

## LEARNING THROUGH RICH ASSESSMENT AND MEDIATION IN A UNIVERSITY CONTEXT

Rozz Albon  
Curtin University of Technology

### ABSTRACT

A learning community is considered integral to the growth and development of teacher-education university students. Students learn from one another, with the lecturer, and the community. The role of lecturer can be significant in enabling students to be active, reflective and collaborative in their learning journey, particularly when rich assessment is an integral part of the learning process. Rich assessment requires not only a social constructivist framework and mediation, but also a mediator, or one who interacts throughout the rich assessment task. Other relative concepts of intentionality and reciprocity, mediation of meaning, transcendence made transparent, and the valuing of the development of affective attributions initiated by Feuerstein, will be explicated.

### INTRODUCTION

The role of lecturer as teacher in a university context cannot be divorced from learning. No longer can teaching be dominated by the process of providing knowledge, directing students to selected sources of information, and testing them to determine the level of retention of the information. The information age demands new ways of learning. These new ways currently emphasise collaborative approaches as opposed to solitary approaches. The process of learning as well as the product of learning must be reconsidered within the parameters of technology. The traditional test and essay approach to assessment has also been challenged by rich, interactive, and collaborative tasks involving learning with and through others in an attempt to produce skilled graduates for the new technology age.

The nature of work in the present and the future "requires people who can think critically and strategically to solve problems in diverse situations" (Albon & Trinidad, 2002). Lifelong learning (Breivik, 1998) becomes essential. Workers must be creative and enterprising, flexible and adaptive, technologically competent and capable of using the digital world (Curriculum Council, 2000). An effective facilitator of learning should ensure that students are given opportunities to be creative, to take risks, to think laterally, to be inquisitive, and to explore abundant resources available in the information age in specific units or subjects. Lecturers have a responsibility to integrate high-quality academic and scholarly work with professional relevance and application (Rossman, 1999). Ignoring or suppressing this responsibility to meet these needs "will slow our

ability to learn new technology and gain competitive advantage" (Rossman, 1999, p.1).

This profile of the workers of tomorrow is one, strong force contributing to the development of rich assessment expounded in this paper. The other is the application of the learning theories of constructivism, social cognitivism (Woolfolk, 2001), and andragogy (Knowles, 1998). Still, stating expectations about students is vacuous unless opportunities augment the symbiotic relationship of teaching and learning. How can we expect students to locate, analyse, and synthesise so much information if lecturers and teachers do not prepare the students?

An examination of teaching proposed in this paper can be likened to the creation of a new recipe. The ingredients are not new, but the combination of ingredients to create new tastes may be considered innovative. The development of rich assessment is not entirely new, as it too is the combination of familiar or existing theoretical constructs. Much like the creation of the recipe, the procedure and the cooking method affect the quality of the outcome. Given this analogy, only a new recipe to produce a deep processing approach (Woolfolk, 2001) to learning, one positioned within a technological environment, is advocated in this paper. RAMAT (Rich Assessment, Mediation And Technology) has, as its key ingredients, rich assessment, mediated learning experiences (Feuerstein, 2001), andragogy, constructivism, and technology (Albon & Trinidad, 2002; Ferry, Kiggins, Hoban, & Lockyer, 2001).

First year teacher-education students have found RAMAT to be appetising as evident in the succinct response of one student: *"This is what I enjoy about learning that 'whahoo' feeling you*

*get upon the completion of a job well done! ...This assignment has been an extremely stressful and exciting task. Darn it!...I have learnt so much."*

## THEORETICAL FRAMEWORK

Dynamic assessment (Lidz, 1987, 1995), with its focus on authentic assessment, provided a foundation to the term rich assessment, a concept used by the author to develop complex, challenging, and authentic tasks suitable for university students.

