EMERGING TRENDS IN EVIDENCE-BASED QUALITY ASSURANCE

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ABSTRACT

Higher education has expanded and diversified rapidly over the last twenty years, underpinning a need for more robust information on the nature and quality of provision. This paper introduces three evidence-based collections being developed for Australian higher education. Each of these measures triangulates current collections and provides new data and insights to institutions that is central to the quality of their educational provision.

INTRODUCTION

Higher education has expanded and diversified rapidly over the last twenty years, bringing a need for more robust information on the nature and quality of provision. Government, business, potential students, the general public and institutions themselves want more and better information to help differentiate varying levels of quality and effectiveness. As our understanding of educational quality and measurement and evaluation methodology unfolds, it is critical that we develop more effective approaches for managing and improving the quality of higher education. In recent years, high-level reports (AUQA, 2007; Spellings, 2006; OECD, 2008) have noted the need for such development. This paper introduces three new evidence-based quality assurance activities that are being developed for Australian higher education: the Australasian Survey of Student Engagement (AUSSE), an aptitude test (uniTEST) and a Work Readiness Assessment Package (WRAP). Each of these triangulates current collections and provides new data and insights that is central to the quality of educational provision. The collections are described in terms of large-scale national developments underway in 2008.

This paper introduces three new evidence-based quality assurance activities that are being developed for Australian higher education: the Australasian Survey of Student Engagement (AUSSE), an aptitude test (uniTEST) and a Work Readiness Assessment Package (WRAP). Each of these triangulates current collections and provides new data and insights that is central to the quality of educational provision. The collections are described in terms of large-scale national developments underway in 2008. Concluding remarks focus on the likelihood that these emerging trends may underpin change in quality assurance activities and hence in educational policy and practice.

These collections, and the integrated methodology, offer ‘evidence-based’ approaches to quality assurance, a position that needs brief qualification. In brief, it implies forms of professional practice based on data collected using scientific methods. When carefully designed and collected, such data provides a robust foundation for professional diagnosis, decision-making and action. This implies a certain way of thinking, and implies various things in practice. It can denote senior executives making decisions based on data about the quality of provision. It can involve academic staff using locally collected data to analyse the performance of their students and to help them target their teaching and support.

Of course the merit of evidence-based practice hinges on the relevance and validity of the data on which decisions are made. This can be more problematic in education than in other professions, as teaching and learning can be difficult to define, measure, analyse and report, particularly in ways that are generalisable across fields of study, let alone across institutions, states or nations. A considerable amount of work has been done to develop the collections described in this paper as valid, authoritative, relevant, efficient and timely measures that hold weight across diverse institutions and contexts.

A distinguishing feature of each of these approaches is that they provide direct or very sound proxy measures of student learning outcomes. This is important, as it moves our focus beyond institutional and instructional factors and emphasises what students themselves are doing and achieving. Institutional and pedagogical factors are important, but it’s equally or arguably more important that we do not neglect analysis of what students are doing and achieving. So far, quality assurance in Australia has involved a considerable amount of data collection from students, but little collection of data about students and their learning.

The Australasian survey of student engagement (AUSSE)

‘Student engagement’, defined as students’ involvement with activities and conditions likely to generate high-quality learning (Coates, 2006), is increasingly understood to be important for higher education quality. The concept provides a practical lens for assessing and responding to the significant dynamics, constraints and opportunities facing higher education institutions. It provides key insights into what students are actually doing, a structure for framing conversations about quality, and a
stimulus for guiding new thinking about best practice.

Student engagement is an idea specifically focused on learners and their interactions with university. The idea touches on aspects of teaching, the broader student experience, learners’ lives beyond university, and institutional support. The concept of student engagement is based on the premise that learning is influenced by how an individual participates in educationally purposeful activities. While students are seen to be responsible for constructing their knowledge, learning is also seen to depend on institutions and staff generating conditions that stimulate and encourage involvement. Learners are central to the idea of student engagement, which focuses squarely on enhancing individual learning and development.

Surprisingly, information on student engagement has not been readily available to Australasian higher education institutions. The Australasian Survey of Student Engagement (AUSSE) (ACER, 2008), conducted with 25 institutions for the first time in 2007, provides data that Australian and New Zealand higher education institutions can use to attract, engage and retain students. The AUSSE builds on foundations laid by the North American National Survey of Student Engagement (NSSE, 2008). By providing information that is generalisable and sensitive to institutional diversity, and with multiple points of reference, the AUSSE plays an important role in helping institutions monitor and enhance the quality of education.

