names and number of the categories **CATEGORISE**	I started with 15 attributes. I ended up with 13 attributes. For example, I merged fun with positivity. Refer to Table 17.
16	Tabulate the data into themes and attribute showing alignment to the propositions in the conceptual framework **REVIEW**	Show how the pattern of data algins (or not) with the conceptual framework. Do the attributes align with the three themes? Refer to Table 33.
17	Table the codes into the attributes and tally totals	List all codes under the heading of the attributes so that the number of times a participant has stated that attribute it can be counted and tallied. Refer to Chapter 4, Section 1.4.2.1, Table 20-32
18	Record and total tallies from tables	Determine rank order and graph based on frequency of attributes mentioned in interviews. Refer Chapter 4, Figure 5.

19	Determine the purpose and aims of the survey	Purpose: To identify if one or more attributes were more important than another. To determine if principals showed evidence of the attributes in their behaviours.
20	Design survey using a Likert Scale	Three questions to assess the importance of each attribute Every fifth question to be a non-attribute. Rank order attribute in order of importance Assess if principal's behaviour show evidence of the attributes. Refer Appendix D
21	Analyse survey data **INVESTIGATE**	Calculate means. Refer Chapter 4, Table 37 – 38.
22	Determine purpose and note taking structure for observation	Take notes recording the purpose of the principal's interaction with staff. Refer Appendix E
23	Observe principals **INVESTIGATE**	Follow principal for ten hours in their normal context and observe how they interact with staff
24	Analyse observation notes **CODE**	Code for attributes. Refer Appendix E and Table 93.
25	Determine purpose of collecting artefacts as a data source **INVESTIGATE**	Look for evidence of attributes in the staff newsletter from the principal by recording the purpose of the interaction.
26	Analyse artefact data **CODE**	Table data showing purpose Determine how the purpose relates to the attributes Refer Appendix F
27	Examine individual cases INVESTIGATE	Graph data for each case. Refer to Chapter 4.4
28	Compare data from all sources **REVEIW**	Empirical data: Compare how staff positioned the attributes in the interviews and the survey and if anything in the artefact and observation support this in any way. Literature review: Compare the research finding with the attributes found in the literature. Refer Chapter 4 Analyse for cross-case analysis, Section 4.5
29	Identify patterns in the data **REVEIW**	Triangulate/comparing data, refer Chapter 4. Refer section 4.5 for cross-case analysis
30	What are the implications?	See discussion Refer Chapter 5
31	What are the conclusions?	See discussion Refer Chapter 5
32	What are the applications?	See discussion Refer Chapter 5

3.7.2 Coding

Coding was used to assign a shorthand symbolic designation to the data, useful in answering the research question (Merriam, 2016). Content analysis was used to code, specifically the type called thematic analysis, referring to the categorisation and thematic

analysis of qualitative data; the most common form used in qualitative research. It is often combined with the results of analysis of behaviour data (such as, the observation of principals' behaviour) for more in-depth insights (Medelyan, 2020). Coding is the critical link to the data (Braun & Clark, 2014, 2018; Medelyan, 2020) which captures the meaning of the words in context. For example, the codes identified the words and evidence that 'strength' and 'humility' were a pivotal contributor to inspirational levels of staff. The coding process lends itself to an inductive and comparative approach and is widely used in qualitative research (Merriam, 2016). Consolidating, reducing and interpreting is part of the process of making meaning of the data. The codes that are revealed to repeat across interviews are categorised into the same theme is called 'sorting categories' and Merriam recommends that the final number of themes are reduced as data is sorted and analysed. Merriam, (2016. P.187) states that the "fewer the categories, the greater the level of abstraction" and the easier it is for others to understand the results. The following key definitions regarding coding is shown in Table 17.

Table 17: Code definitions

Term	Meaning
Codes	Is a word that captures some idea or meaning in the data. Often it is more than one word. For my study, it was a code that represented HOW the principals influence (which could be an action, words, artefact, value or emotion).
Latent codes	Implicit or underlying indirect meaning.
Sematic codes	Explicit or surface direct meaning.
Attribute categories	A group of codes with shared meaning. Also called factors.
Theme	The themes are shown in the conceptual framework and are trust, rapport and purpose/growth.

Thematic analysis was first used to identify themes from the interview data. In this case, the data from the observation of school principals in their day-to-day interactions with their staff was used alongside the interview data to seek clarity and deepen insights regarding themes. Once themes were refined into clear categories, a survey was designed to seek further information to refine and inform further analysis.

Automated qualitative data analysis such as text analysis software (for example, NVivo) is available to code data, however Professor Virginia Braun and Dr. Victoria Clarke of the University of the West of England (2014, 2018), both experts in thematic analysis in coding, stated that if the researcher has the time available it is beneficial to code the text manually as accuracy is enhanced, especially if the researcher is looking for themes that had latent application. The unknown unknowns are difficult to identify with computer software. Dollah et

al., (2017), in their conference paper on the benefits and drawbacks of NVivo application, would agree, maintaining that NVivo is a practical and relevant technology for coding thousands of scripts, but for small case studies, it is time-consuming to set up. They also commented that it had limitations in interpreting data. As I only had twenty-four interviews to code, I decided to invest my time in coding manually to improve accuracy of the identification of phrases to generate the themes. To minimise bias in how I coded the data and how I identified category names, I discussed the coding process, as it progressed, with my research supervisor. I acknowledge however that every researcher has some bias that may influence the data analysis. I understand that the names of categories maybe subject to personal bias, but as stated earlier I used a dictionary to assist in making this a logical process not an emotional one.

3.7.2.1 Process of coding

The interview scripts were examined and key phrases or single words (EAU) indicated by the interviewee reported as being reasons for feeling inspirational (or not feeling inspired) were highlighted in yellow. The highlighted words or phrases were allocated a number (a code). The following is an example of coding from Interview 14. Full interview scripts can be viewed in Appendix C. A full set of interview scripts have been saved in the approved CQU data management plan 786. A sample of codes 734-737 is highlighted in yellow below.

"…and spoke with me and he wanted to know about me (code 734), what I brought to the school and what I'd like as opportunity (code 735) because he recognised that I came with the skill set (code 736) that was a bit over and above that of a regular head of department.

And then, he proceeded to give me opportunity (code 735) in that space, above and beyond the role in the head of department and I really liked that. What I liked was he wanted to get to know me, he understood about me, my skill set, my background, what I wanted to do (code 737), what I was aspirational to be and he gave me opportunity."

The codes were then categorised into themes. In the above example codes 734 and 737 were categorised under the theme of 'Connectedness,' codes 735 was categorised in 'Building Capacity' and code 736 was categorised as 'Appreciation.' The themes were revealed based on the data collected, so the coding was inductive (Merriam, 2016). The themes were refined as more data was coded. Professor Virginia Braun, from the University of the West of England, (2018) states that inductive and deductive coding can merge in some qualitative data collation. She explains that it may be partially deductive coding approach

because the literature review will have already revealed some broad themes. Merriam, (2016) agrees and states that coding starts as an inductive process, as my study did, but is only partially inductive because the researcher identifies themes early in the analysis and then starts looking for data that falls into that category, which is more of a deductive approach.

According to Braun and Clarke, (2014) themes need to be linked to a central idea aligned with the research question. The central idea in the study was leadership attributes of inspiration. They also recommend recording a definition of themes so that boundaries are more easily refined. Table 18 outlines the definitions. I grouped the words and phrases highlighted in yellow (refer to coded interviews in the appendix) into similar groups based on patterns and tabled them into a coherent format. Once I had a group of sub-factors, I looked to the Oxford Dictionary to identify an appropriate word that represented the group. By the end of the coding process, twelve key factors had emerged. I found that the key factors could be categorised into broader groups into the three themes of trust, rapport and growth/purpose in alignment to the conceptual framework for this thesis.

Merriam's category formation for coding is inspired by Guba & Lincoln, (1981) so I used the following points to guide the categorisation process:

1. Frequency indicates the importance of the topic
2. The strength of significance of the topic given by the participant
3. Topics that stand out in some way
4. Topics that reveal areas of inquiry not otherwise recognised
5. Topics that are important to a common problem (Merriam, 2016, p. 187).

3.8 Identification of themes

Table 17 shows how the themes were linked to the three research questions of why, what and how. The keywords were represented by a title that best described the attributes that were identified in the interviews. A dictionary definition was used to help identify the most precise word to fit the collection of words. These factors have been labelled **'what'** the principal does to inspire.

'How' the principal inspired was listed in the table in the sub-factor column, representing the EAU's (words, actions, feelings, artefacts, values). These were the exact words that were recorded in the interview scripts, to ensure accuracy and trustworthiness of data. The column on the far left shows the three key themes of trust, rapport and growth/achievement. This is **'why**' the principal has an inspirational effect (or not). Each of these themes represent the three brains, trust being the need of the survival brain (The brain

stem); rapport being the need of the social brain (limbic system) and growth/achievement associated with the thinking brain (PFC). **In other words, all the themes grouped in brain one are factors that build trust; all the themes grouped in brain two are factors that build rapport and all themes grouped in brain three are about learning and achievement.** The themes are shown in Table 18.

Table 18: Theme definitions

WHY **Theme** Associated with research question 3.	WHAT **Attribute** Associated with research question 1	HOW (behaviours, words, emotions, artefacts, values) **Sub-factors** from the interview data Associated with research question 2	Dictionary definition Oxford, (2009)
TRUST These factors minimise threat and inspire trust.			
	Integrity	Has strong boundaries, is sincere, role models, keeps confidences, does not gossip about staff, is unbiased and can inspire trust/is open.	Honest and trustworthy
	Humility	Is approachable and accessible to staff, is humble, can take their ego out, shows vulnerability and is curious.	Being humble
	Strength	Has some degree of tough mindedness, has visibility, is a persuasive influencer, can raise standards and set the tone, owns their behaviour, shows wisdom, is competent, self-disciplined, has a high work ethic, is calm and a risk-taker.	Good quality
	Positivity	Use hopeful language, has a growth mindset, shows enthusiasm, uses positive framing, humour, joy, makes positive improvements and celebrates success.	Constructive and helpful. Feeling of satisfaction and enjoyment.
	Clarity & certainty	Has clear expectations, consistent practices, can provide clarity and establishes line of sight.	Easy to understand. Not cloudy or muddy. Undoubtedly. Able to be relied on to happen.
RAPPORT These factors build a sense of belonging to the social group.			
	Connectedness	Shows warmth, puts humans first, builds relationships/rapport, is responsive, empathetic, builds a sense of belonging, cares about others and tells stories to connect.	Think of being associated with each other.
	Appreciation & Support	Notices and recognises what others are contributing, says thank you and praises.	Noticed or felt of value.
		Believes in the potential of others, redirects and reinforces work being done, turns up at events that are important to others, checks in with others, encourages others, got our back, provides resources, aligns strengths	Give strength. Keep a person from failing or sinking.

		with role, helps staff and works together in partnership.	
	Collaboration	Works together on projects, seeks ideas and views from others, has conversations for shared understanding, builds collective ownership and listens to all the voices.	Work together for improved thinking or new ideas.
GROWTH These factors focus on learning and achievement.			
	Challenge (Building capacity)	Asks coaching questions, Advises and mentors, provides opportunity for growth, provides training, is a lifelong learner, hold people accountable, challenges others to build on their strengths and uses modelling to share their expertise.	Capability and ability Demanding tasks
	Autonomy	Provides staff some sense of autonomy and freedom within their work.	Self-governed
	Communication	Is candid in their communication, seeks and provides feedback, can simplify key messages for staff, is an active listener, use a respectful tone, is an engaging speaker, tailors their communication styles to context and can reinforce key messages to the school community.	Sends and receives a message
	Purpose	Can articulate the why, has a philosophical base, a clear vision for the preferred future, uses a strategic road map to show the way and keeps the team's focus on the work that matters.	Aim or intention

3.8.1 Latent and semantic codes

Words or phrases that were identified for coding were latent or semantic. Semantic means the word identified has a direct and explicit meaning regarding the category. Latent means that the word identified has an indirect and implicit meaning. As I conducted the interviews myself, I was in a position to develop an in-depth understanding of the narrative in context as it was revealed in the participants stories (Merriam, 2016). This enabled me to easily identify latent meaning, which computer coding software may not have detected as accurately. Example of latent and semantic phrases from the interviews is outlined below in Table 19.

Table 19: Semantic and latent coding

Type	Theme	Quote	Code
Semantic	Connectedness	Person first	1
		Rapport and relational	8
		Know staff on a personal level	42
		Care about them	574
		Continually checking in, acknowledgement	179

	Support	Help staff	9
		Got their back	46
		Provided guidance	198
	Purpose	Direction	24
	Autonomy	Choice	28
		Enough freedom	29
	Appreciation	The principal noticed	33
	Capacity building	Professional development opportunities	190
	Communication	Communicating openly	571
		Undivided attention, they are actively listening	181
	Integrity	Respect their time	134
Latent	Autonomy	Not overpowering	3
		Permission to be a leader	20
	Strength	Being organised (competent)	14
	Collaboration	We talked through how…	35
	Humility	He cried (showing vulnerability)	268

3.8.2 Negative and positive coding

The coding process also identified principal behaviour that was inspirational and behaviours that had the opposite effect. Examples of quotes are outlined in the following Table 20.

Table 20: Inspirational and uninspiring sub-factors

Theme	Code	Inspirational factors	Code	Uninspiring factors
Positivity	577	Showed passion	73	Fixed mindset
Certainty	618	Clarity	220	Unpredictability
Connectedness	1	Puts the person first	619	Wasn't being heard
	43	Connects in with me	561	No check in
Integrity	155	No back door conversations	145	Backhanded compliment
	239	He trusted me	600	Talking about them behind their back
Humility	605	Very open person	137	Jumping to conclusions
	825	Not driven by ego	843	Self-serving
Support	37	See if she was OK	460	Offered no help
	10	Helps the staff	124	Tread on my toes
Appreciation	85	Acknowledged me	85	Did not acknowledge me
	193	Listening intently	767	He dismissed my feelings

Although this study was searching for leadership attributes of a high school principal that inspired their staff to engage, it is important to point out that the research identified several ways a principal's leadership contained attributes that did not inspire. The participants were

asked to think about a time when they felt uninspired or disheartened after an interaction with the principal. The most frequent way a high school principal can uninspire a staff member, according to the twenty staff that participated in the interviews are: being unorganised or incompetent, lack of appreciation of others, being unclear, not approachable, can't take their ego out and demeaning. The data can be found in the Chapter 4 and can also be viewed in Appendix C.

3.9 Comparing data

Merriam's (2016) case study approach recommends a range of data sources that can be compared and triangulated. The attribute categories that were identified as a pattern in the interview data were used to design a survey. The interview data revealed that there were 13 attributes to principal leadership that inspired. The aim of the research was to find out if any of these were more important than the others, and if so, which. Secondly, the survey aimed to explore if the principals show evidence of the leadership attributes in their words and actions. The results of the interviews were compared to the survey results, the observation results and the artefact findings. Additionally, the principal perspectives were compared to the school staff perspectives. The male principal responses were compared to the female principal responses and finally the regional school data was compared to the metropolitan school data. More importantly, the school staff expectations of their principals were compared to the principal's as well as the perceived principal's practices.

3.10 Design quality

3.10.1 Ethics

A fundamental understanding in any research study is to consider the ethical and political aspects of the research design and the impact on the research participants in the research setting. Strict ethical procedures were followed in this study. Prior to conducting the research in schools, I sought ethics approval from the appropriate authorities. The Human Research Review Committee (HRRC) at Central Queensland University approved my research design and plan**, approval number 22048**, in September 2020. Additionally, the Department of Education of Queensland is tasked with monitoring and approving research in schools and approval was granted in October 2020, **reference number 550/27/2347**. Once the approval was granted from both departments, I approached the schools and conducted

my research in the four schools over an eight-month period from October 2020 to June 2021, in the approved time period.

It is essential that the research is carried out in an ethical and morally defensive way and precautions were put in place to protect any vulnerable aspects of the research such as negative reactions to interview questions (Creswell, 2007). My interview questions were open ended which allowed the participant to gauge their own comfort levels with how much and to what depth they chose to include in their response. I also showed my notes to each participant after the interviews so they could read my script to check for accuracy but also to provide the option for deleting any note or part of a note that they did not want in the records. Out of twenty-five interviews only one participant asked to delete one comment they had made and this comment was deleted from the records. During the observation data collection, twice I made the decision not to record some words I heard, on ethical grounds, to protect the highly sensitive and personal conversations that principals sometimes have with their staff. When this occurred, I let the principal know that it was not recorded. Qualitative research incorporates personal perspectives as opposed to quantitative research involving numbers and it's for this reason that confidentiality and anonymity are of high importance. All records of the data collection have been deidentified in this study. School names were replaced with the letters R, Y, F and B to preserve anonymity and confidentiality. Before I started the interview process, I ensured that all participants clearly understood all conditions of the research, including what their role in the research was, what they will be asked to do and what happens to the record of their comments. All participants were provided an information sheet about the research design and conditions and a consent form to complete, sign and date. No incentives were offered to participants to encourage their involvement in this research study as the Department of Education does not support it.

Another important point to make in regard to ethical considerations about my study is I only interviewed and recorded full time professional adults at each school. As I am a registered teacher, have a blue card and have completed the child protection and code of conduct training required by schools, I had the appropriate qualifications to enter this environment. However, I did not listen to or record any student interaction with the principal. I had made it clear to each principal before the research day started that if a student appeared or needed his or her attention, I would leave the room or area until the interaction was complete. As principals had prior knowledge of this and were in full agreement, it was not an issue during the research period.

Remaining accountable to the three key educational organisations of Central Queensland University, Department of Education Queensland and the individual schools

involved was important and maintaining a high standards in professional conduct such as being familiar and trained in the child protection and code of conduct polies, corporate dress standards, school and institution policy, entry school processes, exit school processes, respect for employees, copyrights and respect for intellectual property.

The original data has been stored electronically, password protected by the researcher and used only for research purposes. In line with the National Human Research Ethics Central Queensland University Research Ethics Committee of Code of Conduct the data will be stored in the data management system of the university and disposed of in fifteen years following the study's conclusion.

3.10.2 Credibility

Credibility addresses the matter of research findings aligning with reality (Merriam, 2009). It is about assessing if the claims from this study are believable and whether the study captured the real issues. Some researchers avoid using the word triangulation in qualitative research, however Merriam, (2016) uses the term frequently. Triangulating data or comparing data sources is one of the most effective strategies and approaches to mitigate risks to credibility in qualitative research (Denzin & Lincoln, 2005; Johnson, 1997; Merriam, 2016). Collecting data from a range of sources including interviews, surveys, artefacts and observations were compared. Although one case study is appropriate in case study methods, four school case studies were used to allow the researcher to compare findings. This ensured that data collected represented more than the views about one principal, enhancing credibility. Another strategy was the use of verbatim participant phrases from the interviews to determine the sub-factors to describe the inspirational attributes categories. The interview audio recordings were transcribed as is, without any changes. The sub-factors that were tabled during coding and analysis were the exact words used by the interviewees. This combined approach of strategies strengthened the credibility of the study.

3.10.3 Trustworthiness

The trustworthiness of the data and the analysis of the data is important to quality findings (Merriam, 2016). To provide knowledge that can be trusted, requires rigorous scaffolding and planning of the data collection and analysis processes. Some individual interview responses may have inherent weaknesses as is the nature of human beings, however the collective set of interview data from the four case study schools provide coverage of themes, minimising the possibility of producing false or misleading results (O'Leary, 2017).

The weakness in any one interview or survey will be counterbalanced by the collective strengths (Jack & Raturi, 2006). I am aware that as a researcher, I may unconsciously select data during coding and note-taking to confirm my beliefs and preconceptions. I made a conscious effort to take notes to represent what I heard and to code the data in an unattached manner. Furthermore, I showed my notes to each participate so that they could check for accuracy and confidentiality. As a result, one principal asked me to delete one sentence as it was a sensitive matter. The deletion of this sentence did not distort or effect the research findings, as it was irrelevant to the research question.

Establishing trust with the interview participants was essential for open and honest communication between myself, the researcher and the interviewee. Credibility was built by sharing the university information sheets, seeking permissions, being transparent in the data collection notes and being responsive to any ethical sensitivities. The processes in place to compare the data from school to school and from a range of data collection instruments (survey, interviews, observation, artefacts) also minimises errors. It was important that the participants believed that their responses would be respected and treated with the upmost ethical perspective (O'Leary, 2017). Understanding that the data would be stored and scribed by approved university processes was also essential.

After typing the first interview script to get a feeling for the emerging data, I employed a scribing service, approved by the university, to transcribe the interviews into word documents from tape recordings. This meant there was no room for interpretation and bias.

I undertook formal interview training to ensure my interviews were conducted in an ethical and valid way. The aim of the course was to learn how to interview participants to lower any defences and to tap into the real issues. The course was over several weeks and incorporated live role plays and assessment throughout, preparing me well for conducting the interviews in a professional and ethical manner. The extensive training resulting in making the interview questions much more open and as a result, I removed any leading questions. As mentioned previously, I attended survey design training provided by Central Queensland University to maximise the validity of the surveys. My questions were also discussed with my research professor Ken Purell and a third party who specialised in data collection.

3.10.4 Consistency

To ensure the consistency of data collection and analysis, the interviews followed a general script for each of the twenty-five interviews and data analysis followed a step-by-step coding and categorising protocol. These protocols were guided by Merriam's view of case

study analysis and can be viewed in Chapter 3, Section 3.7.1. Each interview was 30-40 minutes, and school principals were observed for ten hours each. I followed the same process in each school.

3.10.5 Transferability

Lincoln and Guba, (1985) suggest that qualitative researchers need to provide sufficient descriptive data to make adequate transferability possible. Given that the results showed very little difference between each school, it is evidence of transferability, at least across other large state high schools in Queensland. It would not be correct to state that the results of this study can be generalised across all schools as that is not the nature of qualitative research; however, it wouldn't be incorrect to say that the results did show remarkably similar themes across school case studies.

3.10.6 Limitations

There are several limitations (blockers out of my control) of the proposed research which include recruitment limitations, geographical boundaries, analytical boundaries and scale (Grix, 2019).

Recruitment limitations: I thought that my capacity to find four senior experienced principals in Band 10 and 11 State Schools (large schools over 1000 students or level of complexity) who were prepared to invest time into being a participant in this research had the potential to be problematic. This study required principals to be open and honest in their actions throughout the observation time, so they had to extend trust in the ethical process with a person they did not know at all or well. The only limitation that this presented was in my thinking, as the principals I approached gave generously of their time, practices and knowledge. The recruitment of the five staff members from each of the four schools was drawn together by the deputy principal of the school, based on the criteria outlined previously and was not problematic; however, this process could have missed some staff members who could have contributed value to the study. There was no way of knowing which particular staff members would have the most appropriate and fruitful input into my study.

Geographical boundaries: The study was conducted in Queensland State High Schools and limited to a metropolitan and a regional area. This choice was mainly driven by costs and COVID-19 restrictions. Choosing two schools in my local area (regional city) and two schools in the capital city, meant less travel time, which made it safer and more

economical. However, there were many schools in these areas to choose from, so the selection did not compromise the study in any way.

Analytical boundaries: With limited experience in extensive primary data collection, there is a chance that the nature of implementation of data collection and analysis could be flawed, however this was minimised with several quality filters in place including professional interview training, university survey training and routinely checking processes with the research supervisor and their colleagues.

Scale: The scale is confined to four school leaders of four different schools. One to four schools is appropriate for case study methodology because the aim is to probe for a depth of knowledge and insight. However, the sample size is small. The scope of the research was also limited to one person researching with very limited funding. (Unlike, for example, an ACER project with millions of dollars and expert researchers and assistants employed to do the research). The 25 participants as a small sample may not represent all views that could be sought from a much larger group; however, there was a huge amount of data collected from the 1000 minutes (25 interviews multiplied by 40 minutes) of interviews with over 866 identified codes. Given that data saturation for the themes was met in the seventh interview and the similarities in the data patterns across the case study schools, indicates that the scale of this study did not compromise the trustworthiness of the results.

3.10.7 Delimitations

The components that were limiting but were in my control were the boundaries of the study, and the choices I made regarding boundaries, tied the study to the leadership attributes that inspire staff. The study did not examine any other ways that a high school may inspire through other constructs of school leadership such as, building learning cultures, professional development programs, school cultures, governance systems or leadership styles. It also did not measure inspirational levels in staff as this would have called for a more quantitative approach using SPSS statistical analysis. Further, the boundaries of the case study focused the research in Band 10 and 11 Queensland State School (schools over 1000 students) and therefore did not involve primary schools, small high schools or the private and independent sector. A Band 10 or 11 principal has already had former experience as teacher, head of department, deputy principal and often been principal of a series of high schools before they are awarded the higher position of Band 10 or 11. Therefore, the four principals were a purposive sample who had a proven record of successful leadership as they had been

recognised and awarded a position in a complex and large school. New or inexperienced principals are not usually recruited for these types of schools.

Each case study school is therefore of similar size and complexity but each school is quite different in its culture established by the leadership, made up of a combination of contextual factors such as the team personalities, the nature of training, professional development undertaken, socio-economic background of the students, policies and procedures of the governance systems and the collective behaviours and practices of the team.

3.10.8 Strengths

Being a former experienced Band 10 and 11 principal and lead principal who is also a registered teacher with a blue card, provided the opportunity for entering the ‘inner circles’ of the school leadership teams in my case study schools. The school teams invited me generously into their private discussions and meetings, showing a great deal of trust. During the observation time, all confidential meetings were open to my attendance.

Another strength of this study is the allowing of the voices of the school staff to be heard. They are the front-line people that interact with the principal daily and feel the impact of their emotional wake in social interactions, with deep knowledge regarding how the principal inspires or did not inspire. Creswell & Clark (2011) and Schwandt (2000) suggest that listening to the voices at the coal face in context develops meaning based on the participant's experience, which is subjective but relevant. This allows the researcher to probe the inside story to make meaning of the data in that context (Denzin & Lincoln, 2005; Merriam, 2016). If I had only interviewed and observed school principals, I would have only revealed one side of the story.

3.10.9 The role of the researcher

As a former school principal, I must understand the implications of being an inside researcher, as well as its advantages and limitations. The researcher is responsible for revealing the meaning contained in the collected data by identifying trends, patterns and relationships that are relevant to the research question (Braun & Clark, 2018). I acknowledge the influence of the researcher’s background and experience that shapes the researcher’s perspective on the interpretation of data. I have spent over thirty years in high schools as teacher, head of department, deputy principal and principal and four years as a lead principal

for the Department of Education. This means I understand the issues and context of the management of a high school, their everyday routines and need to be mindful that the purpose of a researcher is different from that of a staff member.

There are both strengths and limitations in being an inside researcher. Bonner and Tolurst, (2002) identified three advantages: (1) possessing a higher level of understanding of the culture being studied, (2) not changing the flow of social interactions unnaturally and (3) having an established intimacy promoting truth-telling and the judging of truth. Additionally, inside researchers understand the socio-politics and therefore know how to approach people in the organisation, know the language and can move quickly into the flow of the interview task.

The issues arising from being an insider may also include bias and assumption making based on prior experience and Smyth and Holian (2008) caution that an insider researcher may gain access to more sensitive information as they collect data and this may constitute a risk. I found that as a former principal who routinely protected confidential or sensitive data, I was able to maintain and respect this aspect of school research. In order to reduce potential bias, I ensured that I had never been a staff member at one of the case study schools or been a direct supervisor of any of the principals in those schools. I also minimised what I said in the interview process making the interviewee the focus. The interview scripts show that I disciplined myself to asking questions relevant to the interview process and minimised personal responses or lengthy leading detailed comments.

3.11 Chapter summary

Chapter 3 summarised the research design showing the benefits and reasons why it is the most appropriate fit to answer the research question. The conceptual framework informed by Perry's Neurosequential theory (2016) and Gordon's (2010) approach and avoid theory, was linked to the findings in the literature review and informed the propositions for the research. A mixed methods approach, dominated by qualitative methods based on Merriam's multiple case study model was explained. Thematic content analysis coding was used to identify factors from the principal's behaviours, words, values, emotion and artefacts, (from interviews and observation) to reveal themes of leadership attributes. These themes were further examined and refined using a survey. Human ethical considerations were identified and discussed.

Chapter 4. Findings and analysis of results

4.1 Chapter introduction

Chapter 3 outlined the largely qualitative research design of multi case study, framed around Merriam's approach to case study as the most appropriate methodology to answer the research question. The conceptual framework based on Dr Bruce Perry et al. (2016) and Dr Evian Gordon (2000) underpinned and informed the propositions that guided the study. This chapter will show the findings from the gathered data, comparing case studies and the different data gathering instruments.

In summary, data was collected through interviews with five school staff officers (teachers, heads of departments and deputy principals) and four principals from each school. The interviews were coded to identify any factor that was reported by the interviewee that inspired them to engage, or alternately does not inspire them. These were called sub-factors. Later, these sub-factors were grouped into similar themes as categories emerged, called leadership attributes. After every interview was analysed, a survey was designed around the key attributes found in the interview data, to further capture information to deepen understanding of the findings. Data was also collected by observing principals for around ten hours each as they interacted with staff members in their normal routines, within their everyday context. The intent of the observation, exploring the purpose of their interactions to extend evidence of the interview findings. The final data collection that was considered in this study was examining artefacts, focusing on the staff newsletter. The key findings for each of the key research questions were:

Research Question 1: How does a high school principal's leadership, impact on staff reported inspiration perceived by their teams? (The How)

- Findings: It is the principal's behaviour through their words, actions, values, emotion and artefacts, not a particular leadership style that was central to inspiration.

Research Question 2: What are the attributes of a principal's inspirational leadership as perceived by teams? (The What)

- Findings: There are 13 leadership attributes of integrity, humility, strength, clarity, positivity, connectedness, support, appreciation, collaboration, challenge, autonomy, communication and purpose.

Research Question 3: What can neuroscience offer to best understand a principal's inspirational leadership behaviour? (The Why)

- Findings: An understanding of the neuroleadership has potential to guide development programs and redefine leadership in schools. Using this knowledge allows leaders to better understand the brain to align their behaviour with physiology, not against it. It positions school principals to better adjust their words and actions to maximise their ability to inspire their team to engage and minimise their tendency to trigger a threat response. The leadership attributes build trust (calm the brain stem) and establish rapport (embrace the limbic system) to engage the prefrontal cortex for growth.

4.2 Interview data

4.2.1 Coding

The process of identifying the crucial attributes of a principal to inspire from the data collected in the interviews was a systematic process that also felt intuitive (Merriam, 2016). From the literature review several attributes had been revealed but as I began to collate the data, I started with an open mind to minimise bias and establish an inductive approach. The first step was to highlight the words that had been identified as the ways principals inspired as perceived by their teams, or alternately identify way they did not inspire. As stated earlier, I used EAU criteria to guide the process of identify words and phrases. The following is an example from an interview, showing a principal behaviour reported by a teacher as making them feel inspired (Code 741 highlighted in yellow, below).

"You learn from good principals and you learn from bad principals. And I learnt from really good ones. I still rate him as my best because he took me on as a human first-hand as a deputy second and I really liked that." Code 741, Interview 14

A number (for example, see code 741 above) was allocated to each identified word or phrase, (as shown above, highlighted in yellow). After the first interview, I noticed that the words and phrases that were highlighted as attributes of inspiration as reported in the principal's behaviour were social in nature, meaning they were reflective of humanity, social values or character traits such as integrity, strength and positivity. I next looked for themes in the coded words, and numerous categories emerged. In the above example, code number 741 was categorised in the theme called 'connectedness' and the sub-factor was called 'human first.'

Initially, the themes were broad but were refined as the coding and analysing progressed (Merriam, 2016). **Data saturation was reached after the seventh interview** identifying fifteen categories. With further analysis, after twenty-five interviews, I was able to refine the themes and narrow them into thirteen themes. However, after the seventh interview, the remaining interview codes provided no new information on the categories but were an extension of data around the sub-factors. Sub-factors did not reach satisfaction until interview number twenty.

The next step was to review the data and identify patterns. The interview data was collated into a table under each key category called an attribute. As I accumulated data, I was able to further refine the categories and identify common sub-factors. To determine the most appropriate titles for the factors I looked to the Oxford dictionary (2019) to find a word that would match the descriptions used by the teachers in the interviews. For example, the key factor of 'humility' means being humble. I then gathered and matched the words that had been coded that reflected this meaning to ensure that I had captured all the linked words and phrases and had allocated them to the most appropriate category. The resulting sub-factors for humility are: Humble, approachable, accessible, to be able to take their ego out, shows vulnerability and is curious. The following Tables 21-33 show all the categories of attributes, their sub-factors and their meaning. The tally refers to the number of times the sub-factor was mentioned in the interviews.

Table 21: Tables: Attribute: Integrity

Number	Sub-factor	Meaning from the dictionary and the teachers	Tally
1	Strong boundaries	Firm personal principles such as fairness, respect, ethical, honesty, strong boundaries, know what you stand for. Has credibility. Not self-protective, self-disciplined.	35
2	Sincerity	Genuine in intention.	4
3	Role model	Walk the talk, behaviours match words	13
4	Keep confidences	Is discreet, loyal	4
5	Not gossiping	Is not seen to talk negatively about staff members	6
6	Unbiased	Does not jump to conclusions and make assumptions. Is evidence based.	5
7	Openness and trust	Able to inspire trust in others	23
Total tally			90

Table 22: Attribute: Humility

Number	Sub-factor	Meaning	Tally
1	Approachability	Availability, accessibility, people feel comfortable approaching the boss Not confrontational, welcoming	18
2	Humble	Does not abuse or use power imbalance. Staff feel as if they have the same standing despite the title	13
3	Able to take their ego out	Not self-centred or self-serving.	15
4	Vulnerability	Ability to be vulnerable, saying sorry when appropriate, not feeling they have to be right all the time or know everything. Authentic and real. People see the human behind the leader. Non-judgemental.	17
5	Curious	Enquires to check facts, asks questions in order to understand other's views. Open to question.	10
Total tally			73

Table 23: Attribute: Strength

Number	Sub-factor	Meaning	Tally
1	Tough mindedness	Can do the hard stuff. Owns their own behaviour. Confidence. Addresses difficult issues. Courage to say what needs to be said even when it is unpopular High confidence level. Willing to call poor behaviour Not swayed by peer pressure	8
2	Visibility	Seen around the school, at events and in staffrooms.	10
3	Persuasive influence	Strong positional voice, charisma, able to make things happen, has a positive impact on people.	8
4	Standards	Can inspire high standards and set the tone	1
5	Wisdom	Discern the real issues, intelligence, has perspective in a complex context..	11
6	Competent	Track record of success, organised, high expertise	13
7	Self-disciplined	Professional, corporate	1
8	Work ethic	Is seen to work hard and not avoid important work.	4
9	Calm	Sends off a calm vibe, calm under fire, has a calming presence on others, ability to make others feel stronger.	2
10	Risk taker	Has the courage to try different ideas but can assesses risk assessment	1
Total tally			59

Table 24: Attribute: Positivity

Number	Sub-factor	Meaning	Tally
1	Hopeful language	Using positive language that builds hope	8
2	Growth mindset	Positive attitude	11
3	Enthusiasm	Shows passion, highlights the positive	10
4	Positive framing	Frames language that is more likely to make things happen.	2
5	Humour	Uses humour to diffuse tension, values fun, pleasure or joy	11
6	Make positive improvements	Has a focus of making positive improvements and gives a sense that things are moving forward for the better day to day.	3
7	Celebrates success	Celebrates successful results along the way.	2
Total tally			47

Table 25: Attribute: clarity and certainty

Number	Sub-factor	Meaning	Tally
1	Clear expectations	Predictability, certainty, people know what to expect.	6
2	Consistency	The leader doesn't keep changing direction, they embed strategies and keep them in place. They repeat key messages.	10
3	Clarity	Clarity of role, clarity from chaos, transparency, clear	15
4	Line of sight	Priority work can be seen through the school from foyer to classroom, discussion and training	2
Total tally			33

Table 26: Attribute: Connectedness

Number	Sub-factor	Meaning	Tally
1	Warmth	Friendly, relational and personable. Gives off a warm vibe.	9
2	Humans first	Value the person behind the role. Puts people before product.	27
3	Relationships and rapport	Is able to build strong positive connections and build relationships.	37
4	Responsiveness	Listening to understand so that feelings are heard Empathy, emotional intelligence	12
5	Sense of belonging	Builds a strong sense of belonging within the tribe. On the same page, feels a bond, connected	2
6	Care	Shows they care about others.	6
7	Storytelling to connect	Tells stories to connect with others.	1
Total tally			94

Table 27: Attribute: Support

Number	Sub-factor	Meaning	Tally
1	Belief in potential	Belief in and relayed trust in the potential and ability to do the job.	12
2	Redirection and reinforcement	Guidance to confirm what is working well and what needs attention. Suggestion on next step.	4
3	Turning up	Interested in the person and their work and being present at important events for that person. Making time for that person. Working together on something together.	9
4	Checking in	Checking in to ask about the wellbeing of the person and to follow through from a previous conversation. Listening to concerns.	14
5	Encouragement	To be a friendly presence to encourage and prompt.	9
6	Got their back	Standing by people when things go poorly	7
7	Resources	Making resources and PDT available to support work	2
8	Alignment	Alignment of roles to passions and strengths where possible.	3
9	Help	Assisting	10
10	Partnership	Guidance and clarity to support their ability to do the job. Meeting needs so that staff can do their job.	4
Total tally			74

Table 28: Attribute: Appreciation

Number	Sub-factor	Meaning	Tally
1	Noticing	Validating, effort, contribution, process used. Noticed the detail about what was happening and how something was handled or lead. Recognition. Approval from someone. Was able to label skills used. Valuing the work, the skills set shown and the person behind it.	35
2	Thank you	Saying thank you in person or by email or thank you card or gift	12
3	Praise	Acknowledgement of the good work after the event. Encouragement. Complimented the person. Awards or words.	21
Total tally			68

Table 29: Contribution: Collaboration

Number	Sub-factor	Meaning	Tally
1	Working together	Working on a problem or event together physically and intellectually.	6
2	Seeking ideas and views	Consultative. Sharing information and asking for feedback.	12
3	Shared understanding	Conversations for shared understanding. Taking the time to discuss an issue to get on the same page.	2
4	Collective ownership	Ability to get unity and buy in from the collective group. Ability to inspire people on to the same page	7
5	Listen to all the voices	Making sure that everyone has the opportunity to provide their opinion.	1
Total tally			28

Table 30: Attribute: Challenge

Number	Sub-factor	Meaning	Tally
1	Coaching questions	Asking coaching questions to build leadership.	17
2	Opportunities for growth	Provide opportunities to build my expertise and skill set on the job. Capacity building. Identified potential to train for a higher role.	20
3	Training	Professional development and training available. Professional reading offered.	3
4	Lifelong leaner	Continues to be open to learning and self-improve	2
5	Advise and mentorship	Provides advise and mentorship.	7
6	Accountability	Keeps others accountable for their own results.	4
7	Challenges	Encourages people to step out of their comfort zone to step up. Tapped into strengths.	8
8	Modelling	Sharing self-talk and thinking, Demonstrating something new.	4
Total tally			65

Table 31: Attribute: Autonomy

Number	Sub-factor	Meaning	Tally
1	Control	Not tightly micromanaged but give some sense of autonomy in the role. Choice.	14
2	Freedom	Freedom to work with strengths and passions. Freedom to have a go and allowed to trial and learn from errors.	5
			19

Table 32: Attribute: Communication

Number	Sub-factor	Meaning	Tally
1	Candid conversation	Direct and true in what you say. No elephants in the room. Able to have the hard conversations and keep the relationship intact.	14
2	Seeking and giving feedback	Models seeking and providing feedback. Is candid.	8
3	Simplifiers of key messages	Being able to make meaning of incoming complex messages in a way people understand.	1
4	Active listening	Attending to listen to get to the real issues	17
5	Respectful tone	Using a respectful pass the salt tone. No emotional outbursts.	2
6	Good speaker	Easy to listen to and presentations are engaging. Articulate and concise. Uses strategic phrases.	3
7	Tailoring	Differentiate your communication to match thinking style, personality styles and expertise.	4
8	Key messages are clear	The important message is clear and is understood throughout the school by all agents.	3
Total tally			52

Table 33: Attribute: Purpose

Number	Sub-factor	Meaning	Tally
1	Explain the why	Explaining motives, intent and reasons behind actions Outlining the purpose and why behind the work	14
2	Philosophical base	Underpinning research	2
3	Clear vision	Communicating the preferred future. Clarity of vision.	7
4	Road map	Strategic intent and planning for way forward.	7
5	Work that matters	Keeping people reminded of the important work and priorities Highlight their value in relation to long term gains for the team	9
Total tally			39

Merriam, (2016), Stake, (2018) and Yin (2017) state that alignment is an important element in data analysis. There is an alignment of the thirteen attributes and the conceptual framework in that the thirteen attributes can be categorised into three themes of trust, rapport and growth/purpose**.** Informed by the literature review, **I argue that five attributes are central to building trust in a relationship. These are: integrity, humility, strength, positivity and clarity/certainty. Four attributes helped establish rapport. These are: connectedness, appreciation, support and collaboration. Four attributes focused on building growth in regard to achievement and learning, these being, challenge, autonomy, communication and purpose.** The categories can be clear viewed in the following Table 34.

Table 34: Categories after data analysis

Theme	Attribute	One example of a sub-factor
Trust	Integrity	Openness and trust
	Humility	Curious
	Strength	Competent
	Clarity and certainty	Consistency
	Positivity	Humour
Rapport	Connectedness	Warmth
	Appreciation	Noticing
	Support	Encouragement
	Collaboration	Seeking ideas and views
Growth	Challenge	Coaching questions
	Autonomy	Freedom
	Communication	Candid conversation
	Purpose	Clear vision

The following graphs, Figure 5, show the attributes grouped in the three themes, demonstrating that connectedness and integrity were the most frequently discussed attribute by the collective data in the combined interviews. Figure 6 shows the attributes in order of frequency.

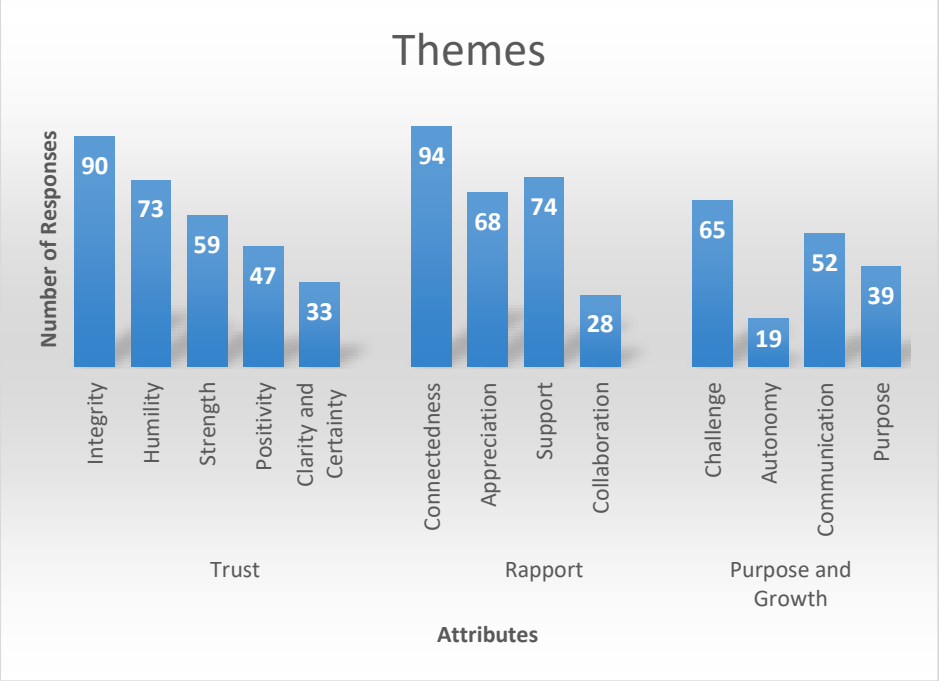

Figure 5: Overall bar graph of attributes and themes

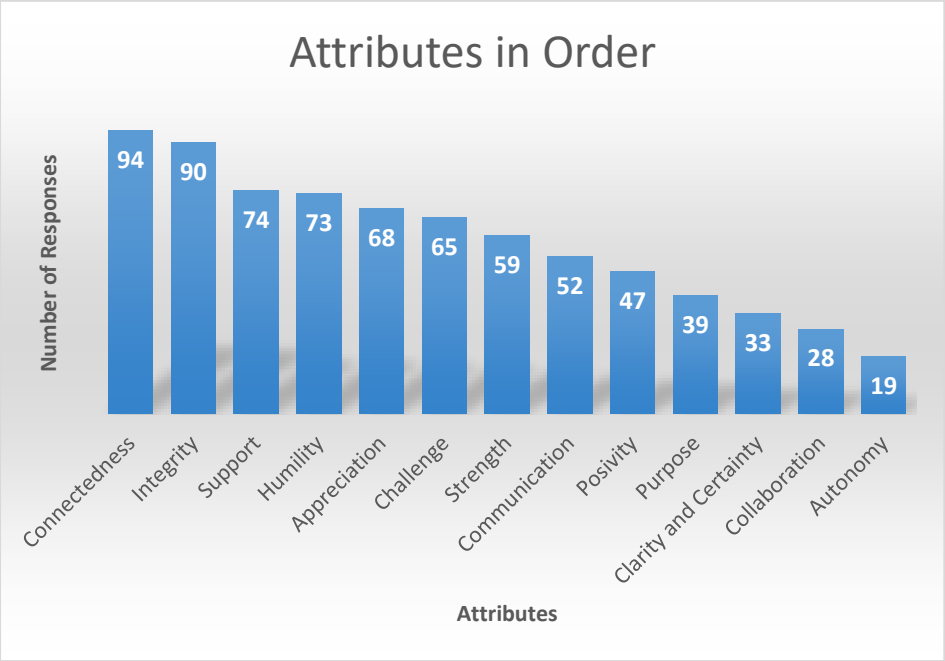

Figure 6: Attributes in order of frequency drawn from collective interview data

It is important to highlight that not all principal behaviours, as expressed through their words, actions, feelings, artefacts and values were inspirational. School staff explained in their interviews that a principal could make them feel uninspired. I suspect that some responses in this table were associated with a past principal that the school staff member had worked with but due to the anonymity and confidentiality nature of research I was unable to identify names and this also reflects the nature of qualitative research (Merriam, 2016). The following phrases shown in Table 35 are taken from the interview scripts. The full data table can be viewed in Appendix C.

Table 35: How principals uninspire their staff

Ways principals uninspired their team reported by the team	Frequency
Favouritism	2
Demeaning, disingenuous and disrespectful, personal attacks, bullying Gossiping about a staff member negatively Public shaming and criticism, confrontational	16
Not telling the truth or forgetting what they said and going back on what was said	2
Reprimanding without allowing a right to reply Making assumptions and instant judgements	3
Self-serving, inflated sense of self, could not take ego out	6
Not approachable or visible, distant, aloof	6
Being unorganised, incompetent or ill prepared, disconnection from the role (not know what is going on)	10
Sarcasm, platitudes and flippancy	3
Lack of strength, low standards Not calling inappropriate behaviour, avoiding conflict	4
Not following through	1
Lack of support. Not checking in to get to know me and my role, not turning up to key events	5
Lack of appreciating others	7
Running with bandwagons	1
Confusion, unclear, lack of clear communication	6
Not listening or feeling unheard, dismissed feelings, only telling	3
Making decisions without consultation	3
Not growing themselves, not reading	1
Does not share leadership, micromanage too much	2

Table 35 above shows that the key reasons for a staff member as reported by the participants in the interviews, for feeling uninspired after an interaction with their principal, in order of frequency of codes, included:

1. Disrespectful, gossiping and confrontational (aligns with the attribute of integrity)
2. Incompetent, ill prepared (aligns with the attribute of strength)

3. Lack of appreciation (aligns with the attribute of appreciation)
4. Inability to take ego out (aligns with the attribute of humility)
5. Not approachable (aligns with the attribute of humility)
6. Confusion (aligns with the attribute of clarity)
7. Avoiding conflict and lack of strength to hold standards (aligns with the attribute of strength)

An analysis of the results would suggest that all the behaviours that were reported by staff as uninspiring can align with one of the attributes shown above in Table 34. The most frequent behaviour reported as having the opposite effect of inspiration factors around respect, which fits into the **integrity** category. The other most frequent behaviour reported was incompetence, which fits into the **strength** category. The implications will be discussed further in the discussion section of this thesis.

4.2.2 Analysis of interview data

The first review of the interview data was assessed as a collective pool including staff and principal responses. Although the research question is about what inspires staff (not what inspires principals), there was value in analysing the story from the collective data because principals are senior officers with deep lived experience in schools, and they have all been former staff and all had several principals as supervisors themselves. In this way, the combined data captured what principals and staff self-reported as how principal's inspire teams. Next, the data are collated and analysed as separate data to assess the difference between the principal perspective and the staff perspective. Finally, Merriam (2016) recommends a cross-case study analysis be conducted to explore differences and similarities between schools.

The first identified pattern from the interview data is that all but one inspirational factor of a total of 738 factors reported by the interviewees were human in nature, meaning they were all related to social values or character traits. As such, the codes could easily fit into thirteen categories, which I called leadership attributes. The one factor that did not fit into any of the selected categories was 'data'. Meaning, one person reported that the principal inspired them with the use of data. This was the only outlier.

The interview found that **connectedness** was the most frequently reported attribute by the interviewees. Collectively, they reported that a principal that put the human first, got to know their staff beyond their role, has warmth and builds positive working relationships was inspiring to them. Second, the interviews found that **integrity** was the second most frequently

reported attribute by the interviewees. School staff reported that a principal that was honest, respectful, fair, ethical and a role model of credibility was inspiring to them. Conversely, the interviews also found that a breach of or lack of **integrity** and **strength** were reported as the attributes that can uninspire the research participants.

The attributes are listed in order in Figure 6 and categorised in themes in Figure 5. In the next few pages the attributes can be viewed according to the number of times they were reported in the interviews in the following graphs, Figures 7-19 show the findings collated by attribute and sub-factor.

Although I aimed to capture as much data as I could to answer the research question, I look to and acknowledge that isolating the staff data is important. The individual case data for staff only (not including the principals) will be examined in the case results:

- Chapter 4, Section 4.4.1.4. Case Yellow (Y)
- Chapter 4, Section 4.4.2.4. Case Red (R)
- Chapter 4, Section 4.4.3.4. Case Green (F)
- Chapter 4, Section 4.4.4.4. Case Blue (B)

Figure 38 in Chapter 4, Section 4.6 graphs the principals compared to staff interview results.

