Using student evaluation of teaching data to enhance teaching and learning
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Introduction

This professional development module seeks to provide an overview of the concepts related to student evaluation of teaching (SET) and how SET data can be used for improving teaching and learning. It considers the concept of 'quality' generally, as well as in the context of higher education. The background and importance of the course experience questionnaire (CEQ), the student evaluation of teaching and units (SETU) survey and the Australasian Survey of Student Engagement (AUSSE) are presented. The use of CEQ and SETU data, in a Deakin context, is explored in more detail.

Quality in higher education

What is 'quality'?

What is quality in a car?

- Reliability?
- Precision finish?
- Good handling?
- Expensive price?
- Strong components?

What is quality in a jacket?

- Designer label?
- Tailored fit?
- Lasts for years?
- Dry-cleans like new?
- Comfortable to wear?

What is quality in a restaurant meal?

- Friendly, prompt table service?
- Wide selection on menu?
- Silver knives and forks?
- Food warm when served?
- Meal cooked as you ordered?

Look up quality in the dictionary and you will find a range of meanings. Quality is the term we use to describe and assess an array of characteristics of a diverse range of physical goods and intangible services. According to Garvin (1988) there are five common definitions of, or approaches to quality:

1. Transcendent – quality can't be precisely defined, but we know it when we see it, or are aware of its absence when it is missing. This is not a particularly useful approach to quality if we hope to make an objective assessment of quality.
2. Product(or attribute)-based – differences in quality relate to differences in the quantity of some attribute – for example, the quality of a piece of jewellery may relate to the proportion of gold it contains, 18 carat gold being better than 9 carat gold.
3. Manufacturing(or process)-based – quality is measured by the degree to which a product or service conforms to its intended design or specification; quality arises from the process(es) used.
4. Value-based – quality is defined by price – a quality product or service is one that provides

desired performance at an acceptable cost.

5. User(or customer-)-based – quality is the capacity to satisfy needs, wants and desires of the user(s). A product or service that doesn't fulfil user needs is unlikely to find any users (Garvin, 1988). This is a context-dependent, contingent approach to quality.

In the context of tangible goods, it has been suggested that we assess quality in terms of the following eight factors/dimensions:

1. performance;
2. features;
3. reliability;
4. conformance;
5. durability;
6. serviceability;
7. aesthetics; and
8. perceived quality (Garvin, 1991).

In the context of intangible services, some authors have attempted to apply Garvin's eight dimensions of product quality to service quality, but the analogy becomes tenuous in places. Others have attempted to identify how we assess the quality of services, including:

1. time;
2. timeliness;
3. completeness;
4. courtesy;
5. consistency;
6. accessibility and convenience;
7. accuracy; and
8. responsiveness (Evans & Lindsay, 2005).

Other authors have suggested alternative and/or additional dimensions of quality. The list that we might select as applicable in a particular context is dependent on the product and/or service in question and the purpose for which we wish to assess quality.

The contemporary view of quality places the user (often the 'customer') in a central role (Crosby, 1995). We need to understand the needs of the user if we are to successfully deliver services and/or products that will fulfil their needs. The ultimate measure of quality resides in the perceptions of the 'customer'. This is a much more sophisticated view of quality than appealing to elegant designs or devising reliable systems for production and/or delivery, however it forces the supplier to confront questions that are often difficult. Who is/are the customer(s)? What are their needs, wants and desires? These are difficult enough questions of themselves, but are further complicated by the fact that the user group is generally not homogeneous, and may have a wide range of potentially conflicting requirements. And over time, these needs may change. Think of personal computers – what would have been seen as desirable processing speed, size, etc. five years ago would today been viewed as inadequate.

Another important idea from the contemporary conceptualisation of product quality is that all areas of an organisation contribute to the final quality of the services and products produced (Juran, 1988). Poor market research may lead us to offer products/services that no one wants, regardless of how well we deliver them. A flawed design cannot be turned into quality regardless of how repeatable our delivery processes. An excellent design will appear highly variable in quality if our process tolerances are too wide, or our raw materials are of a low standard. A high quality product can be ruined during transport to the customer. There is a system-wide 'quality function' that exists and impacts on quality. In a manufacturing context, it is recognised that up to 85 percent of quality issues are the result of systemic factors beyond the control of individual workers (Deming, 2000) – the general concept that arises here is that quality is primarily a management responsibility, and the operation of the entire organisation needs to be considered when seeking to improve quality. In a university context, this implies that the student perception of quality is likely to be influenced just as much by the timetable clashes, late delivery of materials, the amount of network downtime, the temperature of the classroom and the size of the tutorial class, as it is to be influenced by currency of course material.

Activity
Think of a product or service that you regularly purchase. What are the characteristics of that product or service that most matter to you? What would an alternative supplier of that product or service have to change/improve to get you to buy it from them instead?

<u>Quality control, quality assurance and quality improvement</u>
The quality arena is full of jargon, but there are some basic terms/ideas that are important.

Quality: an assessment of the degree to which service or product meets the expectations of a user based on an identified set of attributes. The relative importance of particular attributes depends on the individual user and their context.

Quality Control (QC): a process based on measuring identified quality attributes to ensure that the product or service delivered to users is of a defined/agreed quality standard. For products, QC is normally applied following production, and defective items have to be scrapped or re-worked. QC often incorporates statistical sampling from batches, such that only a comparatively small proportion of all items need be tested to ensure a low level of defective items reach the user.

Quality Assurance (QA): a set of procedures (system) designed to ensure that a product or service meets a specified minimum level of quality. While a QA system would normally incorporate some form of QC, rather than relying on 'inspecting in' quality using QC, QA systems typically seek to implement delivery systems that do not produce defective items. A QA system would use QC data to identify quality problems and rectify them to maintain the required level of quality.

Quality Improvement (QI): encompasses a wide range of techniques for attaining improved levels of quality. Changes in user/customer demands and/or developments in competing products/services mean that there is likely to be a need to improve quality over time. The most appropriate QI techniques depend on the service or product in question, the organisational context and the nature of the improvement sought.

Quality Management System (QMS): a system for managing all aspects of quality in an organisation. A QMS would normally encompass QC, QA and QI processes.

These terms are sometimes confused, for example, QC and QA are not same as quality. What represents quality in a particular service or product is generally an individual assessment; QC/QA are simply methods for ensuring that a specified level of quality (low or high) is achieved.

There are a number of standard QMSs, the most widely used of which is the International Organization for Standardization standard ISO 9001:2000 Quality management systems – Requirements. Many national standards bodies (including Standards Australia) have adopted

ISO 9001 as their equivalent national standard. ISO 9001 specifies the requirements for a QMS under five main categories:

1. quality management system – what it must contain and how it must be documented;
2. management responsibility –confirming that quality is a management issue;
3. resource management – to achieve quality we must have appropriately trained people, appropriate processes, equipment capable of producing quality, and raw materials of an appropriate level of quality;
4. product realisation – how all the steps from design through to manufacturing and/or service delivery contribute to quality; and
5. measurement, analysis and improvement – how quality will be measured, how products/services that do not meet quality standards will be rectified, and what quality improvement processes will be used.

The question is often asked, "How can a single standard specify the requirements of a quality system for all types of organisations?" The answer is that ISO 9001 is not concerned with the details of what is done by an organisation, but only how it is managed. It identifies those generic processes in an organisation that must be controlled to achieve quality, without prescribing the details of the controls. The details of the quality system actually implemented need to be determined by each organisation, taking into account the expectations of their users, their range of products and/or services, their processes, their quality goals, and their own unique circumstances. The use of terms such as 'product' and 'customer' reveal the development of approaches to quality that are rooted in the manufacturing of physical goods, however there is an extensive literature on the application of these same quality principles to the development and delivery of services. ISO 9001 employs the term 'product' to mean both service and product.