The AUSSE collects data from institutionally representative samples of first- and later-year students, and provides a foundation for analysing change over time. While not assessments of value added in the statistical sense, examining change across year levels provides insight into the extent to which people are being challenged and pushing themselves to learn. An increase in active learning, for instance, indicates that learners are investing more time constructing new knowledge and understanding. It also indicates that learners are more engaged in their work.

In 2008, ACER is piloting the Staff Student Engagement Survey (SSES) as a complement to the student collection. The SSES is a survey of academic staff about students, building on the foundations set by the Faculty Survey of Student Engagement (FSSE) (Nelson Laird, 2008). The Staff Student Engagement Questionnaire (SSEQ) measures academics’ expectations for student engagement in educational practices that have been linked empirically with high quality learning and development.

Compared with student feedback, relatively little information from academic staff is collected in Australasian higher education. Such information in important, however, as it can help identify relationships and gaps between student engagement and staff expectations, engage staff in discussions about student engagement and in student feedback processes, provide information on staff awareness and perceptions of student learning, and enable benchmarking of staff responses across institutions.

In summary, the AUSSE provides information about individuals’ intrinsic involvement with their learning, and the extent to which they are making use of available educational opportunities. As such, it offers information on learning processes, is a reliable proxy for learning outcomes, and provides excellent diagnostic measures for learning enhancement activities. Particularly when linked with feedback from staff, this can be a powerful means for driving educational change.

An aptitude assessment for university entry: UniTEST

In 2008, the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) introduced a pilot program of the Student Aptitude Test for Tertiary Admission (SATTA) (DEEWR, 2008). This program includes funding for an evaluation of the criterion validity of uniTEST, an assessment managed by the Australian Council for Educational Research (ACER). The evaluation will examine the extent to which uniTEST correlates both with alternative concurrent measures used for university entrance and with performance in the first year of study. This latter evaluation involves analysis of the predictive validity of the instrument.

uniTEST (ACER & Cambridge Assessment, 2008) has been developed to assist universities with the often difficult and time consuming processes of student selection. The test is designed for use with school leavers to complement the existing achievement-oriented measures that form the basis of many selection decisions. uniTEST assesses the kinds of generic reasoning and thinking skills that underpin successful higher education study. It provides measurement of quantitative and formal reasoning, critical reasoning, and verbal and plausible reasoning. Reasoning is assessed in familiar and less familiar contexts and does not
require subject-specific knowledge. The instrument is designed to estimate individual capability with known and appropriate levels of precision.

While not the primary purpose of the instrument, or of the 2008 validation, objective measures of individual aptitude provide a basis for estimating subsequent performance. Hence, they provide an inferential basis for estimating the value added by university study.

In addition to a robust baseline measure, it is necessary to have measures of actual student achievement that are gathered after a period of university study. These are collected through routine assessment activities. Such assessments vary greatly both within and across institutions, even within similar fields of education. While there are pockets of excellence, knowledge and skill is often measured using uncalibrated tasks with unknown reliability and validity, scored normatively by different raters using unstandardised rubrics then, often with little moderation, adjusted to fit percentile distributions which are often specified a priori by departments, faculties or institutions. Confidence in the reliability of such assessments might be enhanced through the inclusion of common items across examinations that measure specific knowledge and skill or even generic capabilities.

Such limitations aside, with these data the value added by a course of study can be assessed statistically by comparing predicted with actual measures of individual performance. Performance above expectation suggests value-added growth. Performance below expectation indicates that less value has been added than expected. As noted, a comparison of the simple difference between entrance scores and routine assessment results would also illuminate patterns of learning across an institution.

In addition to any assessment of value added, baseline data on individual ability might also be used by an institution to monitor and even moderate grade distributions across an institution. Such work is undertaken routinely in three senior secondary systems in Australia (VCAA, 2008; QSA, 2008; ABSSS, 2008). In such analysis, individual performance that is above expectation is taken to indicate larger gains that have been made through university education. When performance is above expectation for a whole group, however, this may indicate grade inflation or that assessment tasks are too easy. If so, adjustments may then be made for risk management purposes so as to assure the quality of data used for quality assurance decisions.

The Work Readiness Assessment Package (WRAP)

The quality of university education may be reviewed by comparing objective assessments of first-year and later-year students’ performance and potential. In the simplest scenario, this analysis might be conducted using routine student assessment data. A first year grade point average, for instance, might be compared against a third year grade point average. This approach is attractive as it involves the use of extant student assessment data. The limitations of the approach, however, stem from uncertainties associated with the psychometric properties of routine assessment data, and that the assessments have been assured by the educational processes that they are being called upon to evaluate. The process is not grounded by an objective assessment of student competence or capability.