Rich assessment in this paper means assessment that is the result of engagement with and linking together several sub-tasks situated within Bloom's higher-level thinking areas (Bloom, 1974) and which involve collaboration and interaction with peers and lecturers in order to produce a product. A product is what is produced as a result of the application and valuing of learning. The product must be seen to be worthwhile in order that significant time and effort is given to its completion. Just like a ballet, play or exhibition is a final product, the production of a website in an education unit can be considered a product.

Throughout its trials in the work leading to this paper, rich assessment had become quite complex and required a conscious level of lecturer interaction to guide students in their journey of actualising their potential (Vygotsky, 1978). Assessment tasks required communication between groups and others outside the university environment. Part of what one group produced was sometimes a part of another group's data. In addition, the concept of lifelong learning was promoted as it was believed that teachers of the future will need to access information and technological advances. To achieve these multiple goals, the mediated learning experience as proposed by Feuerstein (2001) was adopted. Further, several learning theories provided key concepts for the development of RAMAT.

Harnessing the power of constructivism, social cognitivism, and andragogy proved to be the first step in developing rich assessment tasks that would help achieve high quality learning. The power of each of these learning theories has been extrapolated and presented below. The descriptions are by no means comprehensive and readers interested in the theories should consult relevant sources for a more intense and comprehensive discussion.

Nightingale & O'Neil (1994) and Rossman (1999) emphasise how learning theory must be understood and applied in higher education settings if quality learning is to occur. Although Rossman's findings relate to the online environment, they provide a piquant view of the power of learning theories. Rossman found that learners wanted not only prompt feedback but also specific responses which extended beyond 'nice job' and 'good' and were characterised by warmth, care, and responsiveness. Learners did not mind their opinions being challenged but they vehemently disliked any kind of belittling or humiliation. Students strongly agreed about how much they learned from the responses of their peers and how each response was valued. These findings encouraged the author to pursue an approach which would meet the adult learner's needs (Knowles 1996) in the units she taught.

Nightingale & O'Neil (1994) emphasise the adult learning principles of Knowles (1996) and reinforce the practice of deep learning, evident in the listing of seven characteristics and five conditions necessary for high-quality learning. They align with Rossman (1999) to emphasise that deep learning is best fostered by "teaching and assessment methods which promote active and long-term engagement with learning tasks" (p. 80). They also note that students described successful teachers as those who stress the meaning and relevance of the subject matter and are also stimulating and considerate. While these authors have not used the term 'warm human being', a term coined by Feuerstein (2001), and applied in RAMAT, it is evident they refer to the same qualities.

## CONSTRUCTIVISM

Irrespective of the theoretical position that one may subscribe to, the underlying premise of constructivism acknowledges the key role of the learner (Woolfolk, 2001). It is only the learner who can create or construct their own knowledge base. The learner can observe, participate, read, and listen to information, but it is only when that incoming information anchors to already existing knowledge that learning is achieved. Concepts from Piaget (cited in McDevitt & Ormrod, 2002) of equilibrium, cognitive dissonance, and moderate novelty feature strongly in the author's view of constructivism. The creation of disequilibrium is central to learning in rich assessment as this creates the motivation to complete sub-tasks. The construction of tasks using Bloom's higher

levels of thinking enables the creation of disequilibrium.

From these concepts it can be clearly recognised that adults with diverse backgrounds and experiences will, in any one subject, undergo equally diverse degrees of learning. Learning is about adding new knowledge to an existing knowledge base. Therefore the learning experiences a lecturer designs for university students should account for this. Lecturers should expect diversity of knowledge within a student group, not sameness. Rich assessment accepts diverse knowledge bases and promotes opportunities for these to be extended. It is dynamic.