A QMS can be viewed as an unwanted administrative burden. However, the basic requirements for even an ISO 9001 QMS do not have to be onerous. It requires an organisation to articulate a quality philosophy that defines quality and identifies what aspects of the operation will be covered by the QMS, formalise existing operating procedures, implement a small number of mandatory procedures, provide any necessary staff training and keep records to demonstrate the operation of the QMS. Of course, like other management functions, such as planning and budgeting, quality management can appear to take on a life of its own, creating busywork for its own sake, but this is not an inevitable by-product of having a QMS. A QMS system can be viewed as a barrier to innovation that will lead to homogeneity, the lowest common denominator and stagnation. However there are a range of well-known innovative organisations (including Apple, 3M and Hewlett-Packard) that have ISO 9001 QMSs in operation. An organisation with a QMS that is suffering from an inability to innovate would do better to look for policies that penalise, neglect or do not provide the resources required to innovate. A QMS itself is no barrier to innovation.

An idea arising from the existence of QMSs is 'certification'. If we have a QMS and believe that it is functioning well, we can declare this fact – this is referred to as first-party certification. If we have an important customer, they may wish to audit our QMS – a successful audit of this type is referred to as second-party certification. If we wish to demonstrate to a wider audience that we have an effective QMS, we may seek an appropriately qualified/accredited independent organisation to conduct the audit of our QMS – this is referred to as third-party certification.

Activity

Try to identify activities in your work area that are related to quality in some way. Which ones are related to quality assurance? Which ones are related to quality improvement?

<u>Quality and higher education</u>

To many, the idea of applying quality concepts (particularly some of the terminology rooted in the manufacture of commercial products) to education is anathema (Anderson, 2006). For some, in the context of education, it does not seem possible to move beyond transcendent conceptions of quality. However, defining quality in education by using other equally ill-defined terms (such as 'excellence') doesn't advance the issue in any practical way. The contemporary, user-centred, perceived experience view of quality is not conceptually incompatible with many modern ideas in education (Lewis & Smith, 1994), including student-centred learning, inclusiveness and learner experience design. But, like all matters of educational policy and practice, the devil is in the detail, and no less so than in defining/agreeing what we mean by 'quality' in higher education, and then devising objective measures for it. As previously noted, quality is a system-wide function, and a comprehensive model of quality in higher education should encompass both teaching (organisation-related aspects) and learning (student-related aspects), and include input, process and output factors for both areas (Oliver, 2003).

Many critics of quality in education appear to confuse 'quality' with QA/QC processes. However, these processes don't define or necessarily even improve quality; they only seek to ensure that a previously specified level of quality (however that is defined) is actually achieved. An inability to articulate and/or agree what constitutes quality in education does not, of itself, constitute a limitation of QA/QC processes as applied to education. This is not to say that the move from a transcendent to a more concrete definition of quality in education, or that reconciling the needs of the large education stakeholder group is necessarily straightforward or without conflict.

The starting point for quality is the user, or to use the unfortunately more 'charged' quality terminology – the 'customer'. It is worth noting that the ISO 9001 QMS standard simply defines 'customer' as any person or organisation that receives a product or service; there is no inherent implication of a purchase being involved. Then, who are the 'customers' in higher education? Who receives the outputs/benefits of the higher education system? The Standards Australia handbook HB 90.7-2000 Education and Training Guide to ISO 9001:2000 suggests that it can be any or all of the following as appropriate to the particular context:

- a student;
- a student's parents or employer;
- a company or organization with whom a research contract, a consultancy agreement or a training contract is entered into;
- an industry;
- an internal customer (i.e. within the education and training provider's own organisation);
- a government, regulatory body, accreditation body and similar; and
- a relevant society group, such as a parents and citizens group, members of staff, and society as a whole (Standards Australia International, 2000).

Such a diverse stakeholder/user group indicates the complexity of the task of identifying the range of needs that we might include in a definition of quality in higher education. We also need to consider what service/product we are providing to the user(s). HB 90.7-2000 includes the following suggestions:

- an educational environment,
- a curriculum and other resources,
- a community service, or
- research outputs,

for the enhancement of skills/knowledge/understanding/attitude/values (Standards Australia International, 2000).

Defining who the user is and what we are offering to them provides a framework for identifying what aspects of quality we would seek to control and/or improve and which areas of the organisation contribute to/impact on that quality as perceived by the user. In any conception of quality in higher education, students must be viewed as a principal user group. Some may argue that many undergraduate students are comparatively naive 'customers' with a limited conception of the knowledge and skills necessary in their field of study. However, ignoring the needs and expectations of any important customer group is a recipe for organisational failure, and the modern university undergraduate student is just as likely to turn out to be a mature age student (with significant experience of their field of student and/or prior experience in higher education) rather than an 18 year old directly from secondary school. Over the course of their studies, students will experience a wide range of teaching and learning, and be well placed to make comparative judgements of quality, and, as novices in their discipline, will also be qualified to judge whether their involvement in education is assisting them to learn (Ramsden, 1991).

A range of universities have adopted ISO 9001 as the basis for their QMS, with many being certified by external accrediting bodies. In Australia, it is common to see separate academic and administrative units and/or commercial subsidiaries with a certified QMS, rather than entire universities (Baird, 2006). At the time of writing, these include various Faculties of Central Queensland University, the School of Chemical Engineering of the University of Adelaide, the School of Electrical, Electronic and Computer Engineering at the University of Western Australia, a range of university commercial entities (including Deakin Prime) and many university support divisions (including several divisions of Deakin University). ISO 9001 has been used as an example/framework for a QMS in the sections above, but this is not meant to imply that it is the only or best approach – in a higher education context, the literature contains a range of approaches to implementing a QMS.

In Australia, the Australian Universities Quality Agency (AUQA) plays an important role in quality in higher education. AUQA is a national body that audits and reports on QA in Australian higher education. Audits are conducted on a five-yearly cycle, and require institutions to prepare a self-report around a series of structured criterion, which is then followed up by an on-site audit of the institution. Audits are primarily norm-referenced, taking into consideration the individual aims of the institution, as well as commonly accepted practice in the sector. AUQA principal function is in the assurance of quality, though it does incorporate elements of quality improvement/enhancement through:

- the inclusion of recommendations for improvement in its audit reports;
- the hosting of a 'good practice database' to disseminate good practice; and
- hosting the Australian Universities Quality Forum to facilitate sharing of good practice in higher education in Australia.

AUQA's audit process evaluates the institution's QA processes on four dimensions: approach, deployment, results and improvement (ADRI) (Australian Universities Quality Agency, 2007). While not performing a third-party QA certification role per se, AUQA's audit reports (including 'Commendations, Affirmations and Recommendations') are publicly available. From 2011, the functions of AUQA will be taken over by a new body the Tertiary Education Quality and Standards Agency (TEQSA), which will be established during 2010.

In higher education, just as in industry, QA processes can be seen as resource sapping busy work or an administrative tool to micro-manage the affairs of staff (Marginson & Considine, 2000), but this has more to do with the implementation of the QA system, rather than any inherent feature of QA. These perceptions are perhaps amplified in higher education due to the wide range of 'customers', the intangible nature of the 'product' and the bureaucratic nature of higher education institutions and accounting for the use of public funds.