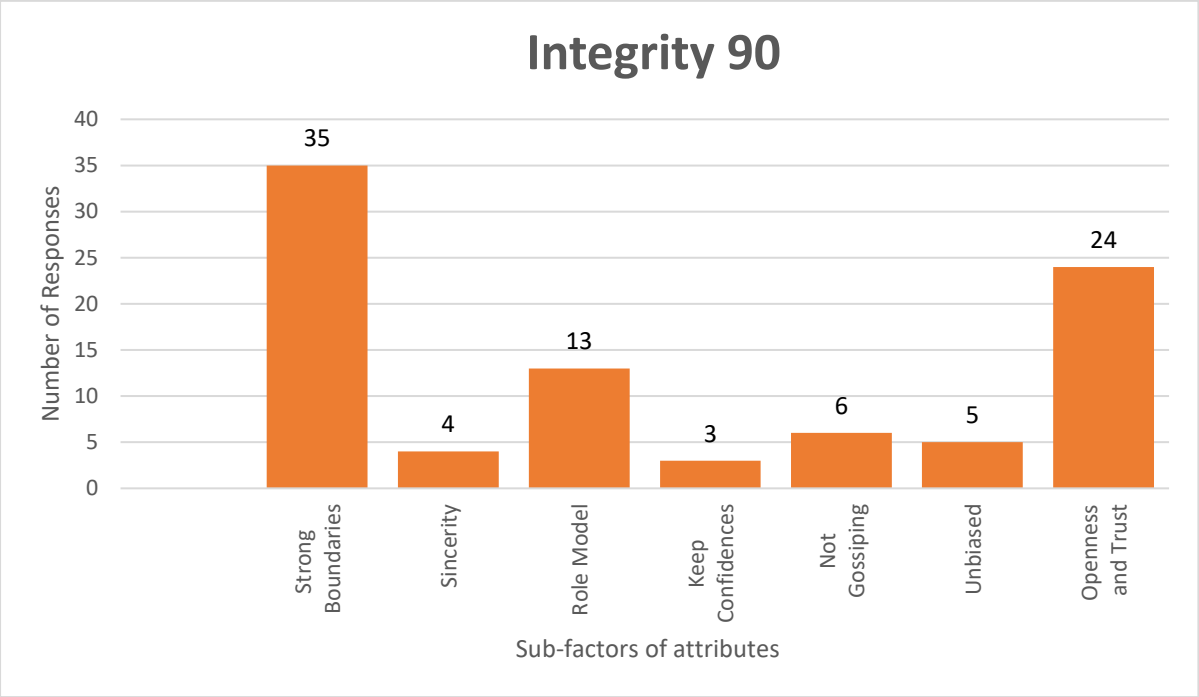

Figure 7: Integrity

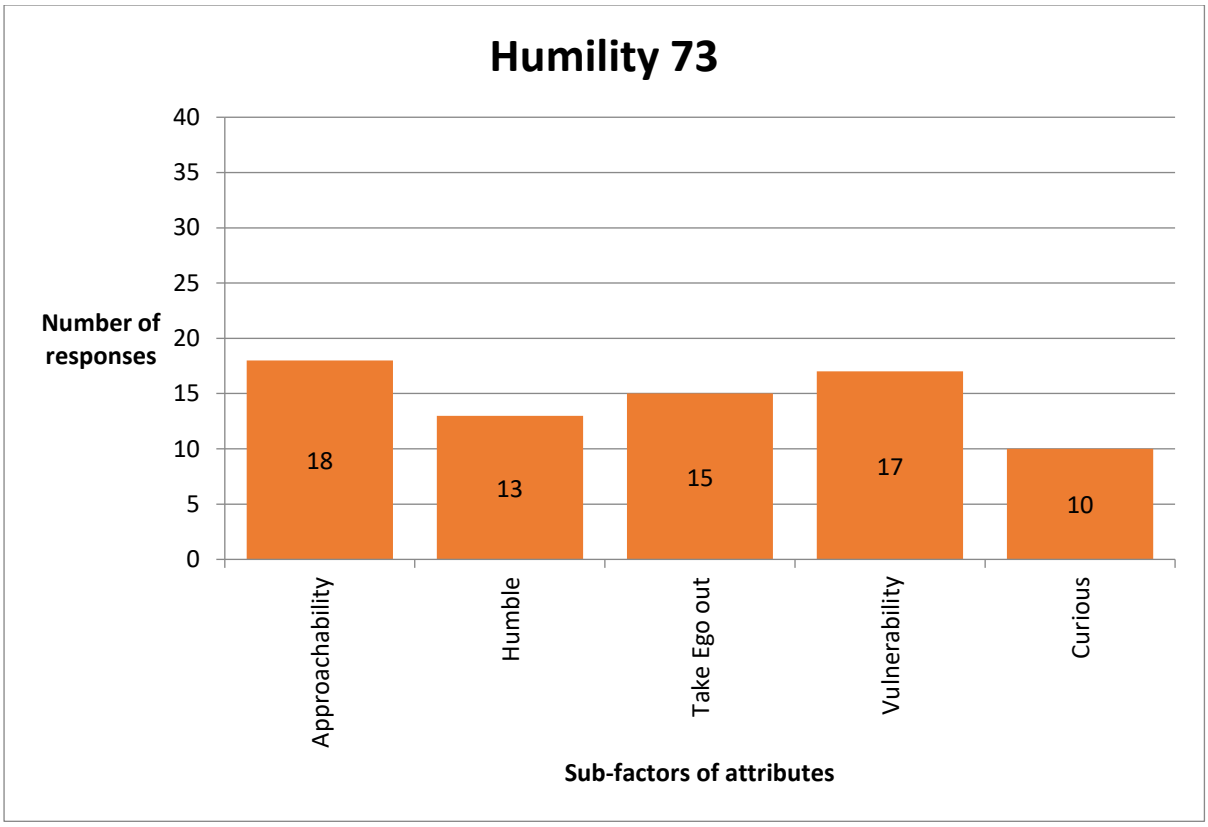

Figure 8: Humility

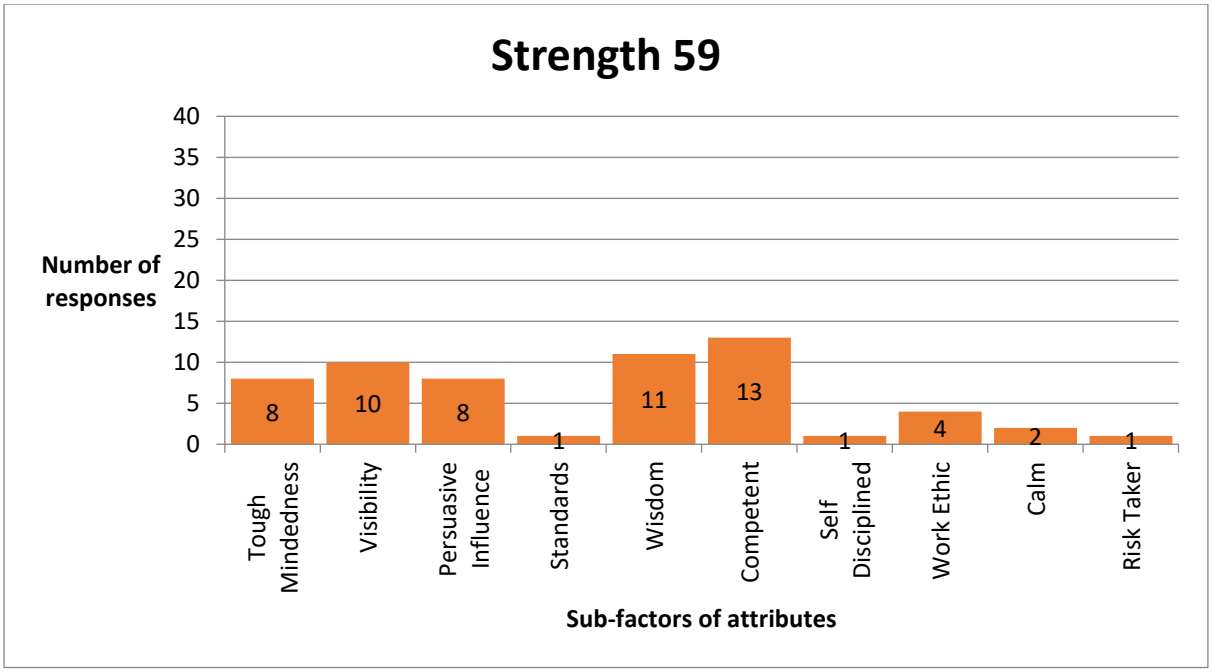

Figure 9: Strength

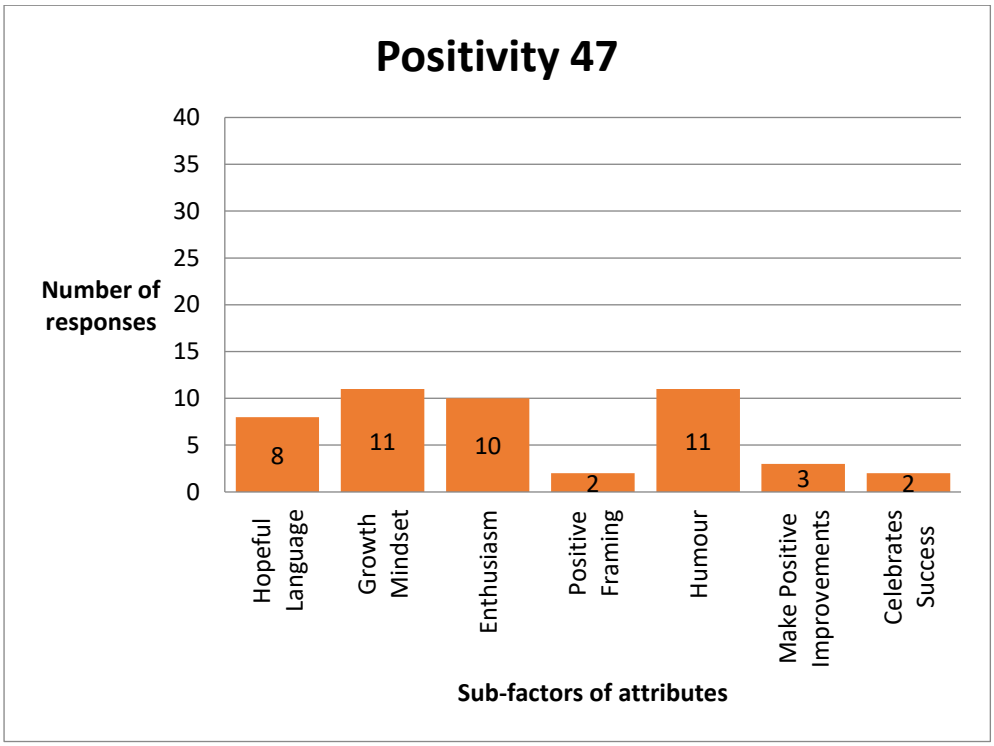

Figure 10: Positivity

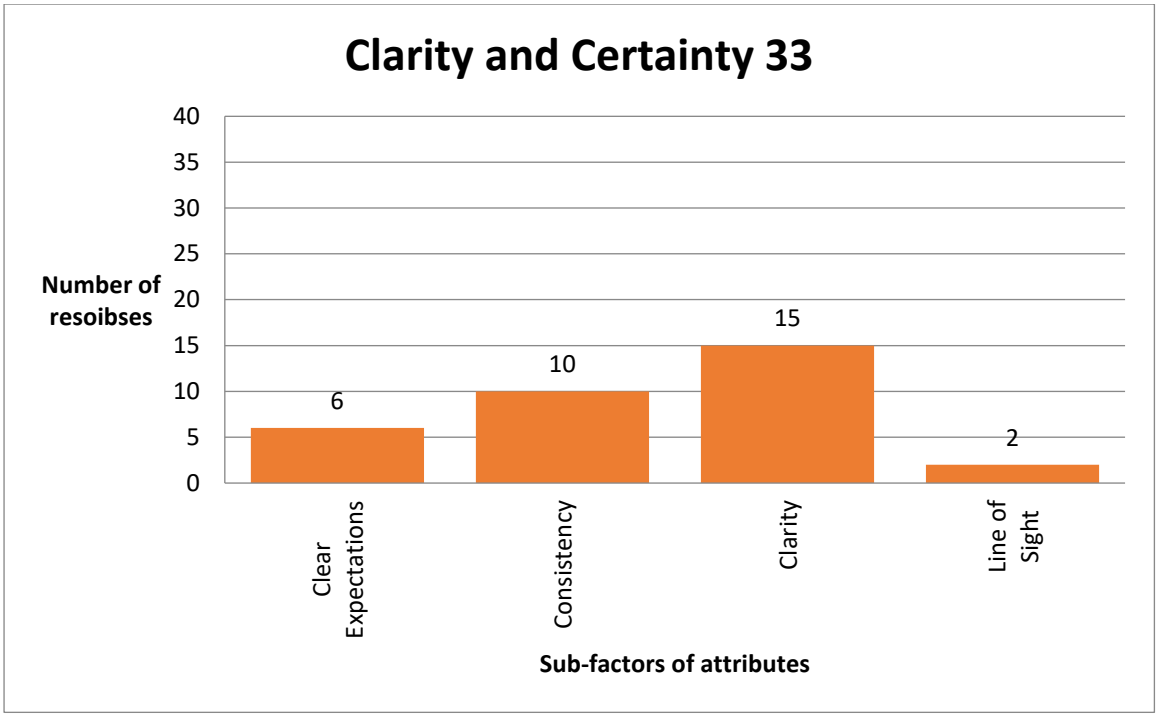

Figure 11: Clarity and certainty

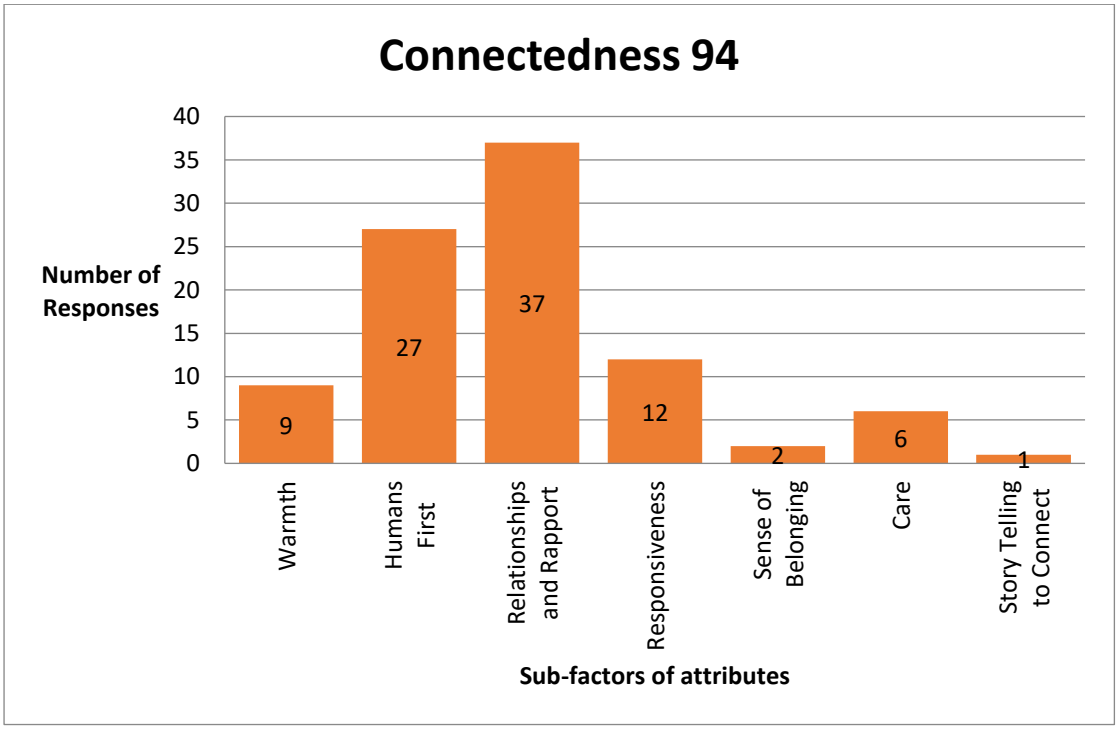

Figure 12: Connectedness

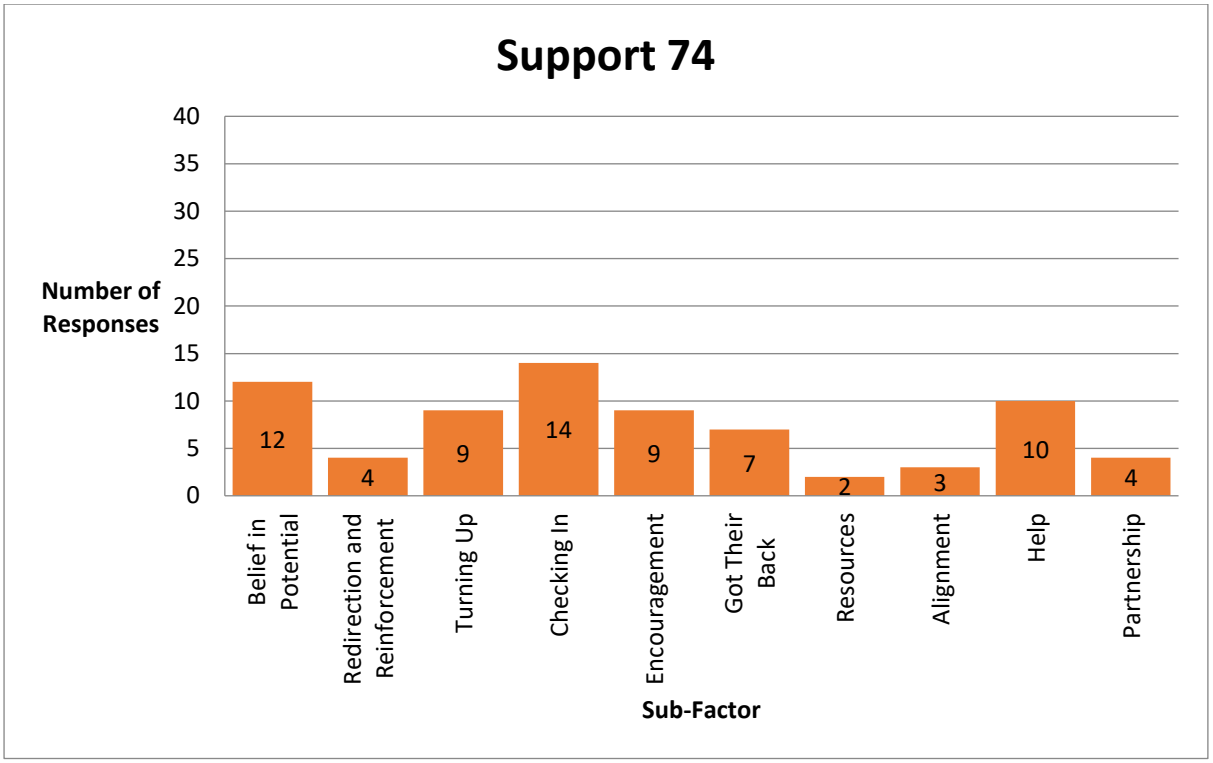

Figure 13: Support

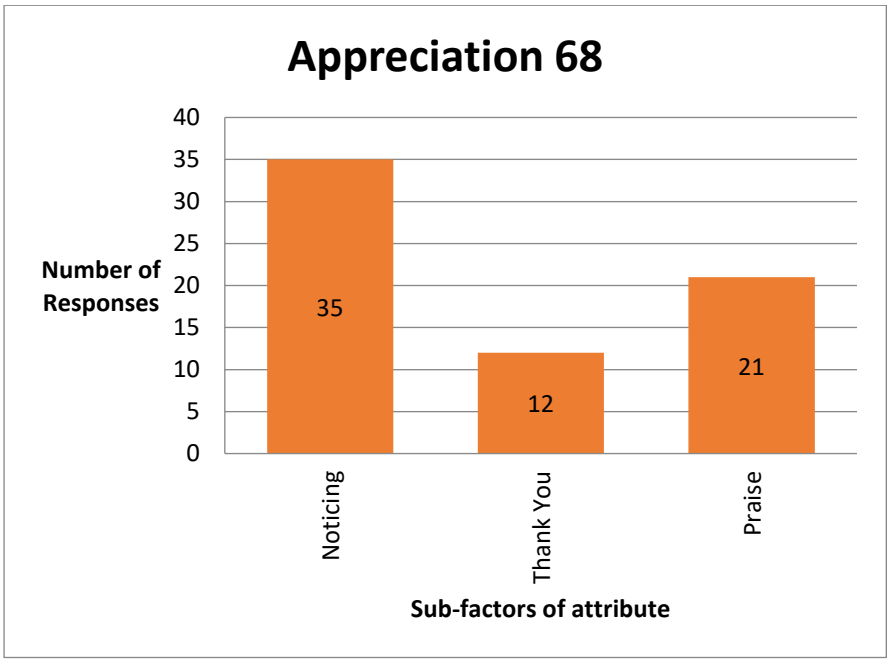

Figure 14: Appreciation

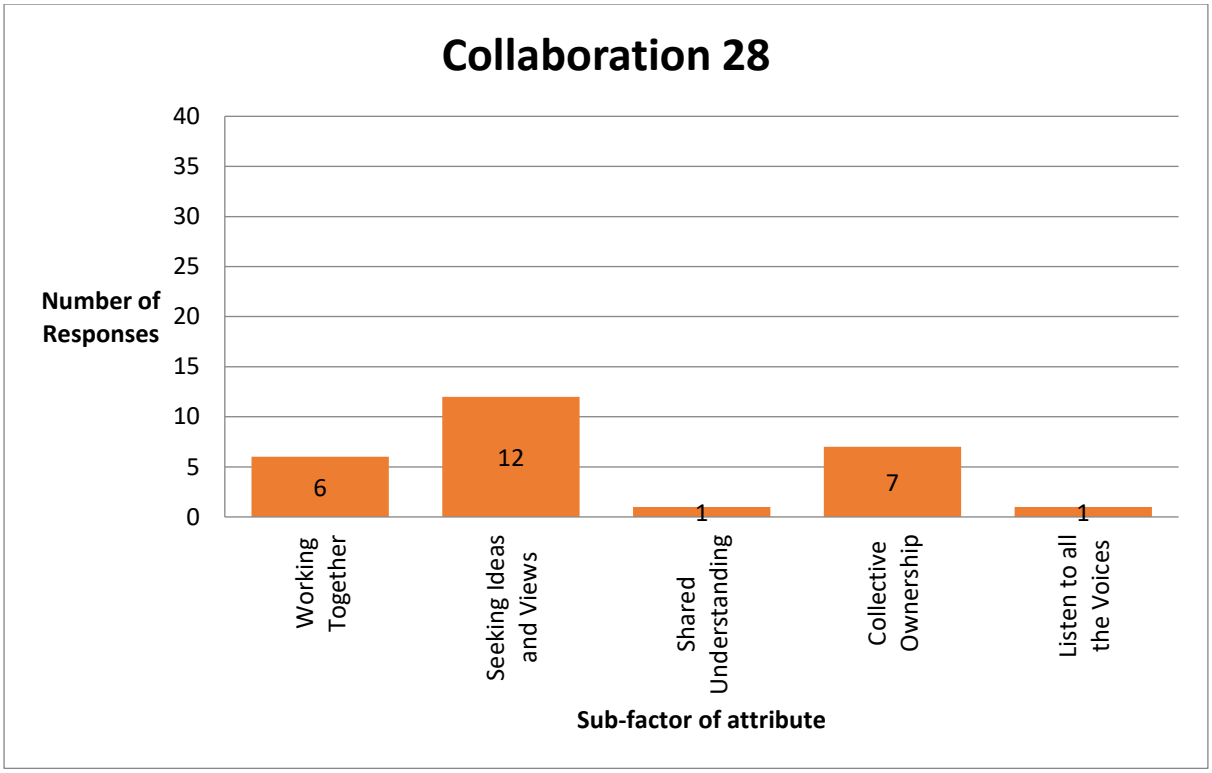

Figure 15: Collaboration

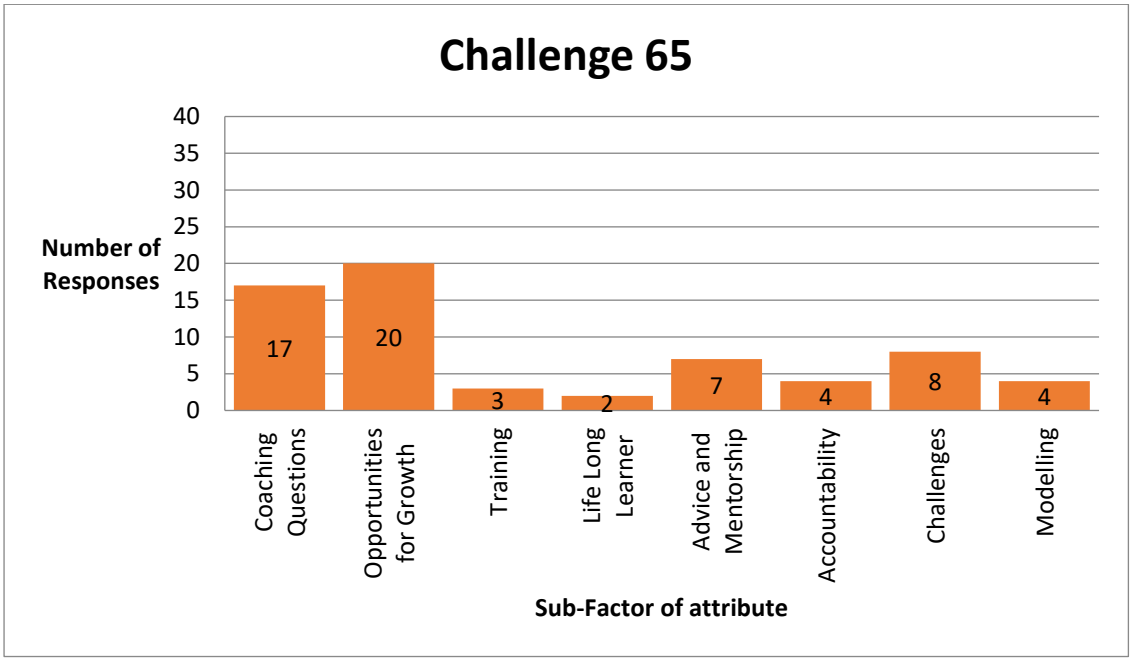

Figure 16: Challenge

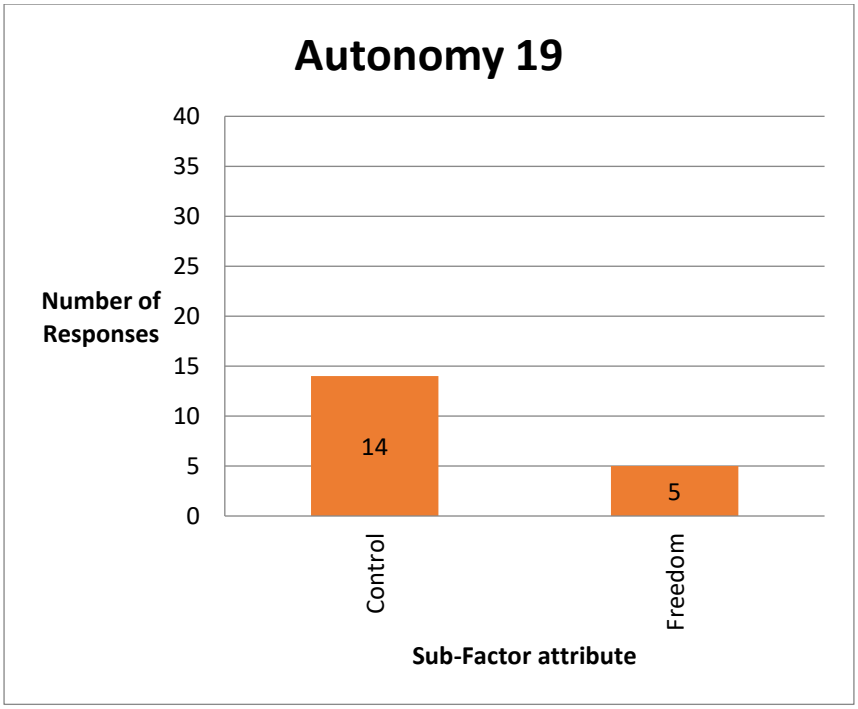

Figure 17: Autonomy

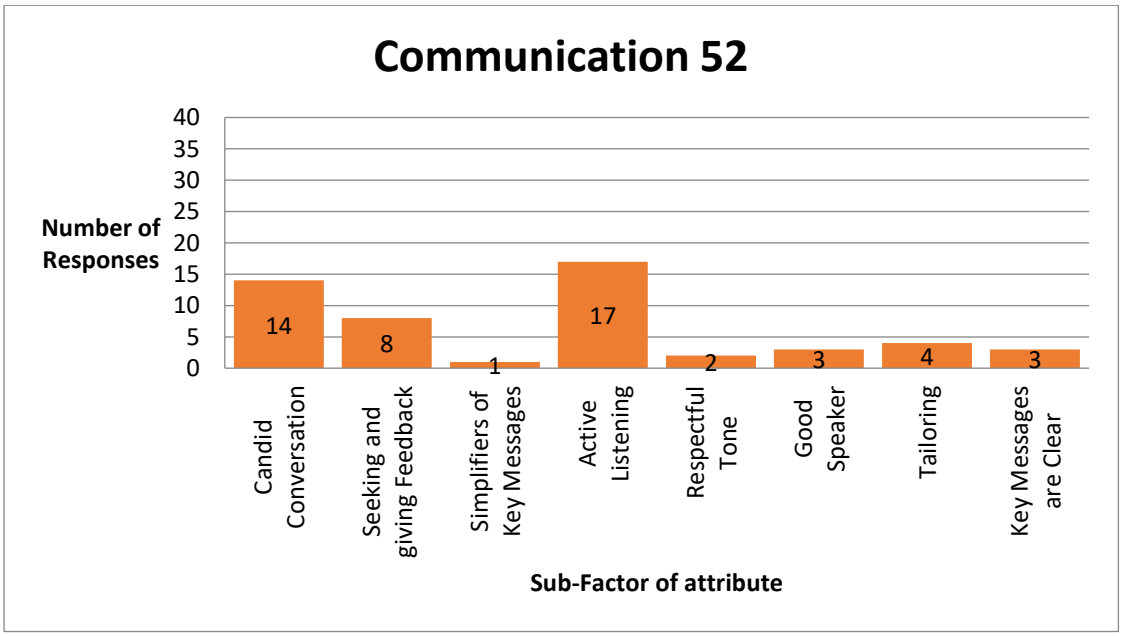

Figure 18: Communication

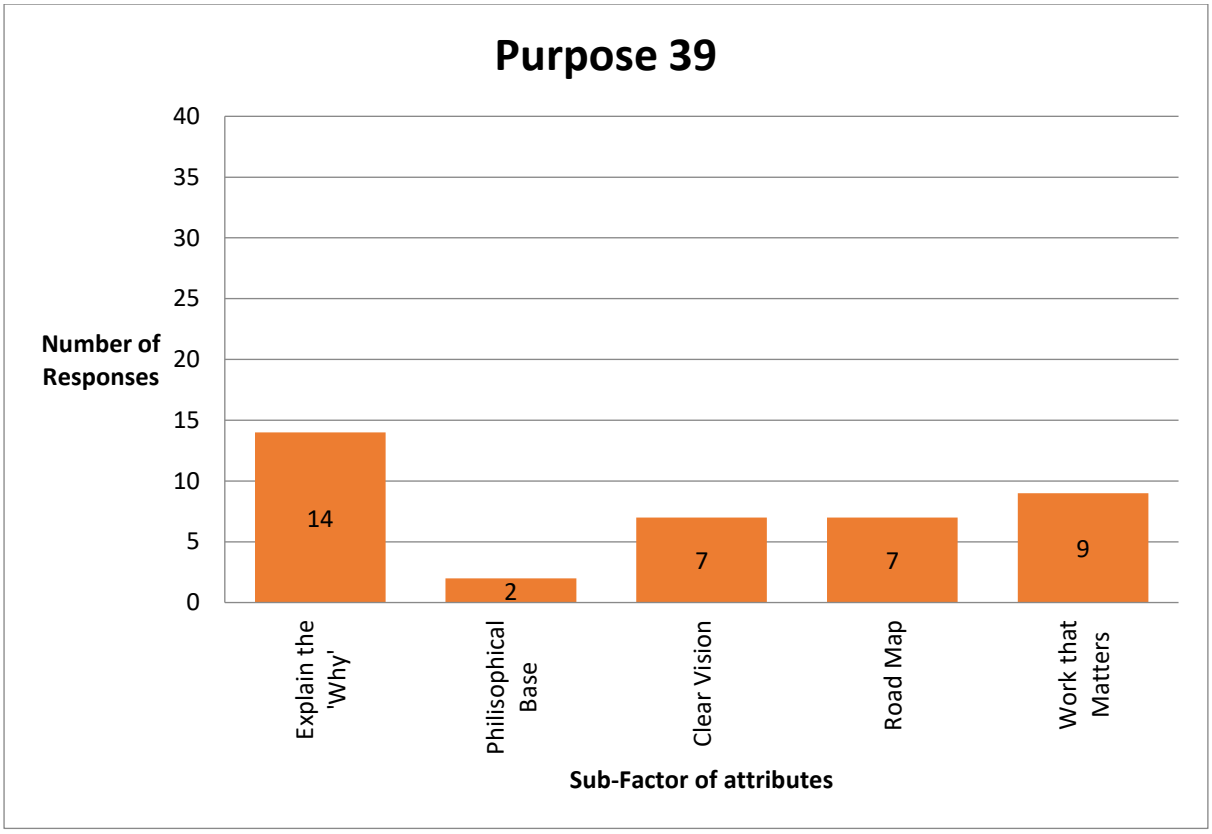

Figure 19: Purpose

4.2.3 Principal to staff variance

It is important to examine the difference between the nature of the codes identified in the principal interviews and the codes identified in the staff interviews. This will show if there was a significant difference between what the principal thinks will inspire the staff and what staff have reported that actually inspire them. The principal codes were: 37-76; 77-150; 193 – 237 and 418-455 and were marked in blue font in the master tables that can be viewed in Appendix C. Table 36 below shows the number of codes per attribute in each group and more detailed data can be viewed in Appendix C.

Table 36: Comparing staff and principal interviews

Attribute	Staff codes	Principal codes	Total codes
Integrity	66	24	90
Humility	48	25	73
Strength	44	15	59
Positivity	29	18	47
Clarity	24	9	33
Connectedness	80	14	94
Appreciation	54	14	68

Support	47	27	74
Collaboration	23	5	28
Challenge	37	28	65
Autonomy	11	8	19
Communication	38	14	52
Purpose	31	8	39

The results show that all thirteen attributes were reported from both groups as ways to inspire. If the top three responses of the principal and the staff members are compared, the staff report that they are inspired by a principal that they can relate to (connectedness), is fair (integrity) and is kind (appreciation). Alternately, the principal feels they will inspire staff by coaching them (challenge), helping them (support) and being approachable (humble). However, if the top six attributes rated by both groups are compared, there is only one difference that was not revealed by viewing the top three; the principal group reported that they inspired staff by being positive (positivity). Both groups reported that integrity, humility and support were important to them as ways of inspiring a team. Another pattern identified in the data is that both principals and staff rated a sense of autonomy, clarity, collaboration and purpose as essential, but these attributes appear lower on both lists, in the bottom four.

The top six attributes quoted the most by staff in the interviews fall into the first and second themes as important to building trust and rapport associated with brain one (survival brain) and two (social brain). This result reflects the findings from question 86-88 on the survey as teachers ranked the themes in the same order, that is, trust, rapport and growth/purpose. This indicates that the staff discussed the attributes associated with brain three (thinking brain) less frequently in the interviews. The comparison is shown in Table 37 below.

Table 37: Principal compared to staff frequency of codes in rank order

Principal attribute ranked in interviews	Staff attribute ranked in interviews
Challenge (brain 3)	Connection (brain 2)
Support (brain 2) tied	Integrity (brain 1)
Humility (brain 1) tied	Appreciation (brain 2)
Integrity (brain 1)	Humility (brain 1)
Positivity (brain 1)	Support (brain 2)
Strength (brain 1)	Strength (brain 1)
Appreciation (brain 2)	Communication (brain 3)
Connectedness (brain 2)	Challenge (brain 3)
Communication (brain 3)	Positivity (brain 1)
Clarity (brain1)	Collaboration (brain)

Purpose (brain 3)	Clarity (brain 1)
Autonomy (brain 3)	Purpose (brain 3)
Collaboration (brain 2)	Autonomy (brain 3)

4.1 Survey data

The survey design can be viewed in Appendix D. The survey data aimed to determine:

1. Is one factor of inspiration (or more) identified from the coding process of the interviews, more important than another?
2. Is principal's behaviour reflective of or shows evidence of the inspirational factors identified in the interviews?

The staff who were interviewed (five from each school) were also surveyed. This comparison of data sources further increases the trustworthiness and credibility of the research (see for example, Merriam, 2016; Scott & Usher, 2010) Twenty surveys were distributed, and all were returned and collated. In part A of the survey (Question 1 – 48) the survey asked three questions per factor, breaking each key factor into three topics to narrow one idea to one question. The responses showed that the attributes were rated similarly, meaning that all three questions that corresponded to a particular attribute, such as humility, were rated closely. There were very minor differences between attributes. The most highly rated key factor was **integrity,** with no obvious low rating for any one key factor. Most responses rated a 5 -7 (Agree to Strongly Agree) and only two sub-factors were rated 3 or less (Disagree to Strongly Disagree). Overall, the questions rated very highly, with a mean score of 6.18 (7 being the highest score). Data is shown in Table 38 and 39 below and means for each school can be viewed in Appendix D Table 88.

Table 38: PART A of survey, questions 1 – 48 school F and R

Questions	Factor	School Green (F)		School Red (R)	
		1,2,3,4,5	M	6,7,8,9,10	M
5,10,15,20,25,30,35,40,45	Was not a factor	454341121-542453111-214222222-162443413-441333133	2.73	121133121-433333333-462232122-664766444-241444114	2.97
1,2,3	Integrity	777- 777-777-771-775	6.46	777-777-677-777-777	6.93
4,6,7	Humility	777-677-767-666-755-	6.4	767-557-676-777-666	6.33
8,9,11	Strength	775-776-667-777-576-	6.47	776-775-777-767-775	6.6
12,13,14	Positivity	775-774-777-776-655-	6.27	763-553-776-776-673	5.67

16,17,18	Clarity and certainty	677-777-777-476-555-	6.27	775-577-777-676-774	6.07
19,21,22	Connectedness	777-577-666-667-565-	6.2	667-555-667-777-657	6.13
23.24.26	Support	777-777-666-776-576-	6.53	776-555-765-777-566	6.07
27.28.29	Appreciation	667-777-567-666-555-	6.07	676-555-666-777-777	6.27
31.32.33	Collaboration	566-477-667-667-665-	6	577-555-666-777-456	5.87
34,36,37	Challenge	656-757-666-777-545-	5.93	766-557-777-777-656	6.33
38,39,41	Autonomy	666-777-667-776-775-	6.47	757-775-776-776-556	6.27
42,43,44	Communication	466-577-656-777-556-	5.95	666-555-567-777-657	6
46,47,48	Purpose	666-776-666-777-555-	6.13	762-555-766-776-665	5.73

Table 39: PART A of survey, questions 1 – 48 school B and Y

School Blue (B)		School Yellow (Y)		Mean (M)	Mode	Overall rank
11,12,13,14,15	M	16,17,18,19,20	M			
332223122 111112131 642242111 331333133 444445412	2.44	311144121 111122111 331113113 451355344 111112121	2.04	2.55	1	
777-777-777-777-776	6.93	777-777-555-777-777	6.6	6.73	7	1
767-766-777-777-666	6.6	777-766-557-656-777	6.33	6.42	7	3
777-776-777-775-776	6.73	567-577-775-675-777	6.33	6.53	7	2
665-554-665-675-776	5.73	775-776-775-665-775	6.07	5.94	7	10
677-676-676-776-767	6.53	677-776-575-555-666	6	6.22	7	5
666-566-666-656-777	6.07	766-767-555-767-666	6.13	6.13	6	7
766-775-676-667-667	6.33	676-777-775-775-666	6.4	6.33	7	4
676-666-666-555-666	5.87	666-666-555-777-666	6	6.05	6	8
667-656-766-356-567	5.8	667-656-567-566-666	5.93	5.9	6	11
666-665-666-776-656	6	766-777-666-665-666	6.2	6.11	6	7
656-667-547-776-767	6.13	666-776-555-676-666	6	6.22	7	5
667-556-566-657-677	6	777-567-655-665-566	5.93	5.97	6	9
766-664-667-555-777	6	677-777-655-654-652	5.67	5.78	6	12

The above survey data in Table 38 and Table 39 above is represented in Figure 20 below, as a line graph, showing means for each attribute in each school. The different colours represent the thirteen attributes, with the exception of the red line, which was a non-attribute, explained below. The higher the line on the graph, indicates a higher rating reported by the survey participant.

SURVEY QUESTION

Part A Question 1-48: “In regard to inspiring me to engage, it is important for a high school principal to:”

Survey questions 1-48

1 Strongly disagree, 2 Somewhat disagree, 3 Disagree, 4 Neither, 5 Agree, 6 Somewhat agree, 7 Strongly agree

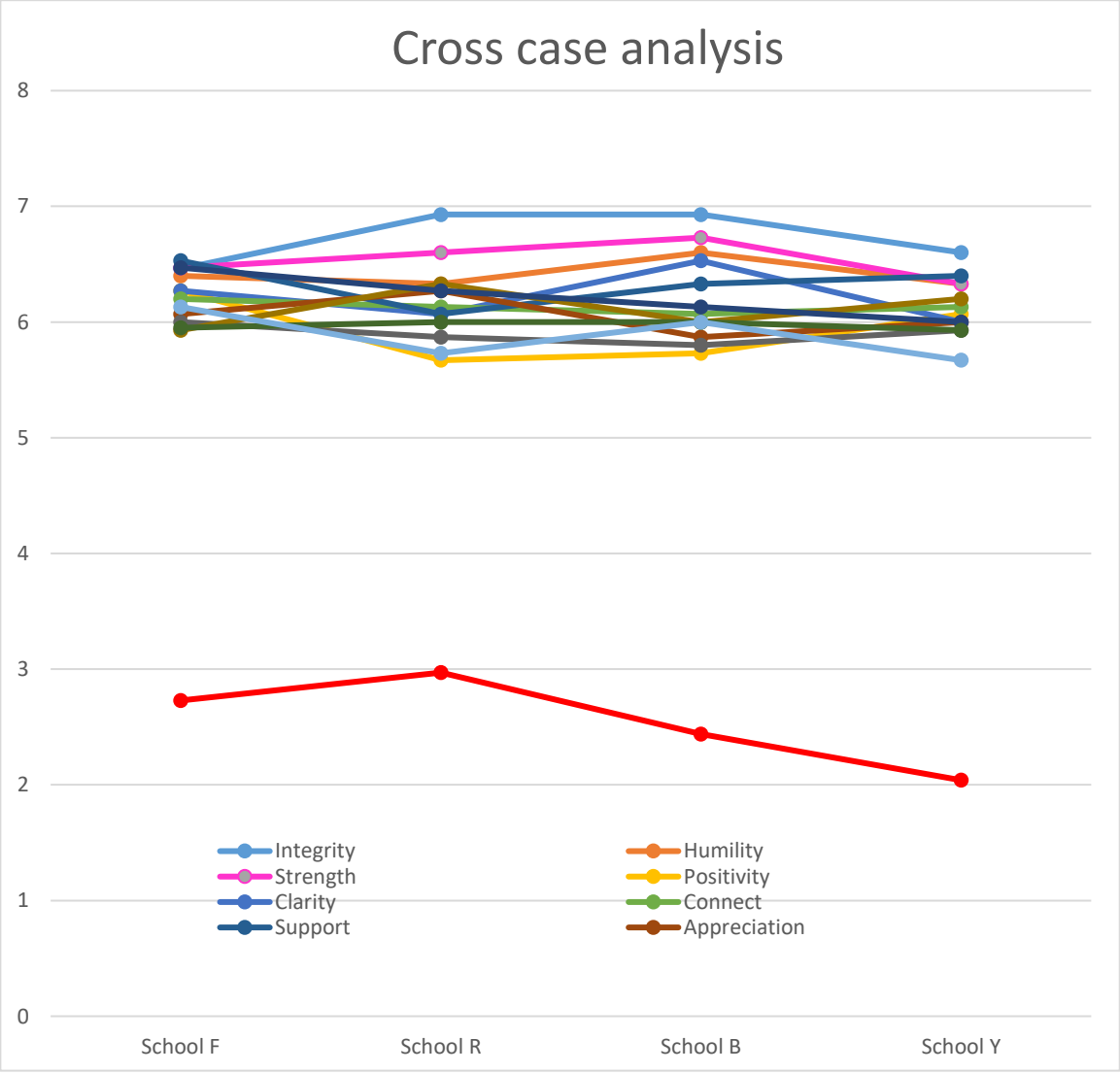

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Figure 20: Line graph showing the Part A Survey, Q. 1- 42

The findings in Figure 20 **show a remarkable consistency in responses from school to school.** Integrity is represented by the top line shown in blue and is the highest score for all schools. Strength shown in pink was the second highest. Outside **integrity** and **strength,** the other attributes are fairly closely rated. The red line at the bottom represents the non-attribute survey questions. All other questions rate as 5.7 and above, meaning all attributes were rated as agree to strongly agree. This indicates that all thirteen attributes of a high school principal were deemed important by the school staff.

In part A of the survey, every fifth question was purposely a non-attribute, meaning the question was not related to any of the attributes that emerged and identified from the interviews. An example of the 'non questions' are:

- Question 5: Wear a suit to work
- Question 10: Is the first to arrive at work and the last to leave
- Question 15: Has a second language

On average these nine questions (Question 5,10,15, 20, 25, 30, 35, 40, 45) were rated very low by all participants in the survey with a mean score of 1.6. The rating of 1.6 indicates a score between strongly disagree and somewhat disagree. There was a very consistent result from staff member to staff member, from school to school, indicating that the participants were paying attention when responding to the survey, but also that the specific attributes revealed in the interviews are confirmed as significant to staff. The means are shown in Table 40.

Table 40: Non-factor and factors in survey

Type	Mean
Non- factors	2.55
Inspirational factors	6.18

The variance in the means showed a substantial marked difference, meaning, the factors identified in the interviews rated highly in the survey compared to factors that were not identified in the interviews.

In part B (Question 49-57), the survey asked in what way the participant would like to be appreciated by their principal, shown below in Table 41. The response options were on a scale from 1 to 7, one being highly demotivating and seven being highly inspired. The top response was 6.2 for '**investing in my growth**" and the least being a public award with a mean score of 4.5. It is an interesting observation that staff value the principal's investment in their individual growth to show their appreciation and acknowledgement, yet it was the principals that ranked 'challenge (building capacity) as their top way of inspiring staff.

SURVEY QUESTION

Part B, Question 49-57: "Rate the following principal behaviours, in regard to the extent to which you feel inspired to engage."

Table 41: Part B The way I like to be appreciated.

Questions	Types of appreciation	School F	School R	School B	School Y	Mean	Mode
49	Encouraging word	54575	65555	65667	65675	5.55	5
50	Public praise	64554	64664	65556	54576	5.2	5/6
51	Private face- face	66766	74667	67566	75775	6.1	6
52	Handwritten note	65745	64767	67556	55667	5.75	6
53	Believing in me	67564	64776-	77657	66665	5.95	6
54	Award	64444	54465	55455	33455	**4.5**	4/5
55	Promotional support	54675	64577	67466	65655	5.6	6
56	Tell others	65765	64767	77566	64467	5.85	6
57	Investing in my growth	67675	74776	77476	77656	**6.2**	7

In part C (Question 58-59), the survey aimed to explored the degree of value participants placed on a colleague as opposed to their principal providing praise, acknowledgment or a thank you. The results are shown in Table 42 below and illustrated further in Figure 21. The response options ranged from 1 to 10, one being of very little value to ten being 'it would mean the world to me'. The results showed that the value placed on the principal providing praise is slightly higher than the value placed on a peer colleague providing praise.

SURVEY QUESTION

Part C, Question 58-59: "How would you rate the value of a comment of praise, acknowledgment or thank you from the following people?"

Table 42: Part C What value to I place on the person

Questions	Person	Response Participant 1-20	Mean	Mode
58	The principal	8-8-8-9-9- 9-5-10-9-9- 10-8-7-8-9 8-8-9-9-8	8.4	8
59	A peer colleague	7-10-8-9-6- 8-5-10-9-7 - 9-10-8-8-8 8-8-8-9-9	8.2	8

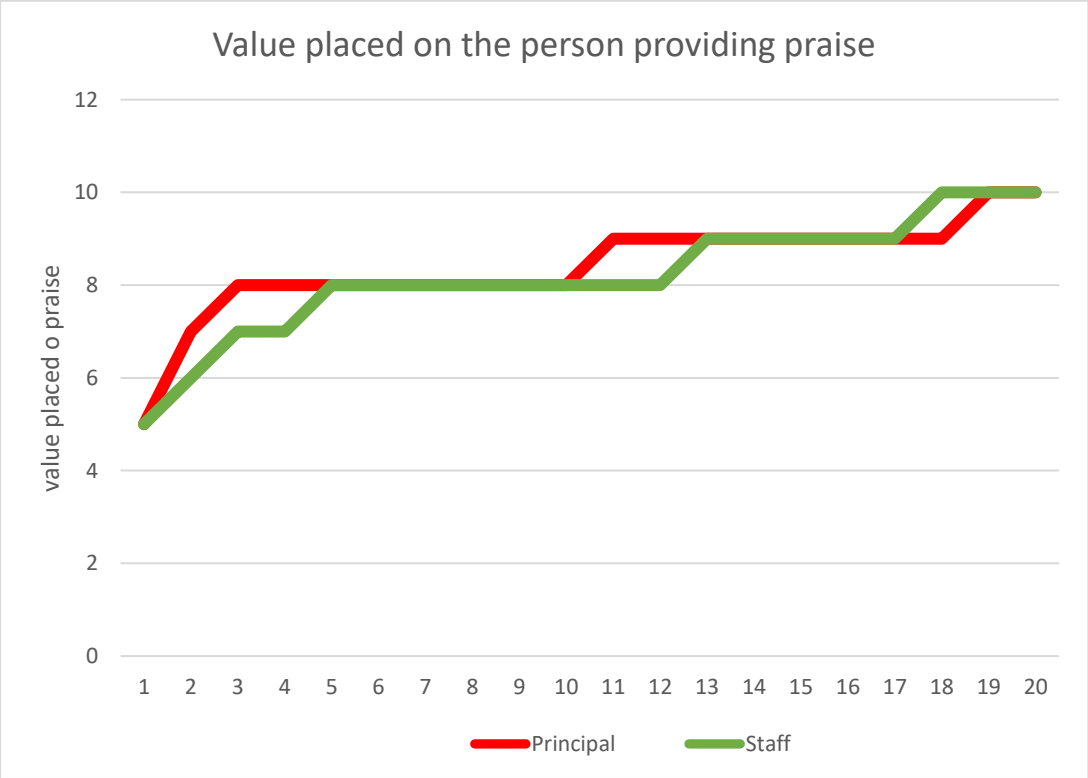

Figure 21: Line graph showing value placed on praise Survey, Q. 58-59

In part D of the survey (Question 60-72) the survey asked participants to rank the key attributes in order of priority for them from 1 to 13, one being the most important and 13 being the least important. The data is shown in Table 43 below. **Analysis of results revealed that all the factors are important.** This is not surprising given the interviews identified the factors as important initially and the interview data was used to create the factor categories. As this is qualitative data is not about rating or ranking as a point of truth but more about exploring if one attribute was reported as more important. The attributes shown in Table 43 below show that the top five collectively were: **1. Integrity, 2. Strength, 3. Clarity and certainty, 4. Humility and 5. Connectedness**. The four top responses relate to brain 1, meaning that **the leadership attributes that build trust are very important to staff** regarding feelings of inspiration.

SURVEY QUESTION

Part D, Question 60-72: "Rank the 13 factors in order of priority importance, in regard to how they inspire you to engage."

Table 43: Rank order attributes from surveys

Inspirational attributes	Importance
Integrity	1
Strength	2
Clarity and certainty	3
Humility	4
Connectedness	5
Purpose	6
Positivity	7
Support	8
Communication	9
Challenge	9
Appreciation	9
Collaboration	10

The survey data that informed Table 43 can be viewed in Appendix D titled Question 60-72.

In the next section of the survey, part D, questions 73 -85, participants were asked to what degree did principals display behaviours reflective of the attributes they have identified in the interviews, that were important for them to feel inspired. One signified never and seven, always. Table 43 shows a range of responses suggesting that although staff know what inspires them in an interaction with the principal, the principal does not necessarily always show those qualities. However, all attributes were evident in the principal's behaviour often or better being reported as 83% of the time. Clear communication was scored the second lowest, but 15 out of 20 staff reported their principal showed evidence of clear communication often or better, meaning the lowest score did not mean that communication was lacking. The highest rating was reported for the principal showing evidence of **positivity** with 19 out of 20 staff indicating that they observed this attribute in their principal often or better, followed closely by **strength and appreciation**. Challenge was scored the lowest, with two people reporting that they were seldom challenged by the principal. However, overall, high school principals showed they were showing evidence of the attributes to inspire in their weekly behaviours, as shown in the data below in Table 44. Data can be view in Appendix D, Table 90-93.

Table 44: Survey question 73-85 Principal behaviour

No	Question	1 Never	2 Seldom	3 Sometimes	4 Don' t know	5 Often	6 Weekly	7 Always	Mean
73	Integrity		1	2	1	10	3	3	5.05
74	Humility		1	2	1	7	7	2	5.15
75	Strength		1	2		7	7	3	5.3
76	Positivity			1		12	6	1	5.3
77	Clarity and certainty		1	1		10	6	2	5.25
78	Connectedness		1	2		9	7	1	5.1
79	Support		1	2	1	6	8	2	5.2
80	Appreciation			3	1	13	3		5.3
81	Collaboration		1	3		5	8	3	5.25
82	Challenge		2	1		13	3	1	4.87
83	Autonomy			3		8	7	2	5.25
84	Clear communication			5		8	6	1	4.9
85	Purpose			4		6	7	3	5.25

SURVEY QUESTION

Part D, Question 73-85: “In the last year, to what extent does your principal practice the factors of inspiration to influence?”

Figure 22 below is a bar graph showing the above data from Table 44. Eleven out of the thirteen attributes were reported by staff in the survey as observed ‘often and above. Five indicates the behaviour is has been experienced often. Challenge behaviours experienced by school staff was the lowest, yet ‘challenge’ was rated as the number one most important behaviour by the principals themselves.

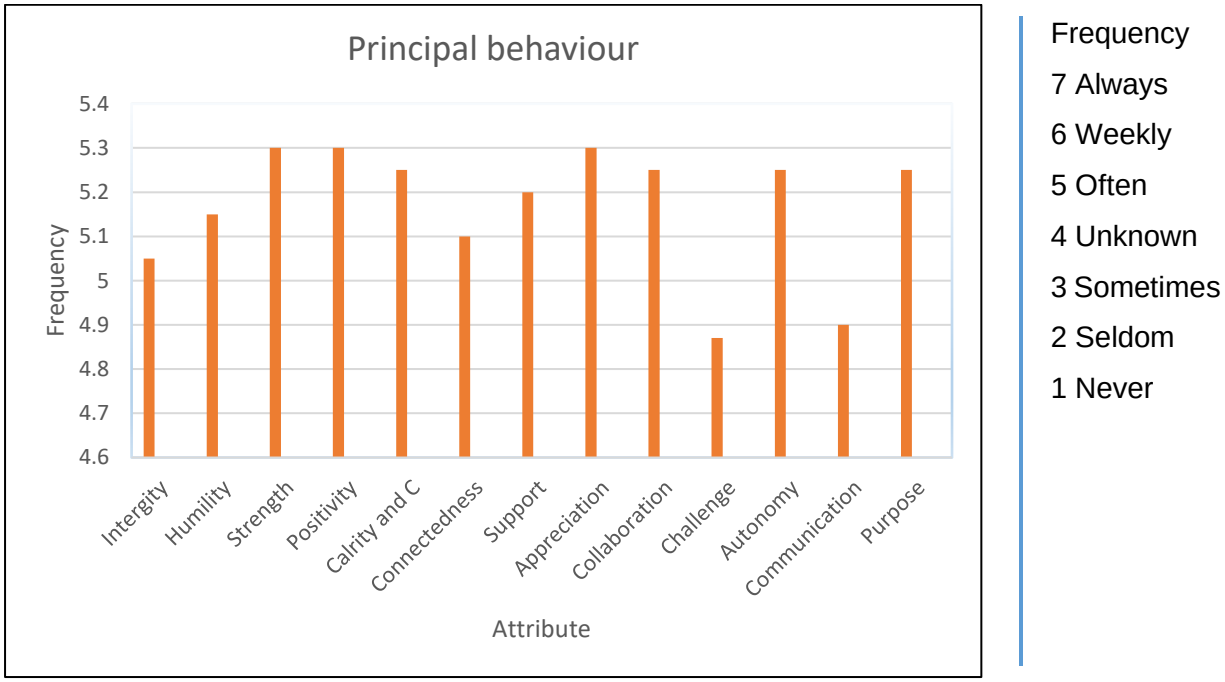

Figure 22: Bar graph showing principal behaviour as reported by school staff

The data can be viewed in appendix D, showing the case study schools.

In part E of the survey (Question 86-88), the participants were asked to rate the trust, rapport and growth/purpose from 1 to 3, indicating that they would want a principal to have and show in regard to his or her ability to inspire others: Trust, Rapport or Purpose and Growth. The results are shown in Table 45 below. Although the results were close, **trust was listed first, rapport second and purpose and growth a close third**.

SURVEY QUESTION

Part E, Question 86-88: "Rate the following three social values from 1-3, that you would want a principal to have and show in regard to his or her ability to inspire others."

Table 45: Part E Survey questions

Q	Key factor	1 Most important	2 Very important	3 important
86	Trust	13	6	1
87	Rapport	5	8	6
88	Growth	3	6	10

It was clear from the interviews and the comments made informally, that participants felt that all three values were important to the principalship. The participants stated that if they had to prioritise, they could but all three would be considered important to the principalship in regard to inspiring staff to engage.

4.1.1 Variance from school to school

The data from question 1 to 48 on the survey shows there is very little variance between school means, shown in Figure 23 below. The collective means for each school being between 6.12 and 6.24 suggest there is a very strong consistency across school staff despite their different school settings and their different principals. The schools are blue (B), green (F), red (R) and yellow (Y).

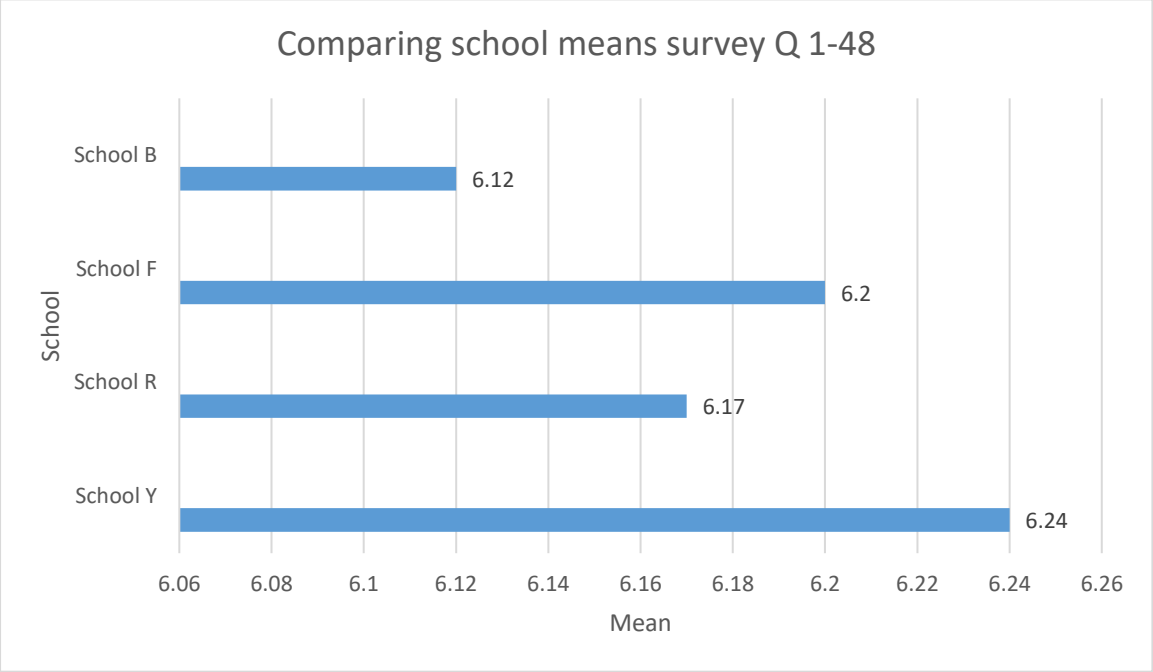

Figure 23: Comparison of schools, survey question 1- 48

This is an important finding as a rating over six, indicates a result stronger than agree and lies between somewhat agree and strongly agree as shown in Table 46 below.

Table 46: Scale for survey question 1-48.

1	Strongly disagree
2	Somewhat disagree
3	Disagree
4	Do not agree or disagree
5	Agree
6	Somewhat agree
7	Strongly agree

4.1.1.1 Regional V Metropolitan schools

The case study incorporated two metropolitan schools (Brisbane) and two regional schools (Central Queensland). The collective mean for metropolitan schools was 6.23 and the collective mean for regional schools was 6.15, as shown in Figure 24 below, informed by question 1-48 on the survey. Therefore, there was minimum variance between city and country schools. All four schools indicated a mean value over six which is between agree and strongly agree.

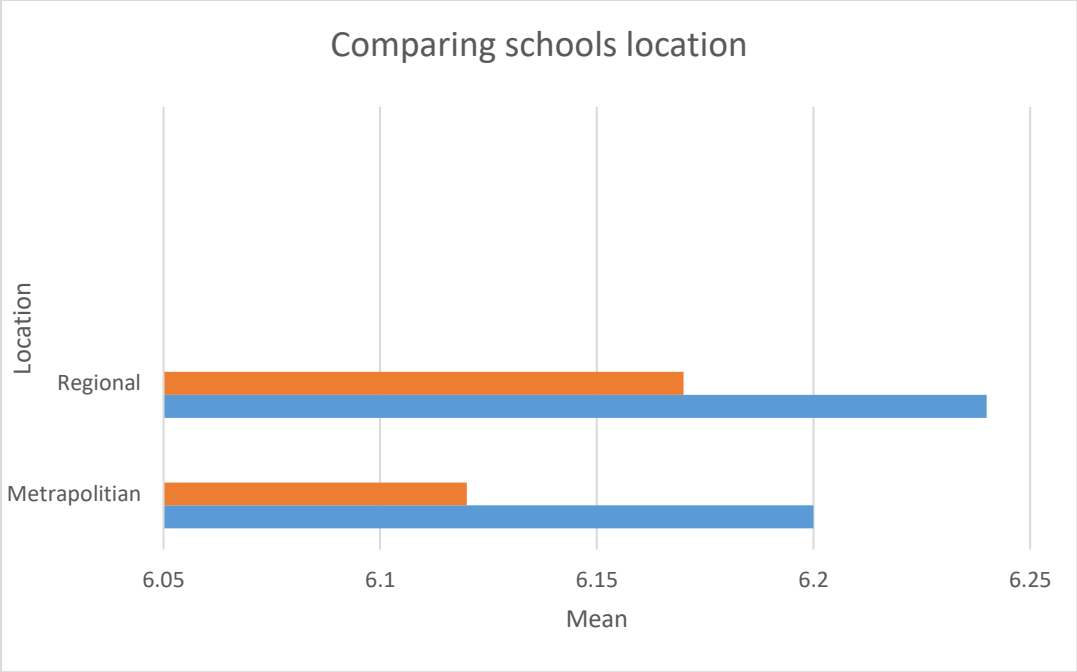

Figure 24: Schools by location

In summary, these findings indicate that when staff were asked how important the 13 leadership attributes were in regard to inspiration, there was little difference from school to school, locality to locality, female to male.

4.1.1.2 Variance in gender

The case study incorporated two male and two female high school principals. This study did not intend to research gender impact on the principals' ability to inspire their staff, however, I thought it was worth reflecting upon, given the case study schools represented a balance in gender. The collective mean for the female principals was 6.15 and the collective male mean was 6.22, showing a close result, (informed by questions 1-48 on the survey). The results are shown below in Figure 25. Gender in this case, did not show a marked impact on consistency of data. The male principals were scored slightly higher than the female principals, in their ability to inspire their staff.

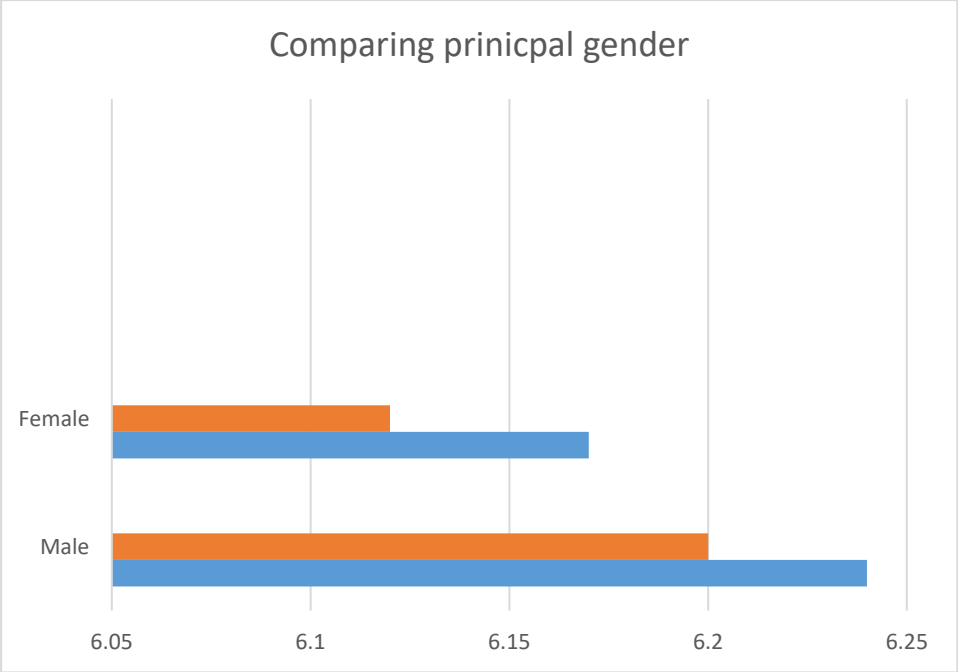

Figure 25: Schools by gender

4.2 Observation data

Each of the four principals was observed for ten hours. I followed them as they participated in their normal workday in context as they interacted with their staff members. The aim of observing principals in their normal duties in was to determine the purpose of the interactions as they talked to their teams to extend the data in particular if they showed evidence of the thirteen leadership attributes. Purpose and phrases were recorded. After the interviews were complete and the themes were identified, the observation scripts were coded for the thirteen attributes. **Evidence of all thirteen attributes of inspiration** is shown in Table

46 below. Principal one (Y) had thirty-three staff interactions, principal two (R) had thirty-seven staff interactions, principal three (B) had twenty-seven staff interactions and principal four (F) had thirty-one staff interactions over the day. The findings indicate that principals used clear and candid communication in their conversations, collaborated with staff, often clarified roles or ideas, showed their appreciation by acknowledging the work their team was undertaking and challenged staff with coaching questions to build their capacity as the top five purposes of the interactions. The observation data which informed Table 47 can be viewed in Appendix E.

Table 47: Principal observation, Theme tally:

Order	Factor	Frequency	Sub-factor most highlighted
1	Communication	65	Much active listening and giving and receiving feedback, reinforcing key messages
2	Collaboration	44	Seeking ideas and views and establishing a shared understanding.
	Clarity	41	Clarity of roles and expectations of what needs to happen and expectations of roles.
	Appreciation	40	All sub-factors were evident. Saying thank you to staff was frequent.
	Challenge	35	Coaching questions mostly and some advice.
	Strength/Growth	35	Wisdom, setting standards and influencing to shape thinking or change behaviour.
	Humility	31	Most of the sub-factors were evident
	Connectedness	30	Warmth and rapport building
	Support	29	Checking in on staff and enquiring how they are going both in their role and wellbeing.
3	Positivity	19	Humour
	Autonomy	15	Both choice and freedom were evident
	Integrity	14	Strong boundaries
	Purpose	12	Explaining the why and keeping staff on track with core business

Further analysis of the observation data revealed that the sub-factors which were identified during conversations can be seen in the last column of Table 46. The top purpose of principal conversations that invested the most time was **active listening, coaching questions and expectations/clarity**. The sub-factor of active listening is in the attribute category of Communication, coaching questions are within the category of Challenge and expectations are within the attribute category of Clarity/Certainty. If this result is compared to the survey responses, there is some correlation. Principals said they inspired by challenging staff, supporting them and being approachable. Active listening may be considered a key part of supporting staff, and being approachable and asking coaching questions is an important

area of challenge. The teachers' results indicated that they are inspired by principals that connect with them, have integrity and appreciate them. Active listening is an important part of the bonding and building rapport. The full data collected in the observation can be viewed in Appendix E and the responses are summarised into categories in Table 48 below.