### SOCIAL COGNITIVISM

If each of us were to analyse something new we learned recently it may be revealed that the learning involved others. The extent of the involvement of others can also be diverse, but in the view proposed by Vygotsky (Vygotsky, 1978; McDevitt & Ormrod, 2002), learning usually progresses through interaction with able, knowledgeable others. Therefore, the learning experiences the author has designed for university students includes access to these able and knowledgeable others. This does not to exclude those students who learn in a solitary manner. In addition, Vygotsky (1978) proposed the zone of proximal development (ZPD) to explain that all learners can achieve more with assistance. Working with others plays a role in achieving potential. Each person's ZPD may be different, further emphasising the need to plan learning experiences and thus rich assessment, to enable learners to 'grow' to their potential. Perhaps what is new in the recipe of RAMAT is this dynamic learning approach which was originally advocated for children. An assumption has been made in the development of rich assessment that adults would also benefit when expected to learn complex and new information as do children when the same approach is used. The metacognitive skills (Brown, 1978; Sternberg, 1985) of university students enable them to self-regulate the process of interaction to achieve learning and to grow further in the pursuit of knowledge and skills.

Shared knowledge-building (Topper, 1995) can be enhanced through technology. Sharing knowledge within and outside the classroom community assists in adding meaning to assessment and results in quality learning. Utilising the potential residing within communities of learners requires deliberate

structuring and building of opportunities for learning by lecturers (Mitchell, 1999; Mitchell & Sackney 2000). Rich assessment utilises this. Technology and content learning management systems make possible the development of collaborative tasks suitable for adult learners.

Learning is not a solitary activity for most people and should not be confused with the solitude needed for processing information. The implication for lecturers is that not only should talk, discussion, and debate be incorporated into the learning experiences, but that access to able, knowledgeable others through discussion is also paramount. Incorporating creative ways to utilise socio-cognitive approaches, such as through communities of learners, is fundamental to rich assessment. In addition it creates a mind set for future and lifelong learning as new knowledge is expected to be encountered frequently in this information age.

### ANDRAGOGY

Burns (1995) and Knowles (1998) identified adults as having different learning needs to those of children, and while arguments prevail about the extent of these differences, the main characteristics of the adult learner are incorporated into the learning experiences in rich assessment. According to Burns (1995) and Knowles (1998) adults want the following.

1. An explanation and support as to why something is important to learn; they must value the intended knowledge.
2. A role in defining goals, and in planning and conducting activities. This enables them to connect their personal goals to their world experience and meets the need of self-direction.
3. Their experiences to count in the scheme of learning and as a springboard for developing objectivity.
4. Understanding of where they are at in their learning journey. They will not learn until they are ready and motivated and often this requires helping them overcome inhibitions, behaviours, and beliefs about learning. Their worth as an individual and their self-concept is at stake.
5. An open, democratic environment where individual differences in style, time, place and pace of learning are integrated into the learning experience.

The implications for teachers is to understand that adults are equal in their potential to learn

new information and knowledge but they may come with different knowledge bases. Therefore, a variety and choice of tasks, which accommodate them as adults, that is, as people who successfully manage their lives and are autonomous, should be planned.

In sum, rich assessment can be constructed using the above theories as ingredients. However, a powerful process based on mediated learning experiences (Albon 2001; Albon & Trinidad, 2002; Cook, Young, & Evensen, 2001; Feuerstein 2001; Laurillard, 1993) has been included to elevate the combined theories to new heights in learning. It provides the human management system and has been enhanced through the application of technology such as WebCT.

### Mediated Learning Experience (MLE)

Feuerstein's (2001) mediated learning experience (MLE), developed for children's learning, has as its central construct, interaction. The nature of the interaction is guided by the adult or more able other in order that the learner's understanding and experience is deepened. As mediator, the adult has specific roles to play. Much like the theories developed to explain children's learning, a mediated approach has much to offer adult learning in universities. Through mediation, as defined by Feuerstein, a learning community within or across subject disciplines can be built between the key players of educator, student, peers, and others. MLE enables all students to learn in a way that best accommodates their needs and considers contextual constraints (Laurillard, 1993).