Activity
Who are the stakeholders with an interest in the quality of the program(s) that you contribute to? What would be the measure(s) of quality that they would use?

Quality improvement in higher education
As noted above, the primary role of a QMS in general, and AUQA in higher education is the assurance of quality. But, for both its own sake and in response to a competitive environment, we should also be concerned with the improvement of quality. The higher education literature notes that QA and QI (or quality enhancement) are not the same thing (Avdjieva & Wilson, 2002; Knight, 2006). A short-term 'tactical' response to quality in higher education may be adequate to satisfy external QA auditing bodies, but a 'strategic' approach to quality is needed for the development of an organisation-wide culture of QA and QI (Gordon, 2002).

While there is no specific international standard to provide a framework for QI that is analogous to that provided by ISO 9001 for QA/QMS, there is no shortage of available QI techniques. In the context of quality in higher education, many authors suggest (perhaps appropriately for universities) the model of the 'learning organisation' as way to move from a culture of compliance to improvement (Avdjieva & Wilson, 2002; Hodgkinson & Brown, 2003; Yorke, 2000). A learning organisation is one that achieves both individual and collective learning through open and honest reflective practices based on objective information. In a paper that acknowledges the multidimensional nature of quality and that the emphasis in higher education quality is moving from compliance to development, (participatory) action research is presented as a quality improvement approach that embodies the learning organisation philosophy (Kekäle & Pirttila, 2006) in a methodology that would not be unfamiliar to many academic staff. The similarity between the cyclical nature of the action research model and the cyclical nature of the plan-do-check-act cycle that is the core of many QI methodologies has been noted elsewhere (Tolbert, McLean & Myers, 2002). While the application of action research in higher education can be interpreted in a range of ways (Kember & Kelly, 1993), generally, action research seeks to improve/transform practice through the considered application of actions, objective evaluation of the outcomes and the continued refinement of our understanding of the factors at play in a given situation. It incorporates the concept of well-informed action, and when applied to improving the quality of teaching and learning, challenges us to define 'quality', and to develop methods to measure this quality.

One survey of academic staff actively publishing in the literature related to quality in higher education from a range of disciplines and countries found that the most favoured definition of quality related to satisfying customers' needs, students were considered the most important customer group (followed by employers) and nearly all agreed that some form of quality measurement was important (Owlia & Aspinwall, 1996). The many stakeholders in higher education lead to a multitude of measurements (or performance indicators) for various purposes, including factors such as retention rates, research outputs, completion rates, student evaluations, staff-student ratios, and graduate employment data.

If students are key users of higher education, what are the factors in their learning that they consider important? In Australia, a large analysis of open-ended comments made by university graduates on their studies as part of the course experience questionnaire (CEQ) has recently been completed (Scott, 2006). While confirming the complex and multi-faceted nature of quality that arise from such a diverse group of users, and that it is the total university experience that counts, a key finding from the investigation was that students highly value learning methods that engage them. Student engagement has long been identified as a key qualitative measure of quality of student learning (along with assessed student results as a quantitative measure) (Trigwell & Prosser, 1991). There also exists a literature that confirms a link between student evaluation of their 'quality of teaching' (perhaps better expressed as 'experience of teaching' to avoid apparently circular, but common definitions of quality based on quality) and their approach to and engagement with their learning (Ramsden & Entwistle, 1981). This is one of the reasons why student evaluation of teaching is used as an important measure of quality in higher education.

Quality in higher education will remain a contested domain. Modern developments in the field of quality bring a semantic legacy that reveals their recent history in the production of tangible products (typically for commerce), and that automatically makes many of the associated concepts unpalatable to some in higher education. In addition to this, the wide range of stakeholders in higher education leads naturally to a multiplicity of (often competing) interpretations of quality. Regardless of this, and even if only at a very pragmatic level, student learning outcomes must be a key measure of quality in higher education. Research indicates that student learning is related to their perceptions of their teaching and learning environment. This is why student evaluation of their teaching and learning environment is one key measure that can be used as part of a continuous, action research-based approach to quality improvement in higher education.

Activity
For the program(s) that you contribute to, are you aware of any teaching quality measurements? What are they? Are there any other teaching quality measures that you would recommend? If you are not aware of any, what teaching quality measures could be used?

<u>What are CEQ, SETU and AUSSE, and why are they important?</u>

<u>The Course Experience Questionnaire</u>

Work by Ramsden and Entwistle in Britain in the early 1980s with a Course Perception Questionnaire established a link between students' perception of their learning environment and their quality of learning (Ramsden & Entwistle, 1981). Subsequent work in Australia during the 1980s on a Course Experience Questionnaire (CEQ), commencing with an initial 80 item inventory that was consolidated via trials to a 30 item inventory, lead to a 1990 national survey of students which confirmed the reliability and validity of the 30 item inventory (CEQ30) (Ramsden, 1991). A shortened (23 item – CEQ23) version of the CEQ (including the addition of a 'Generic Skills' scale) was developed in consultation with the then Department of Employment, Education and Training. Work that confirms the value of the CEQ23 instrument has also been done (Byrne & Flood, 2003; Wilson, Lissio & Ramsden, 1997). A version of this instrument has been included in the Graduate Careers Council of Australia (GCCA) national survey of graduates from 1993 onward. Clearly, there is a need to be clear about which version of the CEQ is being referred to.

One of the criteria for the initial development of the CEQ was that it be generally applicable to all students, hence discipline-specific questions (for example questions about lab work) were not included (Ramsden, 1991). Since its initial development and use in the GCCA national student survey, the number of CEQ-related items has increased to 49 to cater for discipline-specific course aspects, though individual institutions are only required to report results for 13 'core' items:

GT01 - The staff put a lot of time into commenting on my work.
GT03 - The teaching staff normally gave me helpful feedback on how I was doing
GT10 - The teaching staff of this course motivated me to do my best work.
GT15 - My lecturers are extremely good at explaining things.
GT16 - The teaching staff worked hard to make their subjects interesting.
GT27 - The staff made a real effort to understand difficulties I might be having.
GS06 - The course helped me develop my ability to work as a team member
GS14 - The course sharpened my analytic skills
GS23 - The course developed my problem solving skills
GS32 - The course improved my skills in written communication
GS42 - As a result of my course, I feel confident about tackling unfamiliar problems
GS43 - The course helped me to develop the ability to plan my own work
OSI49 - Overall, I was satisfied with the quality of this course

For all CEQ items, respondents are asked to express their degree of agreement or disagreement on a five-point scale. On the national standard form only the 'strongly disagree' and 'strongly agree' points are labelled, however the instruments used at some institutions label all five points. The five-point response categories are generally interpreted as 'strongly disagree', 'disagree', 'undecided', 'agree' and 'strongly agree'.

The theoretical construction and the practical application of the CEQ are not without their critics. Some argue that the focus of the CEQ is too narrow as measure of the entirety of the student experience. Since its original development as a proxy measure of quality of student learning, the CEQ has been used for a range of purposes, some very different than for what it was intended, i.e. for determining institutional funding and use by third parties to construct league tables (Niland, 1999). The originally validated CEQ30 was reduced to the CEQ23, of which only 12 items are retained in the current 13 item core of the GCCA CEQ instrument. Some of the optional CEQ items relate to resource-dependent aspects of the university experience, potentially advantaging well-resourced institutions. There is some evidence that aspects of the CEQ may not be well suited to 'unconventional' teaching and learning environments, such as problem-based learning (Lyon & Hendry, 2002). Nevertheless, the CEQ (in particular the GCCA version) remains a widely used measure of student quality of learning.