Table 48: Top responses and purpose of principal interaction

Principal purpose		Principal purpose	
Active listening	43	Checking in to the person	14
Coaching questions	21	Showing warmth	13
Clear expectations	20	Praise	12
Seeing clarity	19	Giving advice and mentorship	11
Saying thank you	19	Relationship building	10
Seeking ideas and views	17	Humour	10
Shared understanding	15		

The observation data showed the principals used their words, behaviours, values, feelings and artefacts to inspire. Table 49 below show examples.

Table 49: Evidence of words, behaviour, values, feelings and artefacts

How does a principal inspire?	Types	Evidence	Data drawn from:
Words	Metaphoric phrases	We need to get out ducks in a line.	School F Line 90
	Normalising	It is normal for us not to all agree.	School F Line 107
	Bottom lining	The evidence isn't there to support that grade.	School F Line 89
	Priming	This event is going to be very exciting	School R Line 31
	Paraphrasing	I am hearing you say…	School Y Line 30
	Expectations	At the end of the day we want to see…	School F Line 62
	Questioning	Is that your understanding?	School R Line 42
	Story telling	I want to share a story…	School R Line 97
	Permissions	Are you open to…?	School F Line 34

Feelings	Disappointment	You must have been disappointed.	School B Line 62
	Excitement	It is so exciting	School R Line 31
Values	Transparency	It is always important for me to be transparent.	School R Line 104
	Purpose	Go back to the purpose.	School F Line 41
	Choice	Which way would you like to go?	School Y Line 39
	Clarity	I will seek clarity on that.	School Y Line 23
Artefacts	Video on phone	Sharing video	School Y Line 18
	Documents	Budget reports	School R Line 10
Behaviours	Open door policy	Left door open and took interruptions	School R Line 25
	Intense focused attention	Active listening	School R Line 35
	Seeking feedback	I would like some feedback…	School R Line 49
	Setting boundaries	I am not a fan of	School R Line 61
	Upholding standards	Let's go over the presentation	School B Line 84
	Checking in	How is your wife?	School Y Line 4

4.2.1 Analysis of principal observation data

The observation data findings show that principal's behaviours reflected many of the attributes identified in the interviews. Even though the observation time was only ten hours; there were no significant gaps in the behaviours of the principals regarding the thirteen attributes. This is surprising considering the principals were not aware of what I was specifically looking for in the data at the time. It also showed that although there was evidence of relational leadership styles used across the four case studies, the behaviours, words, values, feelings and artefacts were easily identified in the four principals when they interacted with their staff.

4.3 Artefact data

My original aim was to examine the collection of artefacts in the principal's office including items on desk, posters on walls, photographs and quotes. The artefacts could provide further insights into how a principal primes their inspirational leadership through visual cues. Unfortunately, there was very little material to collect for reasons outlined in the Table 50 below.

Table 50: Reasons for not using artefacts in office

School	Reason
1-Green	The administration office was being upgraded and the principal's office was in a temporary room. The room was without any decoration or the usual features.
2-Red	The room was bare and utilitarian in style with only a desk, bookshelf, filing cabinet and chair.
3-Blue	The principal was packing up to go to an acting role in the near future. The office objects and photographs were boxed up for the move.
4-Yellow	The principal was new and did not have their office set up to reflect their personal style. The office had been decorated by the previous principal.

4.3.1 Newsletters

The school newsletter is a public document that can be found on the school website. It is usually compiled by an administrative office employee (AO), edited by the principal and is a summary of the school events for a short period of time usually weekly, sometimes fortnightly. The target audience of the newsletter is the parent body to inform them of past events, future events, school priorities, student opportunities and school achievements. The newsletter in each case has a variety of authors, as teachers and head of departments report on their areas. It is an artefact that tends to represent and reflect the school ethos and culture, so it was gathered as part of the data set to show what might be important on the principal's agenda. However, after examining the websites for each school, it was determined that the school newsletter did not capture data that would be relevant to the research question.

Therefore, as this study is about the interaction between the principal and the staff members, it was decided that the principal's newsletter (rather than the school newsletter) that is written for the staff, by the principal, was a more relevant artefact to examine. These newsletters are personal notes written by the principal and are private documents that are emailed from the principal directly to the staff team and are not public documents. Three newsletters from three principals were examined and coded for any indication of the sub-factors identified in the interviews. At the time of this study, one principal did not have a staff newsletter available. Table 51 below shows the findings.

Table 51: Staff newsletter data

Attribute	School 1F	School 2R	School 3B	School 4Y	Total
Integrity	2	1	4	No newsletters	
Humility	1	0	0		1
Strength	2	1	1		4
Certainty	2	3	2		7
Positivity	8	7	6		21
Connectedness	3	3	1		7
Support	4	5	2		11
Appreciation	8	5	7		20
Collaboration	2	4	1		7
Purpose	5	4	6		15
Challenge	4	6	8		18
Autonomy	1	0	1		2
Communication					

There are limitations on what a newsletter can contribute to the data because of the nature of the attributes being assessed. For example, communication was left blank as the whole document represents communication. School four did not have a staff newsletter available at the time. Additionally, humility is difficult to ascertain in a newsletter, whereas purpose can easily be detected with words such as vision and goals. Given these considerations, I did not include artefact data in the triangulation of data but treated it as an extra data set. The purpose of the statements that were common to all newsletters were:

- Positive language of hope and passion about the school (Positivity)
- Acknowledgment and thank you to staff for past activities (Appreciation)
- Opportunities for professional development and training (Challenge)
- Coming events and key ideas (Communication)
- Reinforcement of vision and agendas, stating reasons/purpose (Purpose)

4.3.2 School Annual Reports

The second artefact that was used as part of the data gathering process was the School Annual Report (SAR). Each year every State School principal in Queensland writes a report as part of the DOE data collection strategy. The SAR records student attendance data, curriculum data, achievement levels, school enrolment, staff, parent and student responses to questions about the wellbeing and efficiency of the school. This data helps set the context of

the school case study and sheds light on the general staff morale. For this study, the following specific section of the SAR, shown in Table 52 informed the data collection process:

Table 52: SAR report

%	School staff response to annual survey by DOE published in the SAR
	Staff said they enjoyed working at the school.
	Staff felt they were well supported at the school.
	Staff feel this school is a safe place.
	Staff attendance rate. (if available)

As a past high school principal, I understand that school principals use this particular data to reflect on the school's level of staff morale and wellbeing. There are many variables that effect this data, being only one data set that can be combined with other feedback that can indicate the health of the school. The data is assessed by comparing the previous year's data and identifying distance travelled for that individual school, rather than comparing schools, as the collective data is subjective, and all schools are unique.

4.4 The cases

Collectively, the four principals in the case study demonstrated behaviours across the thirteen attributes and invested significant time in active listening, asking coaching questions, seeking ideas and perspectives and clarifying expectations. The following section tells the story of the four cases as separate studies. The results and findings are presented under the headings of the different data collection methods of artefacts, survey, interviews and observation, followed by a summary of each case. The schools are identified with colours, yellow (Y), green (F), blue (B) and red (R).

4.4.1 Case 1: School Yellow

4.4.1.1 School Y, Artefacts Results

The School Annual Report (SAR) published on the school web site is publicly available and was the source of the following information shown in Table 53 below. This coeducational school has an enrolment of 1108 students from year 7 to 12 and is a regional coastal school classified as a Band 10. It has one principal, four deputy principals, a senior leadership team of 15 heads of departments, two Guidance Officers, a Business Service Manager, a school police officer, 78 teaching staff and 35 support staff. The principal has previously held the position of Lead Principal for the region, which is a full-time coaching position for the department. Thus, the principal is an experienced high school principal. Each year the Department of Education (DOE) completes a school staff survey. The following data, informed by the School Annual Report, was current at the time of this study. School Y has the lowest staff morale mean compared to the other three schools in this study.

Table 53: SAR School Y

%	School staff response to annual survey by DOE
	Staff said they enjoyed working at the school.
	Staff felt they were well supported at the school.
	Staff feel this school is a safe place.
	Staff attendance rate.
	Staff morale mean

4.4.1.2 School Y, Observation Results

The observation data can be viewed in Appendix E. As I observed the principal in their daily work, I recorded evidence of all thirteen attributes and my notes show a strong pattern of the use of humour, thanking staff and acknowledging the work of staff. The principal visited the staff rooms twice a day, when possible, to check in on as many staff members at a personal level with the intent of enquiring about wellbeing, keeping up to date, spreading key messages and clarifying expectations. There was evidence to suggest that the principal allowed others to lead and gave some sense of autonomy in how they meet their goals. My notes show limited indicators of strength as defined in this project, but that does not mean they would not be found on other days with more time. The staff acknowledge in the survey that there was strong evidence of support, positivity and autonomy in the principal's behaviours, aligning with what I observed in ten hours.

The principal in school Y showed several leadership styles, specifically: Distributed Leadership, Emotional Leadership and Instructional Leadership shown in Table 54. All the styles were relational in nature and a strong coaching approach dominated.

Table 54: School Y Principals leadership style

Leadership style	Evidence from data
Emotional leadership Inspirational leadership Neuroleadership	I don't know what I would do without you. Appendix E, Observation, Line 5. How do you feel about that? Appendix E, Observation, Line 46
Instructional leadership	Can I ask you to work with (name) on that? Appendix E, Observation, Line 42 Clarifying roles and policy. Appendix E, Observation, Line 50
Distributed leadership	Tell me about how you will lead that? Appendix E, Observation, Line 29

4.4.1.3 School Y, Survey Results

The following spider graph, Figure 26 shows the results of the survey. Part D questions 73 – 85 for school Y. The data informing Figure 26 below can be viewed in Appendix D in Table 94. The school staff were asked "In the last year, to what extent does your principal practice the factors of inspiration to influence?" The scale included:

1. Never
2. Once or twice
3. Sometimes
4. Don't know
5. Often
6. Weekly
7. Always

SURVEY QUESTION

Part D, Questions 73-85: To what extent does your principal practice the factors of inspiration to influence/"

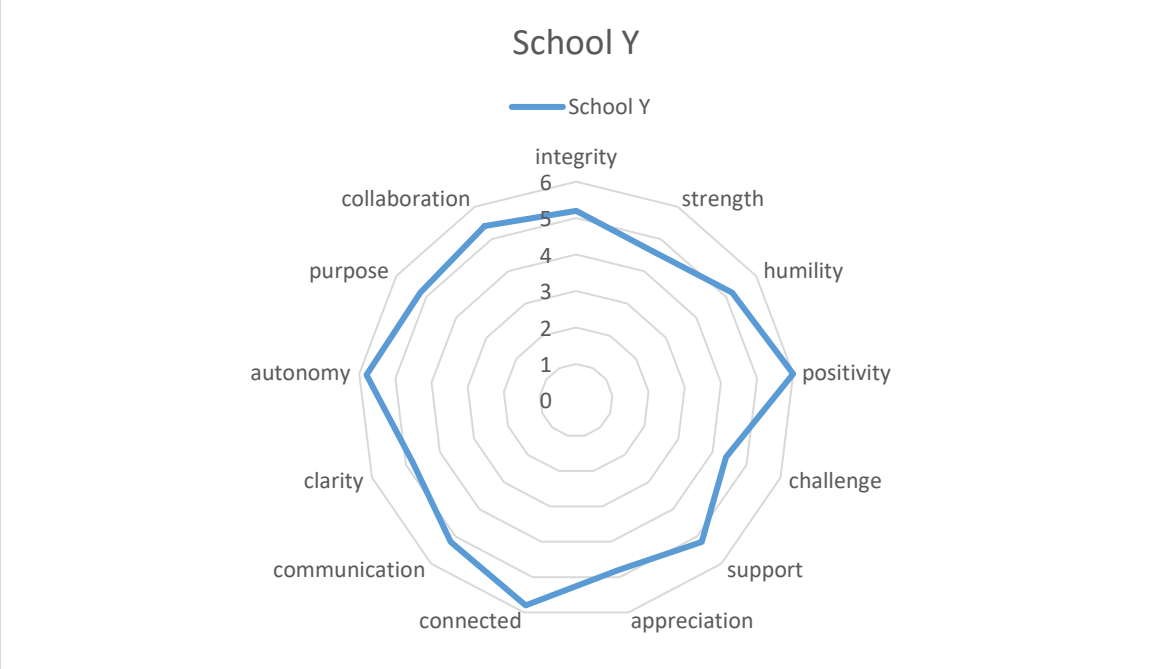

Figure 26: Survey, Q. 73-85, Staff reported principal behaviour school Y

Analysis: School Y staff reported that all 13 attributes were evident in their principal's behaviour, specifically showing that **positivity, autonomy, connectedness** was experienced weekly and challenge being the lowest rating.

The following graph, Figure 27 shows what the school Y staff would like to see in their principal behaviour and was collected through the survey question 1-48. The data can be viewed in Appendix D, Table 89. School staff were asked: In regard to inspiring me to engage, it is important for a high school principal to:

1. Strongly disagree
2. Somewhat disagree
3. Disagree
4. Neither disagree nor agree
5. Agree
6. Somewhat agree
7. Strongly agree

SURVEY QUESTION

Part A, Questions 1-48: "In regard to inspiring me to engage, it is important for a high school principal to:"

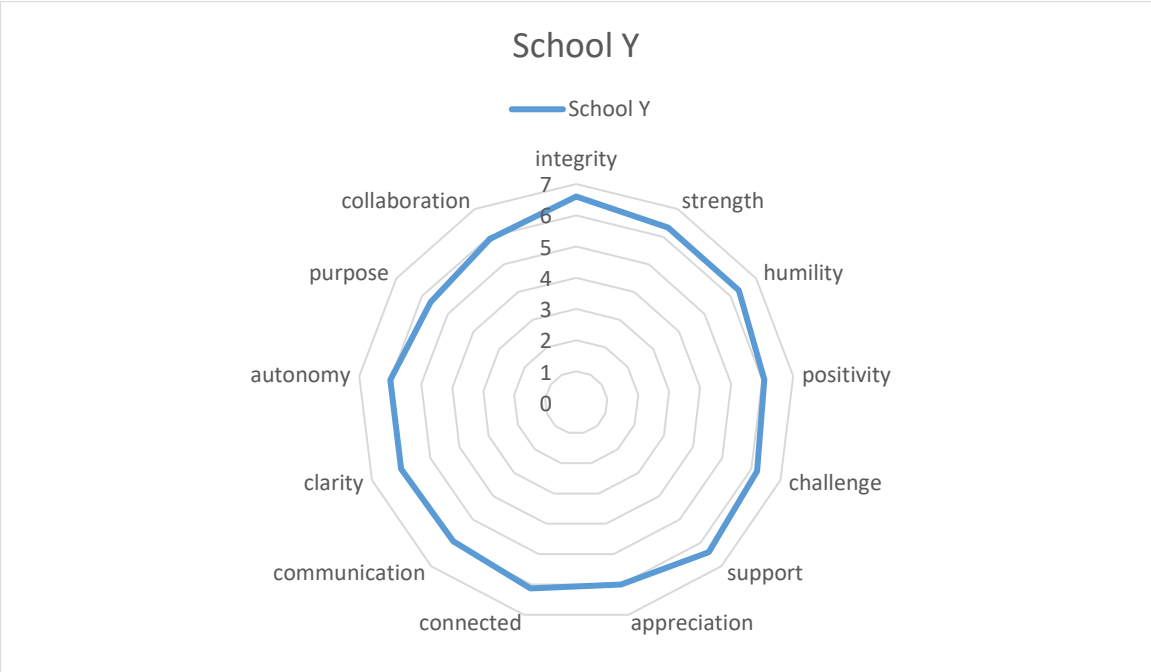

Figure 27: Survey Q. 1-48, Staff reported importance of attributes

Analysis: The data shows that all 13 attributes were important, with **integrity** being slightly higher and collaboration and purpose rated slightly lower than the set, however staff from school Y agreed that these attributes were an important factor of inspiration.

4.4.1.4 School Y, Interview Results

The following Table 55 below shows the number of times an attribute was reported in the interviews in school Y. Data connection can be found in Appendix C.

Table 55: Staff and principal interview response

Attributes	Staff
Integrity	15
Humility	9
Strength	6
Positivity	5
Clarity/certainty	7
Connectedness	24
Appreciation	20
Support	14
Collaboration	8
Challenge	14
Autonomy	5
Communication	17
Purpose	7

Analysis: The results in Table 55 show that the staff indicate that connectedness and appreciation was important to them. Merriam (2016) states that one of the elements of coding in regard to what to code is the frequency of a patten; that is, if something is frequently mentioned, it may indicate it has a higher importance.

4.4.2 Case 2: School Red

4.4.2.1 School R, Artefact Results

The School Annual Report shows that School R has an enrolment of 1160 students from year 7-12 and is a regional city school classified as Band 11. It has one principal, three deputy principals, a Business Service Manager, Chaplain, Nurse, Youth worker, Community Education Counsellor, police officer, 12 heads of departments, 70 teachers and 35 support staff. This is the largest of eight high schools in a regional area. The data shown in Table 56 is, informed by the School Annual Report, was current at the time of this study.

Table 56: School R SAR report

%	School staff response to annual survey by DOE
	Staff said they enjoyed working at the school.
	Staff felt they were well supported at the school.
	Staff feel this school is a safe place.
	Staff attendance rate.
	Staff morale mean

The staff and principal have been working together for over ten years, so routines and protocols are well established. It was evident, from the way the staff interacted with the principal that there was a high level of trust and respect. One characteristic of the principal's practices that I noticed in observation was how often they clarified expectations, collaborated to solve problems together, invested time in getting to know the person behind the role and showed appreciation of work well done. The principal also frequently had a variety of ways to ask permission before they would coach or provide feedback. In coaching, permissions prepare the coachee for what is to come next and prime them, diffusing tension and building trust (Rock, 2006). They also demonstrated they could take their ego out, when appropriate, and apologise to a staff member, even in the case of misinterpretation. This characteristic of the principal's personality was reflected in the staff's comment that their principal showed character, strength and humility.

4.4.2.2 School R, Observation results

The observation data can be viewed in Appendix E. As I observed the principal in their daily work, I recorded evidence of all thirteen attributes and my notes show a strong pattern of clarifying, reinforcing expectations, humility and priming. This principal demonstrated the broadest number of skills across the leadership attributes, which was reflective of their experience. Thanking staff, positivity and acknowledging the work of staff was also clearly evident. There was evidence to suggest that the principal allowed others to lead and gave some sense of autonomy in how they meet their goals as well as asking for their ideas and perspectives. The staff acknowledge in the survey that there was strong evidence of in the principal's behaviours, stating in that they witnessed a strong sense of integrity, clarity, humility and strength, aligning with what I observed in ten hours. The staff expectations of the principal's leadership attributes as reported in survey questions 1-48 matched very closely to what the staff witnessed in the principal's behaviour as reported in the survey questions 73-85.

The principal in school R showed numerous leadership styles shown in Table 57 specifically Distributed Leadership, Emotional Leadership and Instructional Leadership. Instructional Leadership dominated with the principal having a strong grasp on Distributed Leadership. A coaching and mentoring approach was used regularly.

Table 57: School Y Principals leadership style

Leadership style	Evidence from data
Emotional leadership Inspirational leadership Neuroleadership	May I ask you for feedback on that? Appendix E, Observation, Line 34 Our histories are the same. Appendix E, Observation, Line 29
Instructional leadership	Keep in mind that this is about… Appendix E, Observation, Line 19 Can you follow up on… Appendix E, Observation, Line16b We need to provide every teacher with… Appendix E, Observation, Line50 It is important that each student completes this model. Appendix E, Observation, Line 43 There are two things here that will ensure success. Appendix E, Observation, Line 48
Distributed leadership	Tell me about how you are going to manage that. Appendix E, Observation, Line 2 How would you lead that? Appendix E, Observation, Line 35 How do you want to run with that? Appendix E, Observation, Line 82

4.4.2.3 School R survey results

Next to be discussed is how staff reported the **principal's practice of behaviours**. The following spider graph, Figure 28 shows the results of the survey, questions 73 – 85 for school R. The data can be viewed in Appendix D, Table 92. The school staff were asked, "In the last year, to what extent does your principal practice the factors of inspiration to influence?" The scale included:

1. Never
2. Once or twice
3. Sometimes
4. Don't know
5. Often
6. Weekly
7. Always

SURVEY QUESTION

Part D, Questions 73-85

"To what extent does your principal practice the factors of inspiration to influence?"

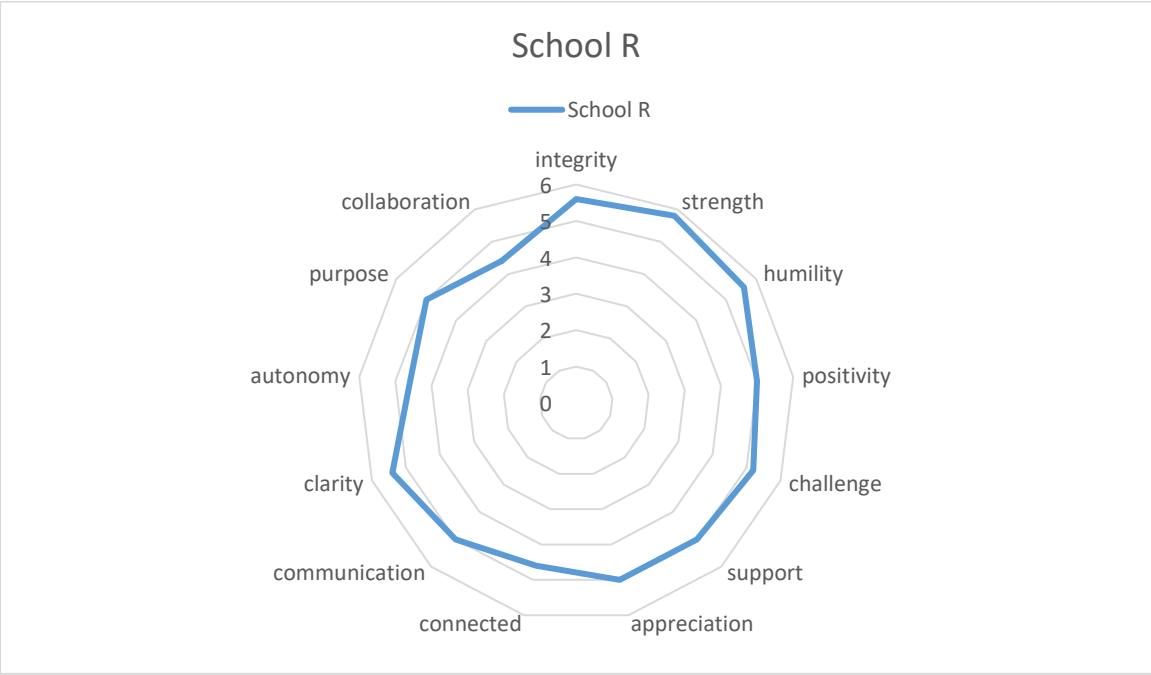

Figure 28: Survey, Q. 73-85, Staff reported principal behaviour in school R

Analysis: The staff from school R report that the behaviours evident in their principal in the matter of the inspirational factors are the highest for **strength and humility,** as experienced weekly. All other attributes were observed, with the lowest rating reported for collaboration.

This next discussion represents the school **staff expectations of the principal's behaviour**. The following graph, Figure 29 shows what the school staff would like to see in their principal behaviour and was collected through the survey questions 1-48. The data can be viewed in Appendix. School staff were asked “In regard to inspiring me to engage, it is important for a high school principal to…” There were three questions, breaking down each attribute into the smaller sub-factors. The scale used was:

1. Strongly disagree
2. Somewhat disagree
3. Disagree
4. Neither disagree nor agree
5. Agree
6. Somewhat agree
7. Strongly agree

SURVEY QUESTION

Part A, Questions 1-48: “In regard to inspiring me to engage, it is important for a high school principal to:”

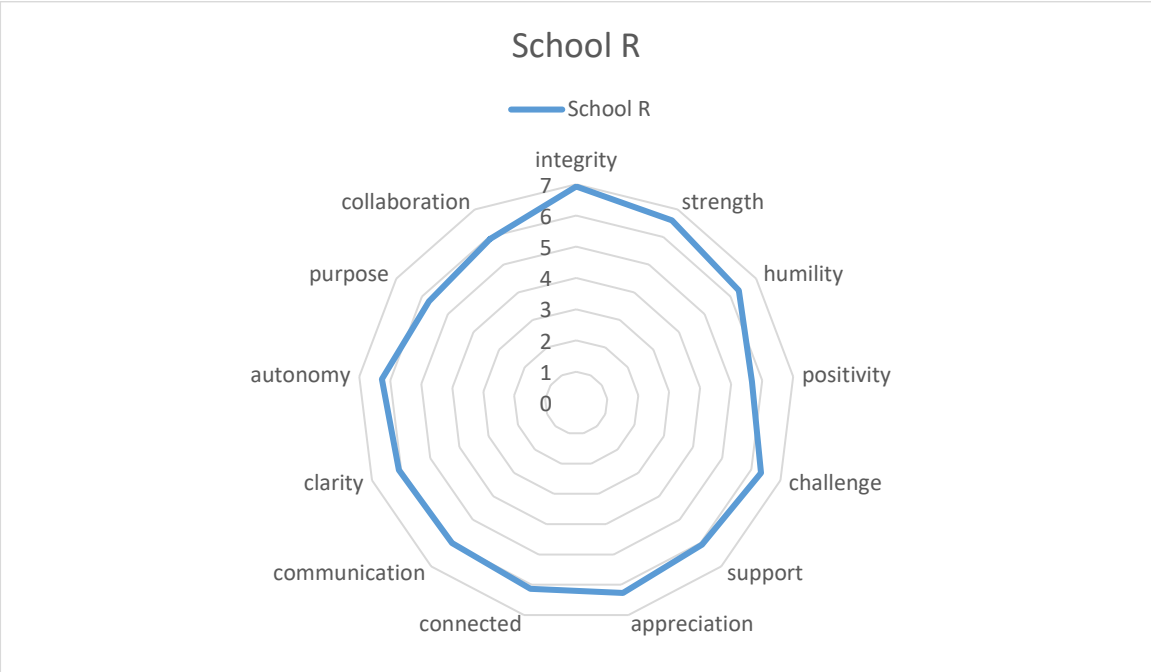

Figure 29: Survey Q. 1- 48, Staff reported importance of attributes in school R

Analysis: The school staff for school R indicated that **integrity** was of highest importance, with all other attributes reported as important. The data can be viewed in Appendix D, Table 89. The expectations of staff matched closely the reported principal practices with integrity, strength and humility shown as the top three attributes in Figure 28 and 29.

4.4.2.4 School R, Interview Results

Table 58 below shows the number of times an attribute was reported in the interviews in school R. The data can be viewed in Appendix C.

Table 58: School R interview results

Attributes	Staff
Integrity	10
Humility	13
Strength	2
Positivity	10
Clarity/certainty	4
Connectedness	17
Appreciation	10
Support	11
Collaboration	2
Challenge	0
Autonomy	2
Communication	4
Purpose	2

Analysis: Connectedness was the most frequently discussed in the interviews by staff in school R. There was no discussion around the challenge behaviours of the principal in the interviews. On the contrary, the principals highlighted challenge as a very important aspect of their ability to inspire their staff so the fact that staff at this school R did not talk about challenge in association to the principal, could be interpreted as they were getting enough challenge and did not desire anymore. Alternately, it may indicate that the challenge did not inspire them.

4.4.3 Case 3: School Green

4.4.3.1 School F, Artefacts Results

School F has an enrolment of 1885 and is one of the largest schools in Queensland. Students range from year 7 to 12 and it is a metropolitan school in a leafy suburb classified as an executive Band 11. It has one principal and six deputy principals, 16 heads of departments, three guidance officers, 121 teachers, 39 support staff and 34 teaching aides. This is the most current data is shown in Table 59, informed by the annual School Annual Report, current at the time of this study.

Table 59: SAR School F

%	School staff response to annual survey by DOE
	Staff said they enjoyed working at the school.
	Staff felt they were well supported at the school.
	Staff feel this school is a safe place.
	Staff attendance rate.
	Staff morale mean

4.4.3.2 School F, Observation results

The principal had a calm disposition and was clearly a compelling speaker and master communicator who used language wisely to shape desired behaviour. They showed a deep wisdom to draw on from many years' experience as a successful principal. During the time I was observing the principal, I noticed that they used risk assessment and quality control questioning and they invested the most time in active listening. He commented that he or she valued feedback from staff to improve their performance and I observed this a couple of times in the short time I was there. A number of times I observed that the principal used calming techniques as a way of defusing tension and perspective comments, meaning they deescalated anxiety and provided a more positive way of thinking about something to help the team member grasp some perspective to move forward. They used metaphors and bottom lining tactics, two coaching techniques for learning conversations. Staff may have read these qualities as supportive as this attribute was highly evident in the principal's behaviour according to them. Support was also the most desired attribute by staff in this school, over and above the other attributes.

The principal in school F showed a number of leadership styles shown in Table 60, specifically Distributed Leadership, Charismatic Leadership, Emotional Leadership and Instructional Leadership. A coaching and mentoring approach was used regularly.

Table 60: Principal's leadership style

Leadership style	Evidence from data
Emotional leadership Inspirational leadership Neuroleadership	Congratulations, that is brilliant. Appendix E, Observation, Line 14 A good outcome, well played. Appendix E, Observation, Line 22 What I really liked was the way you… Appendix E, Observation, Line 33
Instructional leadership	You will hear me say… Appendix E, Observation, Line 8 Go back to purpose. Appendix E, Observation, Line 41 There is an opportunity there for improvement. Appendix E, Observation, Line 28 How are you going to do that without making them defensive? Appendix E, Observation, Line 29
Distributed leadership	Tell me I have the tone right in this email. Appendix E, Observation, Line 46 How is it communicated to staff? Appendix E, Observation, Line Demonstrates how to communicate a message. Appendix E, Observation, Line 53 That is not a question for me but one for the group. Appendix E, Observation, Line 56 Where to now? Appendix E, Observation, Line 92
Charismatic leadership	I observed the way the team responded to the way this principal communicated and it was positive and remarkable. This is very subjected and difficult to show in phrases.

4.4.3.3 School F, Survey Results

The following spider graph, Figure 30 shows the results of the survey, question 73 – 85 for school F. The data can be viewed in Appendix D, Table 91. The school staff were asked "In the last year, to what extent does your principal practice the factors of inspiration to influence?" The scale included:

1. Never
2. Once or twice
3. Sometimes
4. Don't know
5. Often
6. Weekly
7. Always

SURVEY QUESTION

Part D, Questions 73-85

"To what extent does your principal practice the factors of inspiration to influence?"

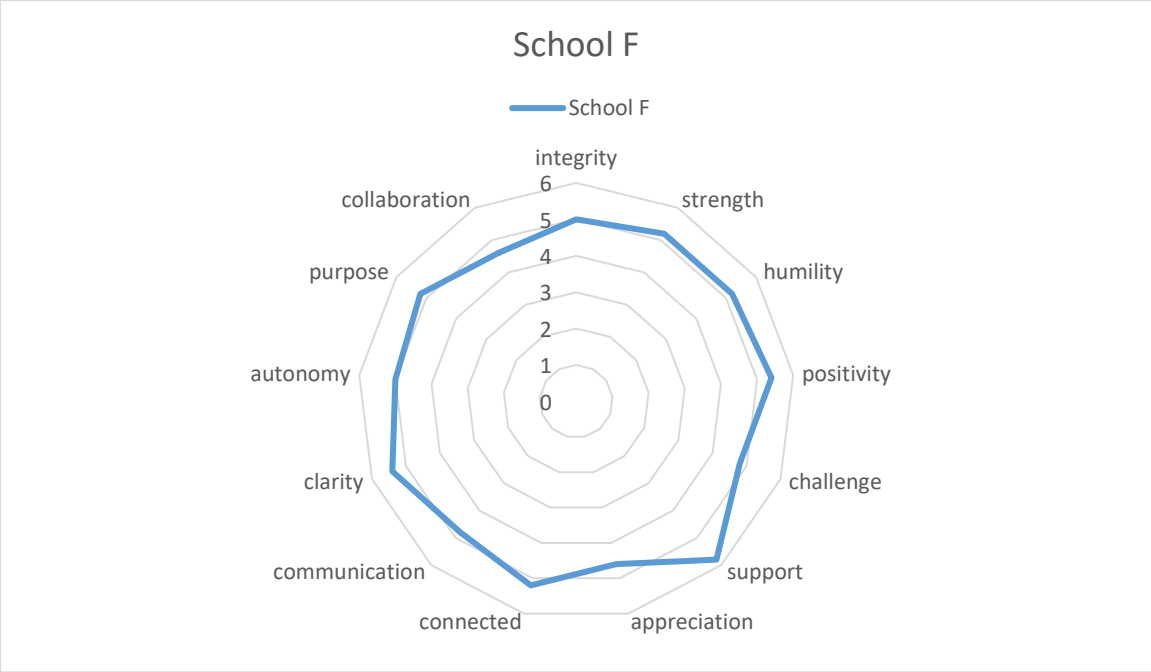

Figure 30: Survey, Q. 73-85, Staff reported principal behaviour in school F

Analysis: Staff in school F rated **support** as the most frequent behaviour practiced by their principal, with all other attributes reported as often or higher. Behaviours of appreciation and collaboration were reported as the lowest score in comparison, but were rated often, indicating that the principal displays these attributes often.

The following graph, Figure 31 shows what the school staff would like to see in their principal behaviour and was collected through the survey questions 1 -48. The data can be viewed in Appendix D, Table 89. School staff were asked “In regard to inspiring me to engage, it is important for a high school principal to:

1. Strongly disagree
2. Somewhat disagree
3. Disagree
4. Neither disagree nor agree
5. Agree
6. Somewhat agree
7. Strongly agree

SURVEY QUESTION

Part 1, Questions 1-48: “In regard to inspiring me to engage, it is important for a high school principal to:”

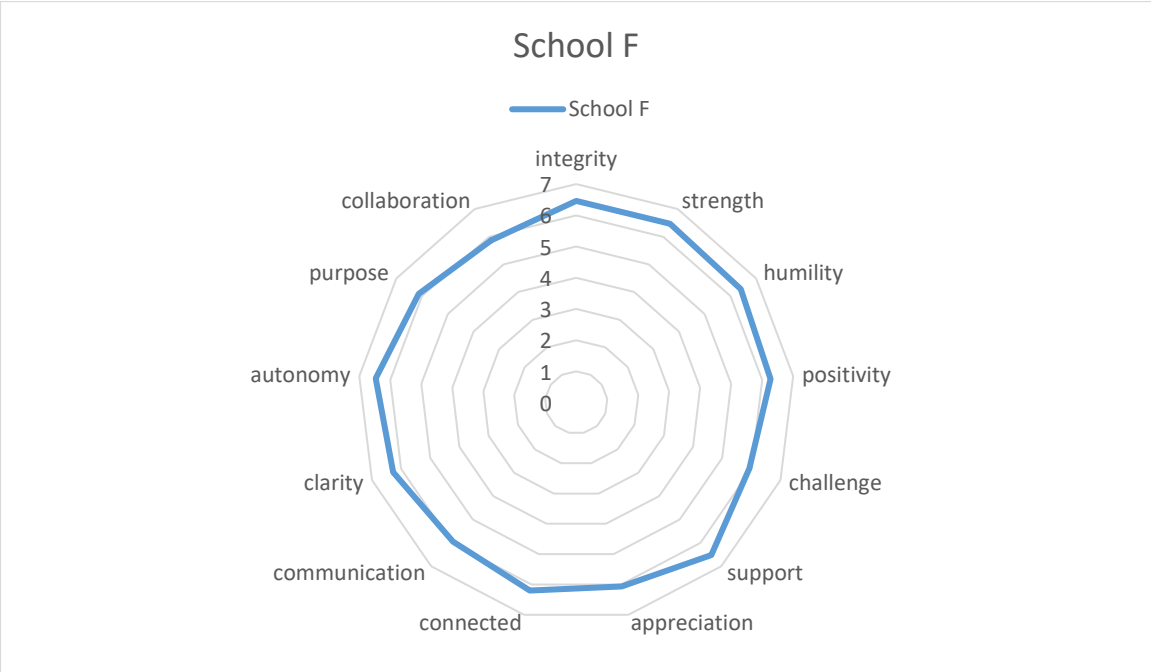

Figure 31: Survey, Q. 1-48, Staff reported importance of attributes at school F

Analysis: The staff reported **support** as important as indicated as slightly more highly rated in question 1-48 matching its importance in question 75-85, indicating that reality matches perception and expectations. Integrity, strength, humility and autonomy were indicated as the next staff expectation.

4.4.3.4 School F, Interview Results

The following Table 61 shows the number of times an attribute was reported in the interviews in school F

Table 61: School F interview results

Attributes	Staff
Integrity	18
Humility	14
Strength	25
Positivity	5
Clarity/certainty	9
Connectedness	23
Appreciation	16
Support	12
Collaboration	8
Challenge	16
Autonomy	2
Communication	10
Purpose	14

Analysis: Connectedness and strength were discussed more frequently than the other attributes in the staff interviews in school F. Autonomy behaviours was mentioned less than the other attributes. Purpose was mentioned twice as much compared to the other case study schools.

4.4.4 Case 4: School Blue

4.4.4.1 School B Artefact Results

School B has an enrolment of 733 students from year 7 to 12 and is an inner-city metropolitan area classified as a Band 10 school. It has one principal, three deputy principals, guidance officer, business service manager, 9 heads of department, 55 teachers and 25 support staff. This is the most current data at the time of research as shown in Table 62, informed by the annual school report. This principal has a Master of Business (MBA) and has a strong passion as a lifelong learner holding a number of community leadership positions beyond the school. The principal was promoted to a Band 11 Executive School, of over 1500 students a couple of months after the research period was complete. School B has the highest collective mean for staff morale.

Table 62: SAR School B

%	School staff response to annual survey by DOE
	Staff said they enjoyed working at the school.
	Staff felt they were well supported at the school.
	Staff feel this school is a safe place.
	Staff attendance rate.
	Staff morale mean

4.4.4.2 School B, Observation Results

I noticed as I observed them interacting with staff that they invested a lot of time in collaborating to solve problems together with their team members, with the purpose and goals being reinforced by the principal. There was strong evidence of challenging practices as she coached the team's capacity, but it was clear that the principal had given permission and encouragement to lead in their area. A strong sense of purpose and autonomy was evident, and this was reflected in the staff survey reports. Out of all the cases, there were less indicators of positivity as defined by this study, but that does not mean that the principal was not positive and according to the staff survey, positivity was quite a strong indicator of inspiration.

The principal in School B showed a number of leadership styles shown in Table 63, specifically Distributed Leadership, Emotional Leadership and Instructional Leadership. A coaching and mentoring approach was used regularly. Significant emotion was shown and expressed in phrases.

Table 63: Principal's leadership style

Leadership style	Evidence from data
Emotional leadership Inspirational leadership Neuroleadership	Oh painful. Appendix E, Observation, Line 28 Thank you Not many people can do that. Appendix E, Observation, Line 47 I get it too. So cool. Appendix E, Observation, Line 54 You rock. Appendix E, Observation, Line 56 You must have been disappointed. Appendix E, Observation, Line 62 Are you feeling excited? Appendix E, Observation, Line 75
Instructional leadership	Be mindful that… Appendix E, Observation, Line 6 Your key role here is… Appendix E, Observation, Line 35 It will be more successful if you keep.. Appendix E, Observation, Line 81 Let's go over the staff presentation. Appendix E, Observation, Line 84
Distributed leadership	How would you like to handle that? Appendix E, Observation, Line 13 I am not here to solve it for you. Appendix E, Observation, Line 44 I am happy to work with you, but your key role is to influence the group. Appendix E, Observation, Line 49

4.4.4.3 School B, Survey Results

The following spider graph, Figure 32 shows the results of the survey, questions 73 – 85 for School B. The data can be viewed in Appendix D, Table 93. The school staff were asked "In the last year, to what does your principal practice the factors of inspiration to influence?" The scale included:

1. Never
2. Once or twice
3. Sometimes
4. Don't know
5. Often
6. Weekly
7. Always

SURVEY QUESTION

Part D, Questions 73-85: In the last year, to what extent does your principal practice the factors of inspiration to influence?"

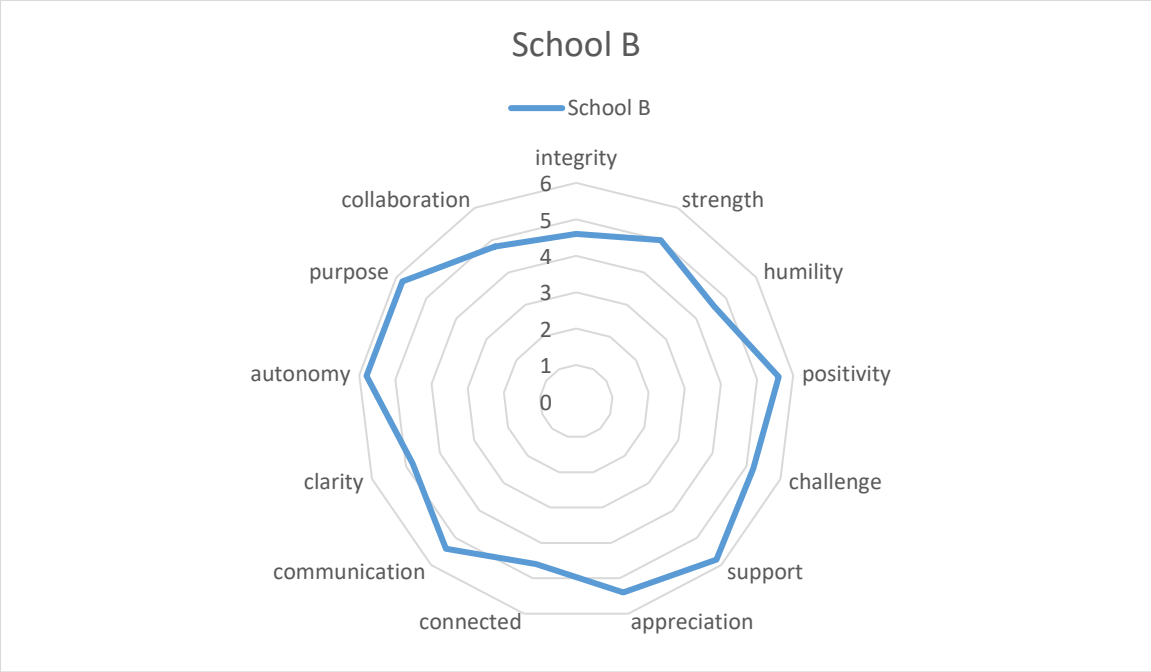

Figure 32: Survey, Q. 73-85, Staff reported principal behaviour in School B.

Analysis: The staff in School B reported that they had experienced a high level of purpose, autonomy, support, communication and positivity behaviours by their principal.

The following graph, Figure 33 shows what the school staff would like to see in their principal's behaviour and was collected through the survey questions 1 – 48. The data can be viewed in Appendix D, Table 89. School staff were asked "In regard to inspiring me to engage, it is important for a high school principal to:

- Strongly disagree
- Somewhat disagree
- Disagree
- Neither disagree nor agree
- Agree
- Somewhat agree
- Strongly agree

SURVEY QUESTION

Part 1, Questions 1-48: "In regard to inspiring me to engage, it is important for a high school principal to:"

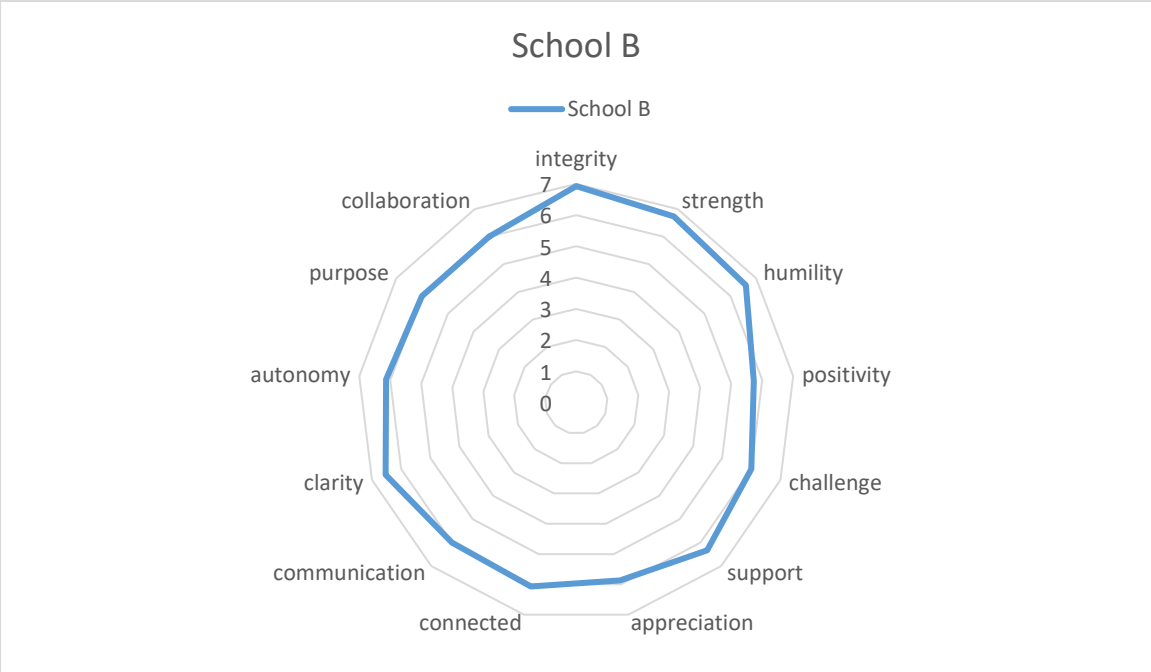

Figure 33: Survey, Q. 1-48, Staff reported importance of attributes in School B.

Analysis: Integrity, strength, clarity and humility were rated as very important to inspiring the school team in School B. There was a mismatch between what the school staff expected of the principal and what they reported as the principal's behaviours in the areas of integrity, humility and strength in School B. Having said that, the data results need to be analysed with perspective as all attributes have been reported as visible.

4.4.4.4 School B, Interview Results

The following Table 64 shows the number of times an attribute was reported in the interviews in School B

Table 64: School B interview results

Attributes	Staff
Integrity	23
Humility	12
Strength	11
Positivity	9
Clarity/certainty	4
Connectedness	16
Appreciation	8
Support	10
Collaboration	4
Challenge	7
Autonomy	2
Communication	7
Purpose	8

Analysis: Integrity behaviours by the principal were mentioned more frequently than the other attributes in School B. Autonomy was mentioned the least out of all the attributes.

4.5 Cross-case analysis

Merriam (2016), recommends a cross-case analysis, identifying similarities and differences between case study schools. The school's interview data when compared, displays little variance from school to school, in the matter of the number of times they discussed the attributes, with the following exceptions: School F showed that staff indicated the principal's behaviour reflected strength more frequently than the other three schools. School R showed that staff discussed principal behaviours reflecting challenge less frequently than the other three schools and school Y, showed that staff discussed principal behaviour reflecting communication more frequently than the other three schools. The data from this analysis can be viewed in Appendix D.

The following spider web graphs, Figures 34-37, indicates the expectations of staff regarding rank ordering how a high school principal can inspire them, according to Questions 60-72 on the survey. Specifically, the school staff were asked to **rank order** the 13 attributes according to their importance; 1 being the least important and 13 being the most important. As the survey participants were the same school staff that had been interviewed, they already viewed the attributes as being important, so it was a matter of attempting to prioritise them. It is also very important to note here that just because an attribute was listed last, did not mean it was not relevant as an inspirational factor, as the staff have already reported in the interviews and the other sections of the survey that all 13 attributes were important. The results are shown in Figures 34-37 and compared in Table 65, following the spider graphs. The data used to inform the graphs can be viewed in Appendix D, Table 90.

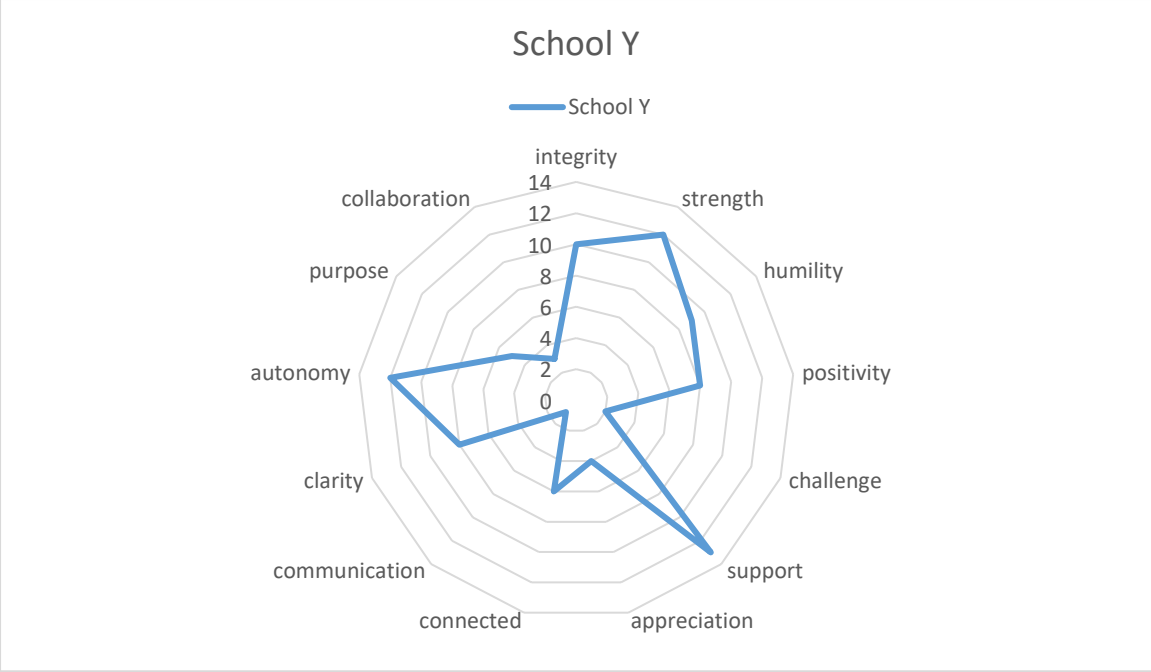

Figure 34: Rank order of attributes by staff for school Y

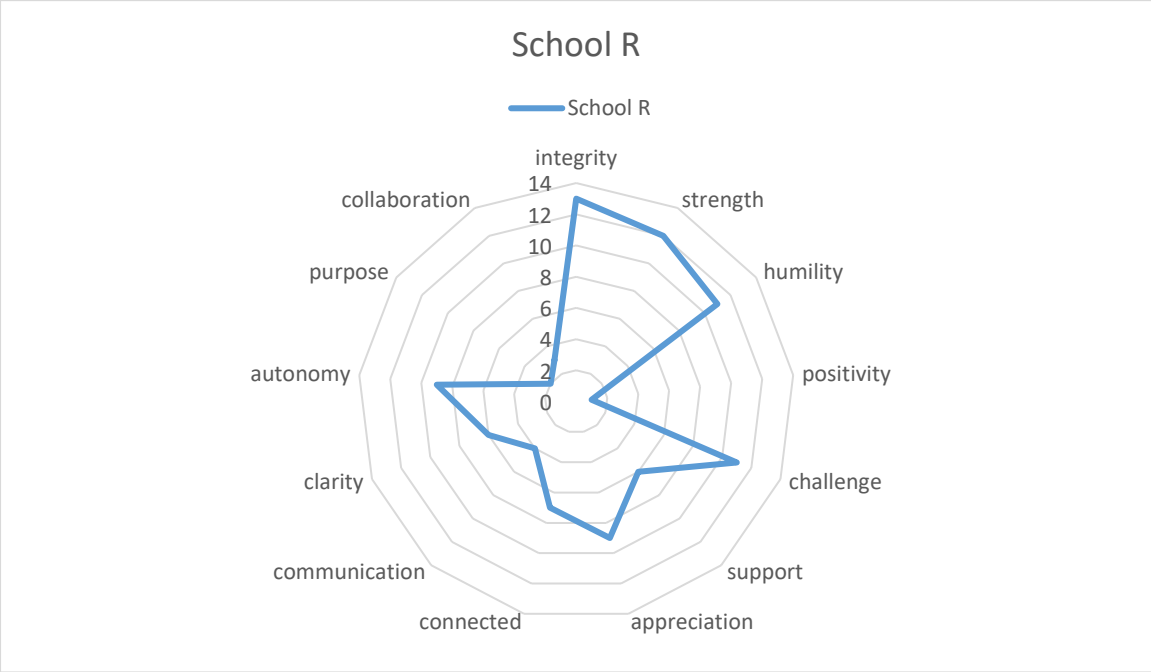

Figure 35: Rank order of attributes by staff for school R

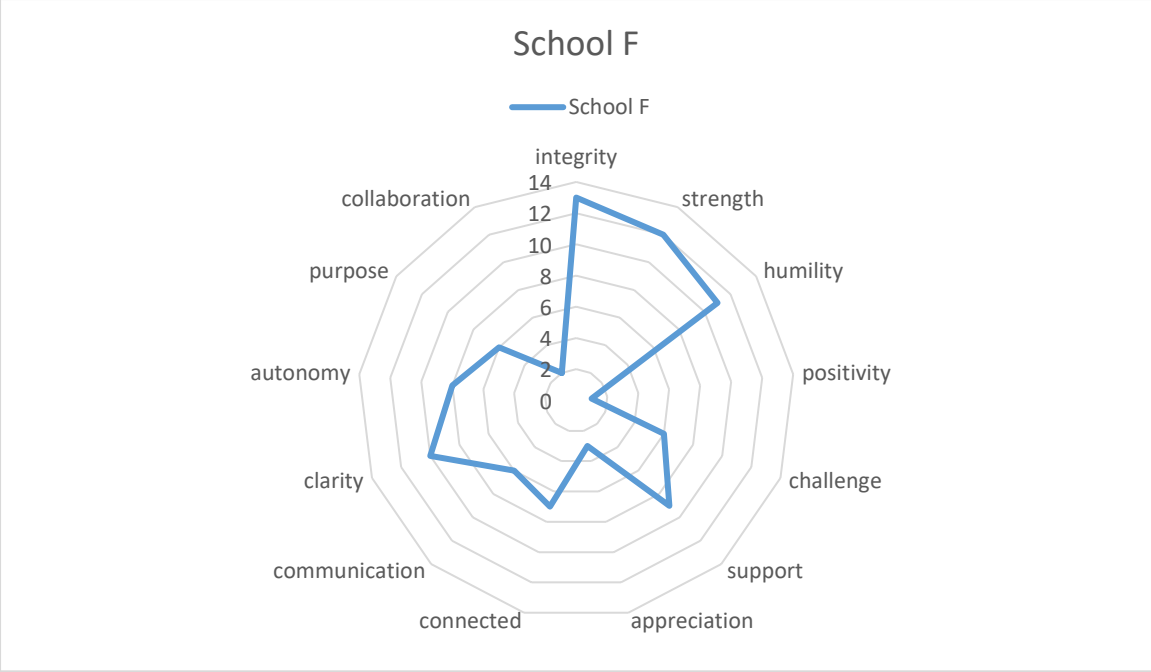

Figure 36: Rank order of attributes by staff for school F

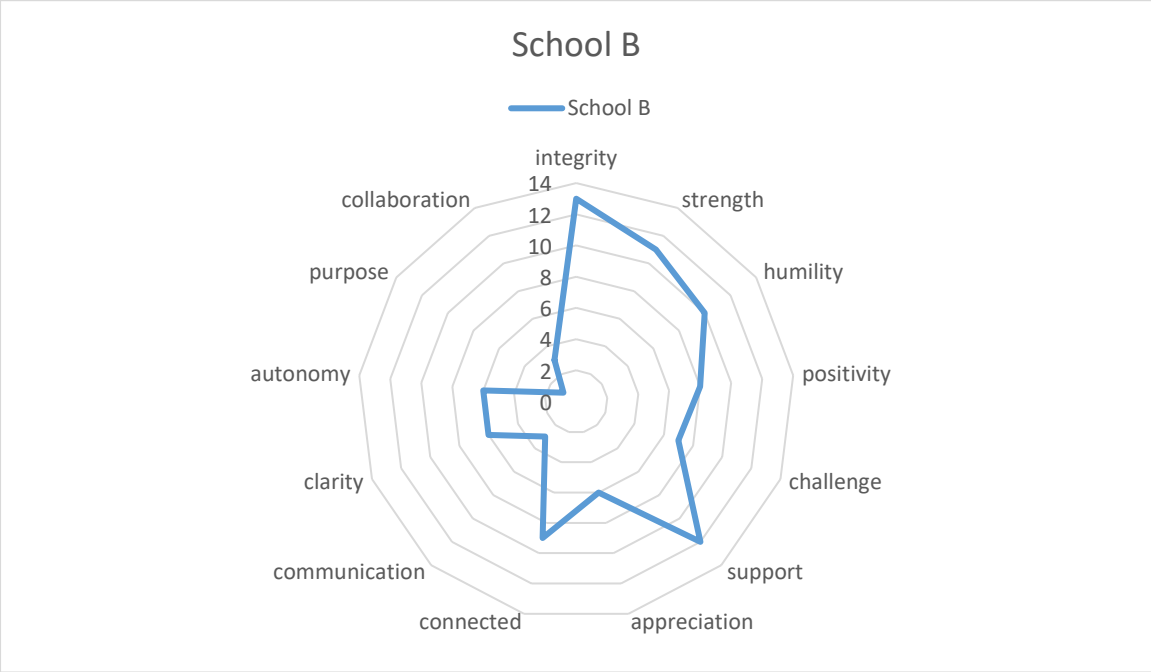

Figure 37: Rank order of attributes by staff for School B

Merriam (2016) highlights the importance of comparing case study data by examining similarities and differences. The spider graphs have been compared with similarities and differences shown in Table 65 below. The dominating pattern shows strong similarities from school to school regarding what school staff expect in how they desire a high school principal to inspire them. It is surprising how clear the pattern is, indicating that staff from metropolitan areas were similar to regional areas and regardless of having a different principal. The data pattern is so similar, it almost appears as if the results are from one team, not four different schools. The most marked similarity is that all school staff rate integrity, strength and humility as highly important as ways to inspire, which are all ways to build trust.

Table 65: Similarities and differences of school cases.

Similarities	Difference
The shape of the spider graph is very similar, in all four schools especially with strength, humility and integrity giving the graph a unique shape in the top right.	Appreciation is not consistent in all schools.
There is a spike in shape in the area of support in three schools.	Positivity is different in all schools.
A low purpose area in all four schools.	
Connectedness is similar in all four schools.	
Collaboration is low on all four schools.	

4.6 Comparing the different data sources

Merriam (2016) states that trustworthiness is strengthened through comparing data sources. An analysis of the combined data (across interview, survey, observation and artefact results) was analysed. The attributes are compared and shown in Table 66 below listed in regard to their perceived importance (1 being most important, 13 being important). The comparison of data needs a mindful approach as it is not comparing apples with apples, a feature of qualitative data, so the interpretation and implications need to reflect this.