MLE emphasises the two-way nature of responses in the interaction leading to learning. Mediators are the adults who interact with praise, criticism, and encouragement throughout the development of responses which then contribute to the much larger interaction. These components, further articulated below, have been applied to the development of rich assessment. The lecturer interacts with the student, mediating the process to enable students to reach an understanding at the higher levels of thinking. An analogy can be with the coaching of an athlete to perform his or her best at the Olympics. Frequent, timely, high-quality, and meaningful responses enables the learner to move forward with competence and self-worth (Albon & Trinidad, 2002). Rossman (1999) also noted that concerned and caring teachers who

provided meaningful and frequent feedback were viewed as excellent teachers. Rich assessment has taken these approaches that have been used successfully with younger students, and embedded them in the tasks for adult learners.

As noted above, Feuerstein (2001) characterises the mediator as a "warm human being" (p.2). The mediator's intention is to understand how the learner approaches the solving of a problem in order to promote learning. This is in contrast to assessments in which students make a response first and then a grade is allocated. The following characteristics have been extrapolated from the details of Feuerstein's method.

- i. **Intentionality** The mediator, being concerned about how the learner approaches problem solving, concentrates on understanding and helping the learner to understand how they process information.
- ii. **"Reciprocity"** Reciprocity refers to the need for the learner and mediator to see each other on the same level. That is, the lecturer does not pretend to know the answer as to how the learner should be thinking" (p.2). The mediator is a fellow explorer.
- iii. **Meaning is made explicit.** The mediator interprets for the learner the significance of what the learner has accomplished. She also mediates feelings of accomplishment. The mediator causes the learner to reflect on the solution, how the solution was obtained, and the generalisations which flow from the solution and process.
- iv. **Transcendence is made transparent.** The mediator assists in bridging the experience and lessons learned in the current situation to new situations, some not yet experienced, but hypothetical.
- v. **Development of affective attributions.** The following have an impact on learning and so the mediator values these in the learning process and conveys their importance to the learner through her actions:
  - feelings of competency
  - goal seeking, achieving, monitoring
  - awareness for potential for change
  - feelings of belonging
  - sharing behaviour
  - challenge: search for novelty and complexity
  - search for optimistic alternatives
  - regulation and control of behaviour

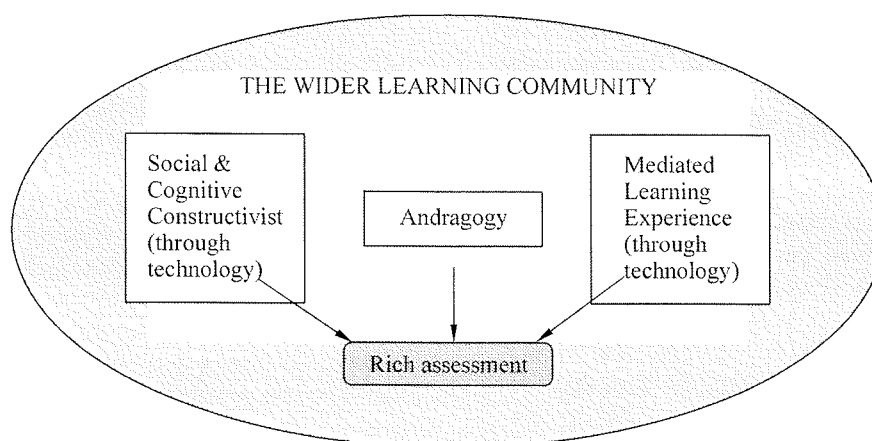


Figure 1. Theoretical framework to rich assessment.

These characteristics of MLE underpin how rich assessment has been implemented. The completed theoretical framework to rich assessment is summarised in Figure 1. As illustrated, rich assessment is an outgrowth of social-cognitivism, constructivism, mediation, and andragogy.