Another reason that the CEQ has historically been important in higher education was its relationship to the former Learning and Teaching Performance Fund (LTPF). The LTPF provided performance-based funding that was determined by a combination of performance indicators, including the core 'student satisfaction' indicators from the CEQ, 'outcome indicators' from the Graduate Destination Survey (GDS), and 'success indicators' from national student statistical information. It is likely that the CEQ will continue to play a role in performance-based funding in higher education, and hence remain an important concern for universities.

The developer of the CEQ suggests that the use of mean CEQ scores to rank organisational units is problematic, as they are normative data (the highest ranked unit may still be unsatisfactory). It is more useful to consider the proportions of students agreeing with scale items. It is also valuable to consider the changes in results over time. The validity of all inferences from respondent data depends on how representative the sample is (Ramsden, 1991). It is also noted that systemic differences have been observed in CEQ ratings based on size of institution, field of study, age, gender and other demographic characteristics, and interpretation of CEQ results needs to be done with knowledge of local conditions (Graduate Careers Australia, 2006).

In addition to the 'quantitative' response items noted above, the CEQ instrument employed by the GCCA also includes an invitation to respondents to write open-ended comments on the best aspects (BA) of their university course experience and those most needing improvement (NI). These responses provide additional information that can help in understanding what students had in mind when agreeing or disagreeing with the CEQ response items. As noted above, a large analysis of open-ended comments made by university graduates on their studies as part of the course experience questionnaire (CEQ) has recently been completed (Scott, 2006). More than 160,000 comments from students graduating from 14 Australian universities (including Deakin) over the period 2001-2004 were analysed to identify common themes that were reported by students. Key findings include:

- the total university experience counts – not just what happens in the classroom;
- students desire learning methods that engage them;
- the preferred learning methods varied by discipline;
- key areas needing improvement are assessment, student administration and support, and course structure and expectations;
- computers and information technology don't figure highly in student ratings; and
- staff make a principal difference in almost all aspects of the course.

Activity
In addition to the 13 core CEQ items listed above, are there any other aspects of the student learning environment that you think have an important influence on student learning outcomes? What are they?

<u>Student Evaluation of Teaching and Units</u>
While it has been shown that the original CEQ was a useful summative measure of student experience at the level of aggregation of whole-of-program and broad field of study, it was not intended as an instrument to examine the quality of individual units of study or performance of staff repeatedly within a program (Ramsden, 1991). So, in addition to participating in the national CEQ survey and perhaps administering their own CEQ-style graduate course experience survey(s), many universities also administer student questionnaires relating to

individual units of study. These questionnaires have a range of names – Units of Study Evaluation (USE) (Institute for Teaching & Learning, 2009), Student Evaluation of Teaching Effectiveness (SETE) (Emery, Kramer & Tian, 2003), Student Opinion Survey (SOS) (Bedggood & Pollard, 1999), Student Evaluation of Teaching and Subjects (SETS) (Neumann, 2000), Student Perceptions of Teaching (SPOT) (Hicks, 1999), or in the case of Deakin, Student Evaluation of Teaching and Units (SETU). Collectively, they are referred to as student evaluation of teaching (SET) (Millea & Grimes, 2002). It should be noted that, while the data from SET surveys can inform the teaching evaluation process, of itself, administering questionnaires to students is not evaluation; evaluation of teaching is the on-going process of discovering the strengths and weaknesses of your professional work with students and acting upon this information (Ramsden & Dodds, 1989).

As the array of names suggest, these instruments have a range of stated purposes, including measurement of perceived worth/value of units of study, measurement of perceived performance of the teacher, to assist in the disaggregation of course experience-type survey data, etc., or a combination of these reasons. In the case of Deakin, the SETU instrument aims to collect student perceptions about both the delivery and content in units of study. The inclusion of items evaluating teacher performance in some SET instruments is premised on research that showed that effectiveness of student learning was influenced by teacher behaviours (teacher enthusiasm, preparation and organisation, presentation skills, clarity of objectives, etc.) (Sheehan & DuPrey, 1999). The frequency of application of SET instruments varies; in an analogy to statistical quality assurance, some institutions administer them bi- or triennially; at Deakin, SETU is currently administered to every undergraduate and postgraduate unit in every semester of offer (Deakin University, 2009).

Unlike the CEQ, the evidence that unit-based SET instruments are valid and reliable measures of teaching quality is more equivocal. There is evidence that well designed SET questionnaires can be made reliable (the same instrument administered under the same conditions yields the same results) (Langbein, 1994). Validity refers to the ability of the instrument to accurately measure what it purports to measure without being influenced by factors that are expected to be irrelevant to teaching quality (Langbein, 1994). For many simple SET questionnaires it is not possible to establish reliability (Bedggood & Pollard, 1999), and many external factors beyond the control of academic staff have been found to influence SET results (and hence validity), including discipline, course level and whether the unit is mandatory or not (Emery et al., 2003). In addition, while some SET ratings have been shown to exhibit a positive correlation with student outcomes, the correlation is modest (Miller, 1998).

To have confidence in making important judgements based on survey data, we must first be confident that the respondent group is a representative sample of the population under consideration. The range of recommendations for what is a valid minimum number of respondents and/or valid minimum response rate in SET surveys varies dramatically in the literature. Another concern is that many studies have shown that students who respond to voluntary SET instruments are different in their study habits and academic achievement to non-responders (Richardson, 2005). It is important that any SET results reported are statistically justifiable (Miller, 1998).

All of these limitations of typical SET instruments mean that the results must be interpreted with caution. The literature describes a range of formats for reporting SET results, from simple presentation of the raw data through to sophisticated schemes such as indicating performance range (within one of lower 25%, mid 50% or top 25%) for each scale item against results from comparable study units based on grouping according to the known influence factors of discipline, class size and year level (Neumann, 2000). Where a SET instrument contains a range of items, there is an opportunity to examine comparative strengths and weaknesses, as well as overall student satisfaction. It is important to consider the range of external factors that may have influenced SET results, including class size, available resources, whether the unit was elective or compulsory, etc. (Institute for Teaching & Learning, 2009)

In the same way that the CEQ contains both quantitative and qualitative measures of student course experience, it is recognised that SET instruments containing only a fixed set of items that produce strictly quantitative results provide a very limited picture of unit teaching. It is desirable that students have the opportunity to also provide open-ended written feedback, commonly (including the current version of SETU at Deakin) this takes the form of asking students to comment on the 'best' and 'worst/most in need of improvement' aspects of the unit (Miller, 1998). This qualitative feedback can be extremely valuable in understanding the reasons why students have given a particular quantitative SET rating.

Reflecting the modern understanding of the multi-faceted nature of 'quality' and the finding that it is the entirety of the university experience that contributes to the student 'course experience', virtually all authors examining the value of the SET process recognise that SET data are only one of many sources of information that should be called upon when assessing the quality of teaching in units. This is reflected in Deakin's procedure on Evaluation of Teaching and Units (Deakin University, 2009). Other equally valuable sources include objective measures of student learning (such as unit marks), reflective self-assessment of teaching performance, peer assessment of teaching and student focus groups. In summary, although remaining contentious, SET instruments are in wide use and for a range of purposes. With thoughtful questionnaire design, valid response rates, and careful interpretation of the results, SET data can be one useful input of the teaching and learning quality improvement process (Richardson, 2005).

Activity
If you are involved in university teaching, you have probably encountered one or more SET survey instruments – at Deakin, this would probably be SETU. What other methods of obtaining feedback from students about teaching could you use?