Table 66 Triangulation of data

	A Interview **Principal** view	B Interview **Staff** view	C Staff Survey Q 1-42 Responded to questions	D Staff Survey Q 60-72 Ask to list by importance	E Staff Survey principal behaviour as **reported by staff**	F **Observation** of principal behaviour
1	Challenge	Connect	Integrity	Integrity	Positivity	Commun
2	Support	Integrity	Strength	Strength	Appreciation	Collab
3	Humility	Apprec	Humility	Clarity	Strength	Clarity
4	Integrity	Humility	Support	Humility	Autonomy	Appreciation
5	Positivity	Support	Clarity	Connected	Clarity	Challenge
6	Strength	Strength	Autonomy	Autonomy	Purpose	Strength
7	Apprec	Commun	Connect	Purpose	Collab	Humility
8	Connect	Challenge	Challenge	Positivity	Support	Connected
9	Commun	Positivity	Appreciation	Support	Humility	Support
10	Clarity	Collab	Commun	Commun	Connected	Positivity
11	Purpose	Clarity	Positivity	Challenge	Integrity	Autonomy
12	Autonomy	Purpose	Collab	Appreciation	Commun	Integrity
13	Collab	Autonomy	Purpose	Collab	Challenge	Purpose

Column A data was collated from the interviews and represents the frequency of codes for that attribute, meaning the higher the rank, the more times the principal talked about the importance of that particular attribute in their interview responses. The principals reported that challenging their staff was the highest inspirational approach. Challenge involved coaching questions to build capacity, providing opportunities for growth, mentorship and accountability. A close second was the importance of supporting staff, which would indicate that **principals feel that a balance of support and challenge** are an important part of how they inspire their staff to engage.

Column B in Table 66 was collected using the interview data from school staff only (not principals). It is also ranked attributes according to the frequency of that topic in the interview responses. School staff reported that they are inspired by a principal when they experience connectedness as their most important attribute. Connectedness involves feeling a warmth; a principal who puts the human first and seeks to get to know the person behind the role, as well as a feeling of rapport and sense of belonging. It is indicative of a principal that cares about them and is responsive to their needs. A close second was the importance of integrity as reported by staff. This would indicate that **staff feel that integrity and connectedness** is how they desire to be inspired to engage.

Figure 38 shows the comparison between the school staff and the school principal's interview data in a spider map, the blue line representing principals and the orange line representing staff. The data can be viewed in Appendix D.

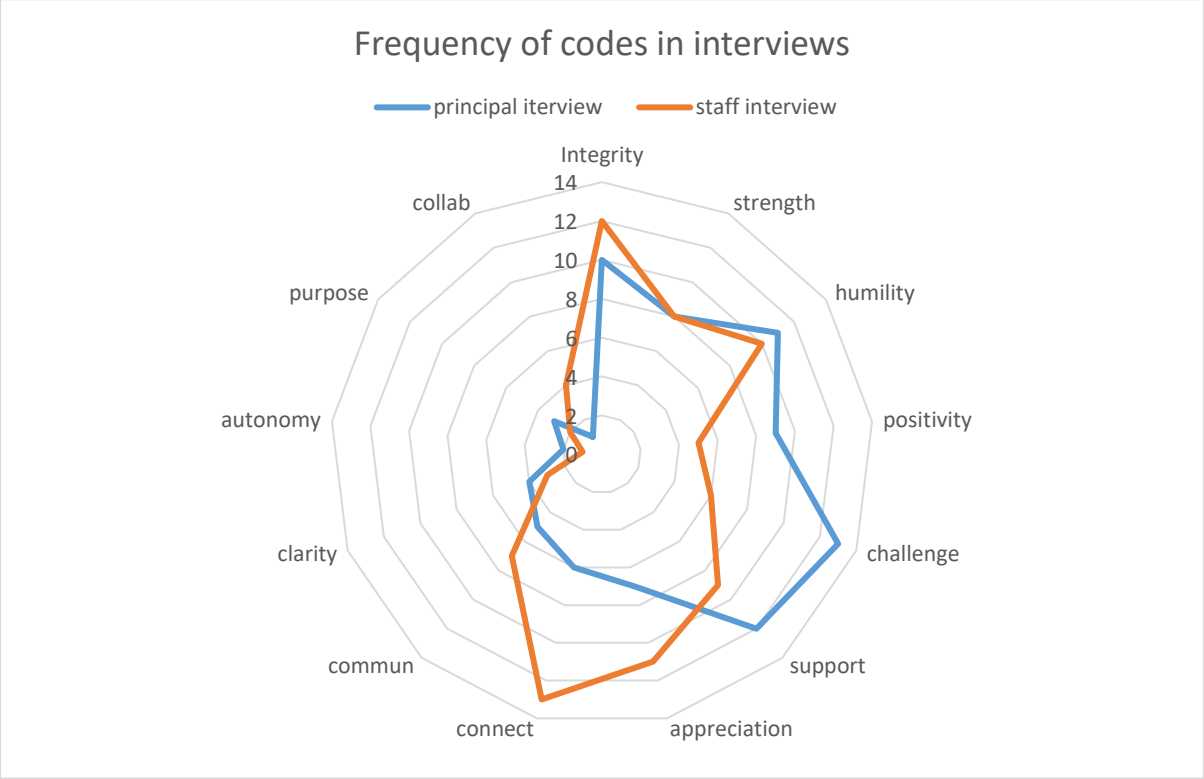

Figure 38: Comparing principal and staff interview responses

Analysis: Figure 38 shows a clear difference between the interview responses of the principal shown with the blue line and the school staff response shown in the orange line above. Clearly, staff place a high value on connecting with the principal and the principals place more value on challenging their staff. However, clarity, autonomy, purpose, collaboration, integrity, strength and humility are remarkably similar.

Column C in Table 66 is a coalition of the data from the survey Part A Questions 1-42 (not including Questions 5, 10, 15, 20, 25, 30, 35, 40, 45). Staff were asked three questions about each attribute and scored the attribute to according to how important the attribute sub-factor was to them. These were calculated using means and is shown in the blue line in figure 41 below. The findings showed that **integrity was the most significant, followed by strength.** This means that school staff feel inspired when the principal is fair, respectful and honest and is a role model who can build trust. In the staff's view, strength meant a principal who is competent (highly masterful), tough-minded, calm under pressure, wise, can hold standards and set the tone. The data that informed this graph can be viewed in Appendix D.

Column D in Table 66 above data was taken from the survey part D, Questions 60-72, show below as the orange line. School staff were asked directly to list the 13 attributes in order of importance to them**. Integrity and strength were again at the top of their priorities**.

A comparison can be seen in Figure 39 below in the form of a spider map. The data that informed this graph can be viewed in Appendix D. The close similarity of the data would suggest a consistency of staff reports in the survey from one section to another.

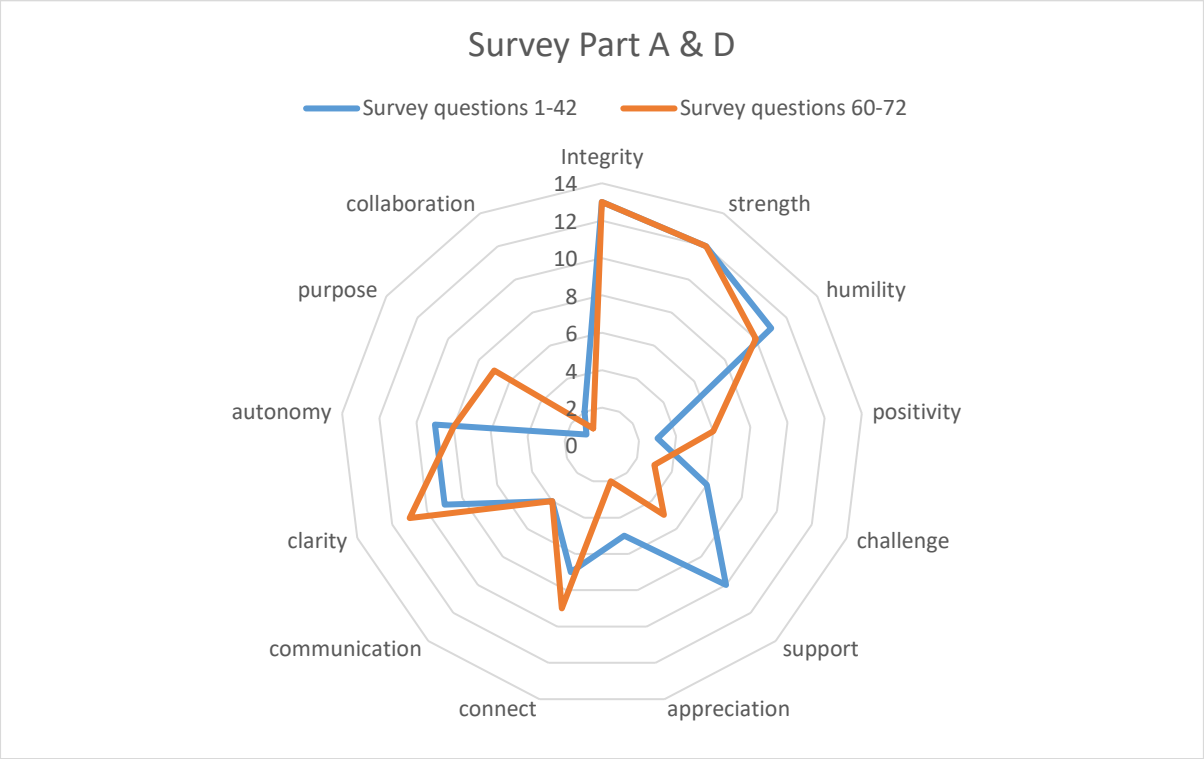

Figure 39: Survey questions compared to survey rank order

Column E in Table 66 above was collated from the survey. School staff were asked to what extent they experienced and observed their principal practising the attributes, such as, in their behaviour or words. **Positivity was reported as the most frequent behaviour they witnessed** in their day to day interaction with the principal. By positivity, they considered hopeful language, growth mindset, enthusiasm, humour and celebrating success together. Appreciation and strength were reported as second and third respectively. Appreciation related to how a principal noticing and praising what and how the work was being done, and saying thank you.

Column F in Table 66 above displays the data collated from the observation of principals by the researcher as they interacted with their staff for ten hours. This data needs to be carefully considered as although integrity rated quite low, I witnessed evidence of the principal's integrity such as being respectful and honest. It is a value, not a behaviour so is very difficult to capture in the data by observation alone. Additionally, communication rated at the top, as I was observing a principal communicating with his or her staff either listening, advising, giving and seeking feedback, or speaking. However, the next most observed behaviours in reference to the attributes were collaboration, clarity, appreciation and challenge. A comparison of the observation data with this survey data can be viewed in Figure 40 below.

An analysis of the data in Figure 40, would at first appear that there was not a tight correlation between what staff look for in their principals and what principals' behaviour shows, however I would argue that given the collective data shows that school high school principals do practice the thirteen attributes. It would take much more than ten hours to capture evidence of all the attributes. The ten hours represented one school day for a high school principal in a large school.

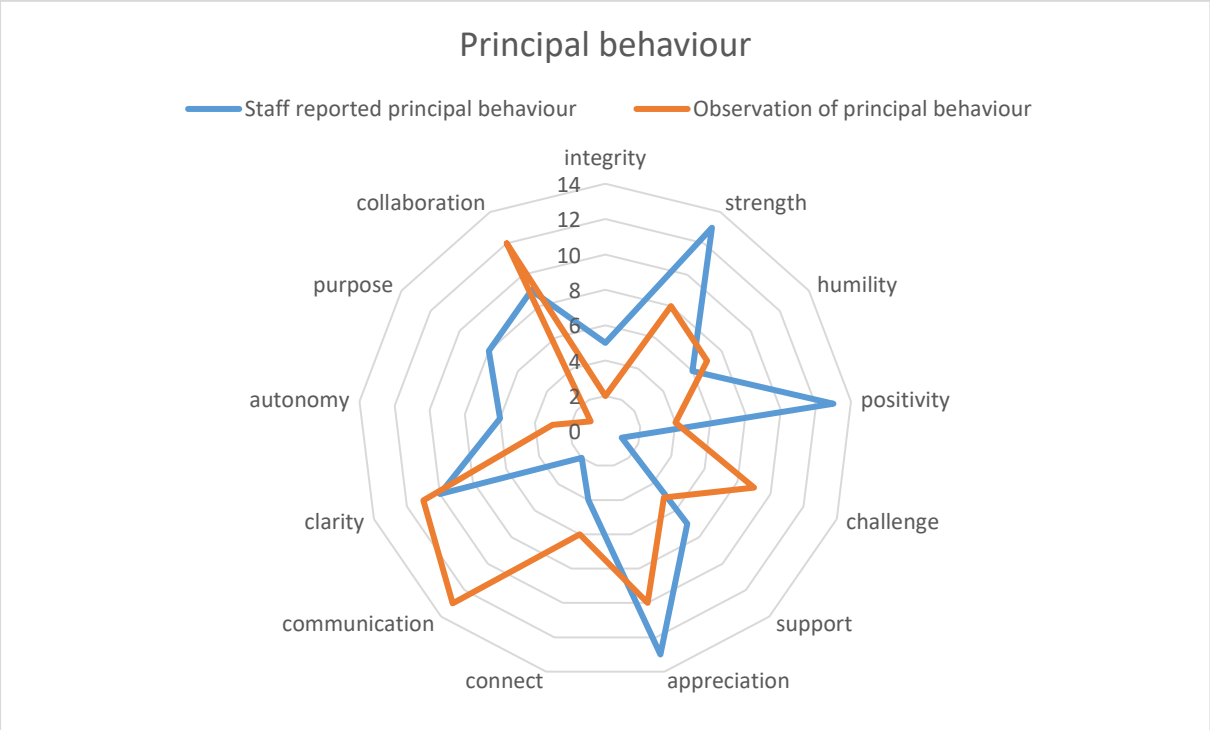

Figure 40: Principal behaviour by observation and principal behaviour by survey as reported by staff

4.6.1 Comparing schools in regard to principal observation

There were three findings common across each case. All four high school principals invested significant time during the day in **active listening** and asking **open-ended coaching questions**. All four principals showed evidence of the **13 attributes** in their behaviour. The following Table 66 shows data from the observation period and can be viewed in detail in Appendix E.

As mentioned earlier, the four principals were observed for ten hours each. The days were different based on what was happening in the different schools at the time, but each principal chaired an executive leadership meeting (heads of departments and deputy principals) at some point throughout the day. Notes were recorded manually, so it was less intrusive and only the principal's behaviours were captured, in the form of a table showing purpose of staff interaction and examples of phases. The scrips were analysed according to the following protocol and results shown in Table 67.

Gaba & Lincoln (1981) suggest four coding guidelines for determining what to record to answer the research question and develop categories for qualitative data. These guidelines are:

1. Number of participants who mention something;
2. Frequency in which the data appears, indicating its importance;
3. Unique concept that stand out; and
4. Concepts that reveal areas of inquiry to leverage common problems (Merriam, 2016, p. 215)

Before the first observation session, I planned to record at least the purpose of the principal's behaviours and words as they interacted with their staff team members. For the first observation session, my notes were broad, recording as much as I could. As the observation notes emerged, they revealed unique concepts such as the use of pronouns and strategic phrases used by the principal. Meaning, I found that I could see other patterns in addition to the purpose of the principal's actions and words. It wasn't until after all the observation notes were complete that I could make sense out of the data regarding what had potential to deepen insights around the research questions. Merriam (2016) indicates that qualitative data collection and analysis is best carried out together and as patterns emerge the researcher can fine tune and narrow down categories, adjust assumptions and insights. The observation data was analysed and compared using a protocol outlined below. The following protocol for analysis therefore evolved as I collected and analysed the observation data.

Protocol for analysis:

- Identify evidence of attribute behaviours over the whole day (13 attributes);
- Are the pronouns 'we' or 'our' used by the principal and are there any patterns in the language of the principal that may contribute to building trust, rapport and growth/purpose (3 themes) as represented in the conceptual framework; and
- At the leadership meeting, over one and half hours, determine the ratio of questions to statements made by the principal.

Table 67: Observation data cross-case analysis

Case	Q v S	Collective pronouns	Evidence of the 13 attributes	Patterns in language
Y	1-4	Yes	Use of humour was high Strength was low Checking in behaviour was very high	Check in meeting protocols Restating/paraphrasing Non-judgemental language Open ended coaching questions Active listening
R	1-3	Yes	Positivity was high Clear expectations were very high Collaboration was high	Priming for importance Checking for understanding Clear expectations and clarity Perspective statements Story telling about success Justifying statements Open ended coaching questions Active listening
F	1-4	Yes	Slightly more connecting behaviours Strength was very high	Metaphoric phrases Shared thinking Wise council Permissions Anchoring into a place of certainty Open ended coaching questions Active listening.
B	1-2.5	Yes	Challenge behaviour was very high	Shared thinking Wise council Upholding standards Perspective statements Anchoring into a place of certainty Permissions Empathic enquiry Open ended coaching questions Active listening

The patterns in the language used by principals shows a number of repeated strategic phrases such as permissions, priming, metaphoric language and open-ended coaching questions.

4.7 Observations from comparing data

The principal rated challenge as their number one priority for inspiring school, staff and I did observe all four principals, challenging their staff in a variety of ways as they interacted with staff. However, when the school staff were asked what evidence did they see in their principal's behaviour, they listed challenge last. This is interesting and calls for further study and will be considered further in the discussion chapter.

Integrity, strength, connectedness and humility are generally the strongest pattern revealed from the collective data indicating that these attributes are highly valued and practiced. Purpose is roughly the lowest rated and practiced attribute. Purpose is about explaining the why, communicating a clear vision, showing the how (road map) and ensuring the team is working on what matters. This does not mean that purpose is not considered important to inspiring staff. It means that it isn't always discussed in the day-to-day conversations as readily as some other attributes.

The School Annual Report (SAR) showed that all four schools have very high levels of staff morale, considering the large size of all schools. This is not surprising, as all four principals were chosen because they were competent and had a proven history of successful leadership. A comparison of the SAR data showed that school Y had the lowest data by a fair margin. This shows that the wider school staff at the school do not feel as positive working at the school as the staff from the other three schools. The SAR is a government survey that does not always show the real picture and can be distorted by several variables.

However, it can be seen from Figure 41 below that all four schools are reasonably closely aligned in the way they have expressed the importance of the 13 attributes, with no indication of a significantly low rating. The data used in this particular comparison is drawn from Questions 73-85 on the survey, mapping what staff reported as observed in the evidence of their principal's behaviour. This data is important to consider because a principal can say they do something or think they do something, but unless their team observe them doing it, there will be a mismatch of intention and action of the principals with the potential to erode trust. Given the scale of, 3 being sometimes, 5 being often, 6 being weekly and 7 being always, staff in all four schools reported attribute behaviours mostly, as often or greater. The data which informed the spider graph in Figure 41 can be viewed in Appendix D.

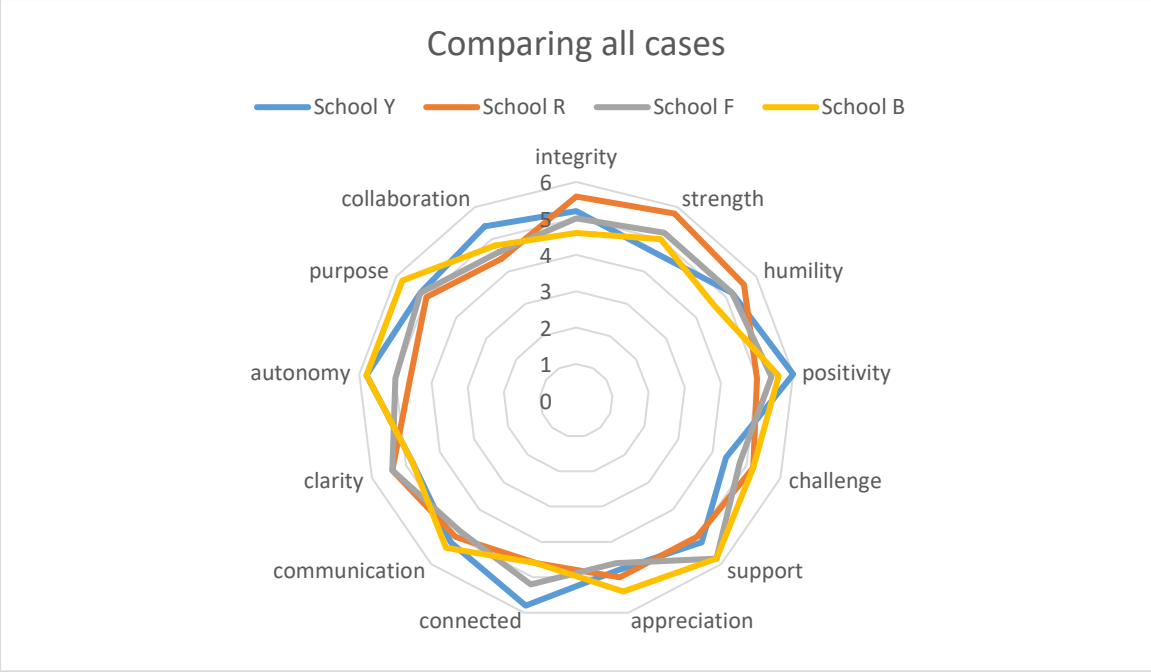

Figure 41: Comparing the four cases

4.8 Chapter summary

Chapter 4 related the findings of the interviews revealing thirteen leadership attributes that principals use to inspire their team members. Teachers reported that they looked to a principal to build trust by showing evidence in their behaviours indicating integrity, strength, clarity and humility as the most reported attributes. The survey data confirmed that teachers across the four schools found each attribute to be important to inspirational leadership. There was consistency in how the school staff viewed evidence of their principal's behaviour in terms of showing the thirteen attributes in their day-to-day interactions at school. The observation data showed that principals invest significant time in active listening and coaching staff to build their capacity and balance the level of support with the level of challenge. A general pattern was evident across all case studies that principals inspire by building trust, establishing rapport, growing staff and clarifying purpose.

Chapter 5. Discussion

5.1 Chapter introduction

Chapter 4 showed the findings of the research. Data analysis showed that there was a consistent message across schools, as all participates reported the importance of thirteen leadership attributes and also stated that they saw evidence of the attributes in their principal's behaviour. The key results overall, combining all data collection methods, showed that **connectedness, integrity, humility and strength** were the most important leadership attributes of a high school principal in regard to inspiring school teams, although **all 13 attributes are deemed essential as a set.** The key difference between the principal's perspective and the school team perspective, was the belief that a key way to inspire staff was through challenge, highlighting the principal's role in building the capacity of their teams. Conversely, the staff reported the way to inspire them was through integrity, connectedness, strength, clarity, humility and appreciation, all factors involved in building trust and rapport. This chapter reflects on what the results mean, links the findings back to the aims of the research and compares the research data with the literature review. It also demonstrates how the findings align with the conceptual framework, discussing the practical and theoretical implications and making recommendations for future study. Importantly, it also explains how this thesis has added new knowledge to the body of literature.

5.2 Interpretation of findings

Leaders know how important it is to inspire their teams. "Yet we respond to others in accordance with an elaborate and secret code that is written nowhere, known by none and understood by all." Sapir and Mandelbaum, (1985).

The overall aim of this research was to examine insights from neuroscience and psychology to reveal ways high school principals can better understand and strengthen their leadership influence to inspire. The research revealed thirteen crucial attributes of a principal's leadership that school staff reported as essential to inspiring them to engage and cooperate. All thirteen attributes were evident in the principal's behaviour as shown in the observation data and reported by the school staff in the survey. The four principals in the case study showed different strengths of each attribute, indicating that a principal does not have to be masterful in all 13 to have a positive impact on inspiration. Correspondingly, as discussed earlier in the literature review, Horwitch and Chipple-Callahan, (2016) found in their study that

leaders only required strengths in a few attributes to gain some ground in inspiring others through their leadership, meaning one leader did not have to be perfect with a complete set of attribute strengths.

Further, this thesis explored if there was a link between an understanding of the brain and a principal's leadership attributes shown to inspire. A **clear link and alignment with the attributes and the three processes of the brain highlighted in the conceptual framework was evident**, shown in Table 68. Merriam, (2016. p. 189) talks about theorising, or drawing a simple table as defined by identifying a link between the categories to connect conceptual elements in some meaningful way. She suggests thinking about how the categories work together to capture the interaction or relatedness of the findings. The interrelated and sequential nature of the survival brain, the social brain and the thinking brain illustrated that trust, rapport and growth/purpose, respectively, was central to human interaction to inspire. Thus, the thirteen attributes can be categorised and aligned into the three corresponding brain functions shown in Table 68.

Table 68: Conceptual framework alignment with research data findings

The three brains	Neuroscience themes	Attribute
The emotional brain The brain stem	TRUST We are hardwired to detect threat. All these attributes build trust.	Integrity
		Humility
		Strength
		Clarity and certainty
		Positivity
The social brain The limbic system	RAPPORT The brain evolved to operate and belong to a social group. All these attributes build rapport.	Connectedness
		Support
		Appreciation
		Collaboration
The thinking brain. The prefrontal cortex.	GROWTH Humans have an innate desire to learn and achieve. All these attributes are focused on learning and achievement.	Purpose
		Challenge
		Autonomy
		Communication

The third aim was to explore if neurologically based interventions can be considered to enhance behaviour associated with inspirational leadership. There were two specific interventions that arose in this study, based on a neuroscience lens, that are useful for building leadership capacity. One includes using the 13 attributes as a reflective tool for principals to identify their strengths and areas of development, and the other intervention is the raising profile of brain-based executive coaching model to build the capacity of leadership teams. Both will be explained later in this discussion. Leadership interventions, such as these, align

with how the brain operates and their effectiveness can be explained somewhat with a neuroscience lens.

The interview evidence indicated that school staff have set the bar high with very high expectations of a principal's leadership behaviours to inspire. Collectively, school staff are looking for a principal's leadership to:

1. **Inspire trust**: Setting the tone and standards, clarifying roles, providing clear expectations, being consistent, being calm and composed, taking ownership of their behaviour, being able to have the tough conversations, being highly competent and showing enthusiasm and hope.

2. **Establish rapport**: Showing warmth, building relationships, being responsive to other's people's needs, turning up, checking in with others, getting to know the team beyond their roles, supporting others, showing appreciation, building collaboration, inspire collective buy in, seeking views and ideas from others and building shared understanding,

3. **Ensure growth**: Keeping others accountable, growing other leaders, providing learning opportunities, being a compelling communicator, seeking and giving feedback, having a clear vision, aligning roles with purpose, allowing others some sense of autonomy and executing a strategic plan.

As most of these behaviours are human in nature and rely on the principal to tap into the social values and emotional needs of team members, inspirational leadership is challenging work. Considering every individual in the team has their own agendas, fears, values and passions, the principal will have varied success over time as they attempt to build trust and rapport with every team member to maximise their inspiration levels.

In summary, the three key research questions for this thesis have been answered as follows:

Question 1 (The how): 'How does a high school principal's leadership impact on staff reported inspiration perceived by their teams?" The principals' behaviour through their words, actions, emotions, values and artefacts impacts on the self-reported perceived inspiration levels of staff, indicating that this is more about the human element and less about the leadership styles. There are several sub-factors that are associated with inspirational leadership behaviours.

Question 2 (The what): "What are the attributes of a principal's inspirational leadership as perceived by the team?" There are 13 leadership attributes.

Question 3 (The why): “What can neuroscience offer to best understand a principal’s inspirational leadership behaviour?” Thinking and emotion cannot be separated, so the way we feel about someone will affect our willingness to engage. Our brain’s response to social interaction is integrated and sequential, associated with the three brain concept. Principals can maximise the impact of their inspirational leadership if they build trust, establish rapport for growth. To maximise positive performance, a principal needs to be able to override their instinctive bias and emotion in order to remain composed and calm for rational decision making. Thus, an understanding of the brain elucidates why.

5.2.1 Link to the conceptual framework: Trust, rapport and growth/purpose

As stated earlier in Table 68, the attributes under each theme contribute in some way to build trust, rapport and growth. The next section explains why and how each attribute has been linked to one of the three brain functions. First, the attributes of integrity, humility, strength, clarity/certainty and positivity minimise threat and build trust. Second, connectedness, collaboration, appreciation and support are attributes that contribute to establishing relationships and build rapport. Third, challenge, communication, autonomy and purpose in their nature all contribute to learning and achievement in some way and are related to growth.

As illustrated in the conceptual framework for this thesis, three brain processes, metaphorically speaking, are interrelated and sequential. It could be inferred that to inspire a team during personal interaction, a principal needs to first calm the brain stem to minimise threat and build trust; connect with the limbic system through emotion to build rapport, to access the prefrontal cortex to inspire to elicit cooperation and engagement (Gordon, 2008; Immoralino-Yang, 2008; Perry, 2016). A closer look at each of the themes and their corresponding attributes provides clarity around the interpretation of the findings.

5.2.2 The theme of TRUST

First, **the theme of trust** was mentioned 26 times in the interview data. It is well established in the literature review that effective leadership is grounded in the ability for the leader to build trust (Brown, 1991; Covey, 2006; Kruger, et al., 2007; Willink & Babin, 2017). In a Gallup survey, 2018 (cited in Wang, 2020), trust was the number one factor that inspired employee engagement. Trust can be measured by five dimensions of benevolence, reliability,

competence, honesty and openness (Tschannen-Morgan & Hoy, 2000) supporting the findings of this thesis in that competence is part of strength, benevolence and openness are part of humility, reliability and honesty are part of integrity. Distrust is the default of the lower, more primitive areas of the brain (Rock, 2010) so trust needs to be earned by a leader. Dimoka's (2010) found support for Rock's claim, using fMRI techniques and stated that trust and distrust are different brain regions and have different neurological processes and pathways, so neuroscientists can assess when a person is feeling trust or distrust. Additionally, Barraza and Zak, (2009), found that higher levels of oxytocin levels can be associated with high levels of trust, empathy and generosity, showing that there is a very different chemical mix released in the brain when one is feeling trust and one is feeling distrust.

Building high-performance teams in schools is first about creating a climate of trust. Until a high level of trust and credibility of the leader is established, all other progress will be difficult as this is the foundation of all productivity (Covey, 2006; Rock, 2008). The team needs to believe in the leader before they will believe in his or her ideas. Kouzes and Posner (1990) agree and states that integrity, humility, strength and positivity build trust because these characteristics are the basis of what social scientists and communications experts refer to as credibility. In the next section, the attributes which emerged under the Trust category for this study are discussed to illustrate how they in some way build trust between the principal and the school staff member.

5.2.2.1 Why strength can build trust

Strength is the first attribute that will be discussed. The relationship between strength and leadership has been discussed in the literature review, with 17 studies across industries identifying strengths as a leadership attribute (Refer Chapter 2.4, Table 3). Teachers who view their principal as a strong leader have been linked to more school success (Berends, Bodilly, & Kirby, 2002; Fullan, 2007). People respect a leader who is strong and has a voice and stands up for their beliefs (Kouzes & Posner, 1990). One key component of strength revealed in the interviews which rated the highest was competence, mentioned 13 times. Teachers reported that it was important for them to know the principal had a firm grasp on the expertise associated with their role. Kouzes and Posner (1990) support this view and found that the leadership attribute chosen the second most important in their study, was competence. Teams need to see that the boss is capable and effective in executing results and has a winning track record (Kouzes & Posner, 1990). In Western culture, people tend to be inspired by people who take a stand and don't follow people who lack confidence in their own decisions (Kouzes & Posner, 1990). This strength of character needs to be balanced with being open and curious;

otherwise it might be perceived to be rigid, arrogant or inflexible. In a school setting, a principal requires strength of character to set standards and the tone of a workplace culture. They must be able to be comfortable with discomfort and put courage over comfort and be able to have hard conversations and say what needs to be said even when it is not popular. Willink and Babin, (2017, p54) maintained that if the leader accepts "substandard performance without consequences" where no one is held accountable, that poor performance becomes the new standard.

Other behaviours reported by teachers in the interviews that inspired them in the area of strength was tough mindedness, visibility, persuasive influence, holding standards, self-discipline, ownership, a strong work ethic, calm composure at all times and a risk taker. Teachers reported the above factors reflective of strength 44 times across-case study schools, making strength one of the most frequent attributes in the study.

In the interviews when school staff were asked what was it in a principal's behaviour that made them feel uninspired after a personal interaction, several reasons lay within category of Strength; being incompetent, ill-prepared and avoiding conflict as well as the inability to have the hard conversations to set the tone and raise standards.

Quotes from the interview data that capture the central meaning of the attribute **STRENGTH** are shown in Table 69:

STRENGTH

"The [hard] issues are dealt with and not swept under the carpet."

Interview 20

Table 69: Quotes reflecting strength

Quote	Interview	Code	Sub-factor
"A leader is courageous."	21	415	Courage
A leader needs a good track record.	5	581	Competence
Competence and intelligence in order to have credibility.	17	330	Competence
A strong positional voice	1	72	Standards
I can be very loyal to a principal if I can see their competence and wisdom	17	334	Wise
Be proud of yourself so others feel your success	19	445	Confidence

5.2.2.2 Why integrity builds trust

Integrity has also been well documented in the literature review to be an essential attribute (as shown in Chapter 2.5.4) for inspirational leadership, finding 18 studies across industry (refer to Chapter 2.4, Table 3). It was not surprising then that teachers reported integrity as the number one attribute in the survey and second most important in the interviews with 66 mentions. Principals who embody strong boundaries around honesty, fairness, respect and credibility were the top response within the category of Integrity as reported by the case study teachers. Kouzes and Posner also highlighted honesty, (1990) in their study; selected more often than any other leadership characteristic as important to a team's expectations of a leader. This is not surprising as teams look to the leader to be truthful, ethical and trustworthy. The case study, participants commented that it was the leader's behaviours that provided evidence of integrity as teams judge leaders by their deeds (Kouzes & Posner, 1990). Kouzes and Posner's study mirrored many of the words that the teachers stated in their interviews to describe how they judge integrity including consistency, strong boundaries around values and beliefs and being unbiased. Inspiring leaders are role models of what they want to see in their team who look to that leader for clues on how to behave and is willing to take the more difficult path of what is right, fair, good and true (Day, 2015; Kouzes & Posner, 1990; Tabibnia & Lieberman, 2007; Xu & Cooper Thomas, 2011) despite the alternative easy pathways that may be more popular.

During the interviews when school staff were asked what was in a principal's behaviour that made them feel uninspired after a personal interaction, several reasons lie within the category of Integrity; gossiping about team members, disrespect and confrontational behaviour.

Quotes from the interview data that captures the central meaning of the attribute **INTEGRITY** are shown in Table 70**:**

INTEGRITY

"The [good] relationships he had with the team were quite significant because he held credibility."

Interview 20

Table 70: Quotes reflecting integrity

Quote	Interview	Code	Sub fact
If I want my people to come along with me, I have to be willing to lead them in a way that reflects what I want from them	8	654	Role model
They have clear boundaries.	1	66	Boundaries
People don't see the leader there just because they have a title. It is an active role. Leadership is attitude. They set the tone and they need to model it. If they are late, that gives others permission to be late. A leader has to lead in a way that reflects what they want from their team. Why would people want to work for you if all you do is degrade them or why would they want to give you their best if you're not giving yours.	8	653	Role modelling
If you want people to be positive. If you want people to be enthusiastic. I have to be.	22	252	Role modelling
There was honesty and trust.	20	293	Honesty
I took from that she thought she could tell me.	7	88	Trust
No back door conversations	2	155	Not gossiping

5.2.2.3 Why humility builds trust

Humility is an essential attribute of a leader's ability to inspire as reflected by the research data and the literature review, identified in 10 studies across industry (refer to Chapter 2.5.4 and Chapter 2.4, Table 3). School staff mentioned the category of Humility in the interviews 48 times. Being humble indicates to others that you are approachable, curious and willing to be vulnerable (Brown, 2018; Chamorro-Premuzic, 2020). The sub-factors in this category centre around being approachable, humble, able to take their ego out, vulnerability and curiosity. The most frequent coding in this category reported by teachers was they were inspired by a principal who was approachable and was willing to be vulnerable. Professor Brene Brown of the University of Houston life's work and research has been in the area of courage, vulnerability, shame and empathy, arguing that an effective leader needs to be willing to be vulnerable, imploring that vulnerability is central to being humble. Another important part of humility is being curious and open to learning. School principals need to be flexible, approachable and be prepared to change their views as they seek their team's views, new ideas are proposed and debated and counter evidence is presented (Robinson et al., 2008). Approachability is not just about being available, but it is also about making others feeling comfortable to approach the boss, especially when there are disagreements. Leaders don't always understand "the weight of their position" so team members may not feel comfortable questioning their leader (Willink & Babin, 2017, p. 81). In the team's mind, the leader is

experienced, smart and powerful, so team members may consider it disrespectful or disloyal to disagree with them (Willink & Babin, 2017). Therefore, a leader needs to be humble enough to encourage the team's input. An inspirational leader is not intimidated when they are outshone by a team member or when a team member knows more about something than they do (Willink & Babin, 2017). Thus, a strong school principal is comfortable drawing on the collective expertise of their team and allows others to lead with appropriate.

Major General Stephen Day, (2021) emphases in his leadership speeches that humility is an important attribute for leadership. In his article 'Lessons From the Front Line' he provides examples from his deep lived experience while leading under fire. Day is a highly decorated two-star general who has been a government adviser on leadership and cybersecurity after four decades in the military and active duty. When he discusses the topic of leadership, he does not talk about the mechanics of management or systems of operation, but rather, the fundamental human challenges and personal attributes of leadership. He discusses the time he led a team and got lost, stating that all he had to do was take his ego out and ask his team where they were, but he did not and as a result, he and his whole team spent another uncomfortable night and day in the bush without food and shelter. Day, (2015) explains that humility is a core character trait of leadership and it must come from the leader first, to inspire a team. "If you think leadership is about you, you will be a temporary leader (Day, 2015, p2)."

In the interviews when school staff were asked what was it in a principal's behaviour that made them feel uninspired after a personal interaction, several reasons lie within the category of humility; inability to take their ego out and not being approachable.

Quotes from the interview data that capture the central meaning of the attribute **HUMILITY** are shown in Table 71:

HUMILITY

"He makes me feel like we are on an even playing field. The ones I feel like I can talk to, probably are the ones that get more out of me."
Interview 12

Table 71: Quotes reflecting humility

Quote	Interview	Code	Sub fact
Know when you stuff up	7	146	Vulnerability
He is very human…it is that humanity.	22		Vulnerability
She is approachable	21	389	Approachability
Try to be available	12	730	Approachability
Not driven by their ego	16	825	Take ego out
I have got to be big enough to say I am wrong and I am sorry.	14	787	Vulnerability
Don't be afraid to ask questions	19	428	Curious
There was never any ego	20	281	Take ego out

5.2.2.4 Why clarity and certainty build trust

It is well documented in psychology that humans desire certainty because a sense of control makes them feel safe and secure (Swart et al., 2015) as discussed in the literature review in Chapter 2.5.5. Clarity and certainty were mentioned 24 times during the staff interviews, and the study participants stated that they desired clear expectations to feel inspired (Coghill, 2015). Schools are continually improving their practices so school staff experience continuous change and renewal as they update their skills, systems and practices. Change is perceived by the brain as a non-conscious threat, as it poses a risk to their sense of control and disrupts the safe feeling that certainty brings (Gordon, 2000). The research data showed that school staff are change fatigued and desiring certainty and consistency from their leaders. In fact, one interview participant commented that when a principal changes the goal posts or goes back on what they said at an earlier date, it is very unsettling to them. Due to the rapid pace of change in schools daily, principals need to be able to "rise above the noise to set a clear vision in an unclear world" (Gordon, 2020). The sub-factors within the attribute of clarity and certainty include: clear expectations, consistency, clarity and line of sight. The word clarity was reported by teachers in the interviews 15 times, school staff wanting to be clear about their role and how their role aligned with the bigger picture. Indeed, clarity is a powerful motivator because if an individual knows exactly what is expected of them (what the goal was and what the result should look like) they are more inclined to get on with doing it.

In the interviews when school staff were asked what was it in a principal's behaviour that made them feel uninspired after a personal interaction, several reasons lay within the category of clarity/certainty; confusion and lack of consistency of behaviours.

Quotes from the interview data that captures the central meaning of the attribute **CLARITY AND CERTAINTY** are shown in Table 72.

CLARITY AND CERTAINTY

"The easiest way to lose staff is to say this is what we are doing then not following through on that. There was no consistency and we didn't know what to expect."

Interview 11

Table 72: Quotes reflecting clarity and certainty

Quote	Interview	Code	Sub fact
I never went into a conversation with him without knowing what the topic was going to be.	2	158	Certainty
You know your role and the next steps.	2	166	Clarity
Had a visible decision-making model	19	450	Clarity
They were consistently applied	14	782	Consistent
Consistency in how things are dealt with	21	379	Consistent
Got to bring clarity to chaos.	18	346	Clarity

5.2.2.5 Why positivity builds trust

School staff highlighted positivity to be an important attribute for inspirational leadership, as also reflected in the literature review in Chapter 2.5.7. There was very little research in schools around positivity, but there were 12 studies found across industry (refer Chapter 2.4, Table 3) and significant theory in the benefits of positive psychology. The sub-factors grouped in this category include hopeful language, growth mindset, showing enthusiasm, positive framing, using humour, making positive improvements and celebrating success. When conditions are challenging and uncertain, providing hope for the team can inspire them to take the path they can't see. As mentioned in the literature review, the tone and disposition of the leader can make a significant positive impact on the team's motivation levels (Day, 2015; Hansen, 2014; Willink & Babin, 2017). Gordon (2022) argues that tonality is 50% of what others pick up and respond to when interacting, as opposed to 10% impact by the words used. Inspiring leaders show enthusiasm and excitement and that passion indicates to the team that the leader has a personal conviction regarding the work they are doing together (Kouzes & Posner, 1990). As described in the literature review, neuroscience

scanning technology shows that mood is contagious (Boyatzis, 2012); the leader's mood directly impacting the emotion of the followers, due to in part by the chemical changes of serotonin, dopamine and oxytocin. Mayor General Day (2015) stated "The tone and mood of the leader sets the mood of the organisation" and he believes that a leader needs to stand up and inject hope, to inspire the team to move in a direction they can't see.

The two sub-factors which emerged from the teacher interviews as the most important in the matter of positivity suggested that they wanted their principal to:

1. Have a growth mindset to give them hope and
2. Use humour to break the tension and to keep things positive.

All four principals showed evidence of a growth mindset and positivity, as recorded in the observation data. Followers expect leaders to be enthusiastic, energetic and positive about the work and the future (Kouzes & Posner, 1990). Enthusiasm, passion and excitement signal the leader's personal conviction and investment in the teams' goals (Kouzes & Posner, 1990). If a leader does not express a passion and a positive mindset at work, why would the team do so (Kouzes & Posner, 1990)?

There is much research to show that positivity benefits team performance and well-being. In the paper by Horwitch & Chipple-Callahan, (2016) Associate Professor Jennifer Thompson, from the Chicago School of Psychology, carried out an empirical study explaining that when people have positive environments, they are more creative and productive. Negative work places and attitudes shut down the brain in that they inhibit their problem-solving skills and narrow their thinking. Positive psychology researchers generally agree that optimistic people are better able to deal with adversity and are more satisfied in their jobs (Gordon, 2022; Gordon et al., 2008). Arousal of positive emotion stimulate the parasympathetic nervous system, which is associated with neurogenesis, the release of dopamine, a sense of well-being, group mood and innovation. Thus, an important technique of a school leader is the ability to shift and change their internal mental state, especially given the brain has four times more neural networks for negative feelings than positive feelings. Quotes from the interview data that captures the central meaning of the attribute **POSITIVITY** are shown in Table 73.

POSITIVITY

"She is enthusiastic and hopeful."

Interview 18

Table 73: Quotes representing positivity

Quote	Interview	Code	Sub fact
He had a passion in speaking	18	337	Enthusiasm
She had positive energy	13	212	Enthusiasm
He had a joke to take the heat out	7	89	Humour
If people are happy, productivity will skyrocket	4	568	Joy
Enthusiastic and hopeful	18	350	Language of hope
He kept most things positive	14	763	Growth mindset

5.2.3 The theme of RAPPORT

The next section discusses the importance of rapport. Attributes which have emerged that can be categorised under the theme of **rapport** are: connectedness, collaboration, appreciation and support. Rapport has been shown in this study as an essential component of staff feeling inspired to engage through interactions with their principal. Hilary Scarlett, a change and employee communication expert, states in her article for simplycommunicate.com, that leaders have vastly underestimated the human need for social connection in the workplace. There is a close correlation between the quality of the relationship between a principal and a teacher with staff commitment and satisfaction levels (Price, 2012).

5.2.3.1 Why connectedness builds rapport

Connectedness is at the heart of building rapport; the word relationships and rapport mentioned 37 times in the interviews in the case study, with 80 codes for connectedness as a category. The other sub-factors grouped within the category of Connectedness are warmth, humans first, responsiveness, sense of belonging, care and storytelling to connect. Teachers

stated several times at each of the four schools that a principal needs to take the time to get to know them as people, beyond their role. Numerous staff used the words *human first*, being mentioned 27 times in the interviews, to indicate the importance of getting to know the person and building a positive working relationship.

School staff viewed leadership as a social exchange between the follower and the leader. There are numerous studies to support this view. Wang (2020), in her study of the link between neuroscience and educational leadership, proposed that it is not a reductionist approach. Seeking to reduce leadership behaviours to the activity levels in the brain, when a leadership behaviour occurs, is about viewing brain activity in both the leader and the team member as they interact, suggesting that the leadership behaviours impact on both brains as they work in unison (Cacioppo & Patrick, 2008). Jiang et al. (2015) strengthens this argument by stating that "leaders emerge from the brain-to-brain synchronisation" between themselves and followers, revealing emotions associated with trust and connection, resulting in a feeling of being on the same page or not (Boyatzis et al., 2012). Thus, school leadership is a social process of connectedness.

The second most important factor, as reported by staff in the interviews in the category of connectedness, is responsiveness. It is essential for a school principal to connect in a way that the team member they are conversing with feels their emotions have been acknowledged as a part of responding to their needs. A degree of empathy is required to be responsive to others (Zaki & Ochsner, 2012). In her thesis, Lambruschini, (2016) studied the interpersonal connection that leaders have with others and how this connection inspires (or not) others, finding that leaders had deep connections with others through communicating on the same wavelength, extending trust in others, paying individuals attention, giving absolute focus and checking in with each other on a personal level, refining responsiveness for this study. Other studies (such as, Steffens & Haslam, 2013) discuss the importance of using pronouns 'we' rather than 'I' to build connectedness. This would support the conclusion that the person-to-person connection signifies inspirational leadership. Alternately, Willink & Babin, (2017, p. 277), highlight a caution in the matter of a strong connection between leaders and their teams. They agree that the best leaders get to know their people and understand their passions and motivations, but "not so close that one member of the team becomes more important than another or more important than the mission."

The literature review showed that the use of collective pronouns by the leader can develop trust and contribute to 'in-group' behaviours (Molenberghs, 2013) that establish rapport and are conducive to engagement and ownership. All four principals showed some evidence of the use of collective pronouns 'we' and 'our' when they interacted with staff

members. They used collective pronouns more than the singular pronouns of ‘I’ and ‘you.’ This data can be viewed in Appendix E in the observation scripts.

McCall and Lombardo, of the Centre for Creative Leadership, studied executives that had lost their jobs or had been derailed in some way and found that understanding other people’s perspectives was a standout difference between effective leaders and derailed leaders. Their study found that successful leaders invested time in not just meeting with their team but working and sitting alongside them as they worked across ranks and roles, noticing how they went about their job, establishing a strong bond through connectedness. This gave them an understanding of what and how they did, their personal challenges, their views and who they were as a person. This argument is supported by numerous researchers referred to in the literature review (such as, Cacioppo & Patrick, 2008; Carson, 2022; Landsberger, 1932, The Hawthorne effect).

All four high school principals in this case study invested time routinely to meet with their heads of department one on one to connect with their humanity and role. The principal in school F used a conversation protocol divided into categories of ‘People, Purpose, Performance and Position’ which guided the conversation to ensure that they were updated on not just tasks and results but also about relationships and wellbeing. They asked for feedback on his performance as part of the ‘Performance’ protocol, rather than only focus on providing feedback. The principal, in case study R, visited every classroom to touch base with every teacher, keeping connected with core business (teaching and learning) until they had observed every staff member, before beginning the rotation again. She said,“I always find a strength to comment on and ask questions to get a sense around what the teacher needs from me from that visit. We also have an agreement that I provide evidence-based feedback on a nominated school priority. The final thing I do, is seek feedback on my own performance”. During the observation of Principal Y, I noticed that they invested time to check in with staff rooms daily to build relationships, and their staff commented to me that they valued the way the principal noticed not just what they were doing but were able comment on how they were going about their work. All four principals in the case study were well-connected with their staff teams, especially their leadership teams. Quotes from the interview data that captures the central meaning of the attribute **CONNECTEDNESS** are shown in Table 74:

CONNECTEDNESS

"When you know they care on a personal level, I think professionally you are a lot more motivated. In the end you want to impress them because they are looking after you, they show they care. You want to do the right thing by them." Interview 4

Table 74: Quotes representing connectedness

Quote	Interview	Code	Sub-factor
I had a wonderful time with my tribe and felt very valued	17	322	Sense of belonging
She was interested in me as a person	13	201	Warmth
He had our back	7	93	Warmth
The built relationships and rapport	4	565	Relationship and rapport
People skills and relationships come first	17	323	Relationships and rapport
Encouraging in nature...to personal attributes	9	657	Humans first
He got to know the people he worked with. You have to build trust with them	10	689	Relationships and rapport
He wanted to know about me	14	734	Human first
He took me on as a human first	14	741	Human first
When you know they care on a personal level, you are a lot more motivated	4	467c	Care
Interested in me as a person firstly	13	201	Human first

5.2.3.2 Why support builds rapport

Providing support was reported by school staff as an important attribute in principals that inspire them. Support is a general term but specifically in this study it means checking in with staff as they work, turning up at their key events, believing that they can do the job, and providing the resources they need to do it well, and assistance. Teachers highly valued the principal behaviour of 'checking in' with them to enquire about their welfare and following up on previous conversations. Specifically, the words checking in were mentioned 14 times in the teacher interviews. Support builds trust and rapport between the leaders and team members, and the team expressed that they needed to know that the leader will back them when things go wrong but also empower them to make their own decisions they are accountable for (Willink

& Babin, 2017). Dr. Shelley Carson (2022) from Harvard University makes the point that if leaders want to get support, they must be open to accepting support. This would imply that school principals would benefit from being open to allowing others in their team to contribute any particular expertise that they themselves may not have, which would call for a certain level of vulnerability from the principal. Social support is highly valued by teams in times of crisis (Carson, 2022) and support was indicated as a leadership attribute across 47 studies in industry, as shown in the literature review (refer to Chapter 2.4, Table 3). Quotes from the interview data that captures the central meaning of the attribute **SUPPORT** are shown in Table 75:

SUPPORT

"She made time for me that day. She made me feel like she recognises who I am and knows the work I do."

Interview 8

Table 75: Quotes representing support

Quote	Interview	Code	Sub fact
She trusted that I can do the work	10	682	Belief in potential
Work together	7	97	Work together
Doing the work with them	7	111	Help
Setting them up with whatever resources they need	2	176	Resources
Conversation to reinforce and redirect	23	382	Reinforce and redirect
We turn up for things that important to them	14	792	Turning up
Dropping in and just checking in and saying "How are you?	15	807	Checking in
He found ways to align my beliefs with my job, which when I went to work, I went to do the thing I loved	14	756	Encouragement
He was extraordinarily supportive.	20	282	Encouragement
He helped and supported me, which gave me confidence to move forward.	19	435	Belief in potential
We stand my them when it goes poorly.	14	791	Got their back
Support me, what they can do to help me	11	702	Help

5.2.3.3 Why appreciation builds rapport

‘Being noticed’ by the principal was mentioned 35 times in the interviews, indicating how important this sub-factor of the attribute appreciation is to inspirational leadership. The Hawthorne Effect was discussed in the literature review meaning that workers are motivated when they are thinking they are being watched. Teachers stated that when the principal noticed what they were contributing and how they went about doing it, they felt valued and were inspired to keep going. Other ways teachers were inspired was to be thanked or praised. Being noticed, thanked, or praised, makes teachers feel acknowledged and valued, so the relationship between the principal and the staff member is strengthened (Taylor et al., 2020). All principals in the case study demonstrated a strong sense of appreciation, which was demonstrated by the principal of school Y the most. Likewise, the literature review reported the concept of appreciation being highly motivating (Henley, 2022) and found included several studies on status (Hills, 2014; Keltner, 2017) as discussed in Chapter 2.5.6. Gordon (2022) argues that rewards after desirable behaviours is a way of closing off the habit loop. If staff feel rewarded in some way by the chemical cocktail of dopamine and oxytocin, they are more likely to repeat the behaviour that has been rewarded. School staff commented that they would prefer to be rewarded as a group rather than be individually praised. This view aligns with what was found in the literature review (Van Bavel & Packer, 2016). Status was not mentioned in the staff interviews, however school staff clearly expressed that feeling valued or significant is an important attribute of a principal’s leadership. I would argue that school principals know that this is important, but do not find time in their busy schedules to transform their intentions into actions to the degree they would like to. Additionally, in Australia, it is culturally contradicting to discuss status and put yourself forward to being praised.

Despite the attribute of appreciation being so important to school staff, it was mentioned little in business studies as a leadership attribute with only three business studies found (refer Chapter 2.4, Table 3).

During the interviews, when school staff were asked what was it in a principal’s behaviour that made them feel uninspired after a personal interaction, several reasons lay within the category of Appreciation, being lack of appreciation.

Quotes from the interview data that capture the central meaning of the attribute APPRECIATION are shown in Table 76:

APPRECIATION

"It felt good. It was a really positive thing to know that the important person, [at the top] was interested in what you were doing. I knew that the work that I'd been putting in was paying off and that was good to hear directly from the principal." Interview 15.

Table 76: Quotes representing appreciation

Quote	Interview	Code	Sub-factor
If you have staff that feel undervalued, over worked and thankless, they are not having fun.	8	308	Thank you
He took me under his wing and it meant a lot to get his approval. That was a very inspiring moment.	4	458b	Noticing
He wrote a handwritten postcard. Across two years I still have the postcards that I received.	15	814	Praise
Being acknowledged….created a bit of spark and actually made me think about my career aspirations.	4	457	Noticing
Acknowledgement of the way you handled a difficult situation.	11	701	Noticing
Knowing what you do has worth and value.	12	712	Noticing
She says thank you, acknowledges and praise.	10	683	Thank you
My work was admired and praised.	20	286	Praise

Part B in the survey asked school staff how they wanted to be appreciated by the principal. School staff reported that when the principal invested in the growth of their team members it was the most highly valued. Public rewards were valued as the lowest way to appreciate and acknowledge. As a former high school principal myself, I have experienced this attitude. Staff would often tell me not to publicly praise but would appreciate a personal and private thank you either in person or in the form of a handwritten note.

There has been much discussion about the ineffectiveness of extrinsic rewards to boost performance and inspire workers across schools, sport and industry. Teachers mentioned in the interviews, that they did not particularly dislike public rewards but did not enjoy being singled out from the group to receive them. Jim Tressel (2001) is a football coach

and shared this same phenomenon. He noticed that the performance of his football team had significantly declined over time. He observed that individuals were rewarded with a sticker by the previous coach if players had kicked a goal or performed well. When he made changes by rewarding the whole team every time anyone in the team scored a touchdown as a group incentive, almost immediately the team showed improvements and in addition, won a national championship the following year (Bavel et al, 2018). In the interviews school staff mirrored this belief and shared that they prefer the school to provide team rewards and symbols of success. They expressed that the collective celebration inspired them to engage further.

A clinical psychologist Dr. James Kirby, from the University of Queensland, said it is not uncommon to experience a 'feel good rush of endorphins' after you have been kind to someone. He examined over 1000 brain scans and observed that acts of kindness activate the reward centre of the brain (Kirby, 2018). This would suggest that the principal also feels good when they provide praise or thank a team member for work well done. Alternately, gossiping negatively about team members was mentioned several times in the interviews as a behaviour that was found undesirable in inspirational principals. The teachers clearly felt this was a game changer for them in regard to inspiration, as it was expressed across-case studies. Associate Professor at the University of Central Florida an expert in leadership and management found in a study of 204 employees, that gossiping negatively about colleagues was significantly reduced when the leader's role-modelled gratitude, such as by writing hand written thankyou notes and building a culture of appreciation and gratitude. In my experience of lead principal, I visited over sixty schools to coach principals and often noticed an old thank you note from the principal pinned on the teachers pin board at their desk. In my case study, schools I also noticed a number of thank you notes from the principal but these were not mentioned in interview.

5.2.3.4 Why collaboration builds rapport

Collaborative behaviours of principals reported by the interview participants included working together, seeking their ideas and views, conversations for shared understanding, building collective buy in and listening to all the voices. They valued seeking ideas and views highly as a way to inspire them, with 12 reports in the interviews. Staff are inspired and respect leaders who listen, seek other perspectives and acknowledges our point of view (Kouzes & Posner, 1990). There were six studies across industries identified in the literature review that indicated that collaboration was important to effective leadership (refer to Chapter 2.4, Table 3). A significant study included IBM's research of over 1600 CEOs in 64 countries that concludes that the ability to collaborate with colleagues is one of the top three most important

leadership traits (Levin, 2017). Two Australian studies in schools showed that teachers have a preference for collaborative decision-making and a desire for opportunities to provide their ideas (Avenell, 2015; Cunningham, 2014).

Many leadership educational leadership studies argue that collaboration is becoming an effective approach in the workplace to build collective efficacy and engagement levels in school teams (Duignan, 2020; Hattie, 2017). The time invested by leaders and teams in collaboration has ballooned by more than 50% recently (Drago-Severson & Ostrowski, 2018). Most work in schools is completed in teams rather than relying on an individual, so collaboration is essential for success. Although teachers can shut their door, literally, and work alone, this practice is discouraged. It is common for teaches planning pedagogy together, to contribute to professional discussions and share resources. In many high schools, teachers and the senior leadership team members observe each other's lessons and provide feedback in a collaborative effort to improve performance.

On the contrary, the most well documented collaboration theories have been developed many years ago in a different work culture (For example: Tuckman's (1965) Storming, Norming and Performing) and don't clarify how to inspire and engage a team. Perhaps this is why Bavel et al., (2018) argue there is little consensus about how to inspire and motivate teams in terms of cooperating. School leadership requires collaborative problem-solving, continual learning together, collective efficacy and shared leadership responsibilities (Drago-Severson & Blum-Destefano, 2018) so principals need to find better ways to model collaboration.

There are several neuroscience studies that have found the benefits of collaboration in the workplace. A study by Decety et al. (2004) showed that cooperation elicited greater activity in the orbitofrontal cortex than competition, indicative of the reward response. Similarly, Rilling et al. (2002) found elevated activity in the ventral striatum, an area associated with the reward processing, when participants observed cooperation. Accordingly, Bavel et al., (2018) inferred that the act of cooperation may bolster 'in group' identification, activating the reward centres of the brain, leading to an increased willingness to cooperate in the future, creating a feedback loop for collaboration.

Rock (2009), would agree and explains how collaboration requires a measure of rapport, trust and empathy. He asserts that in the brain, the ability to feel trust and empathy is determined by the perception that someone is in the same social group. The implication for school principals is that a principal can't command collaboration from a diverse group, especially if the team is a new one. The setting needs to be primed first and relationships must

be established before effective collaboration takes place. Quotes from the interview data that captures the central meaning of the attribute **COLLABORATION** are shown in Table 77**:**

COLLABORATION

"I work better with collaboration. I'll do what people tell me to do but I find the collaborative [approach] will actually work better; will get further. If I respect you and you respect me; not everyone has all the information." Interview 16.