When a task is simple such as in a surface approach (Woolfolk, 2001), little to no intervention and interaction is required by the lecturer. When a task is rich, complex, and deep, both interaction and intervention is required. As the adult learner seeks to identify a problem and propose a solution, the assistance of the lecturer is more likely to be required. This is the interaction of the able other or coach. The use of technology has enabled mediation, as Feuerstein (2001) intended, to more effective. WebCT has enabled a less formal approach in written comments to be made. Students have been encouraged to ask any question and seek answers from each other as well as from the lecturer. Bulletin board, e-mail, and synchronous chat sessions were employed to promote the "warm human being" (Feuerstein, 2001) described above.

Table 1 lists the features of rich assessment identified by the author at the time of writing. An analysis of the features (from learning theories) is intended to exemplify engagement with and the linking together of several sub-tasks, and the collaboration and interaction with peers and lecturers, in order to produce a product. (A brief interpretation of the features is provided as well as examples taken from two Educational Psychology units). The mediated learning experience occurs within the features, interpretation, and the examples. The principles listed by Feuerstein (2001) are applied by the lecturer. For example, the author works closely

with student groups as they synthesise information collected and analyse it according to theory. The author commends students on their progress, particularly when disequilibrium has been great.

## METHODOLOGY FOR EVALUATION OF RAMAT

At Curtin University of Technology, in 2000, two first-year units were taught using a social-cognitivist, constructivist, and andragogical framework. These units were originally evaluated for feedback on the structure of the units, delivery methods, group size, assessment tasks, accommodation of learning styles, and student responsibilities. These data were used to re-examine the teaching and learning and to make changes – such as restricting group size to four members and increasing feedback to students as part of the learning process and the dynamic assessment. In the following year the same two units were taught with a more conscious application of mediated learning experience, MLE (Feuerstein, 2001) to address feedback issues. Evaluation of the effect of MLE within the rich assessment tasks, teaching, and learning were made in semester two through a pilot survey, comparison with the previous year student submissions, and written and anecdotal comments. This triangulated approach appears below.

### 1. Pilot survey

The purpose of the survey was to explore an instrument which would gauge the impact of MLE within rich assessment.

At the end of semester two, 2001, a small group of students ( $n=10$ ) trialled a twenty-six item online survey about the use of MLE. Although the results are far from conclusive, they provide

a strong sense that MLE was beneficial in the students' learning journey. In the trial, most students indicated mediated learning accommodated their needs as learners. When they compared their learning in the educational psychology units to that in other units most agreed they had learnt more from this unit than the others during the semester. Most students strongly felt they had been valued, and in turn they valued the lecturer's input, guidance, and feedback throughout their learning, and felt they were in control of their learning. They preferred to have MLE instead of an assessment based on a stimulus-and-response-without-intervention approach, such as an essay delivered in a traditional style (students given the question, hand in their response, receive a mark and feedback after the event). Almost all (nine of the ten) felt they were on the same level in the process of learning, which affirmed the success of rich assessment through mediation and the modelling of lifelong learning that was used. The instrument has undergone some minor changes and will be given to the student group in semester one, 2002.

## 2. Marking comparisons

The application of a deliberate approach to learning through rich assessment was made through mediation in the teaching of one particular unit. The nature of teaching and learning in these units in previous years was considered complex, and making any comparison between the achievement of students between the years would have been difficult. Therefore the two same subjects delivered in two sequential years were reviewed in terms of the depth of process and quality of student work in an attempt to gauge the effect of MLE.

The problem-solution style and activities of weekly tuteshops and the assessment task replicated the structure of that given in the previous year. However, the volume of work submitted was threefold that of the previous year. An examination of the volume indicated the level of thinking was generally higher with more synthesis, evaluation, and critical thought evident. This observation was reinforced by comments made by other lecturers on the achievements of students. They indicated that the first year students had learned skills and knowledge commensurate with those in later years of study. Some lecturers had mistakenly accepted them as fourth-year students.