A preferable approach, therefore, involves making comparisons between two psychometrically validated and linked assessments. Data from objective psychometric assessments provides points of reference from which value added estimates can be derived. This requires assessment of first- and later-year students, either of the same students as they progress through a course of study, or of a later-year matched cohort of students. The assessments might focus on specific knowledge or skills or on competencies and capabilities which are more generic in nature.

The latter approach has been more common, perhaps surprisingly given the large amount of assessment data available to institutions. This methodology was seeded during development of the Graduate Skills Assessment (ACER, 2001) which measures written communication, critical thinking, problem solving and interpersonal understandings. The Collegiate Learning Assessment (CAE, 2008) has been used in this context in the USA, again to measure generic capabilities which are core components of a university education.

The measurement of generic competencies is important, but there is value too in focusing on phenomena that align with an institution’s specific mission. In 2008, for instance, one Australian university is piloting a Work Readiness Assessment Package (WRAP) which has been designed to measure students’ work-, career- and future-readiness (Coates, Edwards & Nesteroff, forthcoming). This involves the assessment of a spectrum of constructs, from
basic competencies such as numeracy and literacy, to job searching, workplace reasoning and career management, through to how students’ position themselves professionally in the changing world of work.

As with the previous approach, statistical comparison against data collected at two points in time can be used to derive estimates of individual growth against expectation, or the value added by university study. In addition to use in quality assurance determinations, results from such assessment can be reported on the transcripts that are provided to students on graduation, benchmarked by level of qualification and field of education. They also provide a foundation for drawing inferences about the quality of students’ achievement. As with the previous approach, they furnish independent evidence that can be used to assure the quality of routine student assessment.

**Forecasting change**

The approaches advanced in this paper emphasise new thinking about quality assurance in Australian higher education, if only through their explicit focus on student learning and development. The application of these approaches in Australian universities is important, for it flags innovative ways for institutions to measure and verify what their students have learned. All approaches provide institutions with empirical foundations for drawing inferences about the quality of higher education. They provide concrete data that moves beyond prevailing metrics which focus on graduation rates and subjective student satisfaction.

While relatively early days, the importance of these new developments hinges on the extent to which they shape institutional policy and, more importantly, educational practice. Universities and higher education systems evolve slowly but several trends would appear to be driving more rapid changes in this area.

The first is an increasing emphasis on evidence-based and outcomes-focused approaches in formal quality assurance activities. Spellings (2006), the OECD (2008) and Callan, Ewell, Finney and Jones (2007) highlight such trends internationally. The direction is emphasised in Australian tertiary education by policy papers released by the Australian Universities Quality Agency (AUQA) (2007) and, in terms of vocational education, by the National Quality Council (NQC) (2007). Of course, this trend follows developments in school education over the last few decades, which have culminated in collections such as PISA (OECD, 2008) and TIMSS (2008).

In many respects, this first driver reflects more a general overarching need for objective evidence on the quality of institutional provision and on student outcomes. Aside from administrative data on student enrolment and completions, the quantitative data used in quality assurance determinations is overwhelmingly derived from students’ perceptions of the quality of teaching. While important, such information provides only a subjective proxy measure of the quality of students learning. Objective assessments, even if of more ‘generic’ rather than discipline-specific phenomena, provide much more direct and robust information and, further, can be used to moderate or monitor routine assessments.

A further driver is the need for greater diversification in the data that is collected by institutions for quality assurance purposes. Australian institutions have developed very sophisticated means of capturing feedback on student satisfaction over the last few decades. This information has driven important changes in practice, but subjective information on student satisfaction provides just one perspective on education. With a more complex and integrated role in contemporary society, and more differentiation between individual institutions, comes a need for more diversified, robust and educationally significant information. Institutions need data that helps shape understanding of the student and industry markets in which they operate.

Evidence-based quality assurance requires data that can be used to target enhancement and improvement activities. Such evidence-based approaches are required as institutions grow and diversify, and as it becomes less feasible and even effective to support all areas of provision. A data-driven approach helps identify areas of risk, target limited resources, focus improvement activities, and monitor change. It offers insight for identifying areas of good practice. The perspective driving this paper is that such practice will doubtless grow in an expanding and increasingly competitive higher education environment.

**REFERENCES**


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