Table 77: Quotes representing collaboration

Quote	Interview	Code	Sub-factor
Co-construction	13	229	Working together
Consultation	19	453	Seeking ideas/views
Same page	1	22	Collective ownership
Take people on the journey with you	15	846	Collective ownership
Consultation with staff through coaching and getting their feedback and opinion about things because I have learnt that people don't tear down what they help to build up	15	821	Collective ownership
The principal said, "Is there anything I should consider when I'm looking at this."	16	826	Seeking ideas and views
He was consultative	23	392	Seeking ideas and views
It's good when they ask your thoughts about it.	9	687	Seeking ideas and views
Got to be able to take the people on the journey with you.	16	846	Collective ownership
It's about shared conversations	3	35	Seeking ideas and views
We have a voice.	6	630	Listening to all the voices
Knowledge sharing	18	348	Shared understanding

5.2.4 The theme of GROWTH

Finally, the attributes which have emerged that can be categorised under the theme of **growth** are challenge, communication, autonomy and purpose. Challenge is about providing the opportunity for growth by building expertise. Autonomy is about allowing staff some sense of freedom to do their job to build their capacity. Purpose refers to ensuring that everyone understands their role and knows where that role fits within the vision. Communication is about candid and compelling key messages. Communicating could be grouped in all three themes as there is some overlap in the meaning of the sub-factors; however, it was grouped under

growth and purpose as the research participants reported in strong terms that they wanted a leader who can clearly communicate what success looks like and this meaning is more in line with a purpose.

5.2.4.1 Why purpose is central to growth and purpose

Teachers rated ‘explaining the why’ at the top of their list for the category of Purpose. They were inspired by principals that explained intent and reasons behind actions and outlining a clear purpose and vision of a preferred future was important to them. The relationship between leadership and purpose has been well documented, as described in the literature review in Chapter 2.5.10. Discussion in the business leadership is dominated by the theme of purpose and vision, and there were 15 studies that identified purpose as significant to effective leadership (refer to Chapter 2.4, Table 3).

Bavel et al. (2018) argue that leadership is fundamentally about creating a feeling of a common purpose – known as a social identify. A 1989 study by Korn-Ferry International, affirms that being able to articulate a vision and strategic direction has been an important competency. Later, in the year 2000 they conducted another study involving 1500 executives in 20 countries and found that the leadership trait most frequently described was to convey a strong sense of vision. In their most recent study, seventy-five percent said that purpose and vision was essential today. Clearly, vision and being forward-thinking is a long-standing competency expected in leadership. The team needs to understand the strategic knowledge of their leaders. The ability to explain what success looks like in a compelling way, what you are trying to achieve, why it is the right direction, what the results look like, are all essential to the motivational levels of a team. If staff don’t understand the purpose, they will not believe in what they are doing and their motivation levels will decline (Day, 2015; Sinek, 2011, 2014; Willink & Babin, 2017). Another part of building a purpose capability in leadership is the ability to see the possibilities where others can’t (Gordon, 2022). Additionally, measuring the momentum and progress along the way is important as it keeps the brain in a positive mindset (Gordon, 2022). Teachers expressed this view by stating in the interviews that they would like a strategic road map, so they knew where they were on the road map.

All State schools in Queensland are expected to develop a three-year strategic plan for the management of their school to outline their road map for their improvement agenda. I have not worked with a school as yet across States and systems that did not have a vision statement for their school. School leaders need a clear sense of direction, to know where they are going and why (Kouzes & Posner, 1990). All four case study schools could be held up as role models in this area as each had belief statements, values that underpinned their culture,

a vision statement and a detailed strategic plan. Their strategic plans outlined goals, success criteria, strategies, role descriptions and expected results. School B extended this process by formulating an accountability chart that showed roles of each of the leadership team, stretch goals, success criteria, strategies and nominated structures they would put in place to enable success. Quotes from the interview data that capture the central meaning of the attribute **PURPOSE** are shown in Table 78:

PURPOSE

"I feel like the bigger picture gets lost in the day to day running of everything. If your leaders aren't bringing you back to it, it becomes a bit like a tunnel. You want to be reminded that you are going in the right direction."

Interview 18

Table 78: Quotes representing purpose

Quote	Interview	Code	Sub fact
Recentred her back to her purpose	19	418	Explain why
A good leader knows their purpose	19	442	Clear vision
Student centred decisions	21	399	Work on what matters
Very child focused	22	242	Work on what matters
Compelling reason	3	23	Explain why
Strategic direction	3	24	Road map
Eye for the future	1	71	Clear vision
Philosophical premise	22	246	Philosophical base
Clarity of vision	22	251	Clear vision
Strategic vision	17	313	Clear vision
Talks about the big picture	18	367	Clear vision
Action plan	15	818	Road map

5.2.4.2 Why challenge is central to growth

Challenge as a category was mentioned 37 times in the interviews from staff and is identified in the literature review in chapter 2.5.9. The category of Challenge incorporates the sub-factors of using coaching questions, opportunities for growth, offering training, the principal being a life-long learner, providing advice and mentorship, holding people accountable, challenge and modelling. The ability to challenge, inspire, enable and encourage are key components of leadership qualities (Kouzes & Posner, 1990). In a Gallop survey, 2018 (within Wang, 2020), opportunities for growth was identified as the third most important factor to engage employees.

Opportunities for growth and the use of coaching questions to build capacity were prized by teachers the most in their principal's ability to inspire them. Participants recognised that when a principal uses strategic questioning techniques, they understood that it was an opportunity to build their capacity. School staff mentioned coaching as a way to inspire 17 times and opportunities for growth in general, 20 times.

Asking open-ended questions (executive coaching) is a frequent strategy used by principals for building the capacity of their staff, evident during the observation period in this study. In fact, the four case principals used a very high ratio of questioning compared to making closed statements, with one principal using 1:2.5, one principal using 1:3 and two principals using 1:4 ratio of questions to statements accordingly. All four principals also had some level of executive coaching training, and one school had trained their entire leadership team in brain-based coaching techniques. Brain-based coaching is fast becoming the preferred direction that school leaders are taking in order to build the capacity of staff, as it is a less threatening approach to challenge and growth.

Another important component of challenge in principal's behaviour is the concept of being a lifelong learner. One of the few artefacts I did notice in the case study offices of each principals in this study was textbooks. All four principals shared with me what textbook they were reading that week and had a stack of other books waiting to be read. Bennis and Nanus, in their book,' Leaders, the Strategies for Taking Charge', (1985) observed that effective leaders are lifelong learners and need to keep up to date with reading to spark new ideas ad new challenges. There was some data to show that teachers agreed that they desired their principal to be well-read and up to date. Quotes from the interview data that captures the central meaning of the attribute **CHALLENGE** are shown in Table 79:

CHALLENGE

"I was motivated to go [when the principal didn't solve the problem for me]. It made me take a bit more responsibility and step up a little bit more, rather than trying to hand over whatever I was doing." Interview 24

Table 79: Quotes representing challenge

Quote	Interview	Code	Sub fact
Professional development opportunities	2	190	Training
He took me under his wing and it meant a lot to get that approval from someone that has been in a similar position and higher than me. That was a very inspiring moment	4	458	Opportunities for growth
He coached	1	56	Coaching questions
He mentored	1	55	Advice and mentorship
He spent some time with me and took me to the next level	23	385	Coaching questions
The greatest success was with coaching	20	298	Coaching questions
Coaching questions	9	759	Coaching questions
Holding people accountable	24	859	Accountability
He helped me take steps forward to be better in the role	6	613	Opportunities for growth
"If they are not reading, they are not reflecting, they are not seeking challenges of their own, how are they going to grow	22	272	Lifelong learner
When I think back to those conversations, they were really around my leadership and how I could build my leadership to do the work that needed to be done	13	207	Coaching questions
Know when to coach, mentor or manage, what you need at that point	2	182	Coaching and mentorship
Inspire by modelling the way	13	215	Modelling

5.2.4.3 Why communication is central to growth and purpose

Active listening and candid conversations were reported by teachers as the top attributes for a principal's communication. Other behaviour that inspired them within this category, as reported in the interviews, was being a compelling speaker, clear key messages, respectful tone, simplifying messages and providing and seeking feedback. Communication is well documented in the literature as important to effective leadership (refer to Chapter 2.4,

Table 3) with 13 studies identified across industry. “Speak with passion to gain the commitment of others… the leader must communicate their excitement”. (Kouzes & Posner, 1990, p 223). There is also much literature to support the importance of a combination of candid conversation and active listening to reach emotion that drills into the real issues (Brown, 2018; Swart et al., 2015). Brown (2019) argues that a leader needs to place courage over comfort and be prepared to speak with truth and respect. This was reflected in what the school staff reported in the interviews. Simplifying the key messages in a way the team understands in a clear, concise and calm way despite the chaos and complexity of the situation is also important. If messages are too complex, the key message may be lost and complexity can compound issues (Willink & Babin, 2017). Face to face communication, has unique neural features, particularly synchronisation for the brain to brain between a leader and a team individual. The leader-team member conversation has a much greater impact compared to a conversation between team member and team member (Jiang, et al., (2015). Quotes from the interview data that captures the central meaning of the attribute **COMMUNICATION** are shown in Table 80:

COMMUNICATION

“I was listening intently and trying to pick up the thread of the where things were heading and why, as he was talking.” Interview 13.

Table 80: Quotes representing communication

Quote	Interview	Code	Sub fact
Clear and honest communication	21	397	Candid communication
Good listener	21	413	Active listening
Open communication	4	571	Candid communication
Providing feedback	11	704	Seeking and giving feedback

The four case study principals were excellent communicators and I noted during the observation data collection sessions a range of strategic phrases that inspired by motivating, diffusing tension, giving perspective, primed, holding standards, showing strength, wise council, permissions and anchoring into a place of certainty, empathy, bottom lining,

metaphoric language, normalising and storytelling. These strategic phrases can be viewed in Appendix E.

5.2.4.4 Why autonomy is central to growth

School staff understand that there needs to be clarity around vision and team goals, (and other non-negotiables) but they want some sense of autonomy with the way they go about achieving those goals. There is strong evidence to support this argument, across sectors. Tom Melohn, president of North American Tool and Die (NATD) was reported by Kouzes and Posner (1990), as having brought a company into significant profit and excelled in the field. When examining his approach for leadership attributes, they found he had a strength in the ability to inspire, motivate and create collective buy in. He did this by largely entrusting the skilled employees with their work and allowed them autonomy to do their job. As a result, with the increase in freedom, work performance increased and the skill set and capability of the team to do their job was also strengthened. The interview participants in this study discussed their dislike of being micromanaged. They recognised that when they were given some sense of autonomy within their role, they might make errors, but were prepared to learn from their mistakes. The teachers reported a heightened sense of trust with the increased autonomy and therefore more inspired.

No leader has the “cognitive capacity, the physical presence or the knowledge of everything” to micromanage every team member (Willink & Babin, 2017, p. 172). They must build the leadership capacity within smaller teams and share their leadership to allow other leaders to make their own decisions, within some non-negotiables and standard operating procedures or parameters. This allows the school principal to be available and free of the detail to see the bigger picture, detect mistakes and assess the outcomes of the team. Conversely, Willink and Babin (2017), point out that the leader needs to be cautious of not being too far removed from the coalface; otherwise they risk becoming disconnected and redundant. They recommend that the leader allow teams to plan the details after being clear about the goal. This way, the team have pooled their expertise and own the process, and the leader can then offer expertise to tighten up the tasks. This type of approach works in schools as it is more likely to grow people and build collective efficacy as they all are involved in the detail. The case study school principals manage very large systems and a number of layered teams, so they cannot possibly do everything themselves. It was evident that the four experienced principals were able to share their leadership and relied on many other leaders in the school to practice a sense of autonomy.

Despite the importance of a sense of autonomy in schools, there were only three studies across industries out of the 24 I have collated in Chapter 2.4, Table 3 that mentioned autonomy as a factor. However, in Chapter 2.5.8 a sense of autonomy was found in a number of studies including Rocks (2008) SCARF model.

Quotes from the interview data that captures the central meaning of the attribute **AUTONOMY** are shown in Table 81:

AUTONOMY

"It is motivating when someone has a particular expertise and they are given a level of autonomy to do that. I do not micromanage. " Interview 20

Table 81: Quotes representing autonomy

Quote	Interview	Code	Sub fact
Being given trust and autonomy forms you as a leader.	13	210	Freedom
Freedom to have a go.	1	57	Freedom
I was given a lot of freedom and a lot of control.	13	208	Control
It empowers them to be in charge.	20	302	Control
He gave me latitude to find my way in the project.	14	758	Control

5.3 Comparison

The following section shows how the results align with and compares to the literature review and demonstrates how the results advance the knowledge in this area. The literature review revealed nine general themes of motivation emerging from the dominating motivational theories in psychology and seven dominant themes of leadership attributes from business studies that add insight into the factors of inspirational leadership. The themes collated from a number of studies in the literature review. Some individual studies revealed only two or three themes, so a broad sweep of papers was necessary to capture all the key themes. Collectively, all said themes from the literature review were revealed in the school research data in some form, so there is a clear alignment of findings from the literature review to the analysis of data in this research study. Table 82 shows the alignment of these factors.

Table 82: Theme alignment

Literature review theme for motivational theory from psychology studies	Literature review theme for leadership attributes from business and industry studies	Research data attributes from this thesis research in schools
Status/Appreciation		Appreciation
Pleasure/Joy	Positivity	Positivity
Choice/Autonomy/Freedom		Autonomy
Certainty/Control/Expectations		Clarity Certainty
Connectedness/Belonging	Rapport/empathy	Connectedness Support Collaboration
Integrity/Trust/Fairness	Integrity/trust	Integrity Humility
Challenge/Mastery/Growth		Challenge
Purpose	Vision/purpose	Purpose
	Communication	Communication
	Strength	Strength
	Influence/inspiration	
Survival		

5.3.1 Is one factor more important than the other?

All attributes were expressed as important to principal leadership regarding the ability to inspire team individuals, as they were identified as such during the interviews. However, they can be grouped according to the number of times they were mentioned in the interviews and the way they were ranked in the survey when the participants were asked directly, to do so.

Before a comparison is made between attributes, it needs to be stated that the findings rely on how I have grouped and labelled each attribute. For example, there is significant overlap between the themes of support and appreciation, as both are about being noticed by the principal. These two factors could be grouped together under the one theme. If these two themes were grouped together, this would move this category to first position in the interview list with a tally of 142. If the support and appreciation had been given a similar rank in the surveys, it would be appropriate to group them; however, they were ranked quite differently in the survey, so they remain as separate entities for this study.

There may also be an argument that the theme of collaboration is closely tied to support; however, this has been maintained as a separate theme because collaboration represents something unique and that is ‘seeks my ideas and views” and ‘can bring about collective buy in” which is slightly different from unconditional support and praise.

Business studies often pool integrity and humility into the one category. If this was the case in this study, the total interview tally would be 163, and it would strengthen the results for the survey regarding the importance of this attribute, making it clearly the most important leadership attribute. However, the terms for the categories of leadership attributes were selected prudently, in that if too many sub-factors are clumped together, the findings are at risk of being too general and therefore more difficult to use to drive and develop leadership programs, interventions and training.

Having highlighted the possible overlap issues and explained the reasons for the choice of categories, the interview data and survey data themes can now be compared. As stated previously, the interview data order was determined by the number of times the theme was mentioned and the survey data were ranked in order by the way the research participants ranked order them. Given how the data was gathered and collated, the survey data will be more accurate than the interview data because in one interview the same person could have mentioned the theme a number of times. Whereas the surveys asked the same interviewees to rank them and in doing so they could only rate them once, based on how important they were as factors to inspire. Having considered the risks and weaknesses in the data analysis, the collective interview data, the staff interview data and the survey data can be compared. The most dominant business and industry leadership attributes studies are also shown to add to the whole picture shown in Table 83.

Table 83: Survey and interview data comparison

Collective Interview data	Survey data rank order	Staff interview	Business studies
Connectedness (94)	Integrity	Connectedness	Integrity
Integrity (90)	Strength	Integrity	Strength
Support (74)	Clarity and certainty	Appreciation	Rapport
Humility (73)	Humility	Humility	Communication
Appreciation (68)	Connectedness	Support	Positivity
Challenge (65)	Autonomy	Strength	
Strength (59)	Purpose	Communication	
Communication (52)	Positivity	Challenge	
Positivity (47)	Support	Positivity	
Purpose (39)	Communication	Collaboration	
Clarity and certainty (33)	Challenge	Clarity and certainty	
Collaboration (28)	Appreciation	Purpose	
Autonomy (19)	Collaboration	Autonomy	

The leadership attributes in management and industry studies, (Archer, et al.; Day, 2015; Enfroy, 2021; Hossain, 2015; Kouzes & Posner, 1990; Lencioni, 2008; Olanrewaju & Okorie, 2019; Spous, 2011; Toor & Ofori, 2008; Wang, 2020) discussed in the literature review, correlate in general with the findings found in this study of school leadership. However, to answer the research sub question of this thesis, “Is one attribute more important than the other?” the data shows, for high schools, that all thirteen leadership attributes are important and should be viewed as a set. The most dominant of the attributes in the data are, **connectedness, integrity, humility and strength**.

5.3.2 Not all leadership is inspiring

As reported in the results in Table 35 in Chapter 4.2.1, there are a number of behaviours from the principal that staff reported as feeling uninspiring to them. Each behaviour reported can be categorised into six leadership attributes and can be interpreted as a lack of integrity, lack of humility, lack of strength, lack of clarity and lack of appreciation. Five out of these six leadership attributes align with the ‘trust’ theme and one of the six attributes align with the ‘rapport’ theme. This would suggest that trust is central to building inspiration as the principal interacts with his or her staff members, and inspirational leadership is reliant on the principal being able to build trust with their team. This is not surprising as it was found in the literature review in Chapter 2, that trust is the cornerstone of effective leadership and essential to maximising performance (Covey, 2006). Hills, (2014) in her study of threat and reward response in leadership interactions, suggests that leaders are failing to adjust their behaviour in alignment with the way the brain operates nor are they capitalising on what can be learnt from neuroscience. She recommends that brain-savvy leaders interact with their teams at a personal level, are highly self-aware and responsive to how their employees feel. She stated she found very little evidence of this type of leadership across industries.

5.4 Implications of findings

This section discusses the theoretical and practical implications of the findings, shows why the results matter, and why the findings are significant to practice. The theoretical implications for this study are nine-fold. To clarify a clear link from the research question, the findings and the implications, Table 84 shows a concise summary, after which the nine implications are expanded.

Table 84: Implications of findings

	Finding	Implication
1	The role of emotion	The ability to inspire school teams, is inherent in the principal's ability to tune into the needs and emotion of others. The way we feel about someone will either inhibit or enable our willingness to engage. If feeling threat, we are more likely to agitate and if feeling comfortable we are more likely to contribute. Leaders can prime for conversational chemistry.
2	Reciprocal process	Leadership is a partnership through a reciprocal process of cooperation and bonding. Top down leadership is not sufficient to build high performance teams.
3	Leaders can be developed	Leadership capability can be developed. Neurological based interventions can be considered to strengthen the inspirational leadership influence of principals. Leaders are made, not born. Leaders need to be able to override their non-conscious bias for rational decision-making and this takes training.
4	Balance challenge with support	School staff view feedback as an opportunity, but often feel it as a threat. Principals need to understand the importance of balancing levels of challenge with support as staff look for support from their principal. Establish supportive relationships and providing four times more encouraging comments than critique will allow for the brains tendency to tip to the negative.
5	Personal power	The use of positional power can trigger team members into threat mode easily. A principal must develop their personal power through being highly self-aware to influence, by creating approach climates.
6	The emotional, social and thinking brain	Adjusting behaviour during social interactions to calm the brain stem, and build rapport will maximise cooperation and engagement. Understanding what drives team behaviour and mood, the leader can align policies, systems and practices that will appeal to the motivation of each team member.
7.	Interpersonal expression and tonality	Maximising inspiration levels is not about modelling one leadership style. It is about the principal's interpersonal behaviours and tonality.
8	A place for coaching	Coach the human, not just the content. Once a team is managed and mentored and have some experience, coaching is a less threatening way to build capacity.
9.	An integrative approach is needed to inform effective leadership	Drawing on the disciplines of psychology, education and neuroscience (PEN) is a holistic way to define leadership and guide its practical application. Well-being must be prioritised along with ability to execute results.

First, the findings shed light on the **role of emotion** in educational leadership. Neuroscience is revealing to educational leadership that leadership is a social process and the human brain is a social organ interacting within a social context (Cacioppo & Patrick, 2008;

Cozolino, (2014); Eisenberger, 2012; Gazzaniga et al., 2013; Lieberman, 2007; Wang, 2018). Accordingly, school leaders need to be mindful that their ability to inspire others is inherent in their ability to tune into others needs and emotions, or “we ignore such knowledge at our peril.” (Lakomski & Evers, 2017, p. 58).

Emotions were a common thread weaving through all interviews when asked what inspires regarding a principal’s behaviour. School leaders expressed their positive emotions to relate and build bonds with their teams, build hope and inspire. When teachers were asked to recall a destructive leader, one that did not inspire them to engage, they also revealed emotive language. The difference was that when they were discussing inspirational leaders; leadership that inspired them, referring to the attachment emotions and feelings of hope, love, happiness or gratefulness (Swart et al., 2015). Alternately, when they discussed ego-centred leaders, this is leadership that did not inspire them but rather disheartened or made them feel defensive, they referred to the survival emotions and feelings of anger, frustration, disgust and sadness (Swart, et al., 2015). As discussed in the literature review, the survival emotions can cause social pain such as isolation, embarrassment or rejection. Feeling pain can demotivate a team member, decreasing their willingness to cooperate and engage with the principal. For example, team members who feel unrecognised or devalued by the principal, experience a “neural impulse that causes social pain” (Eisenberger & Lieberman, 2004, p. 296). School principals who understand this as a normal function of the brain, and human experience are in a better position to inspire the team more effectively by adjusting their behaviours accordingly (Rock, 2009; Wang, 2018).

An implication of emotion being central to our human interactions is that principals need to be highly self-aware of their own emotional state and nurture a balance of composure and strength, showing empathy and positivity when interacting with others. As emotion and mood are contagious (Boyatzis, 2011; Pheps, 2006) the principal must be aware that their mental disposition can impact on the mood of others and can spread throughout the team, setting the general tone of the workplace. This can work for or against a principal’s goal to inspire staff. If the principal can affect and inspire a mood in a staff meeting just by his or her own mental state and emotional expression, than they can inspire a positive feeling of hope and joy in the work they are doing together to build unity and collective efficacy into the vision. At whole staff weekly gatherings, telling compelling stories and celebrating success together is a powerful way a principal can evoke collective emotion and boost inspiration for engagement (Barsade, 2002) Priming and preparing the setting with specific leadership behaviours (tone, interpersonals, questions, stories and actions) by stimulating brain chemicals of dopamine, oxytocin, serotonin and epinephrine in a purposeful way will help maximise staff cooperation and motivation (Kennedy, 2021).

Decisions are impacted by emotion because feelings and cogitation cannot be separated (Immordino-Yang, 2016; Kennedy, 2021; Perry, 2016; Wang, 2018). The DMN-TPN trade off, as outlined in the literature review, has a additional perspective and explains why a leader can't be passionate and calculating at the same time. Some emotions such as empathy and compassion play a competing role against rational and analytical thinking; however, there has to be a place for both in school leadership. It is about context and being mindful of one's emotional state (Gordon, 2022; 2013; Greene et al., 2001). Said, (2012) contends that emotional intelligence is an essential component of a leadership attributes and leaders with high levels of emotional intelligence experience greater levels of effectiveness leading teams. The definition of emotional intelligence according to the Oxford Dictionary (2020) is the capacity to be aware of, control and express one's emotion to handle social relationships judiciously and empathetically. Emotional intelligence is essential across the set of attributes identified in this thesis, specifically the sub-factors of openness and trust, not gossiping, humility, able to take ego out, vulnerability, curiosity, persuasion, self-disciplined, calm and composed, growth mindset, humour, warmth, relationships and rapport, responsiveness, care, encouragement, noticing, shared understanding, listening, modelling and using a respectful tone.

In the interviews and observation of principals, I noticed that each of the four principals left a warm emotional wake (Fiske et al., 2006; Scott, 2010) as they interacted with their staff. To feel warmth from an interaction is a very subjective concept, not able to be captured on audio tape or on my coded notes. I can only report what I felt and experienced myself as I witnessed the personal interaction between the principal and his team members. This might suggest that the four principals were highly self-aware and were able to regulate their emotions, staying calm, projecting positivity and holding a professional composure. The literature review revealed that an emotional warmth was important to leadership and would promote in-group identities (Molenberghs, 2013) and build trust in the team (Cuddy et al., 2011). Seven teachers mentioned the word warmth in their interviews.

An understanding of the dynamic interdependencies of the cognition-emotion experience (Immordino-Yang et al., 2019) when principals engage in learning conversations with their staff, underscores the importance of a school principal being aware that if they consider the whole adult (just as teachers consider the whole child) they will generate positive emotion and motivation. The conversations that teams have with their principal form patterns of thoughts and feelings, reorganising the brain over time, as is the nature of neuroplasticity, influencing attitude and growth in others (Immordino-Yang et al., 2019). A principal that is too task-orientated and does not factor in the human element when having conversations with their team, will risk declining trust and inhibiting growth, cooperation and potential learning.

Another implication of the research regarding emotions is highlighted in the conceptual framework. The conceptual framework, explained in Chapter 3, is drawn from the literature review and shows that during social interaction, in response to cues, emotions emerge as a non-conscious process that are associated with cognitive biases, that have been shaped by past experiences, revealing values and beliefs, resulting in feelings (Gordon, 2022). The comments made by school staff were often loaded with emotion and underpinned by values reflecting their beliefs. Two examples from the interviews are, “It was demoralising to work really hard and not see the leader doing the same” (Interview 7, code 130). This statement suggests a belief that a principal needs to be perceived as a hard worker and the value reflected, is work ethic. “A principal needs to talk to people how they like to be spoken to” (Interview 19, code 455). This statement suggests a belief that a principal must be mindful of tone and the value reflected is respect.

There are five key implications that can be taken from the role of emotion in inspirational leadership. First, it could be inferred that beliefs and values of the school staff impact on staff feelings, affecting how they interact with the principal in the future. Second, as the principal is only human, it may also imply that a school principal needs to override their non-conscious responses of cognitive bias and emotion to make more relational decisions when interacting with their staff. Instead of jumping to conclusions, they would benefit from slowing down their thinking to test and analyse their assumptions before they proceed, act or judge. Peak performers are able to self-regulate their emotion and are fully present during an interaction, becoming masters of managing their stress loads (Gordon, 2022). The conceptual framework for this research is based on the five implications shown (refer to Chapter 3.4, Figure 4). The results of this research support the essence of this argument.

1. The way we feel about someone or something will determine our willingness to engage and cooperate at our best;
2. The culture we create as a result of the collective feelings will drive behaviours that will either speed up or slow down change;
3. The leader needs to pay attention to their emotional wake as they interact with others and improve their agility around changing mental states at critical times;
4. The leader needs to be able to mitigate their instinctive emotional first response and bias, to maintain a calm composure in order to make rational decisions, and;
5. Leaders can actively aim to prime conversational chemistry to shift feelings to create positive helpful states.

Second, leadership that inspires is a **reciprocal process** in that it occurs between a people (Kouzes & Posner, 1990) as they interact and collaborate. The relationship between a leader and their followers is a powerful one if the leader inspires the team by making the individuals self-esteem dependent on the goals of the organisation (Ensari & Murphy, 2003).

Top down leadership may be required in critical incidents but it is not sufficient to build a thriving learning culture in a school. John Gardner, former cabinet secretary, captures this meaning well by stating “Leadership is in the eye of the follower.” (cited in Kouzes & Posner, 1990, p. 233) He believed that leaders were perceived as inspiring their team to engage when they were capable of meeting their teams’ needs “Followers perceive leadership in their own terms and those terms aren’t necessarily fair” (Kouzes & Posner, 1990, p. 232). Leadership is a bond between leader and followers and the development of this relationship requires attention. Credibility and trust are built over time but can be lost with one thoughtless remark, broken promise or inconsistent action. Followers judge their leader toughly (Kouzes & Posner, 1990). The implication for school principals is that they need to consider the team’s needs and values as they interact, and bring people along with them as they collaborate towards their goals.

Another way leadership is a reciprocal process informed by the subtext of the interviews was that support is a two-way process. School staff want to be supported by the principal and effective teams should support the principal. Willink and Babin, (2017, p. 84) explain that communication and trust can decline easily if there is not a two-way conversation. “The boss isn’t a mind reader”. Team members must ask if they don’t know why a decision was made and if “you don’t ask you are letting the boss down.” The boss must also explain why decisions are made down the line. Leaders can’t know everything about everything, so when they make mistakes, effective teams with their collective expertise pick up the slack. I did not find any evidence of this in the case study schools however, I was only collecting data over a short period of time in each school. Personally, I have only experienced this type of behaviour from a team in the higher positions. Additionally, the leaders must not hold this type of assistance as a move on their turf but see it as an important part of the reciprocal process of leadership (Willink & Babin, 2017) “Leadership isn’t one person leading a team, it is a group of people working together, up and down the chain of command, to lead.” (Willink & Babin, 2017, p. 84)

Third, the crucial aspects of a principal’s leadership that inspire can be developed**.** Leaders aren’t born, they are made. Individuals are born with innate character traits but these traits are either amplified or diminished by the experiences we have (Stebbins, 2017). School principals can strengthen their leadership influence with learning and experience and leadership programs that aim at developing human leadership attributes are rare (Elliot & Hollingworth, 2020; Kegan & Lahey, 2016; Leithwood et al., 2020) The various education departments across states have the opportunity to provide leadership experience for principals, centred on character traits and because attribute behaviours can be learnt due to the neuroplasticity nature of the brain, **leaders can be made and developed.** Leadership

programs that focus on developing the human not just the content are best situated over time with mentoring and coaching intervention. Induction programs for principals have traditionally been framed around curriculum leadership, technology skills, finance, facilities, workplace health and safety and other policy processes and procedures. I know this because I have personally participated in a number of inductions over a number of years either as a new principal or being a mentor for new principal groups each year.

Thus, there needs to be a significant change in the way education systems build and develop the onboarding programs with a human focus around the thirteen attributes as the organising framework. A focus on developing personal power over positional power would be a logical central theme for training, underpinned by program experiences on how to building trust, rapport and growth-purpose, to better align with the way the brain operates. The thirteen leadership attributes could be used as a 360° reflection tool to collect feedback from their own staff teams to enable principals to build on their strengths and identify their areas of development (Refer to Objective six, Chapter 1.6.2). I would recommend strongly that the developmental program is not a sheep dip approach (such as the existing programs) but one that is pedagogically layered in experience and coaching over at least a year. Ideally, the program would be more powerful if it was spaced over time, with a coaching partner and delivered during *in the job-on the job* experience, so that the brain has time to rewire and the principal has time to reflect and learn. If we *coach the human, not the content*, principals would be much better prepared for this most demanding and rewarding role.

Fourth, principals need to balance a level of challenge with a level of support. It is easy for the principal who has a position of power to trigger a team member into threat mode and if they are aware that this is a normal brain response, they are more likely not to take it personally and be strategic around how they interact. The problem is compounded if that positional power is mixed with the act of giving feedback. A building body of research in neuroscience shows that when leaders provide candid feedback to their teams, an emotional reaction is triggered in the brain stem and limbic system, often making the individual defensive (Rock, 2008). As discussed earlier, researchers such as Cacioppo and Patrick (2008) and Cozolino, (2014) found that social pain, such as humiliation or the kind of embarrassment that criticism can bring about, responds with the same area of brain as physical pain. School teams will be difficult to inspire if the majority are in threat mode.

A high school principal needs to prepare the path well for setting up a feedback culture. The research in this thesis found that there is a mix match of views on feedback. The principals and school staff reported that it is important to provide and seek feedback, however the principals reported that school staff often act defensively when they are provided with

feedback. Teachers, in particular, indicated that they liked to receive feedback from their principal on their performance, specifically, how they were going, how the principal knew (what they had noticed) and what could they do to improve? Although they were inspired by acknowledgement and praise, they were also seeking feedback that would strengthen their skill set, challenge them and build their capacity. Conversely, the principals commented that feedback was an essential part of building capacity and were all prepared to provide candid feedback to their team; however, they expressed that some teachers found critical feedback unwelcome and unsettling. There seems to be a mismatch of needs here, a principal knows the value of feedback and challenge and sees that as an important part of their role to inspire and the school staff express they desire feedback, however, according to the principals, significant numbers of staff respond negatively when they receive feedback from their principal. In the article, "Your Employees want the negative feedback you hate to give" in Harvard Business Review, Zenger & Folkman (2014) measured the extent to which people prefer to give and receive both positive and corrective feedback, defining corrective feedback as suggestive for improvement and identifying if something was done in a less than optimum way. Positive feedback was defined as reinforcement, praise and congratulatory comments. They found that people want corrective feedback, even more than praise, if it is provided in a constructive manner. By roughly a three to one margin, they believe corrective feedback is helpful to improve performance. This is all the more reason why principals need to invest time into building trust and rapport with their teams so that **school staff view feedback as an opportunity rather than feel it as a threat**. Balancing support levels with challenge levels will assist in building trust and rapport to position teachers to be more open for candid feedback. Professional development in schools must be invested so that feedback is seen as an opportunity to grow, not an opportunity to defend their ground.

Fifth, the team must believe in the person behind the leader before they can follow their ideas. Leadership is not handed to a school principal with the badge they wear, This belief would be embedded in positional power. Credibility is extremely fragile (Kouzes & Posner, 1990). Trust is earned, not given (Covey, 2006), so getting to know the human behind the role is important to building the bond between principal and teacher**. Developing their personal power** by learning about their character traits, values and beliefs, cognitive bias and their aspirations will be more influential than giving out orders.

One way of developing one's personal power is through the words we choose to use. The literature review showed that the language leaders use can indicate in-group and out-group norms (Molenberghs, (2013). I was interested to observe if the principals in my study show signs of in-group and out-group – behaviours revealed in the language they use. As I observed each principal as they interacted with their teams, I noted that three out of four

principals used the pronoun of ‘we’ and ‘our’ more than ‘I’ and ‘me’. The literature review revealed that there are numerous studies that show that the use of pronouns that are inclusive such as ‘we’ and ‘our’ are more likely to build a team group identify of loyalty and unity, increasing inspirational levels. Three out of four principals used the language of in-group and the other principal use some language of in-group, suggesting the team’s inspirational levels were in a small part could be a result of the language used. A school principal needs to choose their words wisely, as words can either incite or unite.

Six, given that our brain is hardwired to detect threat and is highly socially sensitive (Cozolino, 2014; Dimitriadis & Psychogios, 2016; Rock, 2010a; Willis, 2016) with an overarching role of maximising reward and minimising threat (Gordon, 2000), a principal needs to be highly self-aware of their own behaviours during personal interaction with their staff, leading in a way that is consistent with how the brain operates results in higher productivity and engagement (Hills, 2014). **Adjusting their behaviour during social interaction to calm the brain stem, build rapport to maximise cooperation and engagement** will serve a school principal well. High levels of team motivation are linked to high levels of team engagement (Schooley, 2022). In this research, school staff reported principal behaviours that make them feel inspired to engage and principal behaviours that had the opposite impact. The implications regarding the 13 leadership attributes is that there are behaviours that are more likely to trigger a staff member into threat state making them feel defensive and resistant, and there are behaviours that are more likely to trigger a staff member into reward state making them feel inspired and cooperative. The way we feel about someone will determine their willingness to engage or not (Swart et al., 2015) and the school culture that develops as a result will either enable or inhibit the changes that the principal is trying to achieve (Stebbins, 2017). The interesting finding was that the same attribute could be both inspirational or destructive, depending on how the principal expressed the attribute by their behaviour through their words and actions. Table 85 shows examples of a principal’s behaviour that could be considered.

Table 85: Principal behaviours

Threat State	Attribute	Reward State
Insincerity, gossiping, biased and unfair, blames others for their errors.	Integrity	Fair, respectful, role model, discrete, honest
Ego-central, confrontational, know it all	Humility	Approachable, curious, humble, ability to be vulnerable, real, seeks feedback, tries to improve daily, is highly self-aware.
People pleaser, incompetent, weak, swayed by peer pressure, avoids difficult issues	Strength	Visible, persuasive, tough-minded, competent, calm under pressure, courage over comfort. Addresses difficult issues, owns behaviour.
Negative with fixed mindset, takes themselves too seriously, only comments on the things that go wrong	Positivity	Hopeful language, uses sense of humour, shows passion for the work, positive, enthusiastic, growth mindset, celebrates the things that go right.
Inconsistent messages and behaviours, confusing.	Clarity and consistency	Clear expectations of role and results required. Consistent behaviours and clearer decision-making model
Cold, aloof, puts product before people, is task orientated.	Connectedness	Shows warmth, personable, builds rapport and invests time in getting to know the human behind the role, shows compassion and is responsive to people's emotional needs.
Does not attend key school events, does not provide guidance or feedback. Is self-protective when things go wrong.	Support	Turns up at priority events, checks-in with team members, encourages, has the back of team members when things go wrong, provides appropriate resources.
Corrects in public, never says thank you or writes thank you notes. Only ever provides critical feedback based on their own projected fears.	Appreciation	Notice and comment on people's strengths and achievements, says thank you, praises in public
Never seeks team’s ideas and perspectives. What they say has very little impact on changed thinking and behaviour.	Collaboration	Seeks team’s ideas and perspective before big decisions are made. Can build collective buy-in.
Micromanaging at the risk of squashing innovation.	Autonomy	Allows others some sense of autonomy in their role, matches people with their passions and fit.
Avoids candid conversations. Waffly and boring speeches. Spreads confusion and defensiveness.	Communication	Is a compelling and master communicator that gets people’s attention, is an active listener, can simplify complex messages, seeks and gives feedback. Clear, concise, relevant and true.
Forgets to reinforce the why. Doesn’t keep the team on track with the important work.	Purpose	Can explain a clear vision and everyone understands how their role aligns with the bigger picture. Has a road map to get there.
Never reads a book, does not hold others accountable for their role, always tells never asks, does not provide training.	Challenge	Coaches team members to build other leaders. Provides feedback, provides opportunity for growth for team members, lifelong learner.

The implications of an understanding of the principal's behaviour, as reported by the school staff in the research interviews, is that principals can modify their behaviour to maximise reward and minimise threat. Although a number of neuroscientists (such as, Immordino-Yang & Gottieb, 2017) state that neuroscience rarely translates directly into educational or leadership practice, I argue that there are enough common understandings across social cognitive neuroscience research to provide researchers and educators with practical interventions. By connecting science to leadership, these findings may assist in assessing the effectiveness of one leadership strategy compared to another (Schaufenbuel, 2014). Additionally, if a leaders understand what dives team behaviour, the leader can align policy, practices and systems that appeal to team members so that they are more likely to perform at their best. Table 86 shows a number of strategies that can be considered informed by this study.

Table 86: Ways of maximising reward and minimising threat

Attribute	Strategies for maximising reward and minimising threat
Integrity	Establish a recruiting process based on credit rather than tap on the should for jobs so that everyone can apply.
Humility	Be real, approachable and curious. Say sorry when appropriate.
Strength	Own your own behaviour. Put courage over comfort. Continue to learn and update your skill set. Read professional research papers and texts. Remain calm and composed, not matter what.
Positivity	Use humour to reduce tension. Model a passion for the work and express enthusiasm. Promote a growth mindset.
Clarity and consistency	Principals need a clear, transparent decision-making model. Use a change process model to support people through change to decrease anxiety levels about a loss of certainty and control. Establish set routines, protocols and rituals. Repeat key messages. Chair smart meetings with a smart meeting agenda. Design a strong induction program to on board new members into the team culture. Make role clarification crystal clear. Establish several non-negotiables (givens) for every classroom and staff behaviour.
Connectedness	Create social experiences in the workplace. Kosfield (2005) showed that when workers were administrated oxytocin as a nasal spray, there was increase in social interaction and confidence. Alcohol reduces the instinctive threat response when we meet people we don't know well. Work on showing warmth – seek feedback on this.
Support	Turn up to the events that are important to team members. Check in to staff and enquire about their well-being and progress. Encourage others often. Get their back when things go wrong. Provide the resources and training required to enable the team to do their job well.
Appreciation	Write handwritten thank you notes for staff. Eliminate status markers (Nicholson, 1998) such as car park privileges or a larger office if there are not enough resources for all. Remember birthdays. Notice and comment on people's strengths often.
Collaboration	Remove competition between team members to generate cooperation and sharing. Provide group goals and group rewards. Seek other's ideas and listen. Teach the team how to collaborate.

Autonomy	Know the difference between micromanaging and accountability. Allow team members some choice in how they meet their goals.
Communication	Be clear, concise, relevant and true to increase authority in your voice. Deliver key messages through compelling story telling. Promote a culture of candid conversation.
Purpose	Explain the why often. Paint a picture of a vision and purpose. Ensure people know how their role aligns and is an important part of the vision.
Challenge	Provide opportunities for individuals to grow and master something. Set stretch goals for all staff. Support staff regarding acting roles and shadowing. Set up a coaching and mentor program. Keep people accountable to their goals through coaching conversations.

Seven, much of the literature debate on principal leadership is focused on leadership styles. I found very little evidence in the research data analysis to support the concept of a principal inspiring their staff for high performance by practising a particular leadership style. Rather, the school principals in the four case study schools used a combination of relational leadership styles and that were underpinned their interpersonal behaviours. I saw some evidence of distributed leadership, neuroleadership, adaptive leadership, inspirational leadership, situational leadership and emotional leadership. Additionally, one leadership-centred style was observed called instructional leadership, used when clarity and expectations were necessary. I argue that there is a risk in focusing on leadership styles in leadership development programs, as this approach is too limiting.

Therefore, inspirational leadership is not about a particular style, it is about how their interpersonal behaviour through their actions, words, emotion (feelings), values and artefacts impact on others and the way they feel. The way team individuals feel will impact on their willingness to cooperate and engage (Hargreaves, 2015; Swart, 2015). As the principals share a personal interaction they will leave an emotional wake (Scott, 2010) and this can be positive (inspired and encouraged) or negative (defensive or aggravated). The principal's behaviour that was shown to have impact on the school staff inspiration is shown in Chapter 4. The data was drawn from the observation of principal data and a complete set of data can be viewed in Appendix E. As reported in the literature review, in the available research, tone and interpersonal expression is just as important as words (Gordon, 2022). I suspect that the subtle interpersonal facial expressions and the tonality of the words of the principal may have had a lot to do with staff feeling, however, this was not directly evident in the interviews' data. As I carried out the observation sessions in myself for this thesis, I observed that the four principals did use 'pass the salt' tone, which is a saying in the leadership literature that means a calm and confident tone. Each principal was also disciplined in their body language to present a composed posture and demeanour.

It is interesting that the four principals had a sound grasp on strategic language phrases such as metaphoric language, normalising, bottom lining (a coaching term), priming (a psychology term), paraphrasing, strategic questioning and storytelling. They expressed their feelings (such as I am excited about that) or had an emotional impact on the person they were interacting with (such as pride, excitement or disappointment). They clearly demonstrated their values in their words and actions, such as purpose, honesty and clarity. Furthermore, they used artefacts to inspire such as a thank you note and finally, they modelled actions such as checking in, seeking feedback, active listening or upholding standards. Inspirational leadership is dependent on the principal's ability to learn certain leadership attributes that reflect behaviours that will minimise threat and maximise reward.

Eight, coaching by the principal as a way to inspire and build capacity was highly valued and extensively practiced in the case study schools. There is significant research to show that asking questions through a coaching approach is highly effective to inspire the performance of others (Bossons et al., 2015; Kampa-Kokesch & Anderson, 2001; Kennedy, 2021; Knowles, 1980; Powell, 2020; Rock & Page, 2009; Van Nieuwerburgh, 2014; Witmore, 2002). The four principals were able to differentiate their leadership approach to manage, mentor and coach. These three approaches are very different, are all essential but have unique purposes. Managing is about directing and incorporates policy, plans, systems, role clarification, training, inductions and training. Mentoring is about sharing and incorporates: guidance, modelling, demonstrating, exemplars and shadowing. Coaching however, is largely about asking questions. The International Coach Federation's definition of coaching is professional coaching is an ongoing partnership that help clients produce fulfilling results in their personal and professional lives. Through the process of coaching, clients deepen their learning, improve their performance and are stimulated to change behaviours to be the best they can be. All three approaches are important to effective leadership. Once a team member is managed and mentored and they gain some experience in their role, they can be coached effectively if willing. There was evidence in the case study schools that both principals and school teams valued coaching as a way to inspire them to be the best they could be and engage in the school goals. Brain based coaching is about coaching the human, not just the content so it has the potential to change thinking and behaviours, rather than just being support around a goal. It is a less threatening method to build capacity in school teams as discussed in the literature review.

Ninth, an integrated approach, which educators call transdisciplinary, is needed to approach, define and implement effective leadership for schools. No one field can effectively solve and create solutions alone. The neuroscience can use the latest technology to scan

brains, the psychologists can report on their behaviour studies and the educators can contribute what they know about the learner and leader to maximise performance.

Finally, using Merriam's case study model as the underpinning **methodology** for my research enabled a clear alignment from data collection to data analysis that strengthened the trustworthiness of my findings and empowered me as a researcher to address the objectives and answer the research question. The largely qualitative case study approach allowed for a deep exploration of the subject.

5.5 Contribution of new knowledge

As outlined in the literature review, the most well documented theory informed by neuroscience, relevant to this thesis, is Dr David Rocks' SCARF model (now known as the SCARE model). This theory is relevant to this study, as it considers factors that can trigger an individual into threat mode (defensive) or reward mode (inspired). The SCARF/SCARE model helps explain our strong emotional reaction to interactions with the boss as they tap into values that are important to us, revealing feelings and impacting on our motivation levels, and has been a solid first step in the socio-cognitive research into personal interaction. Based on my research in high schools, I suggest that there are more than five social elements at play, in the matter of a leader's influence to inspire. However, the five social values that form the SCARF/SCARE model were revealed and therefore supported in my research, however additional factors (that cannot be categorised under the SCARF/SCARE model's existing categories) were found: positivity, purpose, strength, integrity, humility, challenge and communication. I would also propose that the area called the relational area in the SCARF/SCARE model is much broader than would first appear, and includes support, appreciation collaboration and connectedness.

Based on the research found in the business and industry area outlined in the literature review, I would suggest that the thirteen attributes that inspire a high school team to engage, would not be far removed from attributes that would inspire any team in the workplace, across industries, business and government. My research has highlighted that strength, humility, integrity and connectedness are the top attributes of a high school principal to inspire. A similar set of attributes were seen across agencies. Therefore, the recommendations and implications of this study have relevance beyond educational leadership.

Finally, the development of leadership capacity interventions aligned to how the brain operates would be welcomed in schools. Specifically, as mentioned earlier, a 360º reflective tool for principals and a brain based executive coaching model.

5.6 Limitations (and strengths)

Limitations and delimitations are explained in full in Chapter 3. This section discusses the unexpected challenges and what the results can't tell us because of limiting issues. The study did not measure inspirational levels, but examined perceived levels of inspiration as reported by the teaching staff. The data collected was from four schools and although case study methodologies are known for their depth of investigation, the sample size was small. COVID-19 restrictions were the only unexpected challenge, but I was able to navigate around these changing conditions as they unfolded during the research period. The only impact it carried was slowing down the data collection, preventing principals from having the opportunity to travel outside their school communities to attend research forums. These limitations, however, did not impact on the quality of my data set. The key strength of this study was the decision to case study four schools rather than one, as it provided data that I could compare across staff members regarding consistency of themes. The other key strength was the willingness of school staff to allow me into their inner circles based on my education background, which gave me the opportunity to access authentic information that added validity to the data.

5.7 Recommendations

From the analysis of my research, **I recommend redefining leadership in schools** by acknowledging that Inspirational leadership is a social phenomenon that is motivational. I employ the educational sector to view leadership in schools as defined by the nature of inspirational leadership as a process of social influence and must occur through biological processes manifesting in the brain (Lieberman, 2007; Ochsner & Lieberman, 2001). Specifically, the school principal nurtures a set of attributes to appeal to his or her team's 'inner motivators, creating a drive that has an uplifting influence on one's intellect, emotion and energy to transform and grow people to achieve a shared goal (Feser, 2016). Once there is an understanding that it is through the principal's personal behaviour, through action, words, feelings, artefacts and values that will lead others, a principal can focus on differentiating their approach to manage, mentor and coach his or her team, pushing aside traditional labels of leadership styles. Leadership development programs and interventions can be shaped around the 13 attributes. This research will take a role in bridging the discipline gap and bring neuroscience to the forefront of leadership thinking in schools. There is a case for how we view leadership in schools to enhance collective efficacy and motivational levels (Elliot & Hollingsworth, 2020).

A leader needs to **build and inspire trust** as their first task within their role, and then in proceeding years sustain and build on that trust. Without trusted relationships, everything else a principal tries to do will be all the more challenging. Paying attention to trust levels in a school will foster more open communication and transparency of intent and goals (Broughton and Thomas, 2012, as cited in Schaufenbuel, 2016; Covey, 2006). Boyatzis, (2011) argues that the reason why inspiring and trusting relationships are important is because they assist in team members being more open to new ideas and more open to connecting to others. A leader who invests in laying down the foundations of trusting relationships first and foremost in their role will reap the rewards of better outcomes in the long term (Boyatzis, 2011). The only way to measure a principal's ability to do this is for the principal to seek feedback from their teams, as trust cannot be observed but only felt.

Educating teachers and wider school teams about **the link between the brain and the importance of building positive relationships** with each other is important work of the principal. Neuroscience shows that the relational leader opens pathways in the brain connecting the social brain to the thinking brain, positioning individuals to engage more favourably in social interactions (Schaufenbuel, 2014). If principals know what factors trigger a reward or a threat response, understanding the brain can be used to guide their choice of personal behaviours and team practices, particularly whether they trigger an approach reward or avoid threat response in the brain. As emotions are unavoidable and inbuilt into social interactions and decision-making, school leaders need to be trained to be aware of their own emotional state and be able to regulate their emotions in times of stress, as well as recognise others' emotions to be responsive to their needs.

The attributes will be **more effective as a set of attributes,** as the whole is more powerful than the single parts. To be competent and confident in the thirteen attributes would provide a well-rounded leadership program or leadership tool that would include both operational, strategic and human skills. A principal can't be competent (a sub-factor of strength) without having a sound grasp on policy and systems, but if that is all the training is composed of, then performance will unravel overtime because it is the human character of the role that is the glue that keeps everything moving forward.

A school principal needs to have a sound grasp on the entire set of attributes but does not need to be masterful of all, as they can strengthen attributes over time. As identified in the literature review in Chapter 2, Horwitch & Chipple-Callahan (2016) found in their business study that a leader only had to have a strength in four of their 33 attributes to make some ground in terms of inspiration. One distinguishing strength doubles the chances of being inspiring and the more distinguishing strengths you have the more inspiring you are. I

recommend that in the school context, a school principal would benefit from focusing on the top four attributes as shown in the research (integrity, humility, strength, connectedness) and over time strengthen the whole set, in no particular order.

To package the attributes in a practical way that can be used in schools, the sub - factors for each attribute were used to design a key question, shown in Table 86 below. The purpose of the key questions is to guide a school principal (or any other leader) in strengthening their influence to inspire as they interact with staff. It can also be used as a 360° feedback tool, which I am developing to help principals identify their strengths and edges (areas of development). In Chapter 1, Section 1.6.2 of this thesis, objective six states:

Objective 6. Identify a leadership intervention or tool that can be utilised to strengthen a school principal's influence to inspire based on the leadership attributes.

The basis of a leadership tool is illustrated below in Table 88. This set of attributes adds to the knowledge in the neuroleadership field.

Table 87: Feedback tool to build self-awareness

Theme WHY	Attribute WHAT	What is your confidence level with your ability to…? HOW
TRUST Minimise threat to calm the brain stem and build trust. Relates to the emotional brain.	Integrity	Be fair, honest and respectful? Use pass the salt tone?
	Humility	Inspire trust by being approachable? Be self-reflective and often seek feedback from others?
	Strength	Put courage over comfort? Being up to date with the research and highly competent? Be calm and composed under stress? Own your own behaviour? Call behaviour? Be self-disciplined for healthful brain habits?
	Clarity-certainty	Clarify roles, articulate results and expectations? Embed consistent practices?
	Positivity	Use the language of hope and set the tone? Celebrate success together? Show enthusiasm and passion for the work? Demonstrate a growth mindset?
RAPPORT Build rapport to establish a sense of belonging to the group. Relates to the social brain	Connectedness	Show warmth and build relationships? Be responsive to other people's needs?
	Support	Care, encourage and protect others up and down the line?
	Appreciation	Notice others to build their status? Provide four times more positive acknowledgment than critique? Say thank you often?
	Collaboration	See other perspectives and listen to all the voices? Build collective ownership and collective efficacy? Mine for bias and draw on collective expertise?

GROWTH Focus on learning and achievement through personal and organisational growth. Relates to the thinking brain for rational thought.	Purpose	Articulate a clear vision of a preferred future? Align roles with purpose? Explain the why? See around corners to see what is coming? Set goals?
	Challenge	Coach and grow others? Keep others accountable to the core work? Differentiate your leadership approach to manage, mentor and coach? Adapt and pivot for changing circumstances in complex times? Provide opportunities for training?
	Communication	Make the complex messages, simple and compelling? Have candid learning conversations? Inspire changed thinking for changed behaviours? Tell influential stories? Seek and give feedback? Be clear and concise? Master strategic phrases to inspire? Strategise to shape desired behaviours?
	Autonomy	Share your leadership? Allow people the space to do their job within the rules of engagement? Do only what you should be doing?

A school leader needs to differentiate their leadership approach to manage, mentor and coach. School staff have highlighted the importance of certainty, clarity and consistency as revealed in the research data and discussed in Chapter 2, Section 2.5.5, therefore managing staff as the first step is important. Managing is about role clarification, on-boarding new staff into the school culture, strategic plans, policy and systems. After these solid foundations are in place, school staff need to be mentored. There is evidence in schools that a significant amount of mentoring is happening in Queensland State Schools. Mentoring is about advising, sharing, demonstrating, observing lessons, shadowing and guiding. Once a staff member has some experience, it is then an optimum time to coach. Coaching is the most powerful tool to get behaviour change (Rock & Page, 2009).

Coaching has been highlighted in the literature review as an effective way to inspire and build capacity (Kampa-Kokesch & Anderson, 2001; Knowles, 1980; Powell, 2020; Rock & Page, 2009 Van Nieuwerburgh, 2014; Witmore, 2002), specifically, a brain-based model of coaching to capture the benefits of neuroscience. The other benefits of coaching are well documented to build expertise, build ownership, self-efficacy, agency and inspiration levels of teams. Open-ended questions generate insights, stimulate self-reflection, provoke deeper thinking, touch a more in-depth meaning, generate curiosity and inspire the learner (Powell, 2020; Rock, 2008). When a leader tells others what to do, they may rob them of their own learning and they will wait for the leader's permission, so motivation comes from the leader's approval, thus, the focus will be on being right, impression management and winning. Whereas, if a leader asks questions to build capacity, motivation comes from mastery. The focus will be to learn, develop and be better (Dweck, 2006). Finding a coach that they admire, respect, feel comfortable with and who provides honest feedback will place them in the

optimum position to build their capacity. Given that principals are high performers and want to be seen as competent, their coach should not be their supervisor, as for some personalities, this would be a conflict of interest. They need someone they can be completely honest and vulnerable with and not be concerned with impression management. Ideally, a leader is best positioned to choose their coach, someone they are inspired by.

All four of the case study schools in this research, either had been trained in executive coaching or were in the process of that training at some level. As a former high school principal and later a full-time executive coach with an executive coaching licence for the education department, I understand that coaching is widely used by school principals and senior leadership teams as a way to inspire and build the capacity of their teams. Indeed, brain-based coaching training for principals is becoming very popular in the leadership training and development field, but is still very new to thousands of schools.

The principles of coaching, centred around asking questions, align with the way the brain operates and is more likely to inspire rather than incite. It is less intimidating because it is about seeing potential rather than focused on problems; expanding people's frame of reference rather than allowing them to remain stuck in old assumptions; developing not telling; deepening thinking into motivations and values to see new possibilities and giving candid feedback to release frustrated feelings around avoiding the real conversations (Growth Coaching International, 2018). Neuroscience is beginning to provide an explanation of how and why coaching is effective to build the capacity of leaders and inspire them to grow and improve. Coaching, rather than advising, creates ownership of ideas and inspires and empowers the coachee to take action (Rock, 2006). Dr David Rock and colleagues studied fMRI scan research to examine what was happening in the brain as people were coached, noticing that people’s faces changed and showed particular expressions when they were about to have an insight. Combining what he already knew from the studies on insights (see, for example, Jung Beeman,2008), he argues that coaching is the most effective leadership approach for leaders (including high school principals) that want to inspire team members to engage and improve. This would support the case for developing leadership programs around behaviour traits (leadership attributes) rather than leadership styles or management practices alone.

It is clear that school staff would like to feel noticed and appreciated by their principal. Schools do not have the opportunity to **reward individuals** with higher salaries or prizes, at least in the Queensland State system. Given that, studies show that extrinsic rewards are rarely effective and only in the short term at best. Teachers reported in the survey that although they did not oppose public recognition and trophies, they preferred to be rewarded in private,

in a way that was meaningful to them. If rewards were announced publicly, teachers desired the whole team to be rewarded as a whole. Finding ways that make staff feel good and position them to collaborate at the same time will be more successful. Celebrating success as a whole staff group, creating opportunities for growth to build expertise, noticing strengths, using handwritten thank you notes are all more powerful ways to reward compared to public recognition of an individual and money.

5.8 Chapter summary

Chapter 5 discussed the meaning and implications of the research findings. There were nine practical and theoretical implications and the key implications were the importance of the role of emotion in leadership, that leadership is a reciprocal process of collaboration and relationships, leaders can be developed and grown, leaders can easily trigger others into threat mode and it's of vital importance that staff trust the leader. A number of recommendations were presented; coaching as an appropriate way to build the capacity of others, attributes that can be viewed as a set to inform educational leadership development programs, the importance of rewarding whole teams publicly or individual staff in private, the significance of principals collecting feedback from their teams, and introducing school staff to an understanding of the brain as new knowledge within the neuroleadership field. A practical application was presented in the form of a reflective tool for school principals to utilise to help strengthen their leadership attributes. The next chapter is the conclusion of this thesis.

Great leaders move us. They ignite our passion and inspire the best in us. When we try to explain why they are so effective, we speak of strategy, vision or powerful ideas. But the reality is much more primal. Great leadership works through the emotions…"

Daniel Coleman

Chapter 6. Conclusion

"Inspiring people comes down to keying into neurological and psychological triggers in all of us." Claudio Feser, (2016).

6.1 Chapter introduction

This chapter signifies that the research question has been answered, and the research aims have been met. It summarises the key findings of the thesis work informing the key conclusions and outlines a brief report of research design.

To summarise the chapters of the thesis, I begin with the introductory chapter, which defined the concept of inspirational leadership and outlined the aims and research questions. During the study of leadership approaches in the literature review in Chapter 2, it became evident that the more relational leadership styles, documented well in the business and industry area, were more effective in inspiring teams to engage, however there was very little research in the educational sector, especially in Australia. Leadership attributes were identified in studies across the business world that inspired staff to engage, along with motivational theories from psychology. A knowledge of how the brain operates was discussed, clarifying why integrity and strength (among other attributes) are important to inspirational leadership. Chapter 3 outlined how a multi embedded case study was appropriate to answer the research question. Chapter 4 revealed the findings of the study showing that school staff reported their inspirational levels were evoked when a school principal established trust, built rapport and attended to growth, with interview and survey data showing that when certain leadership attributes were lacking, the school staff were disheartened and unmotivated. Chapter 5 discussed the meaning and implications of the research findings, compared and related the findings back to the conceptual framework, identified any limitations to the research and discussed significant applications and recommendations for future study.