## 3. Anecdotal comments

Students made comments about the processes of learning: *"I could hardly believe I was learning, this has been so much fun,"* the extent of this learning: *"This assessment has really stretched me. I have never had to work at this level before and its doing me good. Its been hard going but I have learned so much from this,"* and individuality: *"Working with others who learn in a different way to me has taught me a lot about the learning approaches we all have and how I must consider these."*

The very positive comments overwhelmed the negative comments. The latter were related to finding common time between all group members, the need to keep up to date with tasks set by group consensus, and the sheer amount of time the task required. Being an authentic, rich assessment, it was impossible to cheat. Work could not be left until the night before submission. Risk taking and not knowing the lecturer's expectations were also mentioned.

Student's fears, anxieties, and stresses were aired and each appeared to have internalised the cognitive and affective side of learning at first hand. Being aware of student concerns and asking them, as the semester moved on, how they were dealing with each of these, and in turn affirming that their feelings and approaches were real and worthy of discussion were examples of operationalising the "warm human being".

## 4. Written comments

Evidence of the success of rich assessment and the application of MLE was gathered from several sources; including the comments written by students during the compilation of journals, and from the survey.

### *From Journals of Andragogy*

- Equilibrium, disequilibrium, equilibrium, disequilibrium, equilibrium, disequilibrium. That's what this unit has been like but I know I have learnt so much I never thought possible.
- Wow! This assignment has had an enormous impact in the way that I have had to restructure and learn in such a short amount of time.
- I must admit I really have enjoyed and look forward to our weekly meetings and being able to use the other members as a sounding board and for nutting out any problems and

issues that concern me. I value their comments and directions greatly.

- The web assignment has thrown many challenges at me. I cannot express what a relief it was to see the end result and have it look so good. I am proud of our file and the work in it. In my readings, which have come from many varied publications, journals, web sites and parent manual kits, I discovered a great deal about behaviourism.
- *When you have the belief about yourself that you are competent and just fine you work better.*

#### **From surveys**

- Lecturer steered me in the right direction but allowed me to find my own footing and develop my own learning curve.
- She suggested additional avenues for research when others were exhausted.
- The lecturer would pose open ended questions and suggest avenues for finding the answer.
- *She facilitated the process – how to achieve answers to questions – exploration of ideas. Asking questions, extending ideas and stimulating new approaches.*

When asked what 'mediation characteristics' could they identify in the lecturer they responded:

- The lecturer was illusive when I tried to pin her down for an answer (I had to do it myself).
- Very approachable, helpful and enthusiastic towards our learning curve.
- The team knew where we stood. We were able to approach [her] at any time of the semester and were able to voice any concerns we had.
- Whenever I was unsure [she] was happy to confirm or help me identify other approaches that could be used.
- [she] would discuss ideas, confirm if I was on the right track and ask me to 'tease it out further'.

When the students were asked what advice they would provide to someone wanting to adopt this mediated approach to rich assessment, their combined statements were that the person would need to:

"be positive, help steer you through the right learning experience but give opportunity for personal growth to occur, encourage enjoyment

in the experience of learning and reaching equilibrium, help you ride out disequilibrium, work with you to find a solution, be open, listen, discuss, challenge, give students confidence in their abilities, and give feedback."

The above methods were used to evaluate the functionality and impact of MLE within rich assessment. Students appeared to respond in much the same way as those reported in the research of Rossman (1999) and in support of the characteristics listed by Knowles (1998). Although it is beyond the scope of this study to claim the observed difference to be the result of rich assessment negotiated by MLE, it appears to have had some impact on the quality and quantity of learning. The author has concluded that rich assessment is limited without the process of mediation.