<u>The Australasian Survey of Student Engagement</u>
In events somewhat analogous to the development of the CEQ, research in US higher education established a link between 'student engagement' and deeper student learning – where student engagement is defined as, "… quality of effort and involvement in productive learning activities." (Kuh, 2009) Based in part on the College Student Experiences Questionnaire, the National Survey of Student Engagement (NSSE) is now used in a large number of American institutions (772 in 2008) (Kuh, 2009). Subsequent work by Coates and others, leveraging strongly off the NSSE led to the development of the Australasian Survey of Student Engagement (AUSSE) (Coates, 2010). The complete AUSSE actually consists of three separate questionnaires – i) the Student Engagement Questionnaire (SEQ); ii) the Postgraduate Student Engagement Questionnaire (PSEQ); and iii) the Staff Student Engagement Questionnaire (SSEQ). References to 'AUSSE data' are generally referring to the SEQ questionnaire. The AUSSE is controlled by the Australian Council for Educational Research (ACER), and is being used by a growing number of Australian Universities (35 in 2009) (Coates, 2010). Deakin participated in the AUSSE in 2009 and 2010.

An overview of the SEQ can be found at:
http://ausse.acer.edu.au/index.php?option=com_content&view=article&id=28:what-is-the-student-engagement-questionnaire-seq&catid=6:overview-of-the-ausse&Itemid=7
This is reproduced here:

The Student Engagement Questionnaire (SEQ) is a survey designed to be administered to first- and third-year undergraduate students who are studying onshore and who have not participated in higher education previously. The survey is administered both in an online and paper format and it takes students approximately 15 minutes to complete the 41 questions on the SEQ.

The SEQ measures six different aspects of student engagement:

- Academic Challenge - the extent to which expectations and assessments challenge students to learn
- Active Learning - students' efforts to actively construct their knowledge
- Student and Staff Interactions - the level and nature of students' contact with teaching staff
- Enriching Educational Experiences - participation in broadening educational activities
- Supportive Learning Environment - feelings of legitimation within the university community
- Work Integrated Learning - integration of employment-focused work experiences into study

The SEQ also collects information that form seven student outcomes scales:

- Higher Order Thinking - students' participation in higher-order forms of thinking
- General Learning Outcomes - development of general competencies
- General Development Outcomes - development of general forms of individual and social development
- Average Overall Grade - average overall grade so far in course
- Departure Intention - non-graduating students' intentions on not returning to study in the following year
- Overall Satisfaction - students' overall satisfaction with their educational experience
- Career Readiness - preparation for participation in the professional workforce

The SEQ also collects a range of information on individual demographics and educational contexts from students.

Compared to the CEQ, the AUSSE is still relatively new, and does not yet have the same body of research and time-series of data behind it that the CEQ does. Like the CEQ, the usefulness of the AUSSE data depends centrally on the student response rate and the representativeness of the student sample thus obtained. Additionally, as with the CEQ, many aspects of the AUSSE are premised on classroom-based teaching and learning, and the data obtained needs to be considered/interpreted carefully for learning contexts that are based on flexible modes of delivery. To provide more information about the AUSSE and the ways in which the data derived from it can be used for improving teaching and learning, Deakin has developed a ‘student engagement’ web site: http://www.deakin.edu.au/herg/student-engagement/index.php.

CEQ and programs - The longer term

The CEQ and Deakin

As noted above, the CEQ is a proxy measure of teaching and learning quality that is well supported in the literature, and has important practical implications in Australian higher education through its likely ongoing contribution to performance-based institutional funding. Of the 49 items on the current CEQ used by the GCCA, since 2003, Deakin has included the 13 core items (in the Good Teaching, Generic Skills and Overall Satisfaction scales), plus another 20 of the optional items (in the Intellectual Motivation, Student Support, Graduate Qualities and Learning Resources scales. The complete set of CEQ items currently used by Deakin is:
(Good Teaching scale)
GT01 - The staff put a lot of time into commenting on my work.
GT03 - The teaching staff normally gave me helpful feedback on how I was doing
GT10 - The teaching staff of this course motivated me to do my best work.
GT15 - My lecturers are extremely good at explaining things.
GT16 - The teaching staff worked hard to make their subjects interesting.
GT27 - The staff made a real effort to understand difficulties I might be having.
(Generic Skills scale)
GS06 - The course helped me develop my ability to work as a team member
GS14 - The course sharpened my analytic skills
GS23 - The course developed my problem solving skills
GS32 - The course improved my skills in written communication
GS42 - As a result of my course, I feel confident about tackling unfamiliar problems
GS43 - The course helped me to develop the ability to plan my own work
(Overall Satisfaction index)
OSI49 - Overall, I was satisfied with the quality of this course
(Intellectual Motivation scale)
IMS02 - I found my studies intellectually stimulating.
IMS07 - I found the course motivating.
IMS13 - Overall, my university experience was worthwhile.
IMS35 - The course has stimulated my interest in the field of study.
(Student Support scale)
SSS21 - I was able to access information technology resources when I needed them.
SSS24 - Relevant learning resources were accessible when I needed them.
SSS25 - Health, welfare and counselling services met my requirements.
SSS34 - The library services were readily accessible.
SSS37 - I was satisfied with the course and careers advice provided.
(Graduate Qualities scale)
GQS11 - The course provided me with a broad overview of my field of knowledge.
GQS17 - The course developed my confidence to investigate new ideas.
GQS30 - University stimulated my enthusiasm for further learning.
GQS36 - I learned to apply principles from this course to new situations.
GQS40 - I consider what I learned valuable for my future.
GQS48 - My university experience encouraged me to value perspectives other than my own.
(Learning Resources scale)
LRS12 - The library resources were appropriate for my needs.
LRS33 - The study materials were clear and concise.
LRS38 - It was made clear what resources were available to help me learn.
LRS41 - Course materials were relevant and up to date.
LRS47 - Where it was used, the information technology in teaching and learning was effective.

For all CEQ items, respondents are asked to express their degree of agreement or disagreement on a five-point scale. Normally, only the scale endpoints are labelled, the labels being 'strongly disagree' and 'strongly agree'. For reporting, the five-point response scale measures are converted to -100, -50, 0, 50 and 100, from which a range of descriptive statistics can be computed based on the idea of a mid-scale response being equated to a score of zero. Two other results are often reported from CEQ data. The first is 'percentage agreement', where responses of 50 (agree) and 100 (strongly agree) are taken to represent student agreement with a CEQ item. The second is 'percentage broad agreement', where responses of 0 (undecided), 50 (agree) and 100 (strongly agree) are taken to represent student agreement with a CEQ item. As well as results for each of the individual items, mean results for each scale group are also often reported. In addition to the 'quantitative' response items noted above, students are invited to write open-ended comments on the best aspects (BA) of their university course experience and those most needing improvement (NI).

The CEQ asks students, shortly after graduation, to rate their entire course of study, allowing them to provide separate responses if they have studied two major streams. Because of the consolidated, course-wide nature of the CEQ (Wilson et al., 1997), the data obtained from it are primarily useful to those examining teaching and learning at the program level and above. Each year, the GCCA produces a detailed report of the consolidated CEQ results nationally, and the Deakin Planning Unit provides a report on the institutional CEQ results and provides the institutional CEQ data in a form that can be queried interactively (currently in the form of an MS Excel pivot table); all of these items can be downloaded from the Planning Unit web site. The annual GCCA CEQ report contains valuable guidance in the interpretation of the national CEQ results for that year.