6.2 Key findings and link to the research aims

Relating to the research aims, the findings from this study reveal insights from neuroscience and psychology that assist high school principals to understand and strengthen their leadership influence to inspire their teams. A clear link can be drawn from the way the brain operates to principal behaviours to explain why the exchange between leader and follower has such an impact on the emotions that underpin inspirational feelings. Specifically,

thirteen attributes have been identified, reported by school staff, that are crucial to inspire their willingness to engage and cooperate. The attributes of inspirational leadership can be categorised into three themes of trust, rapport and growth. If principals are aware of the attributes and the associated brain related themes, they are more likely to understand the reasons for the feelings of others during interaction and adjust their behaviours to ensure their personal interactions with staff are as inspirational as possible.

Teachers across schools reported a consistent message about what inspires them regarding principal leadership. The categories for the attributes were quickly formed as teachers repeated similar stories of how integrity, humility, strength, clarity, positivity, connectedness, support, appreciation, collaboration, purpose, communication, autonomy and challenge inspired them to engage and cooperate with the principal. The practice of connectedness, strength, support, humility and integrity in many forms was discussed the most in interviews and confirmed in the survey and observation data, demonstrating that relationships and rapport with a principal as role model was important to school staff. The observation and survey data showed that principals practiced and reflected all the attributes as they interacted with their teams.

6.3 Contribution to the field

Understanding the factors that impact on our emotions during social interaction between the principal and their team members and finding personalised strategies to effectively use these brain insights, can help leaders, coaches and teachers enhance cooperation and engagement. The findings in this thesis are profoundly important to inform how high school principals can strengthen their levels of inspirational leadership, but also inspire other leaders around them by modelling behaviours that bring out the best in collective team efficacy. Specifically, reducing defensiveness that can occur easily in social interactions, by increasing the time spent in reward-approach mode and reducing time spent in threat-avoid mode, a concept synonymous with feelings of inspiration.

If school principals are aware of specific behaviours (shown through their words, behaviours, tone, expressed feelings, perceived values and actions) that can build trust and rapport and that a lack of these same behaviours that can erode it, they can be more purposeful about how they invest their time and focus. If principals are mindful that these behaviours need to be built first as a foundation for inspiring a team, they may experience improved willingness of team members to engage with them. As they interact with their staff members, they need to understand that the way they make others feel about them is going to

either inhibit or enable their willingness to engage. Understanding that humans have highly socially sensitive brains that are hardwired to detect threat will highlight the importance self-awareness and being present as they interact with staff member on a day-to-day basis.

I recommend that the leadership attributes should be viewed as a set, in order for these to be applied together as appropriate. To package the attributes practically in a useable way, the sub-factors for each attribute were used to design a key question. Table 84 outlines the key questions that might guide a school principal (or any other leader) in strengthening their influence to inspire as they interact with staff. **This set of attributes adds to the knowledge in the neuroleadership field**.

In this way, school principals can collect feedback from their team and assess themselves by using this as a framework for self-improvement. The results can be used as a reflection tool to help identify their areas of development and confirm their strengths. The four leaders in the case study had different strengths for the different attributes, but all attributes were observed in the behaviours of the principals. The literature review found that a leader can be successful even if they are in possession of only a few strengths and can build others. In this way, a school principal can start with consolidating the four top attributes of integrity, humility, strength and connectedness and over time develop the strength of the others.

6.4 Recommendations and implications for school leadership development

Neuroleadership and the study of brainwise behaviour has widespread application possibilities, from developing more human-centred principal leadership programs to understanding how to better inspire teams to boost engagement. Leadership development that focuses on leadership attributes work as they “honour the complexity and grey of the human condition, fostering authenticity” (Horwitch & Chipple-Callahan, 2016, p.16). They create an opportunity for leaders to make individual contributions based on their strengths, rather than trying to squeeze a principal into a particular leadership style as one size fits all approach (Horwitch & Chipple-Callahan, 2016). By leveraging neuroscience and increasing our understanding of the brain, we can improve influence impact and interaction effectiveness. Although there is more to learn, the key factors that inspire (trust, rapport and growth) can help make better decisions for positive school and organisational improvements such as supporting a team through change, use of brain-based coaching techniques, effective decision-making, visionary work, better collaboration for innovation and a more engaged and motivated workforce.

Identifying the factors that impact on inspirational levels of staff in schools provides a scientific framework for building self-awareness levels. New school principals learn on the job and may make errors if they are unaware of what inspires and what makes a team feel defensive. For example, the error of jumping in to change things that they can see that needs to be done, too early in their appointment, may make staff feel they are being controlled, and many may feel that their expertise is under-valued. Further, a new principal may know what to do and resort to what feels easier, telling their staff what to do. Their intent may be sincere but given the team may not have had the time to get to know them, trust and rapport has not yet had the opportunity to grow, therefore staff or more likely to perceive threat to the team's status. Additionally, the new principal may have yet to learn sound decision-making models that make communication transparent and risk being perceived as unfair. The team's sense of autonomy may be threatened if a principal micromanages in the early days in an effort to get their head around new processes. Being polite to please as many people as possible and avoiding candid conversations in order to be popular may spread confusion and lead to the staff perceiving the principal as being weak.

Strategies for motivating and inspiring staff cannot be left to the carrot-and-stick principle as offering money or promotions are beyond the capacity of many schools. The carrot-and-stick concept of motivation is an over simplified model of the avoid-and-approach response in our brain, and it can be replaced with a more effective model that includes leadership attributes that tap into emotion and values. Additionally, if principals can't rely on their own positional power to inspire, the thirteen factors found in this study demonstrate that principals can be much more innovative and effective with how they inspire staff to engage. For example, increasing opportunity for learning or nominating a teacher for a higher position, hence impacting on status, resulting in staff feeling appreciated. Timetabling teachers' lessons to share common spare times in project teams is another way that schools can support teachers to collaborate and build rapport. Making a decision-making model public so that staff know who and how decisions are made and explaining why that decision is important, will make decision-making transparent. That way, even if a staff member does not agree with the final decision, they are more likely to accept it as the decision was made around a clear sense of purpose and will be more likely to be perceived as fair.

Our ingrained tendencies to identify with the groups to which we belong provide the foundations for inspiring cooperation and collaboration with others. Thus, leaders must grasp the importance of the team identity (Haslam et al., 2013). By understanding the tribal dynamics of the human brain, the need to minimise threat, establish trust and build rapport can foster more inspired and engaged school teams. It is recommended that principals are aware of building whole school tribal spirit, otherwise a 'them and us' mindset may instinctively develop

as humans tend to bond and are loyal to one group. High schools can build unity and bond the tribe by promoting a strong sense of collective purpose, offering uniforms and establishing rituals and routines at staff meetings that are unique to that school.

Leadership theory informing school management is often founded on business models and is lacking in alignment to the unique school culture which is about growing humans (both students and teachers). Traditional leadership styles in business models have a focus on the leader as the superhero rather than a dual focus of leader and follower (Elliot & Hollingworth, 2020). School principals need to view leadership as a partnership as they cannot lead alone. They need a firm grasp on the humanity they are dealing with in order to raise hopes, energise, build trust, calm anxieties, enhance aspirations to inspire a team into action. However, most definitions of leadership are about visible and tangible practices. Inspirational leadership addresses human values, beliefs, motivations, emotion, intent and agendas; intangible things that aren't necessarily visible. This study advocates for inspirational leadership as defined by Feser, (2016), a process of social influence in which you inspire the support of a team to achieve a common vision. Inspirational leaders appeal to their team via their inner motivations through a set of attributes. There is no other definition of leadership in the literature review that serves high school principals so appropriately.

6.5 Future research

Further research to examine what is known about the relationship between school leadership and character attributes can be explored in several ways. There is a gap in the literature about what is known about the relationship between leadership styles and collective efficacy (Donohoo, 2018) of highly engaged teams. This is relevant, as teams with collective efficacy are highly motivated and inspired. Specifically, based on the findings and conclusions of this study, there are several additional opportunities for future study outlined below:

1. Do principals vary in the strength of the leadership attribute capabilities and if so, are there patterns across gender, age, experience and cultures?
2. Are there governance system implications for these findings and if so, what processes, policies and practices can be set up to support them?
3. Measure the inspirational levels of school staff post-specific interventions and compare the results with the principal's perceptions of the teams' inspirational levels?
4. How can we calibrate the strength of a leadership attribute in an individual and measure the set of attributes they demonstrate?

5. Why does coaching as a leadership approach inspire staff growth?
6. Can a neuroscience perspective of threat versus reward state be used to identify school principals who are likely to engage in behaviours associated with high inspiration levels?

I would like to add to the body of knowledge in this area by engaging in further research on the approach-and-avoid cues in a school setting and how these may prime and impact on collective team efficacy, inspirational levels and problem-solving ability through a more quantitative approach.

6.6 Limitations and delimitations of study

The case study methodology required an in-depth study of four schools who were willing to invest many hours participating in the research. Although the time I spent in schools was appropriate and adequate to carry out my research, the nature of the case study would allow for more time observing principals and interviewing the whole staff team in schools, rather than only five individuals. Another limitation was that the reported data was reflected from participants' perceptions, which, typical of human nature, could be distorted or incomplete, depending on their lived experience. Additionally, I did not measure inspirational levels with a quantitative approach using psychological instruments to seek statistical significance of data, rather, these were self-reported as perceived by school staff. However, given that how staff feel about something or someone will either enable or inhibit cooperation, the perceived self-reported feelings of participants were important and appropriate in answering my research question.

An unexpected limitation was the effects of the COVID-19 pandemic, which needed to be considered in the data collection phase of my research as school staff were exhausted and over-extended, issues that had the possibility of distorting the data, potentially making responses more negative or more hurried. To compensate for this, I gave the participants considerable notice and the allocated interviewing space was a calm setting where we were not interrupted. The deputy principals who timetabled the interviews at each school were generous with the time and space they provided for their staff to participate. The participants commented that they found the interviews quite enjoyable because it gave them a break from their busy schedule and provided them an opportunity to discuss and reflect upon their leadership.

There was a short period when schools were directed by the Department of Education (DOE) not to open for visitors or research projects, and I was instructed by the ethics

departments to design a plan B that would support my research if the conditions continued. Plan B was submitted to both CQU and DOE. I applied to the human ethics committees for extra time to extend the research period, and it was granted within two days. Although COVID-19 did have an impact on the amount of time the participants took to return the surveys, slowing down my research phase and meant more paperwork, I was able to enter schools to complete my research and all surveys and interviews were completed.

Additionally, I was unable to run principal forums due to COVID-19 restrictions, as principals were either not prepared or permitted to be away from their respective schools due to the uncertainty and complexity over the impact of the pandemic. After a discussion with my research supervisor, there was agreement I had collected enough valid data without running forums. However, these would have allowed for a wider data pool from principals outside my case study of four. The scope of the research was small with four principals and twenty staff, so this raises the question: Can the findings be generalised to all high schools in Australia or is the scale too small? I would expect that the nature of case study methodology regarding the depth of information collected and the fact that the data showed surprisingly consistent patterns across schools, the results can be generalised. As an experienced former principal and current performance coach of principals and leaders, I am aware that I will have a number of conscious and unconscious cognitive bias, but I was mindful to be open-minded to minimise and mitigate this. One strategy was to use open-ended questions in the interviews so that I was not making leading questions that might contaminate the data. I also refrained from making statements.

6.7 Bridging the discipline gap and redefining leadership

Examination of the relative infancy of neurobiology and inspirational leadership as constructs in educational leadership reveals that we can learn from combining neuroscience and leadership theories to redefine leadership in schools. This transdisciplinary field seems to be a mystery in some ways however the research raises hope in a more wholistic approach to leadership in schools. Neuroleadership has the potential to guide leadership development programs to position high school principals to better build trust and establish rapport to grow and work with their staff, towards their purpose. It has the potential to redefine leadership in schools as we know it. Instead of pigeonholing principals into specific leadership styles, such as transformational, instructional, or autocratic, principals can adjust their behaviours (i.e. what they do and say) to differentiate the way they interact with staff to increase inspiration to engage. **I redefine leadership** by acknowledging that Inspirational leadership is a social phenomenon that is motivational. I encourage the educational sector to view leadership in

schools as defined by the nature of inspirational leadership as a process of social influence and must occur through biological processes manifesting in the brain (Lieberman, 2007; Ochsner & Lieberman, 2001). Specifically, the school principal nurtures a set of attributes to appeal to their team's 'inner motivators', creating a drive that has an uplifting influence on one's intellect, emotion and energy to transform and grow people to achieve a shared goal. Once there is an understanding that the principal's personal behaviour, words and attitude will lead their team, a principal can focus on differentiating their approach to manage, mentor and coach them, pushing aside traditional labels of leadership styles. This research will take a role in bridging the discipline gap and bring neuroscience to the forefront of leadership thinking in schools.

6.8 Concluding statement

New advances in the field of neuroscience and behaviour studies combined may assist to unravel the physiology of leadership behaviours that inspire teams to engage. Technologies such as the fMRI and position emission tomography (PET) have shown neural connections in the brain that have allowed neuroscientists and cognitive psychologists to develop shared understanding of the interconnectedness of the brain and behaviour. **Using this knowledge allows leaders to better understand the brain to align their behaviour with the physiology, not against it.**

Top down leadership is not sufficient to build high performing schools. A more inspirational relational leadership approach that appeals to the team's inner motivations, creating a drive to engage and cooperate, takes a highly self-aware principal. A school principal who invests in building trust and rapport with their team and views leadership as a reciprocal process will reap the benefits.

Looking back to where this journey began with principals Mark and Rod in Chapter 1, I recognise that Rod exhibited many of the behaviours reflective of the thirteen attributes as he built trust and rapport when interacting with school staff. Perhaps the resulting rapport and high level of trust he had was why his team were inspired to work together towards their personal and organisational growth. I reflect on Mark's behaviour and question if he had understood that inspiring people comes down to keying into neurological and psychological triggers during social interaction he may have adjusted his behaviour to transform his approach to avoid the rejection he experienced. I have never met a school principal who did not want to get the best from their staff and want the best for their school communities, so a principal's influence goes beyond intent, academic background and intelligence. A school

principal's influence is about knowing how to build trust, establish rapport and grow their team and school; and through that process they grow themselves. I look forward to sharing a neuroleadership approach to inspire many Marks and Rods in the future so they don't have to rely merely on their own positional power and personality alone, to influence their staff to engage in the important work of improving student outcomes through quality teaching and learning practices.

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Appendix A: Approval letters

Human Resources Ethics Clearance approval from Central Queensland University

Ethics approval from Queensland Department of Department

Permission to Approach School's Letter

Confirmation of Candidacy Letter

Secretary, Human Research Ethics Committee
Ph: 07 4923 2603
Email: ethics@cqu.edu.au

Prof Ken Purnell and
Mrs Judi Newman
School of Education and the Arts
CQUniversity

14 September 2020

Dear Prof Purnell and Mrs Newman

HUMAN RESEARCH ETHICS COMMITTEE ETHICAL OUTCOME PROJECT: 22048 A CASE STUDY OF QUEENSLAND HIGH SCHOOL PRINCIPALS AS INFLUENCES: A NEUROLEADERSHIP AND PSYCHOLOGICAL PERSPECTIVE

The Human Research Ethics Committee is an approved institutional ethics committee constituted in accord with guidelines formulated by the National Health and Medical Research Council (NHMRC) and governed by policies and procedures consistent with principles as contained in publications such as the joint Universities Australia and NHMRC Australian Code for the Responsible Conduct of Research. This is available at https://www.nhmrc.gov.au/about-us/publications/australian-code-responsible-conduct-research-2018

On 30 June 2020, the Committee considered your application. On 9 September 2020, the Chair considered your resubmitted application. **This letter confirms that your project has been granted approval conditional upon attainment of approval from Education Queensland. Evidence of Education Queensland approval must be supplied to the CQUniversity Ethics team prior to the commencement of data collection. As a caveat of this ethical approval, a copy of the finalised online survey must also be submitted to the Ethics team for approval prior to distribution.**

The period of human ethics approval will be from the date of compliance with the above condition to 30 June 2021. The approval number is 22048; please quote this number in all dealings with the Committee. HREC wishes you well with the undertaking of the project and looks forward to receiving the final report.

The standard conditions of approval for this research project are that:

(a) you conduct the research project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments required to be made to the proposal by the Human Research Ethics Committee;

(b) you advise the Human Research Ethics Committee (email ethics@cqu.edu.au) immediately if any complaints are made, or expressions of concern are raised, or any other issue in relation to the project which may warrant review of ethics approval of the project. (A written report detailing the adverse occurrence or unforeseen event must be submitted to the Committee Chair within one working

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Queensland Government

Department of Education

16 October 2020

Mrs Judi Newman
Central Queensland University
28 Paradise Way
EMU PARK QLD 4710
Email: judinewmantpnla@icloud.com

Dear Mrs Newman

Thank you for your application, titled *A case study of Queensland high school principal's as influences: A Neuroleadership and psychological perspective*, seeking permission to conduct research in Queensland state schools (Ref. 550/27/2347). I wish to advise that your application has been supported.

This letter gives you permission to approach the principals of the schools nominated in your application to seek their final approval for the research to be administered at their school.

Please provide principals with a copy of the attached letter that contains important information to inform their decision about whether they wish to participate in this research project. Your permission to approach schools is conditional upon the provision of this letter to each of the principals you have nominated.

As detailed in the Department of Education's (Department) Guidelines for Conducting Research, the following conditions apply to your research:

- You must obtain consent from each principal of the schools nominated in your application before you can commence your research or invite research participants to participate in the project.
- Principals have the right to decline participation if they consider the research will cause undue disruption to educational programs in their schools.
- Principals have the right to monitor any research activities conducted in their facilities and can withdraw their support at any time.

This permission to approach schools has been granted on the basis of the information you have provided in your research application and supporting documents. Permission to approach is subject to the conditions detailed below:

- Work with the Queensland Secondary Principals' Association (QSPA) and Queensland Education Leadership Institute (QELI) to better facilitate research translation.
- Compliance with directives on the Queensland Health website.
- Adherence to the Department's Terms and Conditions for Conducting Research, https://education.qld.gov.au/about/Documents/terms_conditions.pdf.
- Any changes to the project required by your institution's Human Research Ethics Committee (HREC) must be submitted to the Department for consideration before you proceed with the research. Conversely, any changes required by the Department must be submitted to your institution's HREC for consideration and approval before commencing the research.
- No comparisons are to be made between the various Queensland state schools, between Queensland state schools and schools in the Queensland non-state sector, or between Queensland state schools and schools in other state and territory jurisdictions, in publications or presentations.

Research Showcase 2020
Evidence for Impact

Education House
30 Mary Street Brisbane 4000
PO Box 15033 City East
Queensland 4002 Australia
Telephone (07) 3034 5929
Website www.qed.qld.gov.au
ABN 76 337 613 647

Queensland
Government

Department Of
Education

16 October 2020

Dear Colleague

Mrs Judi Newman of Central Queensland University has the Department's permission to approach your school inviting participation in the research project titled A case study of Queensland high school principals as influences: A Neuroleadership and psychological perspective.

The acceptance of the invitation to participate is entirely voluntary and at your discretion.

This letter provides you with information about the Department's terms and conditions for research conducted on state school sites to inform your decision as to whether or not your school will participate in this research.

The Department supports the conduct of quality research in state schools and values the potential contribution of good research in informing educational policy and professional practice. Participation in research, however, may impact on the daily operations of schools and it is therefore imperative that discretion is used when deciding whether to agree to research involving your school.

As a minimum, the researcher should provide you with the following documents to inform your decision regarding school research participation:

- an information statement that describes the research, identifies who will be involved (e.g. students, teachers, parents/caregivers) and explains what will be required of these participants; • the informed consent form for you to sign to indicate your agreement that school staff, students and/or parents/caregivers can be invited to participate in the research; • a copy of the permission to approach letter from central office or a regional office (where applicable);
- a copy of the final ethical clearance from their institution's Human Research Ethics Committee; • full copies of any data collection instruments, such as surveys, questionnaires and interview schedules, to be used in the research; • a copy of all current Blue Cards and/or exemption notices from Blue Card Services at www.bluecard.qld.gov.au for any researcher(s) seeking access to children on school sites; and • indication of compliance with directives on the Queensland Health website.

Most importantly, participation in any research is voluntary and you have the right to decline your school's participation in a research project, even if permission to approach your school has been granted at central office or regional level. It is also recommended that you monitor any research activities conducted in your school and you may, if you wish, withdraw your support for the research study at any time without penalty. Mary Street Brisbane 4000

PO Box 15033 City East

Research Showcase020

Queensland 4002 Australia
Telephone (07) 303 45929
Website vwtw.qed.gld.gov.au

Evidence for Impact

ABN 76 337 613 6472

At the conclusion of research involving your school, the researchers are required to provide you and participants with a written report summarising the main findings of the study. They are also required to submit a summary of findings to the Queensland Education Research Inventory (QERI) at https://research.det.qld.gov.au.

Should you require further information on the research application process, please contact Dr Tanya Murray, Senior Research Officer, Research Services, Strategic Policy and Intergovernmental Relations, on (07) 3034 5945.

Yours sincerely

Dr Angela Ferguson
Director, Research Services
Strategic Policy and Intergovernmental Relations

Appendix B: Consent forms and information sheets

Consent Form

Information sheet for the Principal Interview

Information sheet for the Teachers (School staff) Interview

Information sheet for Survey

Information sheet for observation

Consent form

CONSENT FORM

CQUniversity AUSTRALIA

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Leadership influence study

Researcher: Judi Newman

I consent to participation in this research project and agree that:

1. An Information Sheet has been provided to me that I have read and understood;
2. I have had any questions I had about the project answered to my satisfaction by the Information Sheet and any further verbal explanation provided;
3. I am aware that the interview will be audio recorded;
4. I understand that my participation or non-participation in the research project will not affect my academic standing, my employment or association with CQUniversity;
5. I understand that I have the right to withdraw from the project without penalty at any time up until my data has been de-identified;
6. I understand the research findings will be included in the researcher's publication(s) on the project and this may include conferences and articles written for journals and other methods of dissemination stated in the Information Sheet;
7. I understand that to preserve anonymity and maintain confidentiality of participants that fictitious names may be used in any publication(s)
8. I am aware that a Plain English statement of results will be sent to me if I request a copy in the section below;
9. I agree that I am providing informed consent to participate in this project.

Signature: _____ Date: _____

Name (please print): _____

	YES	NO
I wish to have a Plain English statement of results sent to me at the address I provide below.		

Postal Address: _____

E-mail Address:

_____

Central Queensland University Ethics Approval Number 22048
Department of Education Ethics approval Number 550/27/2347

Information sheet for interviews

INFORMATION SHEET

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Leadership influence study

INFORMATION SHEET FOR INTERVIEWS for **PRINCIPAL**

Project Overview

The purpose of the Ph. D. research is to identify factors that impact on a school principal's influence from a Neuroscience and Psychological perspective. In particular, to explore whether principals use influence and if so, understand the behaviours, and means through which they do so. It is anticipated that the research findings will add to the evidence base for what factors could affect leadership influence and contribute to the development of leadership programs to support principals in their school leadership work.

Aims of study

To investigate if insights from neuroscience and psychology reveal ways leaders can better strengthen their leadership influence.

Specifically to,

1. Investigate if people can be inspired or not by certain factors in regard to leadership characteristics and conversations.

2. Explore if inspirational leadership is more likely to have a more positive impact than traditional leadership approaches.

Participation Procedure

You have been invited to participate in an interview which consists of a series of questions about leadership influence. Completion of the interview will take around thirty minutes. Participation in this project will not affect your employment, academic standing or association with the University.

Benefits and Risks

There may be no direct benefits to you for participating in this study. However, it is expected that this study may benefit the development of future leadership programs for school leaders. Your contribution is much appreciated.

There is no anticipated risk to you greater than that of inconvenience for the time taken to complete an interview. You may experience inconvenience in giving up your time to complete the interview. We do not anticipate that participation in this research will cause you any undue discomfort beyond that experienced in normal day to day living. However, if you are concerned, please consider viewing the support available at www.lifeline.org.au or contacting your General Practitioner or accessing professional support through your employee assistance program. The current phone number for the employee assistance program can be accessed from the administrative assistant in the front office of your school and is a confidential and free service.

Confidentiality / Anonymity

The interview will be coded and de-identified to preserve the anonymity of your responses from anyone outside the researcher and the researchers university supervisors. Your responses will not be viewed by any Department of Education officers. Your responses will not be shared with third parities and only sighted or read by the research team.

The data will be securely stored for a minimum of fifteen years after the conclusion of the project, in accordance with the CQUniversity Policy.

INFORMATION SHEET

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Leadership influence study

INFORMATION SHEET FOR INTERVIEWS for **TEACHERS**

Project Overview

The purpose of the Ph. D. research is to identify factors that impact on a school principal's influence from a Neuroscience and Psychological perspective. In particular, to explore whether principals use influence and if so, understand the behaviours, and means through which they do so. It is anticipated that the research findings will add to the evidence base for what factors could affect leadership influence and contribute to the development of leadership programs to support principals in their school leadership work.

Aims of study

To investigate if insights from neuroscience and psychology reveal ways leaders can better strengthen their leadership influence.

Specifically to,

1. Investigate if people can be inspired or not by certain factors in regard to leadership characteristics and conversations.

2. Explore if inspirational leadership is more likely to have a more positive impact than traditional leadership approaches.

Participation Procedure

You have been invited to participate in an interview which consists of a series of questions about leadership influence. Completion of the interview will take around thirty minutes. Participation in this project will not affect your employment, academic standing or association with the University.

Benefits and Risks

There may be no direct benefits to you for participating in this study. However, it is expected that this study may benefit the development of future leadership programs for school leaders. Your contribution is much appreciated.

There is no anticipated risk to you greater than that of inconvenience for the time taken to complete an interview. You may experience inconvenience in giving up your time to complete the interview. We do not anticipate that participation in this research will cause you any undue discomfort beyond that experienced in normal day to day living. However, if you are concerned, please consider viewing the support available at www.lifeline.org.au or contacting your General Practitioner or accessing professional support through your employee assistance program. The current phone number for the employee assistance program can be accessed from the administrative assistant in the front office of your school and is a confidential and free service.

Confidentiality / Anonymity

The interview will be coded and de-identified to preserve the anonymity of your responses from anyone outside the researcher and the researchers university supervisors. Your responses will not be viewed by any Department of Education officers. Your responses will not be shared with third parities and only sighted or read by the research team.

The data will be securely stored for a minimum of fifteen years after the conclusion of the project, in accordance with the CQUniversity Policy.

Information sheets for survey

INFORMATION SHEET

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Leadership influence study

INFORMATION SHEET FOR SURVEY

Project Overview

The purpose of the Ph. D. research is to identify factors that impact on a school principal's influence from a Neuroscience and Psychological perspective. In particular, to explore whether principals use influence and if so, understand the behaviours, and means in which they inspire others to engage. It is anticipated that the research findings will add to the evidence base for what factors could affect leadership influence and contribute to the development of leadership programs to support principals in their school leadership work.

Aims of study

To investigate if insights from neuroscience and psychology reveal ways leaders can better strengthen their leadership influence to inspire.

Specifically to,

1. Investigate if people can be inspired or not by certain factors in regard to leadership characteristics and conversations.

2. Explore if inspirational leadership is more likely to have a more positive impact than traditional leadership approaches.

Participation Procedure

You have been invited to participate in a survey which consists of a series of questions about leadership influence. Completion of the survey will take around twenty minutes. Participation in this project will not affect your employment, academic standing or association with the University.

Benefits and Risks

There may be no direct benefits to you for participating in this study. However, it is expected that this study may benefit the development of future leadership programs for school leaders. Your contribution is much appreciated.

There is no anticipated risk to you greater than that of inconvenience for the time taken to complete a survey. You may experience inconvenience in giving up your time to complete the survey. We do not anticipate that participation in this research will cause you any undue discomfort beyond that experienced in normal day to day living. However, if you are concerned, please consider viewing the support available at www.lifeline.org.au or contacting your General Practitioner or accessing professional support through your employee assistance program. The current phone number for the employee assistance program can be accessed from the administrative assistant in the front office of your school and is a confidential and free service.

Confidentiality / Anonymity

The survey will not collect any identifying information; your responses will be coded and de-identified to ensure anonymity of your responses. An envelope is provided with the survey. On completion of the survey, place the survey in the envelope, seal it and return it to the nominated school officer at your school. She or he will mail it back to the researcher. Your responses will not be viewed by any Department of Education officers or shared with third parties and only viewed by the research team.

The data will be securely stored for a minimum of fifteen years after the conclusion of the project, in accordance with the CQUniversity Policy.

Information sheet for observations

INFORMATION SHEET

CQUniversity AUSTRALIA

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Leadership influence study

INFORMATION SHEET FOR OBSERVATION

Project Overview

The purpose of the Ph. D. research is to identify factors that impact on a school principal's influence from a Neuroscience and Psychological perspective. In particular, to explore whether principals use influence and if so, understand the behaviours, and means through which they do so. It is anticipated that the research findings will add to the evidence base for what factors could affect leadership influence and contribute to the development of leadership programs to support principals in their school leadership work.

Aims of study

To investigate if insights from neuroscience and psychology reveal ways leaders can better strengthen their leadership influence.

Specifically to,

1. Investigate if people can be inspired or not by certain factors in regard to leadership characteristics and conversations.

2. Explore if inspirational leadership is more likely to have a more positive impact than traditional leadership approaches.

Participation Procedure

You are invited to participate in a study. If you consent to participant, the researcher will observe your day-to-day practice. The field observation (shadowing) consists of the researcher watching while you work to look for themes about leadership influence. The researcher will be present in all your interactions over a specific period of time. If at any time, it is not appropriate due to security or policy reasons for the researcher to observe your practice in this time period, you can indicate for the researcher to exit the room at any time. The observation research can be taken up again once you have given your approval to reenter. The observation will take around one day or can be broken into two half days. All staff members that you are interact with in this time, will be provided with an information sheet and approval will be sought for their participation in the study. This study is researching principals and professional staff. Students and parents will not be required for the purposes of this study. Participation in this project will not affect your employment, academic standing or association with the University.

Benefits and Risks

There may be no direct benefits to you for participating in this study. However, it is expected that this study may benefit the development of future leadership programs for school leaders. Your contribution is much appreciated.

There is no anticipated risk to you greater than that of inconvenience for the time taken to participate. You may experience inconvenience in giving up your time to participate in observation. We do not anticipate that participation in this research will cause you any undue discomfort beyond that experienced in normal day to day living. However, if you are concerned, please consider viewing the support available at www.lifeline.org.au or contacting your General Practitioner or accessing professional support through your employee assistance program. The current phone number for the employee assistance program can be accessed from the administrative assistant in the front office of your school and is a confidential and free service.

Appendix C: Interview documentation

Interview Design and Questions

Coded Interview Scripts Samples 1,2,3,14

Coding Records of Interview Data by Theme

Interview question design

Statement of purpose: “I am studying how a high school principal’s leadership has a positive or negative impact on their team. Specifically, how a leader inspires individuals to engage.”

Teachers (Staff members)

No.	Question	Code
1	Have you had a positive interaction with a principal?	SQYN
	Tell me everything that happened …. Start from the beginning.	IOQI
	What happened then?	OQB
	What else happened when…….?	OQB
	Tell me more about the part where….	OQD
	What happened when….	OQD
	Tell me how that made you feel?	SQCR
	What was it in the principal’s behaviour that made you feel like that?	SQCR
2	How did the principal make you feel inspired and motivated?	SQCR
3	Have you had a negative interaction with a principal?	SQYN
	Tell me everything that happened….Start from the beginning.	IOQI
	What happened then?	OQB
	What else happened when…….?	OQB
	Tell me more about the part where….	OQD
	What happened when….	OQD
	Tell me how that made you feel?	SQCR
	What was it in the principal’s behaviour that made you feel like that?	SQCR
4	How did the principal make you feel inspired, good and motivated?	SQCR
5	If you were a principal, what could you do to inspire your team?	SQCR
6	Think back to a proud moment when you had an interaction with a principal. What made you feel so good?	SQCR
7	Tell me about a time when the principals influence has been greater than expected.	SQCR
8	What characteristics do you see important for an inspirational leader?	SQCR
9	Would you like to add anything to help me explore the conditions, behaviours or factors it takes to engage and inspire a team?	SQCR

Principals

No.	Question	Code
1	Have you ever had a positive interaction with a staff member?	SQYN
	Tell me everything that happened ….Start from the beginning.	IOQI
	What happened then?	OQB
	What else happened when…….?	OQB
	Tell me more about the part where….	OQD
	What happened when….	OQD
	Tell me more about……..reaction.	OQD
2	How do you know if you have inspired a team member to engage in a positive way?	SQCR
3	What things do you do to inspire and motivate a team?	SQCR
4	Tell me about a boss that you have worked with that inspired you. What did they do to make you feel good?	SQCR
5	Who influences and inspires you the most? How do they inspire you?	SQCR
6	Would you like to add anything about what it takes to influence as an inspirational leadership?	SQYN
7	Have you ever had a negative interaction with a staff member?	SQYN
	Tell me everything that happened ….Start from the beginning.	IOQI
	What happened then?	OQB
	What else happened when…….?	OQB
	Tell me more about the part where….	OQD
	What happened when….	OQD
8	Tell me how you know the teacher was disheartened after that interaction?	SQCR
	Tell me more about……..reaction.	OQD
9	How do you know if you had a negative impact on a team member?	SQCR
10	What things do you do to inspire and motivate a team?	SQCR
11	What were the characteristics of the worst leader you have ever worked with? What did they do that displeased you?	SQCR
12	Think back to a time when someone demotivated you? What did they do to make you feel like that?	SQCR
13	Would you like to add anything about the behaviours of leader that demotivate?	SQYN

Coded interview scripts samples

Reference: Part of Interview 1

Date: 18 November 2020
Interview: Deidentified
School: Yellow
S: Sematic code: direct and explicit meaning
L: Latent code: indirect and implicit meaning
Codes: 37-76

Purpose: What is it, that the principal 'does or is' that inspires team members?

Code	Response	Person	Interview response	Theme
	1	R	Have you had a positive interaction with a staff member and if so, tell me what happened? Start from the beginning.	
37 in to see if she was OK 38 listening to her concerns 39 reflect and listen 40 mentored her	2	P	New school, different physical environment, where the executive team aren't as accessible. I was doing my wonders around staffrooms and I made some time to sit with a HOD that had a lot going on at the moment, health wise I guess so just to check in to see if she was OK. Giving her permission that she didn't have to be on top of everything at once. She has a complex role in a new system where she felt guilty about not being on top of everything. It is OK to be feeling what she is feeling at the moment. I guess during that time, listening to her concerns about she didn't think she was doing a good job -it is a complex gaol. Teachers are stressed. OK to be where we are now and reflect, listen to feedback, mentored her through that new environment, drew on E7 pressed paused and change.	Support (Empathy) 37,38,39 Challenge (Building capacity) 40
	3	R	OK If I could ask her how she felt at the time, what would she say?	
41 supported	4	P	Um, supported. She probably would say that she felt like she was doing an OK job by the end of it. She still had somethings to do but went from feeling defeated to I am actually doing OK.	Support (Empathy) 41
	5	R	You mentioned a sense of care that she may have felt, tell me more about that?	
42 Know staff on a personal level 43 Connect in 44 Passion	6		So, being new my relationships and rapport aren't as strong as if I had been here for years. So the opportunities to know staff on a personal level not just their position is important. There hasn't been huge amounts of opportunity- that time was a really good time to connect in, not being all business but connecting on person level spending time to show passion, care and empathy for where she is and where she is up to.	Connectedness 42 43 Positivity 44
	7		How do you know if you have inspired a team member in a positive way?	

Reference: Part of Interview 2

Date: 8.12.20
Interview: Staff
School: Yellow
S: Sematic code: direct and explicit meaning
L: Latent code: indirect and implicit meaning
Codes: 151-192

Purpose: What is it, that the principal 'does or is' that inspires team members?

Code	Response	Person	Interview response	Theme
	1	R	Has there been a time when a principal has influenced you and made you feel good and inspired. If so, what happened?	
151 parameters for what the conversations was going to be about (L) 152b never felt scared or intimidated 152 ask coaching questions… 153 always felt confident… 154 not leading, but clarifying questions that help challenge me in my thinking 155 no backdoor conversations 156 to move it forward 157 my five cents was not only helping them move the school forward but also helping me	2	T	They were really early on in my journey. Working with a principal that would give me the parameters for what the conversation was going to be about before I sat with them. And then, the principal would really ask coaching questions of me in that situation. I think what I really valued about that, was that I never felt scared or intimidated in the conversation, even though I was, you know, very new young beginning teacher and this was a principal with many years experience. Never felt intimidated, always felt confident that I could talk, the honest truth about situations. And the principle was able to ask not leading, but always clarifying questions to really help challenge me in my thinking and help me be able to look at solutions to how it could possibly move forward. So and in all of that I always knew that there were no backdoor conversations, around what I had said. It was always around looking at how to, whatever the particular issue was, to move it forward, so that's definitely one that influenced me. And I looked at how that made me feel so that was absolutely about feeling valued in the organization and knowing that my five cents or my 10 minutes of conversation was not only helping them move the school forward, but also helping me as a, as a young practitioner as well.	Certainty (Expectations) 151 Challenge Building capacity (non judgemental) 152,154, 156 152b Humility 153(was able to speak the truth) Integrity 155 Challenge/learning/growth, 157
	3	R	You said that the principal laid out the parameters the beginning of the conversation, tell me more about them.	

Reference: Part of Interview 3

Date: 18 November 2020
Interview: Staff
School: Yellow
S: Sematic code: direct and explicit meaning
L: Latent code: indirect and implicit meaning
Codes: 1-36

Purpose: What is it, that the principal 'does or is' that inspires team members?

Code	Response	Person	Interview response	Theme
	1	R	Think back to when you had a really positive interaction with a principal. Tell me about that.	
1Person first (S) 2Quality of that person (L)	2	T	There has been a few of them, um, probably the more positive situations is where the principals actually see the staff as people trying to improve the school. They see the person first, rather than the school agenda first, um and the effective times that that has happened they're actually looking at the what are the qualities of that person in whichever role and how is that going to assist the school, um, to move things forward, so we are looking at the strengths of the team, um, so knowing staff, their abilities and their passions and whatever else is blended into their strategic way of doing business. So that's probably the main aspect of it.	Connectedness 1,2
	3	R	Anything else?	
3Not overpowering (L) 4Permission (S) 5Doesn't; know everything (L)	4	T	Probably providing enough guidance but not overpowering whomever responsible for whatever it is. So it is around permission to explore whatever agenda it is that we are moving on, um and being open to knowing that the principal doesn't know everything and that people are openly saying we don't know it all but as a group we will know it all. Is probable the most powerful times that I have seen change happen for the better.	Autonomy 3,4 Humility (Not self-centred) 5
	5	R	Tell me about the part where you said seeing the person first seeing the human?	
6People first (S) 7Rapport (S) 8Rapport (S) and relationship at a genuine level	6	T	First thing is about caring for the people first. And building that rapport and that relationship and spending time doing that. Hey how are you going you know you spend a lot of time with each other so it needs to be more than a superficial hello in the morning. What not, so. The flip side of that I have also seen when it hasn't been a focus of people and it turns staff off like that, bang, done and then that way you don't get that rapport and relationship at a genuine level.	Connectedness 6,7,8
	7	R	What was it in the principal's behaviour that you have felt energised from an interaction that made you feel like that?	

Coding records

Definitions

Factors of inspiration: Attributes that create passion and drive that has an uplifting influence on one's intellect, emotion and energy to transform people and organisations (Feser, 2016).

Factors of uninspiredness: The opposite of feeling inspired, such as, unmotivated, defensive or disheartened.

WHY Theme	WHAT Attribute	HOW Sub-factors	Dictionary definition Oxford, (2009)
TRUST These factors minimise threat and inspire trust.			
	Integrity	Has strong boundaries, is sincere, role models, keeps confidences, does not gossip about staff, is unbiased and is able to inspire trust/is open.	Honest and trustworthy
	Humility	Is approachable and accessible to staff, is humble, is able to take their ego out, shows vulnerability and is curious.	Being humble
	Strength	Has some degree of tough mindedness, has visibility, is a persuasive influencer, can raise standards and set the tone, shows wisdom, is competent, self-disciplined, has a high work ethic, is calm and a risk taker.	Good quality
	Positivity	Use hopeful language, has a growth mindset, shows enthusiasm, uses positive framing, humour, makes positive improvements and celebrates success, joyful, fun.	Constructive and helpful. Feeling of satisfaction and enjoyment.
	Clarity & certainty	Has clear expectations, consistent practices, can provide clarity and establishes line of sight.	Easy to understand. Not cloudy or muddy. Without doubt. Able be relied on to happen.
RAPPORT These factors build a sense of belonging to the social group.			
	Connectedness	Shows warmth, puts humans first, builds relationships -rapport, bonds, is responsive, builds a sense of belonging, cares about others and tells stories to connect.	Think of being associated with each other.
	Appreciation	Notices and recognises what others are contributing, says thank you and praises.	Noticed or felt of value.
	Support	Believes in the potential of others, redirects and reinforces work being done, turns up at events that are important to others, checks in with others, encourages others, got our back, provides resources, Aligns strengths with role, helps staff and works together in partnership.	Give strength. Keep a person from failing or sinking.

	Collaboration	Works together on projects, seeks ideas and views from others, has conversations for shared understanding, builds collective ownership and listens to all the voices.	Work together for improved thinking or new ideas.
GROWTH These factors focus on learning and achievement.			
	Challenge (Building capacity)	Asks coaching questions, Advice and mentors, provides opportunity for growth, provides training, is a lifelong learner, hold people accountable, challenges others to build on their strengths and uses modelling to share their expertise.	Capability and ability Demanding tasks
	Autonomy	Provides staff some sense of autonomy and freedom within their work.	Self-governed
	Communication	Is candid in their communication, seeks and provides feedback, can simplifiers key messages for staff, are active listeners, use a respectful tone, is an engaging speaker, tailors their communication styles to context and can reinforce key messages to the school community.	Sends and receives a message
	Purpose	Can articulate the why, has a philosophical base, a clear vision for the preferred future, uses a strategic road map to show the way and keeps the teams focus on the work that matters.	Aim or intention

Coding legend

Interview number	Codes	Person and school
3	Code 1-36	This list is deidentified.
1	Code 37-76	
7	Code 77-150	
2	Code 151-192	
13	Code 193-237	
22	Code: 238-272	
20	Code: 273-309	
17	Code: 310-335	
18	Code: 336-376	
23	Code: 377-396	
21	Code: 397-417	
19	Code: 418-455	
4	Code 456-576	
5	Code 577-604	
6	Code 605-638	
8	Code 639 – 654	
9	Code 655-672	
10	Code 673-699	
11	Code 700-711	
12	Code 712-733	
14	Code 734-795	
15	Code 796 – 823	
16	Code 824-846	
24	Code 847-866	

The blue font is the principal's words. The black font is the team member's words. Anything in brackets is showing the context and is not the actual words.

Red indicates school R, RED SCHOOL
Yellow indicates school Y, YELLOW SCHOOL
Green indicates school F, FADED GREEN
Blue indicates School B. BLUE SCHOOL

The grey and white shade indicates the same speaker.

TRUST: Integrity	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 90 Interview 3: 2 Interview 1: 2 Interview 7: 11 Interview 2: 6 Interview 13: 4 Interview 22: 7 Interview 20: 7 Interview 17: 3 Interview 18: 4 Interview 23: 0 Interview 21: 2 Interview 19: 4 Interview 4: 0 Interview 5: 4 Interview 6: 3 Interview 8: 3 Interview 9: 5 Interview 10: 3 Interview 11: 0 Interview 12: 2 Interview 14: 6 Interview 15: 0 Interview 16: 7 Interview 24: 7	16		5	Talk about someone in a negative way
	17		1	Protect self
	64	Role model	3	
	66	Clear boundaries	1	
	88	I took from that, she felt she could tell me	7	
	130		3	Demoralising to work really hard and not see the leader doing the same
	131		1	Over delegating is powerfully demotivating
	132		5	Breaks the rules, talks about staff
	134	Treat people with respect. Respect their time.	1	Don't leave school 16 times a day and have a cigarette. So this guy was sitting and waiting in the naughty chair and didn't realise she (principal) had come in another door through the back way
	135		1	Unprofessional
	144		5	Be careful what you say (about others)
	145		7	Backhanded compliment
	146	Knowing as much as possible when you do stuff up and try to find within reason, why and how people feel, ask questions.	7	
	150	Your job is to always have the individual conversations with people when it's not working but praise publicly.	7	
	155	No backdoor conversations (it was confidential)	4 7	
	161	There was openness and trust	7	
	163	Relational trust	7	
	164	Trust, there is that openness and calmness	1	
	172	I mind all the time about how I treat everyone in the school (respect)	1	
	196	By trusting me	7	
	200	Trust	7	
	211	Trust	7	
	223	Trust	7	
	239	He trusted me	7	
	241	**Showed by example**	**3**	
	252	If I want people to be positive, If I want people to	3	

		be enthusiastic, I have to be.		
	254	Modelling	3	
	260	It has to be sincere	2	
	265		1	lazy
	267		1	No evidence [to show substance]
	274	[his} relationships with the team were quite significant in that he held credibility.	1	
	277	In conversations…were never felt threatened.	1	
	289		7	She cultivated favourable relationships She was demeaning and depolarising
	290		1	She lied.
	293	There was honesty and trust there.	1	
	295	Staff are going to be motivated by a sense of trust	7	
	304	trust	7	
	317	Trust	7	
	318	Character	1	
	320		6	My expertise of long standing was ignored and the favourite who didn't do much got her way
	342	Trust	7	
	361		1	Disrespectful
	410	Trust	7	The principal was not aware of the whole situation and made an assumption
	411	Assumption	6	
	421	Honesty – candid communication to nail down the real issue	1	
	436		4	Used that information against me to gain an imbalance of power (something I shared earlier in confidence)
	438	Trust	7	
	455	Talk to people how they like to be spoken to	1	
	592	Reliable	1	
	598	The way you speak to people	1	
	600		5	Talking about them behind their back
	091	Develop trust	7	
	620	Reliable	1	
	623		1	Bullying
	634	Honest	1	
	649	Trust	7	

	654	I have to be willing to lead them in a way that reflects what I want from them (role model).	3	
	653	People don't see you there just because you have a title. It is an active role.	3	
	662	Devalued	1	
	664	Respect	1	
	667		5	Talking about other teachers (gossiping)
	668	Listening to every person (not taking sides)	6	
	671	Honest and open	1	
	685	You wouldn't know if my current principal was having a bad day…she is professional	1	
	690	You have to build trust	7	
	722		6	Called down and spoken to and never got the chance to give my side of events
	723		1	Railroaded
	765		1	He took away my integrity (by accusing me of something I did not do)
	775	Honest and true	1	
	778	Strong principles	1	
	781	Words and actions (show our values by our behaviours)	1	
	784	Trust breeds trust	7	
	785	I have to model the way	3	
	827	Genuine understanding, not very good at fake.	2	
	829	Honesty	1	
	830		2	Disingenuous
	837		5	Bad mouthing
	838		6	Making instant judgements
	841	Walking the talk	3	
	842	Honesty and genuine	2	
	853	Leading by example	3	
	854	Modelling	3	
	860	Transparent	1	
	862		1	Publicly shamed
	863	Not doing what you say you will do	3	
	864		1	Threats
	865	Walk the talk	3	
	90	That you will go to work some days you will be feeling tired, sick, sore or whatever, just don't tell people. They don't want to	1	

		know about how the boss feels.		
	677	The conversation will stay with her	4	

TRUST: Humility	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 73 Interview 3: 4 Interview 1: 3 Interview 7: 15 Interview 2: 1 Interview 13: 2 Interview 22: 4 Interview 20: 5 Interivew 17: 0 Interview 18: 2 Interview 23: 3 Interview 21: 0 Interview 19: 5 Interview 4: 0 Interview 5: 0 Interview 6: 4 Interview 8: 0 Interview 9: 3 Interview 10: 5 Interview 11: 0 Interview 12: 5 Interview 14: 5 Interview 15: 2 Interview 16: 5 Interview 24: 0	5	Doesn't know everything	1	
	11	Doesn't resolve around the principal	3	
	12	They cared more about themselves	3	
	13	Didn't care about that.	3	
	45	Felt safe	1	
	72c	[No] blame	4	
	72e	Taking time to ask those four questions	5	
	82	I was a participant facilitator	2	
	84	I said what do you mean?	5	
	86	My profuse apologies	4	
	113	Consensus model	1	
	117	Always think about the staffs point of view	3	
	118		3	I'm the boss so I don't need to consult
	119		4	I've got all the ideas (because I am the boss)
	120		2	Do it because I say
	121		2	If you have to use power, you haven't got any
	123	So I learnt…and yet when I saw (self reflective)	4	
	133	If they feel they can't say that [because you don't want to listen] you just never know what they are thinking.	4	
	136		4	If she had listened…
	137		5	Jumping to conclusions
	138		5	Assuming that the teacher
	146	Know when you stuff up and finding out about how people feel	4	
	156	(question) to move it forward	5	
	231	Curiosity	5	
	234	Its hard to hear because you're going to hear things you don't want to hear (when seeking feedback)	4	
	264		3	Who could not get over their own ego
	268	He cried [can be vulnerable]	4	
	269	Very very human…it is that humanity	4	
	270	vulnerability	4	
	280	There wasn't a hierarchy there they respected [non use of power]	2	
	281	There was never any ego	3	
	299	I don't stomp on any new idea.	1	
	300	I don't have all the answers	2	

	301	I may not like [their idea] but do they get outcomes we need	3	
	355	Questions asked (don't make assumptions)	5	
	371	When people are wearing their heart on their sleeve (you know that there is trust)	4	
	386	I don't like having this conversation…	4	
	388	She showed transparency to me in the process in her thinking	2	
	389	Approachable	**1**	
	425	You need to trust the team	4	
	426	How are you going to change to adapt to them (the team).	2	
	428	Don't' be afraid to **ask questions**	5	
	437		2	Arrogance
	446	Be seen as **human**	4	
	624		1	Confrontational
	625		1	Difficult to have open conversations with
	631	Comfortable to have those (open) conversations	1 1	
	660		2	Battle of power
		Approachable	1	
			1	Not welcoming (open)
	675	I can very much to talk to her	1	
	676	Open and honest with what is happening	2	
	688	You need to find out how people feel about it (ask questions)	5	
	698		3	Inflated sense of self
			3	You don't want people to think that if is just the next step on your way to do something else.
	714	Makes you feel like you are on an even playing field.. you feel like you can talk to them (equal despite titles)	2	
	729		1	Never lock yourself away (from staff)
	730	Try to be available	1	
	732	Be approachable	1	
	733	On the same standing regardless of title	2	
	743	These are the things I want to achieve…how do you see your role in that?	1	
	777	We don't have to tell people we are kings	3	
	780	Its important to have the fight and lose than not to have the fight at all	4	
	786	To be able to call me back (call behaviour)	4	
	787	I have got to be big enough to say, I got that wrong, I am sorry. Lets fix it.	2	

	797	Relationship where you could just pop in	1	
	810	Question things	5	
	825	Not driven by their own egos	3	
	843		3	Self-serving
	844		1	You would find him behind a closed door (accessibility)
	173	I am humble	2	
	174	Speak from the heart	2	

TRUST: Strength	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 59 Interview 3: 1 Interview 1: 4 Interview 7: 7 Interview 2: 1 Interview 13: 0 Interview 22: 4 Interview 20: 3 Interview 17: 11 Interview 18: 3 Interview 23: 1 Interview 21: 2 Interview 19: 4 Interview 4: 0 Interview 5: 1 Interview 6: 3 Interview 8: 0 Interview 9: 1 Interview 10: 0 Interview 11: 0 Interview 12: 1 Interview 14: 1 Interview 15:4 Interview 16: 2 Interview 24: 1	14		6	Being unorganised
	65	Hard work ethic	8	
	70	Risk takers	10	
	72	A strong **positional voice**	3	
	75	Visibility	2	
	99	Confident (to do the work)	6	
	110	Being visible	2	
	125	Persuasive	3	
	126	Strategic (to influence)	3	
	128	Work ethic	8	
	129		8	Didn't like to work (hard)
	130		8	Demoralising to see (a principal dodging work)
	250	It made me feel strong	9	
	262		6	The inability to recognise when you're ill-prepared, when you haven't done your facts.
	263		6	Not have done any preparation
	266		6	Can't see the evidence to suggest substance (incompetent)
	292	Issues are dealt with and not swept under the carpet	1	
	305		6	I get stuck in the operational and not doing strategic work [this is the feedback I get]
	312	I went to that staff meeting in a very different mindset….I'm showing this to staff to see if they'll get on board and support it so that we can give it a go (persuasive influence and collective ownership).	3	
	315		7	Not a bull at a gate but did things properly (standards)
	319	Competence	**6**	
	328	I want them to be present (visibility)	2	
	329	Intelligence so I can respect their ideas	5	
	330	Competence and intelligence in order to have creditability	5	
	334	I can be very loyal to [a principal] if I can see their competence and wisdom.	5	Lack of competence and wisdom…lead down the garden path that is not going reap decent results
	339	Charisma	3	
	347	Teeter on the edge (tough minded)	1	
	375	Understand what you stand for	1	

	378	Being present in all major things (visible)	2	
	403	Charismatic presenter	3	Wasn't authoritative
	415	Bit **courageous**	2	
	429	To be confident	3	
	445	Be proud of yourself so others feel your success	3	
	447	Be visible	2	
	454	Just get the bad thing done (address difficult issues)	1	
	581	Good track record (of success)	6	
	628	You had confidence in that person because you know that they'd been around….experience (track record).	6	
	633	Being organised	6	
	636	Available and present (high visibility)	2	
	663	Presence (visibility)	2	
	715	Try to get around as much as I can	2	
	776	Hold to standards	4	
	800	Big understanding (has the expertise)	5	
	805	Out and about in the school grounds	2	
	816	Organised	6	
	823	Make the tough decisions	1	
	824	Good understanding (deep expertise)	5	
	839	Need to shut it [inappropriate behaviour] now. That is not what we are about	1	
	861		1	Letting people get away with whatever they want to do [poor behaviour], even though it doesn't work for the good operation of the school
	183	Relational trust, having calmness to be able to have that open communication.	9	
	331	Wisdom	5	
	332	A good handle on the real issues	5	
	333		5	Bandwagons and run with them without putting much depth of thought behind it
	363	You have to be perceptive enough to know the impact on others	5	
	366	You have to be able to recognise the broader picture of culture, and that when	5	

		things happen that you pick up on that.		
	833	You don’t have to believe everything that you are told (discernment)	5	
	836	Not be swayed (by one opinion)	1	
	296	Has a sense of the good order of the school	6	
	314	She thought about the practicalities around the operational issues [not just the strategic issues]	6	

TRUST: Positivity	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 47 Interview 3: 0 Interview 1: 5 Interview 7: 8 Interview 2: 0 Interview 13: 4 Interview 22: 1 Interview 20: 4 Interview 17: 0 Interview 18: 2 Interview 23: 1 Interview 21: 3 Interview 19: 1 Interview 4: 0 Interview 5: 5 Interview 6: 0 Interview 8: 1 Interview 9: 3 Interview 10: 4 Interview 11: 0 Interview 12: 2 Interview 14: 2 Interview 15: 0 Interview 16: 0 Interview 24: 0	44	Passion	3	
	49	Remain positive	2	
	72b		2	Tell you everything that goes wrong
	72c		5	[no] silly conversations [humour]
	73		2	Fixed mindset
	89	A joke	5	
	91	Have a positive perspective	2	
	107	Stay positive	2	
	109	Smiling (is important)	5	
	138	(talk about) good outcomes constantly	7	
	149		1	If you tell them the opposite, what they are doing wrong; there are plenty of negatives (that you could talk about)
	212	Positive energy	2	
	225	Positive culture	2	
	236	Using the language of have to not want to (positive framing)	4	
	237	Wanting to not having to (positive mindset)	2	
	253	I need to spread the enthusiasm	3	
	306	Positive culture	2	
	337	Passion in speaking	3	
	350	Enthusiastic and hopeful	31	
	377	Passion for what you do and belief in what you do	3	
	404	Celebrating and promoting events	7	
	408	Make positive impacts	6	
	412	Is proactive and positive	2	
	577	Passion	3	
	578	Wanted to see the best in people	1	
	579	Positive movement	6	
	599	Speaking positively	1	
	651	Attitude is leadership (positive mindset)	2 1	
	658	Focus on the positives	1	
	658 b	Positive language	1	
	666	Emphasis on positive behaviour and positives are encouraged	5	
	686	Have a laugh	3	
	693	Upbeat	3	

	694		1	Bit nit picky
	695		4	Sarcasm
	89	A joke to take the heat out	5	
	122	Do it with **good humour**	5	
	278	There was humour there.	5	
	283	We could laugh at each other	5	
	309	You have got to have **fun**	5	
	432	Humour	5	
	568	If people are happy…[their] productivity will skyrocket.	5	
	724	Continual positive – creating positive relationships	3	
	763	He kept most things positive	3	
	788	Small acts of kindness	6	

TRUST: Certainty & Clarity	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 33	69	Expectations	**1**	
	218	Consistent	2	
	220		1	Unpredictability
Interview 3: 1	224	Certainty	1	
Interview 1: 2	226	Consistency	2	
Interview 7: 0	379	Consistency in how things are dealt with	2	
Interview 2: 3	401	Consistent messages	2	
Interview 13: 6	616		3	Disconnected (from the role and didn't know what was going on)
Interview 22: 0	692	**Consistency**	**2**	
Interview 20: 0	15		3	How do you engage in something when you don't know what it is.
Interview 17: 0	71	Eye for the future	4	
Interview 18: 2	158	I never went into a conversation with him (principal) without knowing what the topic was about.	1	
Interview 23: 1	159	You know where the conversation and what the direction it was going to be	1	
Interview 21: 1	166	You know your role and the next steps	3	
Interview 19: 1	197	Clarity of role	3	
Interview 4: 0	227	Clarity	3	
Interview 5: 0	346	Got to bring clarity to chaos	3	
Interview 6: 3	359	Clarification	3	
Interview 8: 0	450	Visible decision making model (clarity)	3	
Interview 9: 0	617		3	Disconnected
Interview 10: 1	618		3	Generalised and flippant (advice and gave not clarity)
Interview 11: 3	707	School vision, motto….(has line of sight throughout the school)	4	
Interview 12: 0	710		2	Might make me feel unprofessional (the changing direction of the principal)
Interview 14: 4	711		2	The easiest way to loose staff is to say this is what we are doing then not follow through on that.
Interview 15: 3	771	Guidelines around performance (expectations)	1	
Interview 16: 0	779	Consistency	2	
Interview 24: 2	782	Consistently applied	2	
	793	(Words and actions) Align	2	

	803		3	A bit apprehensive, not sure what the meeting was about
	804		3	Confusing
	817	Clarity	3	
	849		3	Having no clue (after a conversation with the principal)
	852		3	It felt like [we had] two separate conv.