Features of rich assessment	Interpretation	Examples – using educational units in Educational Psychology
problem based	Tasks are constructed to emphasise a problem and encourage the pursuit of a variety of possible solutions.	An investigation into a theory/concept /issue is written as a problem/question. Students answer the question or find solutions. e.g., How does behavioural theory work in classrooms?
non-linear	Subtasks completed in any order. This accommodates individual knowledge bases.	An interrogation of theories of development can begin with any theory.
weaves the theoretical frameworks into the nature of the task	Tasks model various learning theories.	Social, cognitive, behavioural and humanistic approaches to learning are made explicit as students encounter them in subtasks.
small (sub) tasks contribute to the gestalt	Each contributes to larger and comprehensive product/task. Understanding the development of a ten year old requires that their moral, emotional, cognitive and social development is understood. However each aspect of development affects the others and in turn is affected by each, creating a holistic view of the ten year old.	Assess the cognitive functioning of a three children of the same age using the four assessment tasks. Analyse their language. Document their understanding of a concept relative to their age (your choice).
requires group work	Grouping of 4-5 members – self selected. Role of group is to reflect and peer review each other's work in order to obtain an excellent product.	Plan regular meetings at an agreed time and place, an agenda and rotate the scribe at each meeting. Discuss all aspects of the tasks and the expectations for each member.
combines cognitive and affective	Goal-setting, self-regulation, metacognition are important. Manner of responses affect individuals. Conflict resolution is integrated with the task. Processing information through individual learning styles is concurrent with how each person is affected by the same.	Construct a quiz which is both scholarly and entertaining. Complete four other quizzes posted to WebCT.
integrates technology with the learning process and product	Technology enhances learning and is a significant part of the work environment. Its creative use is both expected and encouraged.	Create a web site on your focus area (such as motivation, creativity). Use of WebCT for communication.
involves written and verbal communication between all stakeholders/members involved in the unit	Skills of communication are honed when a collective project of an excellent standard are embarked on. Members must communicate with each other, lecturers, librarians, technology technicians etc.	Use the bulletin board or e-mail to publicise the quiz, where to obtain it and the process for returning it for marking.
components of tasks can be negotiated by group consensus (variety & choice)	Tasks are written to enhance learning, therefore, aspects of the task can be modified based on group and lecturer approval. The aims are to further students' knowledge and understandings and develop skills such as critical thinking.	A subtask of interviewing one teacher can be changed to interviewing three teachers followed by a synthesis of the data. (special education, primary and secondary teacher).
no ceilings are set, only minimum requirements	Groups can extend requirements of task in order to develop, grow and reach their potential.	Select a minimum of three research journal articles to critique. Students can opt to critique more.
all small sub-tasks are interrelated so that information is revisited, revisited. Tasks begin with a knowledge gathering level and move to analysis, application and finally evaluation.	Understanding a theory from several perspectives is encouraged and therefore built into the task. Repetition of knowledge in various contexts ensures that students have a firm understanding of the different contexts in which theories may be applied.	From an understanding of a theory write a scenario which reflects your understanding. Interpret the scenario. Pass the scenario to another group who will write their interpretation. Assess their interpretation and provide feedback.
requires critical thinking - evaluation	In meeting workplace criteria, critical thinking is built into the subtasks. The extent this is developed is group contextualised.	Students observe/discuss a classroom issue with a teacher. Data is analysed according to theory. An objective synthesis is written as a subtask for the group's web site.
requires interpretation as well as application	Theories must be interpreted in a variety of contexts, prior to constructing new situations or applying interpretations to new contexts.	Students use theories to both write and interpret scenarios.
integrates theory with the workplace	The tasks must involve students in the workplace to some extent.	Students talk with teachers in schools about a preselected theory. The intention is for students to see the application of the theory.
complex and challenging higher levels of thinking	Atypical intelligence demands challenging tasks. Complexity is built into the final product through the subtasks. Bloom's taxonomy is used to guide the development of tasks.	Create a website. Assess the cognitive and language development of three same-aged children in pairs. Write an individual report.
tasks should include a sense of fun and enjoyment	When learning is made fun, motivation for engagement is increased.	Create a website. Select a topic for children to tell you what they know. Use drawings, stories, games, play to elicit their knowledge. Interact - don't 'test'.

Table 1. Examples of rich assessment. Source: Unit outlines Ed 125 & Ed 128.(2000 & 2001), Curtin University of Technology.