Activity

In a previous activity, you were asked what other aspects of the student learning environment, beyond the first 13 listed above, that you consider to have an important influence on student learning outcomes. Are any of these additional aspects captured in the 20 optional CEQ items that Deakin uses? After seeing the entire list of all 33 CEQ items used by Deakin, are there any other aspects of the student learning environment that you would now add to your list of important influences?

Using CEQ results

The data produced by the CEQ are divided using the DEST 'field of education' categories, which do not always align conveniently with Deakin courses/programs, and in some cases, will require the best available standard category to be used to derive a CEQ data set for a program. As with all surveys, the number of respondents and response rate are crucial for data validity and confidence in inferring anything meaningful from the CEQ data. The guidelines for the disclosure of CEQ data require an institutional response rate of at least 50 percent before institutional data are published. What is considered a minimum number of responses and minimum response rate for producing valid data in SET-style surveys varies widely in the published literature. It goes without saying that important decisions should only be made on the basis of data that are statistically reliable (Graduate Careers Australia, 2006). Many universities (including Deakin), whilst having good overall institutional CEQ response rates, find that at the course level the response rate and/or number of respondents is too small to draw reliable (or any) conclusions. Where numbers of responses are very low, it has been suggested that pooling data from two or more years may create a more useful data set (Aungles & Karme, 2000). However, this obviously reduces the currency of the data, and is a questionable approach if the characteristics of the course and/or delivery have varied substantially during the pooling period.

Results from the CEQ are a whole course/programme summative evaluation and, like all quality measures, should be used as one of a range of performance indicators providing directions for further investigation; they should be considered indicative rather than conclusive (Trembath, 1999). Publicly available CEQ information permits a comparison against the results from other institutions for the same field of education areas. However, it is known that CEQ results are systematically influenced by a range of factors, including institutional characteristics, so it may be more useful to 'benchmark' results against a smaller range of institutions with similar characteristics. Sustained trends in the results for CEQ items over time can be a valuable starting point for investigations seeking to understand root causes for particular student perceptions (or changes in them). The longitudinal use of the CEQ in Australia means that there is now a significant data time series available for use (Wilson et al., 1997).

CEQ data has been shown to be systematically influenced by a range of factors, including field of study, so direct inter-faculty or even intra-faculty comparisons may not be appropriate (Wilson et al., 1997). While the scale construction of the CEQ permits such comparisons, it is necessary to take into account systematic differences between fields of education, such as teaching methods, work load, methods of assessment, etc. Nevertheless, where a particular field of study has good outcomes in a particular CEQ scale or item, it may be useful to investigate good teaching and learning practices in use that may generally applicable and contribute to positive student experiences. The construction of the CEQ does not permit the results from different scales to be compared. It is not sensible to suggest that a higher mean on the Good Teaching scale compared to the Student Support scale indicates that students thought their teaching was better than the student support they received.

Ramsden, one of the developers of the CEQ offers advice on using CEQ data (in the context of reporting on QA) (Ramsden, 2003). Don't consider CEQ numbers in isolation from other sources of information, such as SET surveys, the open-ended CEQ responses, surveys of employers and graduates, and accreditation bodies. Other external sources of quality-related input include the program Academic Advisory Board, the Adjunct Professoriate and external academic colleagues. Benchmarking nationally is likely to be less useful than carefully selecting appropriate comparison institutions. CEQ time series data will contain random variations – it is only sensible to report trends that are significant, sustained and linked to some specific intervention. While CEQ numbers may be interesting, it is their use that is more important. A specific focus for improvement on one or two key areas related to the university's core mission is likely to be the most effective approach.

The quantitative responses to the CEQ may highlight potential areas of good performance or concern, but mere numbers don't say much about the underlying causes. This is where the open-ended Best Aspects (BA) and Needs Improvement (NI) student comments may assist. For small numbers of respondents/responses, it may be possible to manually analyse the open-ended student comments. For larger data sets the CEQuery software package may assist. CEQuery was developed as part of DEST Higher Education Innovation Program project for the purpose of analysing the large volumes of qualitative data produced at the national level by the CEQ. The software package is available for all higher education institutions to use, and comes with a dictionary of keywords classified into five principal domains (Outcomes, Staff, Course design, Assessment and Support) and 26 sub-domains that are used to automatically code/classify student comments to identify the frequency of student responses in all sub-domains (Scott, 2006). The total count of coded responses (known as 'hits') is typically larger the number of student comments, as one comment may contain information about more than one sub-domain. The total count of BA and NI hits for a particular sub-domain is taken to be a measure of its importance to students. The ratio of BA hits to NI hits (known as the odds of a best aspect) is taken to be a measure of perceived student quality – the lower the odds, the lower the perception of quality for that sub-domain. Where a sub-domain has a low odds ratio (perceived quality) coupled with a high total number of hits (perceived importance), it is suggestive that further investigation is required, and the complete list of student comments relating to that sub-domain can them be examined in detail.

Where a specific CEQ item(s) is targeted for improvement, it must be recognised that a whole-of-program approach will be required. The CEQ measures the students' entire course experience, so 'fixing' a problem in one study unit and not in others is unlikely to lead to a significant change in overall course perceptions. Likewise, currently enrolled students who complete the CEQ upon graduation may not be significantly influenced by immediate remedial actions when it comes to considering their entire course experience and completing the CEQ. Adding in the inherent time lag in the collection and processing of CEQ data, it may take a significant period (and a commensurate measure of faith) for current action to translate into statistically measurable CEQ results. For an example of a strategic, university-wide, long-term and evidence-based approach to course-level teaching and learning improvement with defensible statistical results see (Barrie, Ginns & Prosser, 2005).

Another possible use of the CEQ instrument itself is as a 'thought experiment' or checklist template for new or revised courses; consider how what is proposed might impact on the student perceptions for the CEQ items – for example, if a course is to have intensive assessment, how might this impact on the overall workload, time available for feedback on assignments, etc?

Activity
Have you ever previously received/used any CEQ data for the program(s) that you contribute to? If yes, how did you use it? If no, how could you use program CEQ data?

In general
CEQ results, where statistically valid, can be used to benchmark course performance in the scale items, and the open-ended student comments may be used to provide additional information about the possible reasons for student ratings in the scale items. Virtually all authors writing on the CEQ highlight that CEQ results are essentially a starting point, and only one of many sources of information that should be called upon when assessing the quality of courses/programs.

While overall CEQ response rates may be good at the institutional level, achieving adequate response rates for any useful analysis remains an issue for many Australian courses. For both improving course CEQ response rates and possibly positively influencing CEQ ratings, there is likely to be value in discussing the CEQ with students nearing the completion of their studies. This will help them understand the importance and value of completing the CEQ, assist them to become conversant with the terminology used in the CEQ and help them to clarify their own thoughts about their overall study experience.

The CEQ provides one recent, but historical proxy measure of teaching quality at the course level. For more timely feedback from current students and/or more detailed investigation of quality at the unit level, the SETU instrument, with the caveats noted previously, provides more focussed information.

SETU and units

SETU

As noted above, SET-type instruments are used to collect data for range of uses, including the improvement of teaching and learning. SET instruments are typically simpler than CEQ-style instruments, meaning that the data collected is less sophisticated and less encompassing of the entire student experience – even the CEQ (in its various forms) does not claim to represent the entire student experience. Few SET instruments can claim the same level of reliability and validity as the CEQ – the CEQ is one of the most extensively researched survey instruments ever, and it collects data from a comparatively large population group. The advantage of SET instruments is that they can complement CEQ results with data that are specific to a particular unit and/or academic staff member. The following notes limit themselves primarily to issues related to the Deakin SETU instrument – that is not to suggest that 'good teaching' is solely defined by SETU items, and that SETU item ratings are not influenced by factors not currently included in the SETU instrument.