RAPPORT: Warmth Connectedness	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 94 Interview 3: 5 Interview 1: 4 Interview 7: 6 Interview 2: 3 Interview 13: 2 Interview 22: 3 Interview 20: 6 Interview 17: 3 Interview 18: 5 Interview 23: 3 Interview 21: 1 Interview 19: 2 Inerview 4: 6 Interview 5: 7 Interview 6: 3 Interview 8: 3 Interview 9: 3 Interview 10: 2 Interview 11: 0 Interview 12: 9 Interview 14: 8 Interview 15: 4 Interview 16: 3 Interview 24: 3	1,6	Person first	**2**	
	2	Quality of that person	2	
	7,8	Rapport	3	
	8	Relationship	3	
	19	Connect	3	
	42	Know staff on a personal level	2	
	43	Connect in	3	
	51	Connect into strengths	3	
	76	Touch based with those guys having conversations giving them the opportunity to feed into anything on their mind.	3	
	83	Get along with everybody	1	
	94	Good relationships	3	
	95	One to one line management (conversations and time together)	3	
	112	Being able to relate to that stuff	4	
	127	Not treading on toes, taking people with you	1	
	167	Time to understand your team	2	
	169	Encourage them (staff) to be part of something (school vision)	4	
	175	To handpick and know everyone and look at their worth and potential	2	
	201	Interested in me as a person firstly	2	
	202	Humanist around relationships form strong relationships	3	
	257	He always went to the pub with us [to bond]	3	
	258	I would of seen you and told you face to face [noticed you]	4	
	261	They are not just names on a list. are narratives. They're people.	2	
	273	Relationships can drive a school culture and drive success	3	
	275	He had a caring but business like manner about him	6	
	279	He had relationships with them	3	
	285	There was a sense of connectedness. There was unity. There was a good working relationship.	3	
	288		1	She would turn her back on me. Bullying.
	307	Galvanise them	3	
	316	Warm, valued people, genuinely, authentically valued people and had that warmth about her	1	

	322	Had a wonderful time with my tribe and felt very valued and acknowledged and wonderful	5	
	323	People skills and relationships come first	3	
	340	Connections	3	
	341	Shared understandings	4	
	349	Relationships	3	
	354	They needed to communicate to me a level of understanding in my craft. A level of understanding of what I stand for and either approve or not but trust me.	4	
	372	Building relationships of one of trust	3	
	383	Personable style and that type of relationship	3	
	393		3	Disconnected and distant
	396	Knowing your people and working out what works	2	
	407	Meeting with staff so they understand me	2	
	424	Work out what works for them	2	
	430	Really dig deep when you are talking to people	2	
	561		3	No check in
	565	Build relationship and rapport	**3**	
	567	Forming a relationship with people, checking in on someone's wellbeing	3	
	573	A bit more on a personal level	2	
	574	Honestly care for them	6	
	575	Joining in	5	
	576		3	Not just sending emails
	580	Personable	1	
	584	Relational leader	3	
	585	Rapport and relationship and respect from the team	3	
	593	Rapport	3	
	596	Catching up with them (checking in)	3	
	602	Listening	4	
	603	Something has changed because of that conversation…values them.	4	
	619		4	I felt I wasn't being heard
	622		4	Not very available
	635	Positive relationships	3	
	646	Care about people	6	
	647	People are first	2	
	652	If they are not caring why would you care as a staff member	6	
	657	Encouraging in nature	1	

	659	Lot of positive language and story telling	7	
	662	Know your staff	2	
	678	Someone that you can trust that knows what has happened in your life	2	
	689	Get to know the people you work with.. you have to build trust with them	2	
	713	Social interactions. Chat	2	
	716	[interact] to hear first hand	4	
	717	Relationships	3	
	718	Presence	1	
	720	Build relationships of trust	3	
	721	More as a colleague (rather than boss)	3	
	726	Need to be able to relate	1	
	727	Need to understand people	2	
	728	Compassion	6	
	734	He wanted to know about me	2	
	737	He wanted to get to know me	2	
	741	He took me on as a human first	2	
	763	As leaders of people, our people come before the project	2	
	764		6	It became personal (attach)
	766		4	People can talk criticise my performance or appearance but they can’t take my integrity or my honesty.
	768	I strongly believe in people	2	
	783	We operate in shades of grey (when we are dealing with people)	4	
	806	People come first	2	
	807	Dropping in and checking in	3	
	811	Show that I value the person	2	
	822	How people feel is important	2	
	832	Know your staff and form relationships	3	
	835	Positive relationships	3	
	845	He really knew his staff	3	
	857	Figuring out what motivates them	2	
	858	Spreading the love	1	
	866	Really knows how to build relationships	3	

RAPPORT: Appreciation	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 68 Interview 3: 4 Interview 1: 3 Interview 7: 9 Interview 2: 5 Interview 13: 0 Interview 22: 2 Interview 20: 4 Interview 17: 2 Interview 18: 0 Interview 23: 2 Interview 21: 0 Interview 19: 2 Interview 4: 8 Interview 5: 2 Interview 6: 1 Interview 8: 3 Interview 9: 1 Interview 10: 3 Interview 11: 2 Interview 12: 1 Interview 14: 7 Interview 15: 4 Interview 16: 3 Interview 24: 0	9	They are there for you	1	
	32	Acknowledged that work	**3**	
	33	Principal noticed	1	
	34	He knew I did that	1	
	54	Positive acknowledgments	3	
	59	Positive acknowledgments	3	
	60	Recognition	1	
	85		1	Did not acknowledge me
	100	Noticing and thanking	1	
	101			We don't reward those things (extrinsic things such as attendance or anything that can be contentious)
	102	Thank you	2	
	103	Thanked everyone	2	
	105	Noticing	1	
	106	Always say thank you	2	
	108	Complemented somebody	3	
	147	Privilege their work	1	
	148	Talk about good outcomes	3	
	168	Validating the work, the time, the effort	1	
	170	Personal communication about recognising and valuing their contributions	1	
	178	(Noticing that), Without that person, and without her driving things through we would never have been in the position we are in (now)	1	
	180	Acknowledgement about why that person is so critical in being able to be part of the whole team.	1	
	188		1	When someone (the principal) doesn't know what you've been doing and don't understand your worth
	245	I won teacher of the year.	3	
	271	I think having that acknowledged is really important and can be a really positive leadership technique.	3	
	284	**Recognition** that the principal gave his staff	1	
	286	My work was admired and praised.	3	
	287		3	She publicly retracted any decisions that I made
	308		2	Feeling under valued, over worked and thankless

	321		1	Extremely unacknowledged and undervalued
	324	Genuinely listening to them, I think, recognising-affirming them.	1	
	380	Positive reinforcement of what you have achieved. Acknowledgement of what has been done.	1	
	381	Feedback (praise)	3	
	443	I send little emails and post it notes [to thank people]	2	
	444	Say, Thanks for your time today.	2	
	457	Their observations showed me they had their finger on the pulse (noticed me)…ignited a bit of a spark	1	
	459		1	Not acknowledged after doing a lot of hard work
	562		1	It was expected (hard work)
	563		1	Not have the person show.. deflated after that
	564		2	Limited positive recognition or encouragement. Very quick to point out the challenges (errors)
	566	Said some really pleasing things	3	
	569	Valued and supported	1	
	458b	It meant a lot to get that approval from someone that has been in a similar position and higher than me.	1	
	594	Valued and appreciated	3	
	597	Acknowledge	3	
	621	Values	3	
	641	She had taken note of the things that I had been doing (noticed me)	1	
	645	Your feelings don't go heard	1	
	650	If you feel replaceable you don't feel valued	2	
	670	She is very encouraging to us	3	
	681	Reaffirm (on the right track)	1	
	683	She says thank you, acknowledges and praise	2	
	696	Praise	3	
	700	Acknowledgement of appreciation that you have done this	3	
	701	Acknowledgement of the way you handled a difficult situation	1	
	712	Feedback and recognition. Knowing what you are doing has some worth and value.	1	
	736	He recognised I come with a skillset	1	
	745	She saw me as a leader	1	

	767		1	He dismissed it (my feelings and I went unheard) It hurt me at a personal level.
	789	We recognise their achievements	1	
	790	We share their success	3	
	794	Work got recognised. Thank you. He put a six pack on my desk.	2	
	795	Not only did he value the work I had done but he valued my approach to it and then me as a person	1	
	798	Interested [in me and my work]	1	
	799	That the important person (the boss) was interested in what you were doing.	1	
	814	A hand written postcard. I've still got the eight that I received.	2	
	815	I really like how you did that	3	
	828		3	I don't want fake platitudes
	834	Achievements have been acknowledged and celebrated	3	
	837	Public acknowledgments, emails, congratulations, thank you.	2	

RAPPORT: Support	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally 74 Interview 3: 4 Interview 1: 7 Interview 7: 13 Interview 2: 2 Interview 13: 3 Interview 22: 2 Interview 20: 3 Interview 17: 1 Interview 18: 0 Interview 23: 3 Interview 21: 1 Interview 19: 4 Interview 4: 2 Interview 5: 6 Interview 6: 0 Interview 8: 3 Interview 9: 2 Interview 10: 2 Interview 11: 3 Interview 12: 1 Interview 14: 6 Interview 15: 4 Interview 16: 1 Interview 24: 1	22	Same page	4	
	10	Help the staff	9	
	35	Shared conversations	4	
	36	Collegial conversations	4	
	37	In to see if she was OK	4	
	38	Listening to her concerns	4	
	39	Reflect and listen	4	
	41	Supported	9	
	46	Got your back	6	
	47	Will support him	4	
	76	Touch base and listen	4	
	77	Supported her. She was very grateful for that.	5	
	78	That's my job, supporting staff.	4	
	79	Listened to	4	
	80	I ran a well being program and got some really good feedback	3	
	81	Extra time (doing extra work to support staff)	3	
	92	Needs to be supported	10	
	93	You've got my back	6	
	96	Working on the problem together	3	
	97	Work together	3	
	98	Supported	10	
	111	Doing the work with them	9	
	124		5	Don't tread on toes
	176	Setting them up with whatever the resources they need	7	
	187	Help support	9	
	194	I gave him the opportunity to follow his dream and passion. (time off)	8	
	195	Supporting this person	9	
	198	Guidance	2	
	243	Books and all the training manuals to reflect excellent in teaching	7	
	249	It made me feel supported	10	
	282	He was extraordinarily supportive	5	
	291	What can I do to support my staff so they can deliver the outcomes	9	
	294	Engagement with the community and the service component	3	
	326	Back your teacher's first…support.I am going to back you even if it means I take a hit.	6	
	380	Belief in and supportive of staff	1	

	382	**Redirection and reinforcement** with what you have achieved	2	
	391	**Guidance**	**2**	
	409	A sense of belief in you and what you can achieve	1	
	419	Relayed my trust in her	1	
	420	Affirmations	1	
	427	He trusts me	1	
	435	He helped support me and gave me the confidence to move forward	1	
	456	Talked about my potential suitability for the role	1	
	460		9	Offered no help
	591	Respecting them in their role and their ability to do the job	1	
	610	Steer me in the right direction	2	
	611	helpful	9	
	614	Present and visible (turn up)	3	
	615	Feel more positive and confident	1	
	637	Made me feel confident in the role	1	
	639	She made time for me	3	
	640	Made me feel like she recognised who I am and the work I do	1	
	643	Follow through (after a conversation)	4	
	655	Encourage teachers to become HODs.I feel very supported . Helped with that.	5	
	656	Caring for going on and progressing	4	
	673	Encouraged me	5	
	682	She trusts that I can do the work	1	
	702	Support for what they can do to help me	9	
	703	Foster any aspirations I might have	5	
	707		4	Lack of support (no follow through)
	725	Supporting staff	10	
	756	Aligned my beliefs (and passion) with my job	8	
	760	Supported and connected	4	
	762		5	Never punishment
	772	Support	10	
	791	We stand by them when it goes poorly	6	
	792	We turn up for things that are important to them	3	
	801	Interested in that area	3	
	802	Talk to staff drawing in bits (of my work)	6	
	808	Support in terms of process	9	

	809	Had your back	**6**	
	845	You'd be great. Why don't you have a go at this job. He was good at seeing the opportunities for people.	5	
	855	Working on their strengths	5	
	93	You have got their back	6	

RAPPORT: Collaboration	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 28 Interview 3: 4 Interview 1: 0 Interview 7: 0 Interview 2: 0 Interview 13: 4 Interview 22: 0 Interview 20: 0 Interview 17: 1 Interview 18: 2 Interview 23: 1 Interview 21: 2 Interview 19: 1 Interview 4: 2 Interview 5: 1 Interview 6: 1 Interview 8: 0 Interview 9: 0 Interview 10: 2 Interview 11: 0 Interview 12: 0 Interview 14: 1 Interview 15: 2 Interview 16: 2 Interview 24: 1	21	Collaborating. They like talking	2	
	22	Same page	4	
	35	Shared conversations	2	
	36	Collegial conversations	2	
	203	Co-constructed vision	4	
	204	Get the views [of the team]	2	
	229	Co-construction	1	
	230	Consultative person	2	
	311	[in regard to what she said to me] I know I had to sell it because if we can't get the support there's no point in us moving forward [she taught me that leadership isn't about having an idea and asking everyone to do it but to get the collective buy in]	4	
	348	Knowledge sharing	3	
	360		2	Making a decision without at least having the façade of proper communication and discussion first.
	392	Consultative	2	
	398	Involved (together)	1	
	405	Is involved. Engaged in what's occurring	1	
	453	Consultation	2	
	570	Getting in at times and doing some of the heavy lifting (helping)	1	
	572	Start programs and not just delegate	1	
	590	Helping them realise that…need to sell it to them	4	
	630	Has a voice	5	
	687	Its good when they ask your thoughts about it to	2	
	697		2	Change without consultation
	744	Where do you see yourself in this picture if this is the work we need to do?	2	
	812	Collectiveness	4	
	821	People don't tear down what they help to build	**4**	
	826	Advise me on what I should do (he would come to me for advice)	2	
	846	Got to be able to take people on the journey with you	4	
	847	They help me solve a problem	1	
	21	Collaborative. They like talking.	3	

PURPOSE & GROWTH: Challenge	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally 65 Interview 3: 4 Interview 1: 10 Interview 7: 7 Interview 2: 7 Interview 13: 9 Interivew 22: 2 Interview 20: 1 Interview 17: 1 Interview 18: 6 Interivew 23: 2 Interview 21: 0 Interview 19: 2 Interview 4: 1 Interview 5: 0 Interview 6: 2 Interview 8: 0 Interview 9: 0 Interview 10: 0 Interview 11: 0 Interview 12: 0 Interview 14: 8 Interview 15: 1 Interview 16: 0 Interview 24: 2	26	Growth of team	2	
	25	Growth of individual	2	
	30	Accountability	6	
	31	Hold themselves accountable	6	
	40	Mentored her	5	
	50	Coach or mentor	1,5	
	51	Connect into strengths	7	
	55	Mentored	5	
	56	Coach	1	
	61	Opportunities for growth	2	
	62	Challenge	7	
	63	High expectations (standards)	7	
	69	Expectations	7	
	81	Extra time (work)	2	
	123	Learn from others (self-reflective)	4	
	139		2	No opportunities for improvement
	140		3	Rejecting PD requests
	141	(I, principal) ran an inspiring leadership program	2	
	142	Leadership program	2	
	143	(Create) opportunities for people	2	
	152	Ask coaching questions	1	
	154	Not leading but clarifying questions that help challenge me in my thinking	1	
	156	(Question) to move it forward	1	
	157	My five cents was not only helping the school forward but also helping me	2	
	182	Know when to coach, mentor or supervise, what you need at that point	1 5	
	190	Professional development opportunities	3	
	206	Coaching conversations	1	
	207	Our conversations were around leadership and how I could build my leadership	1	
	209	Modelling (leadership)	8	
	213	I guild them in leadership	5	
	215	Modelling the way	8	
	216	I'm a big feedback person	2	
	219	Modelling (leadership behaviour)	8	
	221	Professional reading	3	
	222	model	8	

	238	He helped me and allowed me to grow.	2	
	272		7	They are not reading, not reflecting and not seeking challenges of their own, How are they going to grow?
	298	The greatest success I am having this year is because of the coaching model	1	
	311	She said to me….	2	
	344	Coaching	1	
	353	If youhaven't learnt them (skillset) or you haven't had a good mentor that might not ever get [you] to the top.	5	
	368	Lifetime of learning	4	
	370	Challenge	7	
	373	Accountability	6	
	376	Coaching by leaders	1	
	385	Spend some time with me and take me to the next level…coaching	1	
	390	Coach through situations	1	
	433	Coach	1	
	440	Giving advice	5	
	458	Took me under their wing and it meant a lot	2	
	613	Helping me make steps forward to become better in the role	2	
	638	Provide feedback	2	
	735	He wanted to know what I brought to the school and what I wanted as an opportunity	2	
	738		2	Pigeon hole kind of guy (you keep in your own lane)
	739	How can I help you grow?	2	
	740	Coaching perspective	1	
	742	He wanted to know about my strengths and weaknesses	2	
	759	Coaching questions	1	
	761	He challenged me on the things that weren't going well (for my growth)	7	
	773	Growth	2	
	819	Coaching	1	
	848	Made me take a bit more responsibility and step up a little bit more.	7	
	859	**Holding people accountable**	**6**	

PURPOSE & GROWTH: Autonomy	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 19 Interview 3: 4 Interview 1: 2 Interview 7: 0 Interview 2: 1 Interview 13: 4 Interview 22: 0 Interview 20: 2 Interview 17: 0 Interview 18: 0 Interview 23: 0 Interview 21: 0 Interview 19: 2 Interview 4: 0 Interview 5: 0 Interview 6: 0 Interview 8: 1 Interview 9: 0 Interview 10: 1 Interview 11: 0 Interview 12: 0 Interview 14: 2 Interview 15: 0 Interview 16: 0 Interview 24: 0	3	Not overpowered	1	
	4,20	Permissions	1	
	28	Choice	1	
	29	Freedom	2	
	57	Freedom to have a go	2	
	58	Freedom to fail	2	
	177	Knowing when to step in and when not to	1	
	199	Trust and autonomy	2	
	205		1	I wasn't micromanaged
	208	I was given a lot of freedom and a lot of control	1	
	210	You want to give other people the trust and autonomy	2	
	297	The motivation…if someone has a particular expertise, that they are given a level of autonomy to do that. I do not micromanage.	1	
	302	It empowers them to be in charge (control)	1	
	447	I help them feel empowered to make decisions	1	
	451		1	I don't micromanage
	648		1	It would be a very stressful situation if you had to micromanage everyone
	684		1	If you are micromanaged you don't feel appreciated or trusted
	758	Gave me latitude to find my way in the project	1	
	770	Latitude	1	

PURPOSE & GROWTH: Communication	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 52 Interview 3: 0 Interview 1: 2 Interview 7: 4 Interview 2: 10 Interview 13: 2 Interview 22: 0 Interview 20: 0 Interview 17: 1 Interview 18: 5 Interview 23: 1 Interview 21: 5 Interview 19: 6 Interview 4: 1 Interview 5: 4 Interview 6: 2 Interview 8: 1 Interview 9: 0 Interview 10: 0 Interview 11: 2 Interview 12: 1 Interview 14: 0 Interview 15: 3 Interview 16: 1 Interview 24: 1	67	Honest feedback	2	
	68	Clear communication	1	
	87	I was checking (explaining reason for behaviour)	1	
	114	Communication	4	
	115	Get feedback constantly	2	
	116	Testing to see how staff think and feel	2	
	153	Always felt confident that I could talk, the honest truth about situations	1	
	162	Open balanced communication…understanding each other…until you are on the same page.	1	
	165	Communication to get to the end point (clarity) about where you want to go.	1	
	171		5	I have been berated and the person hasn't been able to control their emotions and feelings
	179	Continually checking in to acknowledge, reinforcing that this is the right steps, actually feeding back feedback from the community.	4	
	181	Undivided attention and active listening	4	
	185	Open communication to have a go and (be able to say) this is not working	1	
	189		4	Not listening, just telling, without hearing the situation
	191	Really think through about how we communicate	7	
	192	Being strategic around the thinking (in regard to) timing (of the conversation)	7	
	193	Listening intently and trying to pick up the thread of where things were heading and why, as he was talking to me.	4	
	235	I started listening for the difference in language	4	
	310	If staff don't support it we can't use it (having the hard conversations)	1	
	336	Good speaker	7	
	338	Need to be able to get the message across in a way that not only makes it real but penetrates everything to feel like you're speaking to their department.	3	
	356	Honest communication	**1**	

	362		1	A lack of understanding. A lack of clear communication.
	364	You have to stomp on that (misinformation) You have to talk to that person.	1	
	384	You are going to hate me for a few days but…	1	
	397	Clear and honest communication…listen to all the points of view when decision making.	4	
	400	Communicate [key messages] to the entire school community	8	
	413	**Good listener**	**4**	
	414	Clear communication	1	
	417	So people leave feeling that they have been heard.	4	
	422	Real communication to nail down the issue to understand	4	
	423	Listening	4	
	431	Honest feedback (candid communication)	2	
	434	Listening	4	
	439	Listening	4	
	449		5	Dictate
	571	Communicating openly	1	
	582		6	Spoken to in a derogatory and demeaning way
	583		4	My thoughts and values are not taken into consideration (when I am sharing)
	589	Conversations	8	
	595	**Face to face conversations**	**8**	
	606	A good communicator	6	
	632	Good communicator	6	
	642	Listening to what I say	4	
	704	**Providing feedback**	**2**	
	709		1	Miscommunication (staff thought something different than the principal)
	719	Communication (listening)	4	
	796	Verbal feedback	2	
	813	Provide feedback	2	
	820	Feedback	2	
	831	Listening	4	
	856	Picking up on the subtleties, being very direct and the opposite… (Tailoring your communication)	7	

PURPOSE & GROWTH: Purpose	Code	Coded phrase or word of inspiration		Coded phrase or word of uninspiredness
Tally: 39 Interview 3: 4 Interview 1: 4 Interview 7: 0 Interview 2: 0 Interview 13: 1 Interview 22: 5 Interview 20: 0 Interview 17: 3 Interview 18: 9 Interview 23: 0 Interview 21: 3 Interview 19: 3 Interview 4: 0 Interview 5: 3 Interview 6: 0 Interview 8: 0 Interview 9: 1 Interview 10: 1 Interview 11: 0 Interview 12: 0 Interview 14: 1 Interview 15: 1 Interview 16: 0 Interview 24: 0	18	Purpose	3	
	23	Compelling reason	1	
	27	They are the work	5	
	24	Strategic direction	4	
	52	Moral imperative	1	
	71	Eye for the future	3	
	74	Credo	1	
	74b	Morale imperative	1	
	228	Connection to the work	5	
	242	He was very child focussed and he had a very strong philosophical base	5	
	244	Spoke the same language, we understood the system.	2	
	246	Philosophical premise	2	
	248	Like part of something that was bigger than me	1	
	251	Clarity of vision	3	
	313	Strategic vision	3	
	327	I do like a road map, but a visionary one.	4	
	335	Communicating it in such a way that you see the why, the purpose.	1	
	343	Follow through	4	
	345	Understanding the change process		Should not be highlighted
	351	Strategic element of leadership	4	
	357	Bigger picture reminders	5	
	358	A reminder about what we do matters	5,1	
	365	Culture is the most important thing	4	Should not be highlighted
	367	Talking about the bigger picture	3	
	369		1	If I don't feel like I understand (what, why, how of the work) I don't
	374	Rigour of good strategic thinking	4	
	399	Student centred decisions	5	
	402	Knowing what is occurring and the reason (the why)	1	
	406	Vision and reason behind it	1	
	418	Re-centred her back to the purpose	5	
	442	A good leader knows their purpose	3	
	452	Explain the why	1	

	586	Highlight their value in long term gains	5,1	
	587	Sense of ownership (in the vision)	3	
	588	Vision	3	
	665	Clear picture of the why	1	
	691	Understand what her motives are, people really respect that	1	
	769	I believe strongly in the purpose of our work	5	
	818	Action plan, giving purpose	4	

Coded data that could not be categorised under the 13 categories.

Unknown	Code	Topic
	53	Data

Appendix D: Survey documentation

Survey design

Survey data for Question 1-48

Survey data for Question 60-72

Survey data for Question 73-85 School F

Survey data for Question 73-85 School R

Survey data for Question 73-85 School B

Survey data for Question 73-85 School Y

Survey data showing cross-case analysis

Survey design and questions

SURVEY

Instructions

Thank you for agreeing to be part of this research. Please sign and date the information sheet attached to this survey to show that it has been read and understood. A tick for **each** question or a number is the only action required for this survey. For each of the questions below please place a tick in the box to indicate your response and for questions 60-72 place a number in the space provided.

PART A

In regard to inspiring me to engage, it is important for a high school principal to:

Scale

1 Strongly disagree
2 Somewhat disagree
3 Disagree
4 Neither disagree or agree
5 Agree
6 Somewhat agree
7 Strongly agree

What does inspiring me to engage mean? This refers to principal behaviours that have an uplifting influence on one's intellect, emotion and energy to motivate a sense of cooperation.

		Strongly disagree	Somewhat disagree	Disagree	Neither	Agree	Somewhat agree	Strongly agree
No	Question	1	2	3	4	5	6	7
1	Have the ability to inspire trust in others.							
2	Be a role model of respect, honesty and fairness with strong boundaries.							
3	Not gossip negatively about staff.							
4	Be humble, curious and non-judgemental.							
5	Wear a suit to work.							
6	Be able to show their vulnerability (For example, say sorry, I don't know).							
7	Be approachable, available to staff and able to take their ego out.							
8	Be tough minded, can make the hard decisions and is willing to have the hard conversations to maintain high standards.							
9	Be visible and be seen as competent.							
10	Is the first to arrive and the last to leave.							
11	Be calm at all times especially under fire.							
12	Use hopeful and positive language and have a growth mindset.							
13	Show a passion and enthusiasm for their work.							
14	Use humour to diffuse tension and bring joy to the work.							
15	Has a second language.							
No	Question	1	2	3	4	5	6	7
16	Ensure that staff have clarity of role.							
17	Be consistent so teachers know what to expect.							
18	Stay the course and repeat key messages.							
19	Have personal warmth, build relationships and easily connect with others.							
20	Have a PhD degree.							
21	Get to know the human behind the role.							
22	Care about the wellbeing of the team.							
23	Show a belief in my potential to do the job.							
24	Have my back when things go wrong.							
25	Have a range of hobbies.							
26	Provide resources and the help I need for the work I do.							
27	Notice and acknowledge how I go about my job.							

28	Notice my contribution to the value I add to the team.							
29	Take time to say thank you when I do my job well.							
30	Keep everyone happy all the time.							
31	Seek my ideas and views on important school issues.							
32	Be consultative and listen to all the voices.							
33	Be able to build collective ownership and 'buy in' from the team.							
34	Give me opportunities and challenges me to grow.							
35	Have a bus licence.							
36	Coach me to build my leadership capacity and skill set.							
37	Stay up to date with current research and is a learner.							
38	Allow me some sense of autonomy in my job.							
39	Not over micromanage me.							
40	Allow everyone on staff to do their own thing.							
41	Trust me to approach the work in my way within parameters.							
42	Be a master communicator simplifier of complex messages.							
43	Be candid so there are no elephants in the room.							
44	Provide feedback, seek feedback and be an active listener.							
45	Be always right.							
46	Have clarity of vision and is able to keep people on the work that matters.							
47	Have a strategic road map to show the way with attention to detail.							
48	Have a philosophical and research base for the choice of practices.							

PART B

Rate the following principal behaviours, in regard to the extent to which you feel inspired to engage.

Scale

1 Highly demotivating

2 Very demotivating

3 Demotivated

4 Neither demotivating or inspirational

5 Inspired

6 Very inspiring

7 Highly inspiring

		Highly demotivating	Very demotivating	Demotivating	Neither	Inspired	Very inspiring	Highly inspiring
No	Question	1	2	3	4	5	6	7
49	Being thanked by the principal in the form of an encouraging word.							
50	Being thanked by the principal in the form of public praise.							
51	Being thanked by the principal in private, face to face.							
52	Being thanked by the principal in the form of a handwritten note.							
53	Being thanked by the principal by believing in me.							
54	Being thanked by the principal in the form of an award.							
55	Being thanked by the principal in the form of promotional support.							
56	Being thanked by the principal by hearing them tell others about me.							
57	Being thanked by the principal by investing in my growth.							

PART C

On a scale from 1 to 10, how would you rate the value of a comment of praise, acknowledgement or thank you from the following people? (1 being of very little value and 10 being it would mean the world to me).

No	Question	1	2	3	4	5	6	7	8	9	10
58	The principal										
59	A peer colleague										

PART D

The 13 factors are behaviours of principals. Rank the 13 factors in order of priority of importance from 1-13, in regard to how they inspire you to engage. 1 being the most important and 13 being the least important. (For example, if ‘strength’ is your first priority because you think it is the most important, place a number ‘1’ beside Question 62.

Scale
1 being first, 10 being least

No	Question	Rank from 1 to 13
60	Integrity: Is a role model of honesty/respect and is trustworthy.	
61	Humility: Is humble and approachable.	
62	Strength of character: Has the courage to do and say the right things even when they are not popular.	
63	Positivity: Is enthusiastic and passionate.	
64	Clarity and certainty: Is consistent and has clear expectations.	
65	Connectedness: Shows warmth, builds relationships and puts humans first.	
66	Support: Believes in my potential and has my back when things go poorly.	
67	Appreciation: Notices and acknowledges my contribution.	
68	Collaboration: Consults on my ideas and perspective.	
69	Building capacity: Provides opportunities for growth and challenges me.	
70	Autonomy: Provides some sense of choice in how I do my work.	
71	Clear communication: Is a master communicator, gives and receives candid feedback and can make the complex messages simple.	
72	Purpose: Can articulate a clear vision and uses a strategic road map to show the way.	

In the last year, to what extent does your principal practice the factors of inspiration to influence?

Scale
1 Never
2 Once or twice
3 Sometimes
4 Don't know
5 Often
6 Weekly
7 Always

		Never	Once or twice	Sometimes	Don' t know	Often	Weekly	Always
No	Question	1	2	3	4	5	6	7
73	Integrity: Has been a role model of honesty/respect and is trustworthy.							
74	Humility: Has been approachable and is humble in manner.							
75	Strength of character: Has shown courage to do and say the right things even when it is not always popular. Showed great competence.							
76	Positivity: Was enthusiastic and passionate.							
77	Clarity and certainty: Was consistent and had clear expectations.							
78	Connectedness: Shows warmth, builds relationships and puts humans first.							
79	Support: Believed in my potential and has my back when things go poorly.							
80	Appreciation: Has noticed and acknowledged my contribution.							
81	Collaboration: Consulted for my ideas and perspective.							
82	Building capacity: Provided opportunities for growth and challenged me.							
83	Autonomy: Provided some sense of choice in how I do my work.							
84	Clear communication: Has shown he or she is a master communicator, gives and receives candid feedback and has made the complex messages simple.							
85	Purpose: Articulated a clear vision and used a strategic road map to show the way.							

PART E

Rate the following three social values from 1 to 3, that you would want a principal to have and show in regard to his or her ability to inspire others.

Scale

1 The most important
2 Very important
3 Important

No.	Question	1	2	3
86	**Trust** (The ability to inspire trust within the team).			
87	**Rapport** (The ability to build relationships and a strong sense of belonging within the team).			
88	**Purpose and growth** (The ability to grow expertise, build capacity and execute achievement/results for staff).			

The end. Thank you.

Survey data for each case

Survey, Part A, Question 1-48

Attribute	Case F	Case R	Case B	Case Y
Integrity	6.46	6.93	6.93	6.6
Humility	6.4	6.33	6.6	6.33
Strength	6.47	6.6	6.73	6.33
Positivity	6.27	5.67	5.73	6.07
Clarity	6.27	6.07	6.53	6
Connectedness	6.2	6.13	6.07	6.13
Support	6.53	6.07	6.33	6.4
Appreciation	6.07	6.27	5.87	6
Collaboration	6	5.87	5.8	5.93
Challenge	5.93	6.33	6	6.2
Autonomy	6.47	6.27	6.13	6
Communication	5.95	6	6	5.93
Purpose	6.13	5.73	6	5.67
Non-attribute	2.73	2.97	2.44	2.04

Table 88: Question 1 – 48 showing individual schools

Survey, Part D, Question 60-72

Rank the 13 factors in order of priority of importance, in regard to how they inspire you to engage.

Table 89: Rank order of 13 attributes

No	Question Rank in order of priority	1	2	3	4	5	6	7	8	9	10	11	12	13
60	Integrity: Is a role model of honesty/respect and is trustworthy.	13	4	1	1		1							
61	Humility: Is humble and approachable.		4	3	2	1	1	2	1	2		2	1	1
62	Strength of character: Has the courage to do and say the right things even when they are not popular.	2	4	4	2	1	2	2	1			1	1	
63	Positivity: Is enthusiastic and passionate.	1	1	1	2	2	2	1	1	2	1	3	1	2
64	Clarity and certainty: Is consistent and has clear expectations.	1	5	3	3	3	2	1	1			1		
65	Connectedness: Shows warmth, builds relationships and puts humans first.	1	2	3	1	1	3	2	1			2	3	1

66	Support: Believes in my potential and has my back when things go poorly.		1	1		4	1	7	1	1	2	1	1	
67	Appreciation: Notices and acknowledges my contribution.		1						3	4		1	3	8
68	Collaboration: Consults on my ideas and perspective.						1	3	3	3	7	3		
69	Building capacity: Provides opportunities for growth and challenges me.	1			1	1		3	2	2	3	2	3	2
70	Autonomy: Provides some sense of choice in how I do my work.					3	1		2	1	2	2	3	5
71	Clear communication: Is a master communicator, gives and receives candid feedback and can make the complex messages simple.	1			6	2		2	2	4	1	1	1	
72	Purpose: Can articulate a clear vision and uses a strategic road map to show the way.	1	1	3	3	3	2	2	1		3	1		

Survey, Part D, Question 73-85 School F

Table 90: School F Question 73-85

Attribute	Staff member					Mean
	1	2	3	4	5	
Integrity	5	5	5	7	3	5
Humility	5	5	5	6	5	5.2
Strength	6	6	5	6	3	5.2
Positivity	6	5	5	6	5	5.4
Clarity	5	6	6	7	3	5.4
Connection	5	5	6	6	4	5.2
Support	6	6	6	6	5	5.8
Appreciation	5	5	5	5	3	4.6
Collaboration	6	4	5	5	3	4.6
Challenge	5	6	5	5	3	4.8
Autonomy	5	5	5	5	5	5
Communication	5	5	5	6	3	4.8
Purpose	6	6	5	6	3	5.2

Survey, Part D, Question 73-85 School R

Table 91: School R Question 73-85

Attribute	Staff member					Mean
	6	7	8	9	10	
Integrity	7	7	5	5	6	5.6
Humility	7	7	5	4	7	5.6
Strength	7	7	6	6	5	5.8
Positivity	5	5	5	5	5	5
Clarity	5	5	6	6	5	5.4
Connection	5	5	5	5	3	4.6
Support	6	6	6	5	3	5
Appreciation	5	5	5	5	5	5
Collaboration	5	5	6	3	3	4.4
Challenge	6	6	5	5	5	5.2
Autonomy	6	6	5	4	3	4.6
Communication	5	5	5	7	3	5
Purpose	5	5	5	7	3	5

Survey, Part D, Question 73-85, School B

Table 92: School B Question 73-85

Attribute	Staff member					Mean
	11	12	13	14	15	
Integrity	5	5	3	5	5	4.6
Humility	3	6	3	6	5	4.6
Strength	5	5	5	7	5	5
Positivity	5	6	5	5	7	5.6
Clarity	3	6	5	5	5	4.8
Connection	3	6	3	6	5	4.6
Support	5	6	5	7	6	5.8
Appreciation	5	6	5	6	5	5.4

Collaboration	3	7	3	6	5	4.8
Challenge	5	6	3	7	5	5.2
Autonomy	7	6	5	6	5	5.8
Communication	5	6	5	6	5	5.4
Purpose	3	6	7	7	6	5.8

School Y as graphed in figure 26

Table 93: School Y Question 73-85

Attribute	Staff member					Mean
	16	17	18	19	20	
Integrity	7	6	6	4	3	5.2
Humility	6	6	6	4	3	5.2
Strength	5	5	6	5	2	4.6
Positivity	6	7	6	5	6	6
Clarity	5	7	5	5	2	4.8
Connection	6	6	7	5	5	5.8
Support	6	6	7	5	2	5.2
Appreciation	6	5	5	5	3	4.8
Collaboration	6	5	5	5	6	5.4
Challenge	5	5	5	5	2	4.4
Autonomy	6	6	6	5	6	5.8
Communication	6	6	6	5	3	5.2
Purpose	6	6	6	5	3	5.2

Survey data showing individual school cases

Interview coding data by school
Cross-case analysis

The number of times (frequency) that the school staff mentioned an attribute, meaning the number of codes for each attributes in the interviews.

Attribute	Case				
	Y	R	F	B	Principal
Integrity	15	10	18	23	24
Humility	9	13	14	12	25
Strength	6	2	25	11	15
Positivity	5	10	5	9	18
Clarity	7	4	9	4	9
Connectedness	24	17	23	16	14
Appreciation	20	10	16	8	14
Support	14	11	12	10	27
Collaboration	8	2	8	4	5
Challenge	14	0	16	7	28
Autonomy	5	2	2	2	8
Communication	17	4	10	7	14
Purpose	7	2	14	8	8

Appendix E: Observation Documentation

Observation Data for School Yellow

Observation Data for School Red

Observation Data for School Faded green

Observation Data for School Blue

Frequency of Attributes Identified in Observation

School: YELLOW

Date: 18.11.20 & 8.12.20

Time: 9.45am-11.15am Time: 8.30am-5pm

Interactions: 33 People

Duration:10 Hours

Protocol for observation: Note purpose of interaction and record quotes as examples.

Protocol for analysis:

- Identify evidence of attribute behaviours over the whole day (13 attributes)
- are the pronouns ‘we’ or ‘our’ used by the principal and is there any patterns in the language of the principal that may contribute to building trust, rapport and growth/purpose (3 themes).
- At the leadership meeting over one and half hours, determine the ratio of question to statements made by the principal.

18.11.20 Purpose of interaction	Phrase or context	Theme notes
9am WALK AROUND THE SCHOOL		
11Thank you (1)	Thanks (name deleted) for yesterday. The students were really excited about that because it helped them with their social skills.	H2
2Check in	What do you need me to do?	G4
3Humour		D5
4Connect (1)	How is your wife (name deleted).	F3
5Thank you	I don’t know what I would do without you…I watched you manage that… and you were great.	H1
6Praise	(Name withheld) that was awesome…	H3
7Check in (1)		G4
8Humour		D5
9Expectations and boundaries	You know that respectful interactions are important to me so I would expect that every staff member do the same.	A1
10Listening	You can ask me anything.	L4
11Apologising	I am sorry (name withheld) I think I got that wrong. What is your take on this? I am not good at that but I am working on it.	B2. B3. B4

8.12.20 Purpose of interaction	Phrase or context	Theme notes
8.30am PRINCIPAL WALK AROUND TO STAFFROOMS CHECKING IN		
12Listening (1)		L4
13Thank you, notice	“Thank you for your work with the year 7s yesterday. I noticed that you used the wellness activity. From my view, the students enjoyed it.”	H2
14Checking in and following up (1)	“What do you need me to do?”	G4
15Humour	Laughter	D5
16Connect (1)	“I love those too. Tell me about that one”	F1,3
17Thank you	“Awesome, thank you”	H2
9.30am ADMIN MEETING (4)	HODS upset and confused about the inclusive program So Principal and DPs and HOSE meet to plan for a HOD meeting	
18Connected as each person arrived, humour used	Swapping of video of each other at sports day. Lots of laughter.	F1, D5
19Welcome and one word barometer	Calming “Name one person you want to make time for “	H1, F3
20Hot issues invited, listening	Discussed tricky issues, concerns to be pro-active to solving small potential issues before they become real problems.	I2
21Listening for clarity. Solving issues together. Questions for mutual understanding and clarity.	We are……. Our…..	I2, L4, E3
22Explained the why and the what	“We need to be able to justify this, if challenged by a parent.”	M1, C5
23Seek information	“I will seek clarity on that and get that out to everyone.”	E3
24Invited input from HODs, listened		L4
25Coaching questions	“We have been on this journey for three years, what do you think is getting in the way.” “How can we make it not an add on”	J1, B5
26Confirming he has listening.	“I hear the message that things haven’t been shared well with the leadership team, hence the confusion.	F4, B3
27	You raised a very important point.”	L4
28	Do you call that a culture of learning rather than a PBL program.?	E3
29Coaching questions Listening to all perspectives	Tell me about how you will lead that?	K1, K2, J1, L4
30Confirming and summarising	HOD: I am hearing that no one is against the concept, they are just want clarity on roles and timing implications. (shared leadership)	L4
31Coaching questions to the HOSE	What do you hope to achieve at this afternoons HOD meeting? What do you want them to walk out with?	J1, L4

32Principal spent 70% of time listening	What would make a successful meeting? What are the HODS roles and responsibilities in this? What is the expectation for day 1 next year? What does that picture look like in two year's time? Does it sit inside the strategic plan? Can you run through how you will present this afternoon? Has this discussion provided more clarity to help you plan a successful meeting this afternoon?	
33Direction to the DPs	Re-read the strategic plan so we can have it polished by the last day of school.	E1
34Thank you Next step clarity	"Thanks everyone for your hard work. Our next step is…."	H2, E1
11am MEETING WITH A STAFF MEMBER ON SHORT LIST PANEL		
35Principal and team work together to organise short list (1)		I1
36		
CHECKING IN WITH STAFF 11.40am	Walk around	
37Checking in (1) Confirming they are on the same page Listening	"Can you let (name) know that …"	G4, L4
38Checking in (1) Questions Thank you	"How is the reporting cycle going?" "What are your challenges? "	G4, L4, H2
39Checking in (1) Provided up date Thank you	Which way would you like to go here?	K1, K2, G4, H2, L8
40Checking in (1) Swapped information on student Listening Thank you	"That will be awesome."	G4, I3, H2
41Checking in (1) Humour Update Thank you	Thank you for that translation"…"I am clear about that now and am looking forward to the result."	G4, D5, H2, E3
12 Noon PHONE CALL FROM TEACHER		
42Questions and direction (1)	"Can I ask you to work with (name) on that?"	IE
43Thank you	"Thanks for your role in the clean-up in B5"	H2
44Acknowledgement and humour	"Perfect…laughing together."	D5, F3
45Check for understanding	"Was that clear for you? We….	E3

46Listening, empathy	“How do you feel about that?”	F4
47Acknowledgment	“Excellent outcome” Well done you”	H3
12.15pm TEACHER DROPS IN		
48Listening and problem solving (1) together, collaboration Clarity around policy Agreement of solution Thank you	Teacher talks through a problem with a student. “(Name), thanks for taking the time to drop down and discuss this with me I appreciate that that took some courage on your part and I value your honesty and courage. Good outcome. You handled that well”	L4, I1, H3
2.30pm-5pm HOD MEETING		
49 80% active listening (15)	HODs concerned and confused – unhappy about inclusive program	L4
50Clarifying roles and policy	Our work on…. Is this what we understand as…	E3
51Feedback taken	HOD: This should have been part of our strategic plan. Principal said “I’ll take that”	L2
52Coaching questions	What needs to be clearer for you? How will we know when we get there? When we get there, what will be better for us?	E3, J1
53Principal allows the HOSE to lead the meeting (shared leadership)	Principal summaries what has been said and checks for understanding Our vision is…	L6, E1
54	Principal directs conversations into problem solving and some practical next steps after everyone has had their say. He takes responsibility for the problem with no blame to the HOSE.	I1, G2, B2

Data from leadership meeting 8.12.20 2.30pm – 4pm

Pattern	Evidence
Evidence of attributes	All 13 attributes were evident in the principal’s behaviours. Refer to table
Ratio of statements to questions	1 question to 4 statements was made by the principal.
Use of pronouns	Evidence of we and our used 50,52,53
Patterns in the language that may contribute to the three themes	**Used a check in protocol at the beginning of meetings** Name one person you want to make time for. **Highlighted important messages by restating** what the team member said: “You raised an important point” 27 **Uses non-judgemental language** Uses no blame 54 **Used open ended coaching questions** What needs to be clearer for you? (52) How will we know when we get there? (52) When we get there, what will be better for us? (52)

	What do you want them to walk out with? (31) **Active listening** (10,12,21,24,32,37,40,46) **Wise council** We need to be able to justify this if challenged by a parent.

School: Red

Date: 7. 12.20

Time: 7.30am – 5.30pm

Interactions: 37 plus whole staff meeting (150)

Duration: 10 Hours

Protocol for observation: Note purpose of interaction and record quotes as examples.

Protocol for analysis:

- Identify evidence of attribute behaviours over the whole day (13 attributes)
- are the pronouns ‘we’ or ‘our’ used by the principal and is there any patterns in the language of the principal that may contribute to building trust, rapport and growth/purpose (3 themes).
- At the leadership meeting over one and half hours, determine the ratio of question to statements made by the principal.

Purpose of interaction	Phrase or context	Attributes notes
1 7.30am (5) EXECUTIVE LEADERSHIP MEETING Update and check in for clarity	Updated DPs on week’s events	E3
2Questions	Tell me about how you managed that. How did that go for you?	K1, K2, B5
3Explaining intent		M1
4Set expectations		E1
5Sharing data	Student wellbeing surveys	I3
6Clarifying roles Seeking input	Draft roles in 2021 to aid planning for 2021	E3, I2
7Request and expectation	“I am going to need you to quarantine some time for (name of new DP) to…”	M1
8Active listening	Paying attention	L4
9Asked for feedback on role descriptions	Opportunity for team input	I2
10Information about projected staff budget requests	For consultation and consideration	L8
11Updated DPs on the conversations she had had with staff on various key issues	To ensure the DPs are in the loop and therefore can reinforce any key messaging and problem solve issues as they come up	I3

12Acknowledgment and thank you	“Thank you for your input. Your work this year has meant the school continues to move forward.”	H2
13Clear expectation and direction	Issued and shared school review report Summary of external review recommendations “We need to ensure that we have acted on the feedback so look at your roles for 2021 and action any recommendations that are within your role.”	E1, E3
14Asked for any agenda items from the team for the coming HOD meeting.	DP said fire drill report DPs asked questions for understanding and clarity DP flagged a potential issue with the last day activity	L4
15Issued SFD program draft for input Purpose and intent Direction and next steps	Reason and purpose for agenda items on program explained by principal DPs asked clarifying questions DPs gave feedback and input “Can you follow up on….” Our goal here is to…	G10, I3, E3, E1
16Uniform policy update	Amendment in uniform policy by P & C	
Equity policy update Input Collaboration Shared thinking Shared understanding	“Can you follow up on….” What do you think of….” Principal explained both perspectives (parents and staff) Principal explained the complexity of issue – the grey Principal explained the consequences and impact on options outlines We need to take care that..	I3, E1
17Listened to input	“ok” paraphrasing	L4
18Open to input	“What does that look like for the naughty and the genuine disadvantaged?”	C5
19Purpose and intent	“Keep in mind that this is about…”	M1, C5
20Risk assessing ideas	“ I wouldn’t want that to be a problem…”	L2
21Questions for the DPs	“ Could we……Could we have a look …..”	M5
22Built on strengths of team	Tapped into expertise of DPs	I2
23Checking for accuracy	Email about leaving staff for staff farewell so that everyone feels valued.	F1
24Principal in office		
9am AO ENTERED PRINCIPAL’S OFFICE		
25Principal thanked AO for the work to date on that issue (1)	Principal has open door policy showing that she values everyone’s time. “Thank you so much… this must of taken you many hours. I really appreciate it.”	H1,2, A1
26Providing reason and perspective	Talking to a teacher about the importance and place of a uniform check. “If you can’t tell them what to wear, you can’t tell them anything. They (students) need to play by our rules not theirs”	C5
9.30am INDUCTION OF NEW TEACHER		
27Welcomed (1)	Smiled, warm and welcoming Questions about background beyond their role “Tell me about your family” “How is your rental situation”	F1,2,3

28Seek information about past practice that worked well Acknowledged what the new person could add to the expertise of the team	Asked a lot of open ended questions Enquired about past experience “Can you give me an example” Paraphrasing “Excellent two good ideas there I can consider, thank you” “Excellent, thank you”	F2
29Shared stories of similar stories	Our histories are the same.	F1
30Explained background behind why they do things the way they do them at the school to create a shared understanding. (Purpose)		I3, M3, M1
31Revealed coming key activities	Priming, alerting to the importance and significance of coming event “It’s exciting”	L8
32Show positive enthusiasm	We are very proud of the _____in our school community. It is a show piece for the local community and we are committed to keep it moving forward at a high standard.	D1
33Ask for ideas about a coming project		I2
34Ask for feedback about their experience so far	Non judgemental, non threatening May I ask for feedback on..	B1,2, L2
10AM PRINCIPALS ASKS FOR ASISTANCE (1)		
35Staff member assisting principal with a process. Listening and following advice Asked about a coming shared social event (connectedness) Discussed local events (connectedness) Collaborating to problem solve as issue arose in the process they were working on together.	Intense focused paying attention Taking an interest in the life of the staff member How would you lead that?	K1, K2, L4, F2
10.40AM INTERACTION WITH A TEACHER (1)		
36Asked questions Seeking opinion Shared information Listened, confirmed Collaborative planning Asked advice Backed up the staff idea, supportive Teacher discussed an error in judgement she thought she made. Shared a professional reading	Non judgmental “Are we happy with that?” “I mentioned that on parade this morning” (showing support for the teacher’s project) What is that? “I see what you are saying here….” “I like that idea.” “No, I have seen her present too. I thought she was good. We were not to know.” It’s OK. It’s not your fault.	L4, I1, I4
12 MIDDAY MEETING WITH A TEACHER TO DISCUSS CASE STUDIES (1)		

37Clear expectations of outcomes desired.	Wastes no time and stays on track “Let’s get right to it” “Can you share with me your thinking on…. to ensure that the attendance data is accurate and improving.”	I3
38Acknowledgement and valuing work input	“I can see the time you have put into this.”	H1, F3
39Listening and problem solving together Checked for understanding	“I think one option would be to…. How would you handle this?” “I agree, your idea would be more effective because….” When you say _____ do you mean_____?	I3, G2, J1
40Permissions	Can we discuss….” “Is that OK with you?”	J1, B1
41Discussion coming calendar events Expectations, support	“Your role in this event is _____, what will it look like? Do you need anything from me to ensure the success of the event?”	E1, C4, G7, J1
42Summarised what was decided (Clear communication – shared understanding)	“Is that your understanding?”	I3
43Expectations	“It is important that each student completes this model because….”	E1
44Listening to planning process and supported		L4
45Updates on how staff team are travelling. Acknowledgment of good work	“You have worked your magic around (students names) to be at this point”	H1, F3
46Support	“Whatever you say, we do”	G6
1PM DPS IN MEETING ON SFD (4)		
47Priming intent, purpose and importance	“The last one for me is an important one because” “This will have a significant impact on raising staff moral so we need to get it right…”	L8
48Outlined clear expectations	There a two things here that will ensure success….”	L8,E1
49Suggest not tell Invite not tell	“What do think of the idea of…” “Which option do you think would work best and why”	B3, I2
49Explain the why behind decisions	“This is my feeling. I would like some feedback…we have to be careful with our message around this so that the students don’t think….”	M1
50Expectation followed by a question (autonomy, shared planning)	“We need to provide every teacher with a folder on that first day. What do you think should go in the folder”	K1, E1
51Praise and agreement		
52Listened	Tell me more about…. What does that mean to you….	L4
53Seek feedback	I have some initial thoughts on this but would value your feedback.	I2
54Positive and passion		D2, D3
55Expectation, explained the why	“Activities would work really well because staff are more engaged when it is interactive. What would you have in mind?	I3, I2

56Allowed for processing time (thinking and reflection)		
57Teachable moment – explained nudge theory		J2
58Supportive tone, we are in this together, confronted difficult issues, discussed the undiscussables.	“What would you want them to walk out with?” “What are the questions you have always wanted to ask but felt they were inappropriate”	J1, F1, B1,2,3
59Kept what is important central to decision making	“Where does it leave our kids…”	M5
60Coaching questions		J1
61Positional statements	“I am not a fan of….”	C4
62Follow through with several conversations	“Let’s meet again on Wednesday…”	G4
63Explaining	The new teaching aid structure is…	L8
1.20 INTERACTION WITH A DP (1)		
64Listening		L4
65Questions for clarity	“What did he say about…”	I2
66Clear communication about expectation	“We need a letter in the post before you leave today”	E1
67Thank you and praise	“Thank you for working with the parents on that. That is a good result. You are quite skilled at working with…”	H2,3
1.30pm HOD LINE MANAGEMENT MEETING (18)		
68Warm greeting	Lets start our meeting with….	F1
69Listening to HOD talk through upcoming plans for an event.	Our progress is going well.	L4
70Risk assessment questions	What security has been organised? Consider we have intruders after dark.	C3
71Expectation and next step	So you will get back to me on _____, _____and _____.	L6, E1
72Answered all HODs questions	Have you any questions for me?	F4
73Asked for feedback on student day program.	Can you give me feedback on the draft SFD program?	I2,
74Discussed his contribution to the SFD program he is leading. Expectation	Can we do a structured and interactive session? What does that look like?	C3
75Encouragement and confidence	Yes, that is a good idea. “You're the one who is going to turn them around”	H3
76Problem solving together Coaching questions	How do we stop that next time? Is it time to clearly unpack some expectations? Is there anything you can do now? What would you do if half the staff say they don’t like it? Is this acceptable or are you the decision maker here? What do we agree on that is needed here. What won’t we accept?	Principal did not jump in and solve the issue for the HOD.

		J1
2pm MEETING WITH A TEACHER (1)		
77Check in and greeting	How are you?	F1
78SFD Update	Facilities update	E1
79Suggestions and expectations	“Would you do some work around your deliveries”	E1, C4
80Clear communication	“If you know where they are, I am comfortable with that”	J1
81Shared understanding, choice	…this is the pedagogical framework and this has implications for training the teaching aides. “What would you like to go with_____or _____? What is your next step in this process?	J1
82Coaching questions	How do you want to run with that? What are the issues you need to consider? What do you want them to know and do?	G4
83Follow through and support	Can we meet again to talk about your presentation?	G4
84Priming and expectations	The most important message today is structuring your presentation and making it interactive.	C4
85Active listening		L4
2.25pm LINE MANAGEMENT MEETING (1)		
86Check in and greeting		F1
87Draft line management system issued for consultation Explaining Answering questions Asked for feedback Expectations	The key message is _____ and this is what we need to say _____	C3, G4, L2, M3
3.15pm STAFF MEETING (120)		
88Thank you and acknowledgment to a variety of staff	Farewells. Principal talked about each teacher’s history and accomplishments and highlighted how they added value to the school and what they will be remembered for.	D1, H2,3, D4
89Humour		D5
90Information update Positive framing	Library vandalism “ I want to keep everyone informed. The fire was terrible but on the positive side, we will have new carpet for the start of the school year.	L6, D1, D4
91Acknowledge hard work and thank you	Year 7 orientation day, graduation, awards night,	H3
92Positive framing	This will be a showcase for our community, a unique resources, one that we can be proud of. “Improvement is the gift that keeps giving”	L6, D4, D7
93Shared review of wellbeing report	Highlighted the school strengths. The students reported positive relationships with staff – this is a reflection of your ….. and a credit to you all” Shared areas of development	D6, D7

	"Students reported a concern with sleep habits"	
94Update on key activities Expectations about what is coming 95Priming	2021 priorities We are about..	M3,4
96Certainty, organisation	Central file and area for all policy and tools	E3
97Story telling: Tell story about Billy Inspire and reinforce success	Told a true story about a student who went from Es to Bs to highlight the excellent and successful program called Aspire and to inspire the staff.	F7
98SFD draft program shared Expectation	Expect a few changes before next year.	E1
99Choice	Vote on times to work the SFD	K2
100Thank you	For your flexibility and resilience around the COVID 19 this year "Fabulous job, a credit to you"	H2
AFTER STAFF MEETING 4.30-5.30pm Staff interactions (2)		
101Humour	Made a joke.	D5
102Humble	I don't know. What do you think?	B2
103Curious	Tell me more about…	B5
104Boundaries	It is always important for me to be transparent.	A1
105Listening	I know it may not be popular but this is what we need to do because.	C1, L4
106Update	These are the key messages	L8
107Questions	How do you feel about that? What do you think should happen?	L2, I2

Data from leadership meeting 7.12.20, 7.30am – 9am

Pattern	Evidence
Evidence of attributes	All 13 attributes were evident in the principal's behaviours.
Ratio of statements to questions	Ration of 1 question to 3 statements by the principal.
Use of pronouns	There was evidence of we and our (13,15,16,21,29,36,68,69,74,94)
Patterns in the language that may contribute to the three themes	**Priming for importance:** This will showcase our school community (92) This will be a significant event for us (31) I mentioned on parade this morning… What won't we accept (76) The last one for me is important because…(47) **Checking in for understanding** Are we happy with that? (36) Is that OK for you? (40) Is that your understanding? (42) What did we agree on? **Clear expectations and clarity statements (risk management)** There are two important things here that will ensure success (48)

	I am not a fan of …(61) I wouldn't that to be a problem…(20) **Providing perspective on what is most important** Where does that leave the kids? (59) Keep in mind this is about (19) **Story telling about success** I want to share with you a story about a student who came to us… **Providing reasons** If you can't tell them to wear a uniform what can you tell them? (25) **Open ended coaching questions** How do you want to run with that? (82) What are the issues you need to consider? (82) What do you want them to know and do? (82) How do we stop that next time? (76) Is it time to clearly unpack some expectations? (76) Is there anything you can do now? (76) **Active listening** (8,17,36,44,53,64,69,85)

School: Faded green

Date: 28.4.21

Time: 8.20am – 6.20pm

Interactions: 27

Duration: 10 hours

Protocol for observation: Note purpose of interaction and record quotes as examples.

Protocol for analysis:

- Identify evidence of attribute behaviours over the whole day (13 attributes)
- are the pronouns ‘we’ or ‘our’ used by the principal and is there any patterns in the language of the principal that may contribute to building trust, rapport and growth/purpose (3 themes).
- At the leadership meeting over one and half hours, determine the ratio of question to statements made by the principal.