## FINDINGS: ROLE OF MEDIATOR IN RICH ASSESSMENT

The role of mediator as conceptualised by Feuerstein (2001) required a commitment to particular views. Arising from working with two distinct cohorts of students over two years is the distillation of a number of attitudes a mediator needs to adopt if they are to be successful in implementing RAMAT:

1. All students are atypical in intelligence compared to the norm. Therefore expectations that these students are capable of meeting the demands of the tasks are acknowledged. Although it is possible for self-fulfilling prophecies to emerge, it is unlikely, given the population group enrolled at universities.
2. Despite these expectations of high performance, all students have different needs and interpretations of the requirements of the task and therefore a mediator should not pass judgement on any student based on the nature of any questions they may ask.
3. Learning is not about students being less intelligent than the lecturer. It is about students being equally intelligent if not more intelligent but who have not climbed the same mountain or as high up the mountain as the lecturer. Given time and experience they may walk beside the lecturer or overtake them on the climb to the top of the mountain. Consideration must be given to students to be on the same level in the pursuit of knowledge as oneself.
4. Students consider the lecturer to be 'expert' in the knowledge base of the unit. Lecturers should not claim to know all there is to know by reference to their own knowledge base, but model the attitudes of a lifelong learner who is prepared to learn more as new knowledge enters the world in which we all live.
5. A humanistic approach to learning is preferable to that of behaviourism. A reciprocation of respect in the learning journey motivates students to achieve and this itself reinforces the humanistic approach as a successful one to employ with adults.
6. Embrace individuality. All students do not need to learn the same thing at the same time. More importantly, the objectives of the content to be engaged in and the process of learning the content must be united in

order that meaningful learning is made while maintaining enthusiasm.

The implementation of the key characteristics of mediated learning, as advocated by Feuerstein (2001), has not been without difficulty. Helping all students to understand their own approach to the processing of information in large subject units is almost impossible, and further reflection on this problem is needed. Seizing opportunities as they spontaneously arise and in response to student requests appears to be one solution, and making use of WebCT is another. Making the learning that has been achieved explicit to students has also been difficult to implement on a large scale, although not impossible with more use of WebCT. Identifying the times when students struggle to make meaning are the times when the lecturer can intervene, clarify, and reinforce the new learning along with the process.

Making the transcendence transparent has also been a challenge to implement. It is not until students fully grasp the meaning of theories that they can apply them to new and not yet experienced situations. In doing the bridging, the mediator sometimes has to do quite a lot of the contextualising and talking. This is time intensive, and other ways to encourage students to do this are being explored. In sum, this means additional hours of non-traditional teaching, often not accounted for in work-loads of lecturers, is required.

## CONCLUSION: ROLE OF RICH ASSESSMENT AND MEDIATION IN PRODUCING QUALITY LEARNING

Quality learning has been produced in the eyes of the students, others lecturers within the Faculty of Education, and the author of this paper. Rich assessment produces learning beyond content and embodies the skills of thinking required of students when employed as professionals. For many students it has created passion about learning. The ultimate state of intrinsic motivation was achieved by the group of students who indicated MLE worked best for them.

The interactive patterns among people are key to the learning process, as well as educational and social change. Quality learning is achieved when the lecturer is warm, supportive and responsive to the needs of adults who are cognitively and affectively challenged by rich assessment. This involves responsibility, cooperation, sharing, valuing, and the building of intrinsic motives for learning.

In addition, technology, embedded in rich assessment, has been used to enhance the interactions and therefore learning. Interaction is even more pertinent in an information age which requires lateral, creative, and critical thinkers, problem solvers and lifelong learners. RAMAT is proposed as an appropriate, and potentially useful strategy to create new, high-quality, and exciting 'recipes'. Although it is beyond the scope of this study to claim the observed difference to be the result of mediation, it appears to have had some impact' to meet teaching in diverse university contexts and demanding times.

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