The Deakin SETU instrument in use commencing semester 2 2006 contains the following items:

1. This unit was well taught.
2. The course materials in this unit were of high quality.
3. The workload in this unit was manageable.
4. Requirements for completing the assessment tasks in this unit were clear.
5. The teaching staff gave me helpful feedback.
6. The library resources met my needs for this unit.
7. I would recommend this unit to other students.
8. The technologies used to deliver the online content in this unit performed satisfactorily.
9. The online teaching and resources in this unit enhanced my learning experience.
10. This unit challenged me to learn (this item added from 2010).

(For each nominated unit teacher)

[Name] I was satisfied with the quality of teaching from this teacher in this unit.

Please provide any comments on the teaching of this unit by this teacher.

(Open-ended comments)

What were the best aspects of your unit?

What aspects of your unit were most in need of improvement?

Other than for the open-ended comment items, respondents are asked to express their agreement with the items on a six-point scale with the labels and corresponding numerical values of 1/strongly disagree, 2/disagree, 3/neutral, 4/agree, 5/strongly agree and a NA point is included to allow students to validly respond to an item that does not apply to them in the unit being evaluated. Some additional instructions are included for specific items to provide a more detailed context for the interpretation of the item statement. Currently, SETU item rating data is reported using the following descriptive statistics:

- number of responses;
- mean response;
- standard deviation of mean;
- percentage agree or strongly agree;
- percentage disagree or strongly disagree; and
- difference between agreement and disagreement.

Written student comments separated by SETU item are also provided. Where more than one unit teacher has been nominated for inclusion in SETU, separate results for items applying to each teacher are also provided. In addition, the descriptive statistics for the first ten SETU items (plus response rate information by campus) are available for interrogation by all Deakin staff and students via the Planning Unit SETU web site. The Deakin SETU instrument has evolved over time, and may change again in the future – it would pay to be familiar with the current version of the instrument.

Activity
In addition to the ten SETU items listed above, are there any other aspects relating to the learning resources and teaching that you think have an important influence on student learning outcomes within a particular unit? What are they?

<u>Using SETU results</u>
As with the CEQ, SETU provides both quantitative and qualitative data based on student perceptions of their experiences of a study unit that may be used as one source to inform investigations about the quality of that unit. The SETU data provided is in a relatively raw form, and like all survey data must be interpreted with some care. To be useful, the respondent group must be based on a representative sample of the unit enrolment – a reasonable number of responses (SETU data is not reported for units that receive a very low number of responses), a reasonable overall response rate and a reasonably equal rate of responses between campuses provide some confidence that the survey sample is representative. Whereas CEQ data comes from a large pool of respondents considering their entire course/program, SETU data comes from a single unit in a single semester, so consideration of the results must take into account the unique context of each unit and how this may have influenced students when rating each SETU item. Common sense and the professional insights of the unit chair will both be valuable in this regard. SETU results should be triangulated with other sources of teaching evaluation data such as self-review, peer review, unit results, etc. (Wagenaar, 1995)

The generally broad variation in student expectations of university can lead to significant variation in student responses to SETU. A key factor in interpreting SETU data is to look for 'consistency' of results (or lack thereof). This can take several forms:

- a small standard deviation on a mean item rating indicates that most respondents were in general agreement; if the standard deviation is large, then there was a wide spread in the student ratings (even though the same mean value can be reported in both cases);
- a large positive difference between the proportion of agreement and disagreement indicates that substantially more students agreed with an item than disagreed with it; a negative difference means that more students disagreed than agreed (note that the size of the difference result is influenced by the number of students selecting the neutral rating for an item);
- if the written open-ended comments reveal common, repeated themes, these are worthy of further investigation;
- if SETU results for a teacher are similar in two or more units, this would tend to confirm the student ratings relating to teaching; and
- if SETU results are consistent with other forms of evaluation, this would tend to confirm the student ratings.

Related to data consistency is data 'discrepancy'. Again, this can take several forms:

- especially if the total number of respondents is low, a small number of ratings that are significantly different from the majority can unduly influence the reported mean – though the compressed rating range (1-5) of the SETU instrument somewhat mitigates against this;
- a small number of adverse comments that seem at odds with the majority of written feedback are probably not worth losing a lot of sleep over – a CEQ-style 'odds analysis' (best aspects/needs improvement) may help to interpret and prioritise the themes present in the open-ended SETU comments;
- a rating in one item that is significantly different from the others in the SETU results for the same unit might be an indicator worth investigating further; and

- a large standard deviation on a mean item rating may be caused by a bimodal distribution of students responses, that is, the distribution of the ratings for the item may be split between a group rating the item highly and another group rating lowly – this may be indicative of sub-groups in the class which have significantly different backgrounds, both of which need to be considered in the delivery strategies for the unit.

SETU results provide one avenue for identifying areas for teaching improvement. The particular SETU item(s) that is of concern provides a focus point for further investigation, planning and implementing of changes to unit materials and/or teaching practice. As with the CEQ, there is value in collecting SETU longitudinally to look for trends over time. Statistically significant changes in SETU results over time are one method of confirming that particular interventions made previously have had a positive impact on student perceptions. There are many places for you to seek advice on the interpretation of SETU results and for the planning and implementation of changes to your units and teaching. In no particular order, try the following:

- your academic peers (from Deakin or elsewhere) – those teaching similar units and/or students to you;
- a mentor you have found helpful with academic matters;
- the director/academic leader of the program(s) you teach in;
- your Associate Head of School for Teaching and Learning;
- your Head of School;
- your Faculty Associate Dean for Teaching and Learning; or
- the Institute for Teaching and Learning (http://www.deakin.edu.au/itl/).

While SETU data is primarily related to specific units, it may have additional wider uses. At the School level, it may be one useful input in considering the allocation of teaching duties to ensure academic staff have an enthusiasm for the areas they teach in. Taking into consideration that SETU ratings can be influenced by systematic factors (class size, year level, discipline, etc.), SETU results can be one way of identifying good teachers/teaching teams who can provide exemplars of good teaching practice that may be transferable between units.

A wealth of information, both general and discipline-specific, is available as guidance for those seeking to improve their teaching generally, or in specific areas. The following sections offer some general advice for each of the current ten SETU items. Where appropriate, use has been made of published, evidence-based frameworks, though those presented are not the only ones available. If you would like additional advice, please contact the Institute of Teaching and Learning.

Activity
Have you ever previously received/used any SETU data for the unit(s) that you contribute to? If yes, how did you use it? If no, how could you use SETU data?