Purpose of interaction	Phrase or context	Theme notes
8.20am MEETING WITH COMMITTEE (6)		
1Confirming and supporting		F1, G5
2Active listening		L4
3Clarifying purpose	I am aware that…	M5
4Active listening		L4
5Identifying big picture link	In our strategic plan it is highlighted that ….	M3, E4
6Support	The resources that can support that are…	G7
7Proactive risk management	Just because you don’t see me wearing a badge does not mean I don’t support it	I3, A2
8Explaining reason	You will hear me say….because	I3, A1
9Thank you		H2
8.45AM HALLWAY CONVERSATION WITH A TEACHER		
10Active listening (1)		L4
11Check in on well being	How do you feel about that	F1
121Follow through	Building on what we decided last week…	G4
9.05 TEACHER CONVERSATION		
13Update (1)		
14Support and praise	Congratulations, that was a brilliant…	G5, H3

15Humour		D5
9.20am TEACHER CONVERSATION		
16Questions for understanding (1)	How are our plans on that?	D3
17Active listening		L4
18Update on what is coming		E2
9.26am MEETING WITH DP		
19Coaching questions (1)	How did you go? How do you know? What is stopping you? What else? What did you learn from that?	J1
20Action listening		L4
21Acknowledgment of skill set	You have a real strength in bringing people on board and that wasn't an easy task. That skill set adds so much value to what we have to do here.	F3, H3
22Feedback, appreciation	A good outcome. Well played.	H1, H3
23Check in on well being	How are you going?	F6
24Clarity of goal	Is your goal around… You can choose which…	K1, K2, E3
25Question	Where do you pick up its not working?	J1, G6
26Listening to new ideas		L4
27Paraphrasing	You said that…	E3
28Standards	There is an opportunity there for improvement	J7
29Challenge	How are you going to do that without make them defensive?	C5
30Reminder of the priority work	One of the issues from the review was around transparent decision making	M5, A1
31Explaining the why	The purpose of that is to…	M1
32Expectation	It is important that it is framed carefully…	J5, C5
33Acknowledgment	What I really liked was the way you…	F3
34Permission	Are you open to the idea of…	B3
35Advice	Call it a trial because people feel safe	C5
36Mentoring	Something I have seen work well previously…	J5
37	How do we share that information without contradicting confidentiality. He can blow up….keep me informed.	J5, G6
38Sharing thinking	My go to is…	C6, I3
39Defines	An informed teacher is….	J5
40Clarity	Not meant to be an add on	E3
41Identifies the real issue	Go back to purpose	M5
42Advice, perspective	Keep in mind the scale…	C5
43Active listening		L4
44Updates		
45Appreciation	That sounds good.	H3
46Seeking feedback	Tell me if I have the tone right in this email	L2, A2,3
47Emphasis on what is important	I would be encouraging them to…	M5

48Praise	Brilliant. Thanks for the time you have put into this. It shows.	H3
11.50am DP BEHAVIOUR MANAGEMENT		
49Listening (1)	Update on ongoing incident	L4
12 NOON EXECUTIVE MEEETING		
50Welcome (12)		F1
51Active listening	Updates from each member	L4
52Question for clarity	How is it communicated to staff?	J1
53Expectations clear	Principal words how the communication should sound	E1
54Collaboration	Seeks agreement on that wording	I3
55Permissions	I have not issue with that	E3
56Redirection	That is not a question for me. It is for the group.	G2, B3
57Perspective	Focus on the great good rather than making sure it is perfect	C5
58Clarity and update		E3
59Active listening		L4
60Proactive risk assessment		
61Perspective	We have done the easy work, it's the work that follows will be the telling part	C5
62Expectation and purpose	At the end of the day we want to see…	L6, E1, M5
63Confirmation	I am very comfortable with that	C3, A1
64	It gives us the opportunity to	C3
65	We won't have it right yet. It will take some work	C3, C5
66Acknowledge and calm	Let's take it as a given that things might change.	C9, C5
67Modelling openness	I tried to put my mental model away	B2
68Listening and acknowledging		L4
69Supporting		G1
70Expectations	My role in this is.. Your role is to…	L6, E1
71Update and reason for them	Coming meetings	
72Question for feedback	Is that a reasonable approach?	I2
73	Are we good with that?	3F
74Update	To inform leadership team	
75Giving feedback	I haven't heard any positive feedback around this…	I5
76Metaphoric language	Low hanging fruit	2J, L6
77Calming language	What is comes down to is this…	L9, 3C
78Question	What else do we need to talk about at this meeting?	
79Active listening		L4
80Explains the why		L4
2.05pm MEETING WITH TEACHER		
81Warm greeting (1)		F1
82Check in	How are you going after yesterday's event?	G4
83Appreciation	I want you to know that you handled that very well. Well done.	H3

84Question to clarify	What is the key outcome for you?	B5
85Clarify what has been done		E3
86Clarity policy		E3
87Proactive risk assessment	Keep an eye on…as this is a weak point and it can go pear shaped at any time.	E1
88Metaphoric language	There are some big red flags here	J5
89Bottom lining	The evidence isn't there to support grade….	J5
90Metaphoric language	We need to get our ducks in a line around this.	J5, A1
91Expectation	We need to aim to build capacity	E1
92Advice and risk management	Around PreMUP management	J5
93	My advice is to plan and document that meeting	J5
94	Read the policy before the meeting	
95	Ask if they agree with what is expected of them so they can't argue a weak point later	J5
96	State that our aim is to get them on track	
97Coaching questions	Where to now? What will it take to get that done?	J1
98Active listening		L4
99Appreciation	You are worth your weight in gold. I could not of done that without your help. Thanks.	H1
MEETING 4.20pm – 6.20pm		
100Welcome (3)		F1
101Thank you		H2
102Appreciation		H3
103Update of information for shared understanding		C3, L6
104Confidential information	It is important that we keep this in this room…..	A4
105Apology	I am sorry if you have felt that… This is why I took that action…	B2, B4
106Offer of availability	Please drop down and see me anytime you need to and I will try my best to be available. I know your time away from lessons is precious.	B1
107This is difficult for me to say and perhaps for you to hear but it is important.	Calming statements to de escalate Normalising I know this is stressful but after this essential work is complete we can.. It is normal for us not all to agree on some issues	C1
108Update	Very clear concise and powerful speech	L1, L6
109Swapping ideas and perspective	I would like to go around the table and ask for your perspective on this.	I2
110Unity	When you leave the room can we agree on how we are going to present this. It is important we have full buy in from this group. Can everyone manage around this?	I4

Data from leadership meeting 28.4.20, 12 Noon- 1.30pm

Pattern	Evidence
Evidence of attributes	There is evidence of the 13 attributes in the principal's behaviours.
Ratio of statements to questions	Ration of 1 question to 4 statements made by the principal
Use of pronouns	The pronouns we and our were used (16)
Patterns in the language that may contribute to the three themes	**Use of metaphoric language** Ducks in a line (90) Big red flags (88) Worth your weight in gold (99) Low hanging fruit (78) **Shared thinking** Just because you don't see me wearing a badge does not mean I don't support this (7) You will hear me say…because… (8) My go is to…(38) **Wise council** It is important to frame it carefully…(32) Call it a trial, that will make people feel safe. (35) How do we share information without contradicting confidentiality (37) Not meant to be an add on (40) The communication from the principal should sound…(53) Weak point where it can go pear shaped (87) When you leave the room, it is important we frame this..(110) Go back to purpose (71) **Bottom lining** The evidence isn't there to support the mark. **Anchoring into a place of certainty** One of the issues from the review was transparency around decision making so…(30) My role is…Your role is….(70) **Permissions** Are you open to (34) Is that a responsible approach? (72) **Normalising/deescalating statements** Its normal to…(107) I know this is stressful but (107) **Open ended coaching questions** How did you go? (19) How do you know? (19)

	Active listening (17,20,2,4,10,26,43,49,51,59,98)

School: Blue

Date: 24.2.21

Time: 7.30am – 5.30pm (10 hours)

Participants: 31 (plus 22 PDT)

Duration: 10 hours

Protocol for observation: Note purpose of interaction and record quotes as examples.

Protocol for analysis:

- Identify evidence of attribute behaviours over the whole day (13 attributes)
- are the pronouns 'we' or 'our' used by the principal and is there any patterns in the language of the principal that may contribute to building trust, rapport and growth/purpose (3 themes).
- At the leadership meeting over one and half hours, determine the ratio of question to statements made by the principal.

Purpose of interaction	Phrase or context	Theme notes
7.30am Meeting with project committee		
1Questions (6)	Can you tell me about that?	B5, B4, J1, I5
2Listening	What do you think should happen?	
3	Why do you say that?	
4	Can you explain what that means?	
5	I don't know but I will find out for you.	B4
6Listening		I5
6Perspective	Be mindful that…	C5
7	I can't be looking to be on one side…	A6
8	We need to ensure that the presentation is corporate	C4
8.30am Greeting	Walk around the school checking in staffrooms	
9Check in on wellbeing (1)		F2
10Greeting		F1
11Use of humour		D5
12Check in		F1
13Questions	How would you like to handle that?	K1,K2, B5
14Updates		I3
15Communicating key messages		L8

16Listening		L4
17Question for understanding		I3
18Advise giving	“Don’t put her on year 7 because…”	C3
19Confirmation, reinforcement	“Perfect”	F4
20Greeting		F1
21Seeking feedback	“Can you tell me what you think of”	I2
22Questioning	“What brought you to that thinking?	B2, J1
23Checking for understanding	“Am I hearing you say..”	B2, L4
24Planning consultation		I4
25Focus on key work	“We need to get that out by….before…”	M5
9.45am Coaching questions J1		
26Standards (1)	“I think we could do better than that..”	C4, A1
27Sharing risk concern	I T HOD in library	I4
28Empathy	“oh painful”	F1
29Confirming	“You can enrol…”	E3
30Clarifying expectation	“I want…”	E1
31Sharing ideas		I2
32Listening		L4
33Collaboration	Pros and cons of decision in IT area	I1
34Listening		L4
35Challenge	“ I agree but your key role here is to…”	J7
36Redirection	“Take your pedagogy hat off and put your IT hat on”	G2
37	“I agree..”	G2
38Redirection	Have you thought…	G2
39Expectations	Your talk will be to	E1
40	I can’t guarantee that…	E3
41	What I am hearing is….	L4
42Getting on the same page	Do you agree or is there something I have missed here?	B3, I3
43Collaboration		I1
44Challenge	I am not here to solve it for you, I am hear to challenge your thinking around this	J7
45Seeking information	How is that being managed?	J1
Building leadership capacity (1)	You have to work out your influence in this	J2
46Praise	I really value the work you do	H3
47 Listening	Thank you. Not many people can do that.	H2, H3
48Listening for understanding	I’m hearing that you are not feeling supported by the executive team. Is that right?	I3, L4
49Expectation and challenge	I am happy to work with you, but your key role here is to influence the group	J7
50Appreciation	These are the conversations I value	A1, F3
51	I hear that voice very loudly.	L4
52	I can influence this but not this.	L4, A1

10am PA UPDATE ON CALENDAR		
53Allocating jobs (1)		E1
54Duel understanding	I get it too. So cool.	I3
55Agenda for later meeting		
56Thank you, expectations	You rock.	H2
10.30am LESSON OBSERVATION (1)		
57Principal does a lesson observation on line		I1, G3
58Shows appreciation	It's great to see the Sharratt and Fullan questions for teachers and students. The way you incorporated the questions was really effective.	H3
11.10am PRINCIPAL RINGS CENTRAL OFFICE (1)		
59Providing information to DOE in regard to a ministerial.	Full time dance student moving interstate. Wants to dance full time and study English and Maths.	I3
60Offering solutions and options to move forward. Very concise.		L3
61Questions	What do you need from us?	J1
11.20am PARENT PHONE CALLS (1)		
62Follow up and support	You must have been disappointed	G4, G5
63Problem solving		
64Suspension follow up		
11.30am MEETING WITH HOD (18)		
65Question clarifying		E3
66Mentoring		J5
67Confirming	Paraphrasing	E3
68Clarifying questions		E3
69Advice/mentoring		J5
70Collaboration	What is your recruitment plan?	I2, I1
71Listening		L4
72Answered questions		L8
73Shared view	Shared ideas and agreement reached	I3
74Explained reason	The reason why I do that is..	M1
75Checking in	Are you happy with that? Are you feeling excited?	G4
76Summarising	So we have agreed that the three things that need…	E3
77Accountability	So when will you do that?	J7
78Seeking advice	What else do I have to follow up?	I2, B2
79Coaching questions	So how will we go about that?	J1
80Listening		L4
81Mentoring	It will be more successful if you keep…	J5
82	The staff model will work best if…	C5
83	That decision will need to be made next year when we have more information.	C5, C6

84Standards	Lets go over the staff presentation	C4
85Listening		L4
86Acknowledgment	It is a learning curve for both of us.	F4, B3
87Support	I am happy to help you do that	G9
88Thank you		H2
89Summarise	Your next most important step is…	C5
2.30pm – 5.30pm forum, PDT (22)		
90Stated purpose	We are well on our way…	M3
91Speech	Our main game is…	L6, L8, L3
92Listened		L2
93Participated in training		J3

Data from leadership meeting 24.2.21, 11.30am-1pm

Pattern	Evidence
Evidence of attributes	There is evidence of the 13 attributes in the principal's behaviours.
Ratio of statements to questions	Ration of 1 question to 2.5 statements
Use of pronouns	Pronouns of we and our were used (90,91)
Strategies that may contribute to feelings of inspiration	**Shared thinking** I can't be looking to be on one side (7) **Wise council** It will be more successful if you keep (81) The staff model will work best if (82) **Perspective** Be mindful that (6) I can influence that but not that (52) **Holding standards** Let's go over the staff presentation **Anchoring into a place of certainty** I agree your role here is to (35) **Open ended coaching questions** What brought you to that thinking (22) Can you tell me what you think of (21) How would you like to handle that (13) **Permissions** Can you tell me about that (1) **Empathy enquiry** Oh painful (28) You rock (56)

	You must have been disappointed (62) I get it too. So cool.(54) Are you feeling excited (75) **Active listening** (2,6,16,34,47,71,75,78,80,85,92)

Table 94: Frequency of attributes identified in principal observation

Factor	Sub-factor	Principal			
		1	2	3	4
Integrity A (14)					
1	Strong boundaries	1	2	3	3
2	Sincerity			2	
3	Role model			1	
4	Keep confidences			1	
5	Not gossiping				
6	Unbiased				2
7	Openness and trust				
Humility B (31)					
1	Approachability		4	1	
2	Humble	2	3	2	2
3	Able to take their ego out	2	2	2	1
4	Vulnerability	1		1	4
5	Curious	1	2	1	3
Strength C (35)					
1	Tough mindedness		1	1	
2	Visibility				
3	Persuasive influence		3	2	1
4	Standards		4	3	4
5	Wisdom	1	3	6	5
6	Competent			1	
7	Self-disciplined				
8	Work ethic				
9	Calm			2	
10	Risk taker				
Positivity D (19)					
1	Hopeful language		3		
2	Growth mindset		1		
3	Enthusiasm		1		
4	Positive framing		2		
5	Humour	6	2	1	1
6	Make positive improvements		1		
7	Celebrates success		1		

Clarity and certainty E (41)					
1	Clear expectations	4	10	3	3
2	Consistency			1	
3	Clarity	5	3	8	3
4	Line of sight			1	
Connectedness F (30)					
1	Warmth	1	4	5	3
2	Humans first		3		
3	Relationships and rapport	3	3	3	1
4	Responsiveness	2			1
5	Sense of belonging				
6	Care			1	
7	Storytelling to connect				
Support G (29)					
1	Belief in potential				
2	Redirection and reinforcement	1	1	1	3
3	Turning up				1
4	Checking in	8	2	2	2
5	Encouragement			2	1
6	Got their back		1	2	
7	Resources				
8	Alignment				
9	Help				1
10	Partnership		1		
Appreciation H (40)					
1	Noticing	2	5	2	
2	Thank you	8	6	2	3
3	Praise	3	1	5	3
Collaboration I (44)					
1	Working together	3	1		3
2	Seeking ideas and views	2	8	2	5
3	Shared understanding		9	3	3
4	Collective ownership			1	2
5	Listen to all the voices				4

Capacity building and challenge J (36)					
1	Coaching questions	4	6	4	7
2	Opportunities for growth				1
3	Training				
4	Lifelong leaner				
5	Advise and mentorship			8	3
6	Accountability				
7	Challenges				
8	Modelling			1	4
Autonomy K (15)					
1	Control	2	2	2	1
2	Freedom	2	3	2	1
Communication L (65)					
1	Candid conversation			1	
2	Seeking and giving feedback	1	3	1	1
3	Simplifiers of key messages				
4	Active listening	10	10	10	13
5	Respectful tone				
6	Good speaker	1	1	1	5
7	Tailoring				
8	Key messages are clear	1	4		3
Purpose M (12)					
1	Explain the why	1	3	1	1
2	Philosophical base				
3	Clear vision				
4	Road map				
5	Work that matters		2	4	

Appendix F: Artefacts

School Annual Report Extract for Case Yellow

School Annual Report Extract for Case Red

School Annual Report Extract for Case Faded green

School Annual Report Extract for Case Blue

School newsletters

For the research team: School newsletters can be viewed on the school website

The principal newsletter to their own staff teams are confidential and can't be included here, as they may identify the school.

School Annual Report

The School Annual Reports were used to contextualise the four schools in the cross-case analyses by providing background information.

For the research team: The full School Annual Reports can be viewed on the school website

THE FOLLOWING PERCENTAGES HAVE BEEN REMOVED AS PART OF THE DEIDENTIFICTION PROCESS

School Annual Report extract for case Yellow

Table 5: Staff Survey

Percentage of staff who agree[1] that:
I enjoy working at this school.
I feel this school is a safe place in which to work.
I receive useful feedback about my work at this school.
I feel confident embedding Aboriginal and Torres Strait Islander perspectives across the learning areas.
Students are treated fairly at this school.
Student behaviour is well managed at this school.
Staff are well supported at this school.
This school takes staff opinions seriously.
This school looks for ways to improve.
This school is well maintained.
This school gives me opportunities to do interesting things.

Notes

1. *Agree* represents the percentage of respondents who Somewhat Agree, Agree or Strongly Agree with t
2. DW = Data withheld to ensure confidentiality.

THE FOLLOWING PERCENTAGES HAVE BEEN REMOVED AS PART OF THE DEIDENTIFICTION PROCESS

School Annual Report extract for case Red

Table 5: Staff Survey

Percentage of staff who agree[1] that:
I enjoy working at this school.
I feel this school is a safe place in which to work.
I receive useful feedback about my work at this school.
I feel confident embedding Aboriginal and Torres Strait Islander perspectives across the learning areas.
Students are treated fairly at this school.
Student behaviour is well managed at this school.
Staff are well supported at this school.
This school takes staff opinions seriously.
This school looks for ways to improve.
This school is well maintained.
This school gives me opportunities to do interesting things.

Notes

1. *Agree* represents the percentage of respondents who Somewhat Agree, Agree or Strongly Agree with
2. DW = Data withheld to ensure confidentiality.

School Annual Report extract for case Faded green

Table 5: Staff Survey

Percentage of staff who agree[1] that:
I enjoy working at this school.
I feel this school is a safe place in which to work.
I receive useful feedback about my work at this school.
I feel confident embedding Aboriginal and Torres Strait Islander perspectives across the learning areas.
Students are treated fairly at this school.
Student behaviour is well managed at this school.
Staff are well supported at this school.
This school takes staff opinions seriously.
This school looks for ways to improve.
This school is well maintained.
This school gives me opportunities to do interesting things.

Notes

1. *Agree* represents the percentage of respondents who Somewhat Agree, Agree or Strongly Agree
2. DW = Data withheld to ensure confidentiality

School Annual Report extract for case Blue

Table 5: Staff Survey

Percentage of staff who agree[1] that:
I enjoy working at this school.
I feel this school is a safe place in which to work.
I receive useful feedback about my work at this school.
I feel confident embedding Aboriginal and Torres Strait Islander perspectives across the learning areas.
Students are treated fairly at this school.
Student behaviour is well managed at this school.
Staff are well supported at this school.
This school takes staff opinions seriously.
This school looks for ways to improve.
This school is well maintained.
This school gives me opportunities to do interesting things.

Notes

1. *Agree* represents the percentage of respondents who Somewhat Agree, Agree or Strongly Agree with
2. DW = Data withheld to ensure confidentiality.

Appendix G: Cross-case analysis and comparison data

Cross-case analysis data for interview codes

Cross-case analysis data from survey questions 1-48

Cross-case analysis data from survey questions 73-85

Interview coding data by school
Cross-case analysis

The number of times (frequency) that the school staff mentioned an attribute, meaning the number of codes for each attributes in the interviews.

Attribute	Case				
	Y	R	F	B	Principal
Integrity	15	10	18	23	24
Humility	9	13	14	12	25
Strength	6	2	25	11	15
Positivity	5	10	5	9	18
Clarity	7	4	9	4	9
Connectedness	24	17	23	16	14
Appreciation	20	10	16	8	14
Support	14	11	12	10	27
Collaboration	8	2	8	4	5
Challenge	14	0	16	7	28
Autonomy	5	2	2	2	8
Communication	17	4	10	7	14
Purpose	7	2	14	8	8

Table 95: Cross-case analysis data interview coding

Survey Question 1-48 Cross-case analysis, means

Attribute	Case F	Case R	Case B	Case Y
Integrity	6.46	6.93	6.93	6.6
Humility	6.4	6.33	6.6	6.33
Strength	6.47	6.6	6.73	6.33
Positivity	6.27	5.67	5.73	6.07
Clarity	6.27	6.07	6.53	6
Connectedness	6.2	6.13	6.07	6.13
Support	6.53	6.07	6.33	6.4
Appreciation	6.07	6.27	5.87	6
Collaboration	6	5.87	5.8	5.93
Challenge	5.93	6.33	6	6.2
Autonomy	6.47	6.27	6.13	6
Communication	5.95	6	6	5.93
Purpose	6.13	5.73	6	5.67
Non-attribute	2.73	2.97	2.44	2.04

Table 96: Cross-case analysis data from survey questions 1- 48

Survey Question Q73-85 Cross-case Analysis
Mean

In the last year, to what extent does your principal practice the factors of inspiration to influence?

1 Never
2 Once or twice
3 Sometimes
4 Don't know
5 Often
6 Weekly
7 Always

Attribute	School F					
Person	1	2	3	4	5	Mean
Integrity	5	5	5	7	3	5
Humility	5	5	5	6	5	5.2
Strength	6	6	5	6	3	5.2
Positivity	6	5	5	6	5	5.4
Clarity	5	6	6	7	3	5.4
Connectedness	5	5	6	6	4	5.2
Support	6	6	6	6	5	5.8
Appreciation	5	5	5	5	3	4.6
Collaboration	6	4	5	5	3	4.6
Challenge	5	6	5	5	3	4.8
Autonomy	5	5	5	5	5	5
Communication	5	5	5	6	3	4.8
Purpose	6	6	5	6	3	5.2

Table 97: Principal behaviours as reported by school F Survey Q 73-85

Attribute	School R					
Person	6	7	8	9	10	Mean
Integrity	7	5	5	5	6	5.6
Humility	7	5	5	4	7	5.6
Strength	7	5	6	6	5	5.8
Positivity	5	5	5	5	5	5
Clarity	5	5	6	6	5	5.4
Connectedness	5	5	5	5	3	4.6
Support	6	5	6	5	3	5
Appreciation	5	5	5	5	5	5
Collaboration	5	5	6	3	3	4.4
Challenge	6	5	5	5	5	5.2
Autonomy	6	5	5	4	3	4.6
Communication	5	5	5	7	3	5
Purpose	5	5	5	7	3	5

Table 98: Principal behaviours as reported by school R Survey Q 73-85

Appendix H: Other relevant information

Raw data attribute list in regard to chapter 2.4

Scope and validity analysis of attribute studies chapter 2.4

Leadership definitions in regard to chapter 2.2

Calendar milestones for approvals and research

Historical view of leadership styles

The primitive brain

Cognitive bias

Leadership attributes

In Chapter 2, in section 2.4, a summary of leadership attributes from business and industry studies is shown in table 4. The following information outlines the detail from each study. Table 99 – 104 show the actual words used to describe leadership attributes, as the research across studies show that studies use slightly different words to describe the same concept and Table 105 show the scope and origins of each study to assess validity.

Table 99: **Leadership attributes table series 1.**

Attribute list	Wang, (2018)	Toor & Ofori, (2008)	Lencioni, (2008)
Integrity	Trust Transparency	Transparent ethical	Honesty
Accountability Ownership			Commitment
Rapport	Understanding humans		
Humility			
Strength	Strong conviction	Confident Resilient	Confident
Communication	Communication		Communication
Positivity		Hopeful Optimistic	Sense of humour
Influence	Influence		
Delegation			Delegation
Growth Challenge			
Open to learning	Open to learning		
Risk taking	Risk taking		
Supportive Appreciation			
Decision making			
Collaborative			
Wisdom			
Creativity			
Focus/purpose Vision	Vision Purpose	Future orientated	
Autonomy			
Clarity			

Table 100: Leadership attributes table series 2

Attribute list	Clark, (2010)	Archer et al. (2010)	Spous, (2011)	Hossain, (2015)
Integrity	Genuine	Integrity Self-discipline		Honesty Fairness
Accountability Ownership				Commitment Accountability
Rapport		People skills Personality		Kindness Gentle Intuition
Humility	Self-awareness	Ego awareness	Humility	
Strength		Reputation	Fearlessness	Courage Magnanimity Competent Confident Assertive
Communication		Communication	Communication	Communication
Positivity		Attitude		Humour Optimistic
Influence	Leverage	Influence	Empowering	Inspiration
Growth Challenge	Transition			
Open to learning				
Risk taking				
Supportive Appreciation	Supportive			
Decision making		Decision making		Decision maker Delegation
Collaborative			Collaborative	
Wisdom				Knowledge
Creativity				Creativity
Focus/purpose Vision				Focus Vision Forward looking
Autonomy				
Clarity				

Table 101: **Leadership attributes table series 3**.

Attribute list	Enfroy, (2021)	Olanrewaju & Okorie 2019	Kouzes & Posner 1990	Dwyer 2018
Integrity	Integrity	Honesty Reliability Decency Dignity	Honesty	
Accountability Ownership	Accountability			
Rapport	Empathy	Attentiveness		
Humility	Humility	Modesty Neutrality Amiability Charitable		
Strength	Resilience Confidence	Self-assured Confidence Belief Accessibility Dedication	Competent	Drive
Communication	Communication			Communication
Positivity	Positivity	Comical Vitality		
Influence	Influence	Aspiration	Inspiring	
Growth Challenge				Coaching
Open to learning				
Risk taking				
Supportive Appreciation				
Decision making	Delegation			
Collaborative				
Wisdom		Insight		
Creativity		Originality		
Focus/purpose Vision	Vision	Concentration	Forward thinking	
Autonomy				
Clarity				

Table 102: **Leadership attributes table series 4.**

Attribute list	Sinek et al 2019*	IBM White paper 2012	Harvard Business School Survey	Major General Day 2015
Integrity	Integrity Inspire trust			Take the right path over the easy one
Accountability Ownership				
Rapport	Belonging			
Humility				Humility
Strength				
Communication	Good communication			Compelling communicator
Positivity				Inject hope The leader sets tone
Influence		Inspire	The ability to inspire stood out	
Growth Challenge	Encourage self-development			
Open to learning				
Risk taking				
Supportive Appreciation	Believe in them Acknowledgment			
Decision making				
Collaborative	Work with them Listen	Collaboration		
Wisdom				
Creativity				
Focus/purpose Vision	Vision/Goals	Intense focus on client needs		Be clear about what success looks like
Autonomy				
Clarity				

Table 103: Leadership attributes table series 5.

Attribute list	Cuddy (2010)*	Feser, 2015	Davis (2021)	Bain & Co (2016)
Integrity		Mutual respect Role model values	Respect Integrity	Responsibility Unselfishness Follow through Balance
Accountability Ownership				
Rapport		Differentiate among followers		Empathy
Humility			Humility Authenticity	Self-regard Self-aware Humility, flexible Emotional exp Openness
Strength	Competence	Composed and confident	Courage Wisdom	Stress tolerance Independence Assertiveness
Communication		Communicate prolifically		Listening
Positivity	Warmth	Communicate enthusiastically Recover positively from set backs		Optimistic Vitality Harmony
Influence		Motivate Champion change	Making a difference	Inspiration
Growth Challenge		Develop others		Development Empowerment Sponsorship
Open to learning				Improving self
Risk taking				
Supportive Appreciation		Supportive Give praise		Servanthood Recognition
Decision making		Quality decisions Problem solving		
Collaborative		Collaboration Seek different perspectives		Commonality World view Co creation
Wisdom		Critical perspective		
Creativity				
Focus/purpose Vision		Keep group on task Result focus	Service	Focus Vision Direction

		Collective mission		Shared ambition
Autonomy				
Clarity		Clarity of roles and objects		

Table 104: Leadership attributes table series 6

Attribute list	Zener et al. 2013	Leithwood et al. 2020	Willink & Babin, 2017	Saad et al 2018
Integrity	Role model	Core values	Trust	
Accountability Ownership			Extreme ownership Proactive	Conscientious
Rapport	Connectedness		Connect	
Humility		Open to learning flexible	Gracious Can follow Humble Ask questions	
Strength		Resilient Persistent	Strength Confident Courageous Endurance Aggressive but not overbearing Calm	Extravert Confidence
Communication	Communication		Clear, concise and calm	
Positivity		Optimistic		Positive emotion
Influence	Inspire			
Delegation				
Growth Challenge	Growth of others		Improve	
Open to learning		Open to learning		
Risk taking				Adventurous
Supportive Appreciation	Encourage			
Decision making			Decisive	
Collaborative	Collaborate		Manage up	
Wisdom				
Creativity	Innovative			
Focus/purpose Vision	Vision Sets goals		Mission Explain why	
Autonomy			Decentralise	
Clarity	Champions change			

Table 105: Scope and rigour of attribute research

Reference and researchers	Scope	Strengths	Limitations
Wang, Y. (2018) Pulling at your heart strings: Examining Four Leadership Approaches from the Neuroscience Perspective. *Educational Administration Quarterly, 55*(2), 328-359.	The literature review included 69 neuroscience studies, with 40 empirical studies and four text books. The factors were coded into two tables, one showing brain function and one for constructs of effective educational leadership.	Peer reviewed journal article. Yinying Yang is an Associate Professor of Georgia State University in Educational Leadership. This is a more recent study. The key elements were coded. This was to inform educational leadership but the only articles they found were industry based.	This is a literature review not empirical a research in a school.
Gallop Survey (2018)			
Toor, S. and Ofori, G. (2008). Leadership for future construction industry; Agenda for authentic leadership, International *Journal of Project Management. 26*(6), 620-630.	Peer reviewed concept article	Focused on attributes of effective leadership. Dr Shamas-ur Rehman Toor has a PhD and George Ofori is a professor at Singapore University	Focused on leadership in the construction business.
Lencioni, P. (2008). The five temptations of a CEO, anniversary edition, Jossey-Bass, New York, USA.	Text book	Author of ten leadership and management books. Consultant and keynote speaker in the USA.	
Clark, N. L. (2010). 18 holes for leadership: How a round of golf can make you a better leader. A business tale for leaders, 2nd Paperback Edition. USA: 3L Publishing 79.	Text book Leadership book based on a metaphor of a gulf game	Nancy Clark is a consultant, key note speaker and experienced leader who develops leaders in the USA.	
Archer, M., Verster, J. and Zulch,. (2010). Leadership in construction project management: Ignorance and challenges. *Proceedings of 5th Built Environment Conference,* Durban,	Benita Zulch is Associate Professor in Pretoria. Conference paper and research paper	Literature review spanned across nations. Survey was used to collect data and spreadsheets were used to analyse data using content analysis.	A south African study.

Sprous, M. (2011). The greatness gap: Personal strategies that boost your professional potential, 3rd paperback edition. USA: Advantage Media Group Publisher, 276.	Text book that is narrative to illustrate effective leadership	Mike Spouse is a keynote speaker and consultant. No information was found about his academic background. Built on real stories and lived experience.	
Hossain, K. A. (2015). Leadership qualities for 21st century leaders. Pearl: *Journal of Management*, Social Science and Humanities, 1, (1), 18-29.	Peer reviewed paper Literature review Khandaka Hossain China	This article focusses on leadership attributes	
Enfroy, (2021)			
Olanrewaju, O., & Okorie, V. (2019). Exploring the qualities of a good leader using Principal Component Analysis*, Journal of Engineering Project and Production Management*, DOI:10.2478/jeppm-2019-0016	130 questionnaires administrated to 150 organisations including banking, construction, food industry and information technology industry.	Dr. Victor Okorie is a senior lecturer and Dean of Environmental Sciences, University of Benin. Method: IBM SPSS for data analysis, using Principal Component Analysis and coding. Mr. Olanrewaju is a researcher and surveyor.	Limited to Lagos, Nigeria however the literature review examined attributes both internationally and locally. Qualitative research approach with 150 questionnaires of business leaders across four industries. Very simple conceptual framework consisting of six words. The researchers reported that they would use a Delphi technique and focus group to strengthen their findings. They commented that it would have been better to question a focus group first to explore possible attributes and the draw up the survey. Set the leadership attributes in the survey by a literature review.
Kouzes & Posner, (1990) The credibility factor: what followers expect from their leaders, American	7500 managers nationwide (USA) from a range of private and public organisations.	Barry Posner is a professor at Santa Clara University. James Kouzes is an associate with Tom Peters Group.	This is a desk top concept article with no information about their methodology.

Management Association, 79(1), 1-6		The article expands on material in their book published earlier	
Dwyer, K. (2018) Leadership attributes, IQ: *The RIM Quarterly, 34*(1), 25-27	Researchers; Director of Change Factory Little information provided about methodology used.	Dr Kevin Dwyer is the Director of Change Factory Peer reviewed paper	
Sinek, (2012) How great leaders inspire action, TED TALK	One of the top viewing TED talks of all time. Two international bestselling books. Extensively used in large business.	Simon Sinek is a well-regarded consultant and author at an international level in the area of leadership.	The attributes are a summary of leadership traits from a number of studies. Not empirical research.
IBM White Paper, (2012) Cited in Zenger & Folkman, (2013)	Over 1700 CEOs, 64 Countries, across 18 Industries	IBM has a long history of publishing reports using a deep data base.	
Harvard Business School survey	Over 50 0000 leaders	Harvard Business School conduct numerous rigorous studies and surveys and documented reports.	A number of researches and authors on leadership mention this study but the original study could not be found.
Major General Day, (2015)	Based on article and speeches of Steven Day.	Steven is a two star general who has had combat and civilian experience in leadership who has been advisor at Federal politic levels.	Based on lived experience.
Cuddy, A. et al. (2011) The dynamics of warmth and competence judgements and outcomes in organisations. Research in Organisational Behaviours. 31, 73-94		Professor Amy Cuddy is a Harvard researcher and high profile author. Methodology empirical research using SPS software and brain scanning technology and heart monitors.	The study was not replicated in later studies by other researchers until recently.
Feser, (2016) When execution isn't enough, Wiley. Senior partner in McKeinsey and company, Zurich.	2 year study with 375000 employees over 165 countries Assessed strength of company health and frequency of attributes by leader's behaviours.	Claudio Feser is a Clinical Professor of Leadership development. The research has a large scope and is summarised in a book and used surveying 165 organisations. The research was based on a clinical paradigm through a psychodynamic lens.	The research does not include schools.

		Referenced with peer reviewed journals.	
Davis, (2021)	On line blog literature review of leadership values and attributes.	Ben Davis	
Bain & Company (2016) Horwitch & Chipple Callahan, June 9, 2016. How leaders Inspire: Cracking the code	Surveyed 2000 employees and profiled their strengths	Used data base of 10 000 assessments to correlate profiles with reported inspirational levels. SPSS statistical analysis.	
Zenger & Folkman, (2013) Published authors of How to be exceptional: Drive leadership success by magnifying your strengths.	50 000 employees	16 Attributes findings of an empirical study of 50 000 employees using SPSS statistically significant findings.	
Leithwood et al. (2020) Seven strong claims about successful school leadership	Literature review of a small number of studies	Written numerous papers of school leadership effects on student and staff success. Well respected in scholarly research educational networks. Attribute focus.	
Willink & Babin, (2017) Book called “Extreme Ownership”	Written by two experienced and respected navy seals. They discuss their findings through experiencing leadership on the battle field.	Many of the attributes they promote match the wider empirical research.	A narrative based on lived experience not empirical research methods.
Saad et al. (2018) The influence of leadership style, personality and attributes, Global Business Management Research An International Journal, 10/3.	A quantitative empirical research study surveying 111 executives	Peer reviewed Used correlations analysis and linear regression analysis of variance (ANOVA) for data analysis.	Surveyed one large public company in Malaysia. Only used two attributes based on set attributes.

Historical view of leadership styles

Military, Royalty and Politically based leadership

Sun Tzu's 'The Art of War' (400-320 B. C.) documented Chinese military guidelines for leadership, with a focus on strategy and tactics. The central message was to avoid unnecessary conflict when possible. For example, always allow the enemy to have an escape route. To this day, the modern military use some key concepts from this teaching. Plato (429-347 B.C.), a political leader in Greece, argued that a leader should be skilful, not necessarily the most popular who promises the most. He regarded rhetoric as misleading, reporting it pleased rather than benefited the community, so leadership was about purpose. Aristotle (384-322 B.C.) one of Plato's students focused on persuasion by communication, tapping into emotion and power to be influential factors in leadership. He used rhetoric to manipulate and to influence.

One thousand and eight hundred years after Aristotle emerged, a book called 'The Prince' came to dominate prescriptive writing on leadership. The Prince was written by an Italian, Machiavelli, in 1513-1514. The key message in broad terms was that if a prince wants to protect the interests of his community, he has to do whatever is necessary, for the greater good. Machiavelli believed that in times of conflict, fear can bring compliance and unity to restore law and order and fear was strengthened by the dread of punishment (Grint, 2005). The unpinning premise was that if a man acts virtuously in every way amongst so many who are not virtuous, he will come undone, so a leader needs strength to do what it takes.

Heroes and the trait leader

Leadership studies can be traced to Thomas Carlyle (1866), Rector of Edinburgh University. At this time, leadership theories moved to and were embedded in the narrative of heads of industry and popular heroes of the era. Leadership was characterised as masculine and heroic. Trait theory was well documented at this time, meaning that great leaders were believed to be born with innate aptitudes and characteristics, that is, in today's vernacular, genes are paramount. This leadership approach prevailed throughout the latter half of the ninetieth century, until leadership shifted from individual heroic to rational management systems as industry captains grew in number. Max Weber (1864-1920) a German socialist was the first to apply 'charismatic' to leadership (Weber, 1947).

Charismatic leadership is a type of trait leadership and was highlighted much more recently by several studies (Bucker et al., 2008; Dinh et al., 2014; Meuser et al., 2016) and was characterised by the ability to communicate a vision in a compelling way that inspired and attracted the admiration of others into action (Waldman et al., 2011). It is a type of trait theory because charismatic leaders relied on their innate character traits. In the last twenty years, the function of the brain has been studied, through brain scanning technologies, in association with charismatic leadership. The results found that a leader's positive emotive expression was contagious and had a strong influence on the follower's emotions (Bono & Illies, 2006). Waldman et al. (2011), found that the leader's brain activity in the right frontal cortex was more strongly correlated to the leader's socialised visionary communication than a personal self-centred approach. This 'we' approach connected and galvanised followers (Galvin et al., 2010).

Leadership styles

Attempting to cover 3000 years of leadership history in a thesis requires a significant degree of omission. By the 1980s the argument for the most effective leadership approach was not universally accepted and different branches of leadership (Educational, Health, Military, Corporate, Industrial and Political) were underpinned by different philosophies in response to the context. It was difficult to categorise the styles logically along a historical timeline as some leadership approaches refer to a group of styles, others are a single style, some span decades and reappear in the popular media while in some cases the same category of Style may have several names, depending on a researcher coining a name to represent their interpretation. For example, a leadership style that has the central purpose, focus and intent of sharing leadership and building other leaders is referred to as distributed leadership, parallel leadership, or shared leadership. Hunt et al., (2018), agree and state that a review of leadership is one of shifting dimensions and definitions. Table 106 shows the most well documented leadership theories of recent times.

Table 106: Leadership theory

Leadership models	Description
Trait theory	Unpinned by the belief that leaders are born not made and that leaders have certain character traits and are destined to lead. (Dems & Edwards, 2015)
Autocratic leadership	Autocratic leadership is a management style wherein one person controls all the decisions and takes very little inputs from other group members. Autocratic leaders make choices or decisions based on their own beliefs and do not involve others for their suggestion or advice (Dems & Edward, 2015).
Coercive leadership Also referred to as narcissistic leadership	Coercive leadership style demands immediate compliance. Outlined in Daniel Coleman's 'Leadership that Gets Results." Harvard Business Review. Narcissistic leadership refers to the narcissistic personality disorder and a larger percentage of CEOs are represented in this group, due to the CEO. Narcissistic leaders find it difficult to see other points of view and they need to be in control. They often lack empathy so get people to follow them through fear.
Democratic leadership Also referred to as participative leadership	Everyone is given the opportunity to participate, ideas are exchanged freely and discussion is encouraged. While the democratic process tends to focus on group equality, the leader of the group is still there to offer guidance and control. The democratic leader is charged with deciding who is in the group and who gets to contribute to the decisions that are made (Cherry, 2018)
Instructional leaders	Instructional leaders became popular in educational leadership in 2010. The school principal had a strong instructional role as expert and was viewed as head teacher. The priority is to keep their team focused on core business. In this type of leadership, line of site is very tight.
VDL theory LMX theory	Discussion of leadership theories about interpersonal relationships started in the 1070's with Vertical Dyad Linkage theory (VDL). The relationship between the leader and the team members was highly valued within the dyadic partnership. It added to the research knowledge the benefits of interpersonal connections and was grounded in the premise that leaders liked people and flourished on positive relationships (Brower et al., 2000). Leader-Member Exchange (LMX) theory replaced VDL theory. The LMZ theory is focused on and defined by the value of exchange between leaders and staff members and eliminated the in-group, out-group references (Brower et al., 2000). Uhl-Bein (2006) shared that the LMX theory has been the predominant focus in the study of relationships in leadership.
Servant leadership	Servant leadership originated by Greenleaf in the 1970's (Bass & Bass, 2009; Liden et al., 2014; Parris & Peachey, 2013). Servant leadership is a philosophy and set of practices that enriches the lives of individuals, builds better organizations and ultimately creates a more just and caring world. Servant leadership puts the customer service associates as the main priority (Greenleaf, 1977). Bass stated that servant leadership is altruism in the extreme. Servant leaders view the notion of service to others as an obligation and privilege, not as a burden and views employees as humans not cogs in a wheel (Bass & Bass, 2009). Spears (2004), Parris and Perchey (2013) identified attributes pivotal to the practice of servant leaders including empathy, self-awareness, persuasion, listening and the commitment of the growth of others. Meuser et al. (2016); Parris and Peachey (2013) found that servant leaders are defined as having high levels of integrity, collaborative and fair and concern for others.

Distributed leadership Also referred to as shared leadership or parallel leadership.	The leader builds leaders, expertise is shared and everyone is accountable for results. Leadership is shared and is focused on building the capacity of others (Gronn, 2002; Dems & Edwards, 2015).
Transactional leadership Also referred to as affiliative leadership	This approach emphasises the importance of the relationship between leader and followers, with the focus on mutual benefits of rewards to team and loyalty from team (Dems & Edwards, 2015).
Transformational leadership	Transformational leadership was conceptualised by Burns in 1978 and is a relational approach. The central concept is change and people centred and the role of leadership in envisioning and implementing the transformation of organisational performance (Dems & Edwards, 2015). This style is characterised by four components: charisma or idealised influence, intellectual stimulation, inspirational motivation and individualised consideration (Bass & Bass, 2009; Judge & Piccolo, 2004). These four components transform followers to reach their full potential and create higher levels of performance (Dvir et al., 2002). A transformational leader has charisma and attracts followers on an emotional level and is a reciprocal process (Bass and Avolio, 1993; Judge & Piccolo, 2004). The leader pays attention to individual needs and concerns of the follower and is optimistic and hopeful (Rubin, et al., 2005). Leaders behaves as coaches and mentors and delegate to provide experience to build other leaders (Bass & Bass, 2009; Judge & Piccolo, 2004).
Social identify theory	This theory asserts that people's sense of self can be defined not only in terms of personal identity (I) but also in terms of social identity (we). It is seen as the basis for social influence and the cornerstone of leadership and fellowship processes (Turner, 1991).
Authentic leadership	Rooted in the positive psychology movement and builds on transformational leadership. To be real and true to one self is the adage characteristic of authentic leadership (Bass & Bass, 2009). It is based on the theory that a fully functioning individual is someone who is highly self-aware and knows their strengths and weakness but also abides by his or her values which is central to their beliefs (Avolio & Gardner, 2005) They maintain that if a person is in touch with their values they will not be influenced negatively by other's expectations and points of view. The central focus is on transparency, moral and ethical behaviour, openness and self-awareness. (Caza & Jackson, 2011) in 1996, Henderson and Brrokhart developed an instrument to assess a leader's level of authenticity (Bass & Bass, 2009). This instrument is called the Organisational Leader Authenticity Scale (OLAS). Bass considered the higher the level of authenticity of the leader and the team, the better the health of the organisation. Illies et al., (2005) points out that authentic leaders develop positive social interactions with staff and as a result, the positive social interactions create a positive effect on follower's well-being and attitude.
Inspirational leadership	Based on personal qualities or charisma of the leader and the manner in which the leadership influence is exercised through positive relational interaction. The ability to inspire others through visionary communication and building relationships is a critical component of this type of leadership style (Austin, 2009; Feser, 2016; Bass & Bass, 2009; Boyatzis, 2012; McEachern, 2005).
Quiet leadership	A leaderships style informed by Neuroleadership named by David Rock (2006) is about exploring the processes of the brain that underlie or influence human decisions, thinking, behaviours and interactions in the workplace. The leader aims to create a reward state so that the leader can inspire motivation from team members. The focus is on brain based coaching. (Ringlab & Rock, 2008b).

Adaptive leadership	Adaptive leadership was introduced by Ronald Heifetz and Marty Linsky (1994) It is defined as the act of mobilising a group through tough challenges and emerge triumphant in the end (CFI, 2021). It is characterised by the leader having emotional intelligence, organisational justice (listening to all views), development (learning new ways)and character attributes (CFI, 2021). Adaptive leadership recognised the workplace is much more complex and uncertain today and requires a new approach to leading that involves leadership as a reciprocal process.
Emotional leadership	This approach is about building mutual trust, tapping into people's values for intrinsic motivation and the team being emotionally attached to the school vision and purpose through the principals authentic and empathic communication (Hargreaves, 2000).
Invitational leadership	A more recent leadership style to the literature. The principal encourages all parties to actively participate in the success of the school practices. Provides strategies for schools to be more inviting. Dependent on a relational and shared leadership approach (Legros & Ryan, 2015)

Table 107: The concept of leadership

Author	Definition
Rough Behling	Leadership is a process of **influencing** an organised **group** towards **gaol** achievement.
Kathy Mazzarelli	Leaders is about helping **others** realise their potential and **inspiring** them to work with you to achieve a shared **vision** for the future.
Pierre Andre de Chalendar	Leadership is a combination of legitimacy, personality management skills that make others **want** to **follow** someone's **direction**.
Paul Polman	Leaders is helping people to succeed, **inspiring** people behind a common **purpose** and then being accountable.
Ruth Simson	Focus on the possibilities of a **vision** and realities of the present, who **inspires** others, someone who is a walking symbol of integrity.
Tom Wilson	Leadership is getting **people** to **willing** go **somewhere** they wouldn't go themselves.
Ben Davis	Leadership is a process of social **influence** which maximise effort of **others** towards a **goal.**

Table 107 shows examples of definitions of leadership found in a google search to show that most definitions have three domains in common, influence, goal or vision and followers.

The primitive brain

Homo sapiens emerged on the Savannah Plain some 200 000 years ago and about 10 000 to 50 000 years ago humans lived in the upper Palaeolithic era, (DeCo, 2018; Nicholson, 1998). Although over that time, the environment, lifestyle and workplace in nearly every way have changed dramatically, the brain is very much the same because the brain takes thousands of years to evolve (DeCo, 2018; Lewin, 1984; Sharot, 2018). As Sharot, (2018, p. 22) explains, “Our brain is functioning on primitive software,” and responds to the environment in much the say way as it did in the Paleolithic Era. Leaders behave with the ingrained mentality of the Stone Age hunter-gathers (Nicholson, 1998). Nigel Nicholson a Professor of Organisational Behaviour at the London Business School, argues that an understanding of the Stone Age brain has implications that can be applied directly to modern humans is drawn from the study of anthropology, behaviour genetics, comparative ethnology, neuropsychology, palaeontology and evolutionary psychology. This paradox and incongruity also has implications for leadership, specifically the implications for social interactions, some of which is shown in Table 108 below.

Table 108: Other neuroscience common understandings about leadership behaviour

The primitive brain	Meaning	Relationship to research question
Humans are loyal to one group	Humans tend to bond and commit with the most familiar group they align with. People who strongly identify with a group will act to benefit their group, consider them their in-group or tribe and discriminate against other groups (Van Vugt & Hart, 2004). A strong sense of belonging triggers the release of dopamine and serotonin, making it a neurologically rewarding experience (Cooney Harvath, 2019). Humans have a tendency to break off into cliques especially when conflict arises (Nicholson, 1998).	If the group loyalty bias is not navigated well by the senior leadership team them there is a risk of a them and us culture (Fullan, 2009) resulting in in-group and out-group mindsets
Humans like to categories	When living off the land in Paleolithic times, humans had to know what berries to eat and what berries not to eat. They categorise everything to order their world, in order to make faster and better decisions (Nicholson, 1998).	Nicholson, (1998), says that managers tend to sort others into winners and loser groups within three weeks, after starting at a company so leaders need to be aware of not creating in-groups and out-groups
Humans avoid criticism and praise	The tendency to avoid direct conflict and instead adopt indirect means is deeply ingrained in our primordial instincts (Stebbins, 2017). Humans avoid being criticised or blamed as they try to maintain a competent reputation and look good. (Stebbins, 2017).	Emotions can never be fully suppressed so providing feedback successfully to change behaviour is challenging (Nicholson, 1998). Leaders

		need to be mindful of the emotional mind field that performance reviews embody.
Trust and communication decline in large groups	Professor Robyn Dunbar (1990), an evolutionary psychologist studied primates and argued that the size of the neocortex correlates and inhibits the number of relationships that an organism has the capacity to process, the maximum being 150. Later studies questioned these findings but they have since been partially replicated.	If schools are over 150 in size, the principal needs to grow other leaders around them to distribute their leadership.
Followers are attracted to leaders who have strength	Nicholson, 1998; Swarn, contends that followers are attracted to leaders who are highly confident.	A team looks to the leader as a source of strength, certainty and calm, especially in times of uncertainty and anxiety.
The brain is a dopamine machine	The release of dopamine is addictive so the behaviour that caused the release of this brain chemical is likely to be repeated (Medina, 2008).	Leaders can inspire others through behaviours that give a dopamine hit.
Humans think in expectation	. As information comes into the brain from our senses, it links to existing wiring first because this process uses much less fuel compared to learning something new which calls on the process of dendrite growth. Therefore, humans have inherent cognitive bias.	Leaders need to be aware of their own cognitive bias.

For most of human history, humans lived as hunter-gatherers in small social communities, so the brain evolved to adapt and survive in this context. Put simply, the brain evolved to **survive, move and problem solve in a social group**. It wasn't until the introduction of agriculture, approximately 10 000 years ago, that our work habits changed significantly (Nicholson, 1998). The onset of farming allowed communities to accumulate wealth, live in larger numbers and remain in one location to set up more comfortable homes. During this agricultural period, the change in the way we lived was rapid, with enormous social changes brought about by technological and communication advancements.

Evolutionary psychologists and palaeontologists have explained that there are three reasons that these changes have not sparked genetic modifications in the brain for further human evolution. The key reason is that 10 000 years is insufficient time for significant genetic modifications to become well established across the population (Nicholson, 1998). Thus, evolutionary psychologists argue that although the environment has changed dramatically, human beings have not.

How humans think, feel and relate to one another has been studied by psychologists for over two hundred years, but the more recent insights in neuroscience have shed light on how the brain impacts behaviour. Humans tend to be weak and furless compared to many of the other larger mammals, so their thoughts and emotions, rather than their brute strength,

best served them against risk. The key neurobiological understanding is that the brain has priority neural networks that tip to the negative, are highly socially sensitive to threats and are intensely social problem solvers (Cacioppo & Patrick, 2008; Eisenberger & Lieberman, 2004; Gordon, 2000; Henson & Rossouw, 2013; Lieberman & Eisenberger, 2008; Rock, 2006b; Sharot, 2018).

MILESTONES

APPROVAL DATES

Commencement of study: 6.7.2018

Central Queensland University Human Ethics Approval: 14.9.20

Central Queensland University Human Ethics Approval Number: 22048

Department of Education Queensland Ethics Approval Number: 550/27/2347

Confirmation of candidacy approval: 16.9.20

Research approved period from CQU: 14.9.20 to 30.8.21

Permission to approach schools for research, from DOE: 16.10.20

Data Plan Identification Number: CQU 786

Completion date maximum: 30.6.26

RESEARCH DATES for observations and interviews

Research conducted in School Y: 18.11.20, 8.12.20 & 18.3.21

Research conducted in School R: 7.12.20, 23.3.21

Research conducted in School F: 22.2.21, 23.2.21 & 28.4.21

Research conducted in School B: 24.2.21 & 25.2.21

RESEARCH DATES for survey

Approval from CQU and DOE for survey design 15 July 21

Survey delivered to schools 20.7.21

Received all completed surveys from schools 20.8.21

SAFTEY TRAINING CERTIFICATE

CQUniversity AUSTRALIA

Fire & Evacuation Program

Certificate

First Name Judi
Surname Newman
Email Judi.Newman@cqumail.com

Assessment Type
Students for CQUniversity

Assessment Scope
Induction Requirements

Site/Location
Students,

Buildings/Floors

Date completed
22 June 2022

Expires on
22 June 2023

Having satisfied

1. the information provided

Cognitive bias

Cognitive bias is a systematic non-conscious error in thinking that leads an individual to misinterpret or distort information (Kahneman, 2011). There are over 300 documented cognitive bias but the biases that impact the most on a personal social interaction are listed below.

Cognitive bias	Type description
Confirmation bias	When you only look for information that confirms your existing beliefs.
Cherry picking	When only a specific piece of information is selected to explain your reasoning and you ignore the rest.
Black and white	Think only in terms of one extreme or another, as in all bad or all good. When you argue either or, when really it is the grey, not the black and white that might be relevant.
Straw man	Attacking an opposing argument in order to strengthen your own argument. The straw man is a deco. Destroying an opposing argument does not necessarily prove your own theory.
Personaling	Arguing against an issue because you don't like the person or the person who is delivering the message.
Projecting	Arguing against something because it unconsciously reflects something you fear yourself but may in fact be quite reasonable for another person.
White coat syndrome	Being anxious and shaping your response differently around a professional or someone in authority.
Popularity bias	Appealing to emotion based on what is popular to other people. Thinking if everyone likes it, it must be good or right.
Gender bias	Distorted thinking based on if someone is male or female. For example, thinking only males can be good doctors.
Poising the well	Being so committed to a position that you are blind to reason, no matter what facts are presented.
Incentive bias	When extrinsic rewards are provide as a motivator and they have the opposite effect. For example, offering a gold coin for every 20 rats that are caught and the families start to breed the rats at home to collect more coins.
Herd mentality	Also called group bias. When people blindly go along with what others are doing without questioning the decision.
Loss aversion	A tendency to fear losses more than an opportunity to see an opportunity for gain.
Framing	When someone makes a decision based on how the information was presented to them.
Anchoring bias	Taking pre-existing data as a reference point for all subsequent data which can skew decision making. When we rely on the first information we are given.
IKEA effect	We place more value on things we help create.
Hyperbolic discounting	A tendency to value immediate rewards over long term rewards.

Self-serving bias	Blaming external factors for personal errors.
Illusory truth effect	We are more likely to believe misinformation when it is repeated.
Dunning Kruger Effect	We think we are better than we really are.
Availability heuristic	Tend to think that things that happened recently are more likely to happen again.
Bounded rationality	Explains why people are satisfied with good enough.
Cognitive dissonance	Hard to change someone's beliefs.
Decision bias	Why we make worse decisions at the end of the day.
Affect heuristic	When we rely on current emotions to make decisions.
Halo effect	When we apply a positive importance based on a positive attitude in another area. For example, she made an excellent decision around this so today her decision must be great too.

Kahneman, (2011) et al.

Appendix I Publication summary

Publication	Title	Date of print
Paper	Title: Maximise Warmth and Minimise Defensiveness for Powerful Networking*, Queensland Association School Principals Journal, 45*(3), 26-27.	2018
Book	Title: Turbocharge Your Learning: A Neuroscience and Psychological Perspective	2019
Book	Title: Coach the Human not the Content: What it takes to be a Master Communicator	2020
Book	Title: Reshape your School from the Brain Up.	2020
Masterclass	Title: Conquering the Icecaps: A Neuroleadership Approach EduTECH International Conference, Melbourne, Victoria February, 2022	2020
Abstract Presentation	Title: A Case study of four Queensland high schools Research Symposium, CQU Noosa Heads, Australia.	2020
Book	Title: Eight Steps to Engaging the Leaner	2021
Coaching cards	Title: Learning Conversation to Rewire the Brain: The Coaches Handbook.	2021
Paper presentation	Title: Coach the Human not the Content: What we look for in a Leader, 27-28 June, 2022 Research Symposium, Rockhampton, CQU.	2022
Paper	Title: Redefining Educational Leadership through a Neuroscience Lens. Co-author: Professor Ken Purnell Teacher Magazine Quarterly, ACER Being reviewed, 2022.	2022
Paper presentation	Title: Redefining Educational leadership: A neuroscience perspective ACEL National Conference, Inspiring hope leading our future, 28-30 September, 2022, Sydney, Australia. Submitted abstract 25.6.22. Approved 10.8.22 for concurrent workshop	2022
90min workshop	Title: Redefining Educational leadership: A neuroscience perspective. Hawaii International Conference of Education (HICE) 3-6 January, Honolulu, Hawaii, USA Co-presenter: Professor Ken Purnell, CQU. Submission ID: 618 Approved.	2023

Appendix J Curriculum vitae

Name: Judi Newman

Current position: Director, The Academy of Organisational Neuroscience

Mobile : 0428825965

TITLE	PROVIDER	DATE
QUALIFICATIONS		
Ph.D.	CQU	2022
Bachelor of Science (Psychology) Distinction	CQU	2016
Myers Briggs Accreditation	Psychometric testing level 2	2015
Executive Coaching Licence	GROWTH Coaching International (3 year program)	2014
Masters of Learning Management (Leadership)	CQU: HD for thesis	2006
Bachelor of Education	Brisbane CAE	1984
Diploma of Teaching	Kelvin Grove Teachers College	1980
TRAINING		
Survey design training	CQUniversity Tutorials	2021
Investigative interview training	Griffith University (7 weeks)	2020
Academic writing training	CQU Course (4 weeks)	2019
The Social Brain certificate course	CQU Course	2019
Neuro Science Coaching course	Leading HUMANs Training	2017
Neuroscience Leadership certificate	MBNYU Course	2017
Community of Practice immersion program	Maggie Farrah, England, QELI	2015-2016
Good to Great Leadership Program	QELI leadership program (9 month course)	2013
Building Senior Leadership Teams program	QELI (9 month course)	2012
Symphony of learning and teaching	DET training (10 hours)	2012
Strategic Leaders program	EQ (6 month program)	2009
WORK EXPERIENCE		
The Academy of Organisational Neuroscience Australia	Director	2019 to Current
University Curriculum Developer	CQU	2020
Lead Principal	QELI Associate	2015-2019

	DOE	
Band 10 Principal	North Rockhampton High School	2007-2014
Acting Band 11 Principal	Gladstone State High School	2006
Deputy Principal	High Schools	1999-2005
Head of Department	High Schools	1986-1998
Teacher	High Schools	1981-1985
LEADERSHIP FACILITATOR ROLES		
Neuroleadership Master class	Melbourne Conference	2019
Facilitator QELI inspiring leaders program	Queensland Institute of Leadership Education (QELI) 9 months duration	2017
Facilitator QELI Lead Teachers program	Queensland Institute of Leadership Education (QELI) 9 months duration	2017
Facilitator QELI Associate Principals program	Queensland Institute of Leadership Education (QELI) 9 months duration	2017
Facilitated 12 three day Leadership retreats	20 senior leaders in each	2016-2017
Facilitator and founder of 'The PLACE' Band 7-11 Principals	A leadership lounge operating out of the floor 12, Ed House Brisbane (12 years)	2002-2014
Facilitator of 'The PLACE'	A leadership lounge operating out of CQ University board room Cross agency of government, principals, professors and industry.	2015-current
Master of Ceremonies, Federal Community Cabinet	Rockhampton	2014*
Principal advisor to Principals on Future Leaders program	QELI – two programs	2013
Principal facilitator for 'Future Leaders' program	QELI – three programs Queensland Educational Leadership Institute	2012-2013

Guest speaker roles Conference master classes	Neuroleadership Communities of Practice Leading without Telling TED TALK X Strategic Leadership The Language of Leaders Leading High Performing Teams Women in Leadership Distributed Leadership Neuroleadership Neuroleadership	QSPA Conference 2019 DET 2016 DET 2016 TED X 2015 DET 2015 DET 2014 Gladstone Principals Conference 2015 University 2014-15 DET 2016 Melbourne Education Conference 2019 Longreach Principals Conference
AWARDS AND SCHOLLARSHIPS		
CQ University Industry Contribution Alumni Award	Area of award: Leadership	2014
$10 000 research scholarship by Department of Education	To travel internationally to research leadership initiative to apply to school improvement “Feedback and self-awareness for influence and performance”	2011
Ministers for Education Legends Award	For quality teaching	2003
District Showcase Award	Sustainable learning	2003
Express Publication Artist of the Year	Express magazines	2000
PROFESSIONAL ASSOCIATIONS		
Fellow of the Institute of Organisational Neuroscience (ION) current		
Fellow of the Institute of Learning Professionals (ILP) 2019 - current		
Registered Teacher in Queensland DOE 1981 -current		