<u>This unit was well taught / I was satisfied with the quality of teaching from this teacher in this unit</u>
What is good/quality teaching? The exact answer, of course, is context dependent – it depends on the discipline, the level of study and, like all assessments of quality, is made by each individual student. However, there is general advice from the literature. In a Committee for the Advancement of University Teaching (CAUT) project to devise criteria for recognising and rewarding good teaching in Australian higher education, the following characteristics required for good teaching were distilled from an extensive review of the related literature:

- Good teachers are also good learners; for example, they learn through their own reading, by participating in a variety of professional development activities, by listening to their

students, by sharing ideas with their colleagues, and by reflecting on classroom interactions and students' achievements. Good teaching is therefore dynamic, reflective and constantly evolving;
- Good teachers display enthusiasm for their subject, and a desire to share it with their students;
- Good teachers recognise the importance of context, and adapt their teaching accordingly; they know how to modify their teaching strategies according to the particular students, subject matter, and learning environment;
- Good teachers encourage deep learning approaches, rather than surface approaches, and are concerned with developing their students' critical thinking skills, problem-solving skills, and problem-approach behaviours;
- Good teachers demonstrate an ability to transform and extend knowledge, rather than merely transmitting it; they draw on their knowledge of their subject, their knowledge of their learners, and their general pedagogical knowledge to transform the concepts of the discipline into terms that are understandable to their students. In other words, they display what Shulman has termed "pedagogical content knowledge";
- Good teachers set clear goals, use valid and appropriate assessment methods, and provide high quality feedback to their students; and
- Good teachers show respect for their students; they are interested in both their professional and their personal growth, encourage their independence, and sustain high expectations of them. (Ramsden, Margetson, Martin & Clarke, 1995)

In assessing nominees for Australian Awards for University Teaching, the Office for Learning and Teaching (OLT) uses the following five research-informed criteria:
1. **Approaches to the support of learning and teaching that influence, motivate and inspire students to learn.** This may include fostering student development by stimulating curiosity and independence in learning; contributing to the development of students' critical thinking skills, analytical skills and scholarly values; encouraging student engagement through the enthusiasm shown for learning and teaching; inspiring and motivating students through high-level communication, presentation and interpersonal skills; and enabling others to enhance their approaches to learning and teaching.
2. **Development of curricula, resources and services that reflect a command of the field.** This may include developing and presenting coherent and imaginative resources for student learning; implementing research-led approaches to learning and teaching; demonstrating up-to-date knowledge of the field of study in the design of the curriculum and the creation of resources for learning; communicating clear objectives and expectations for student learning; providing support to those involved in the development of curricula and resources; and contributing professional expertise to enhance curriculum or resources.
3. **Approaches to assessment, feedback and learning support that foster independent learning.** This may include integrating assessment strategies with the specific aims and objectives for student learning; providing timely, worthwhile feedback to students on their learning; using a variety of assessment and feedback strategies; implementing both formative and summative assessment; adapting assessment methods to different contexts and diverse student needs and learning styles; and contributing professional expertise to enhance assessment and/or feedback.
4. **Respect and support for the development of students as individuals.** This may include participating in the effective and empathetic guidance and advising of students; assisting students from equity and other demographic subgroups to participate and achieve success in their courses; and influencing the overall academic, social and cultural experience of higher education.
5. **Scholarly activities and service innovations that have influenced and enhanced learning and teaching.** This may include showing advanced skills in evaluation and

> reflective practice; participating in and contributing to professional activities related to learning and teaching; coordination, management and leadership of courses and student learning; conducting and publishing research related to teaching; and demonstrating leadership through activities that have broad influence on the profession. (Office for Learning and Teaching - Department of Education Employment and Workplace Relations, 2011)

These two sets of good teaching criteria are very similar, as are other like lists that can be found elsewhere in the literature. The link between these criteria and the core items on the CEQ should be plain to see – these are the characteristics that students generally are looking to see in their learning at university. They can help inform plans to improve students' perceptions of teaching in a unit. It is also implicit in these criteria that 'good teaching' goes well beyond what happens in the classroom, and is inclusive of depth of subject knowledge, course material development, preparation and organisation, assessment, interaction with students beyond that which is formally timetabled, and personal reflection, evaluation and development to improve teaching. One very practical way of using these lists of good teaching criteria is to choose one that you are comfortable with (there are many), and taking each point in turn, ask yourself the two open-ended questions that are included on the CEQ/SETU:

- what are the best aspects of this unit?; and
- what are the aspects of this unit most needing improvement?

Honest, reflective answers to these questions, coupled with SETU results may provide a rational basis on which to prioritise work for enhancing the content and delivery of your units.

Activity
In addition to the criteria included in the 'good teaching' frameworks of Ramsden, et al. and the OLT, are there any other characteristics of good teaching that you would identify? What are they?

<u>The course materials in this unit were of high quality</u>
The use of the 'q' word means that student responses will be based on their individual notions of quality of course materials and their assessment of how well the unit learning materials measure up. While it may be argued that students, especially commencing students, may not be well qualified to judged certain aspects of course material quality (such as discipline accuracy, depth, rigor, etc.), there are many aspects that contribute to their overall perception of course material quality that they are well qualified to assess. Over the course of their studies, student will experience a wide range of teaching and learning, and be well placed to make comparative judgements of quality (Ramsden, 1991). The most thorough coverage of subject theory will be compromised by poor, obtuse or boring formatting, and rightly rated by students as low quality.

'Course materials' encompass a wide range of learning resources, including study guides, readers, textbooks, CD-ROMs and online materials. It is important that the selected media are used appropriately. Making large volumes of ostensibly print materials available only online means that students have to read off the screen and/or print out large amounts of reading material. Simply duplicating existing materials on a CD-ROM and/or online doesn't add anything new for students. If a range of course materials are employed, it is important to consider the relationship between them. How do they link together? Are there appropriate cross-references in them to highlight how the various materials are supposed to work together? Is it clear how each item is supposed to be used and how it contributes to the overall learning in a particular unit? Commonly observed student complaints about course materials include:

- the textbook being of poor quality and/or being rarely referred to, if at all in a unit;
- availability of materials, including late delivery of off-campus materials, late appearance of

online materials and late availability of preparatory materials such as laboratory manuals;
- study guides with no suggested answers to review questions;
- study guides with apparent inconsistencies, errors or other ambiguities; and
- study guides with radically different style and/or formatting between sections, highlighting that the content has been sourced from a range of authors.

A key message from a large evaluation of student feedback given in the CEQ was that students desire learning methods that engage them (Scott, 2006). While course materials may not be able to replicate identically the level of engagement that is possible in a tutorial or workshop, careful design of course materials can maximise student engagement. Prior to launching into the main content of a section, it is important to provide some direction to students through the use of one or more **preliminary organisers** including: objectives, new and/or prerequisite terms, a concept map, a discursive introduction, key/core questions, etc. In the **main text** of the section, in addition to the content ‘text’, it is important to integrate activities that provide opportunities for reflection, confirmation, testing, exploration, interaction, etc. This can be achieved through the inclusion of review questions, worked examples, supplementary readings, case studies, audio commentaries, video clips, reflective questions, etc. Where such activities introduce additional content, their purpose should be explained. Following the main text, it is important to provide a summation of the key ideas of the material through the use of one or more **retrospective organisers** including a concluding summary, checklist of new terms/concepts, self-assessment test, etc. Finally, for students wishing to explore a topic further, a list of relevant **additional readings** in the form of an annotated bibliography is valuable.

As an aid to considering or reviewing unit course materials, the Deakin Knowledge Media Division (KMD) has developed a set of 10 core quality principles for course materials, they are:
1. **reliable** - Content is accurate, current, appropriate and relevant
2. **informative** - Relevant administrative and technical information is provided
3. **well communicated** - Content uses appropriate tone/level for audience, is logically structured and well communicated
4. **acknowledged** - Content is clearly identified, acknowledged and accurately branded
5. **navigable** - Navigation through content is clear, accurate and consistent
6. **presentable** - Content is formatted and presented appropriately and meets technical standards
7. **compliant** - Content meets legislative requirements (copyright, accessibility, privacy, plagiarism)
8. **appropriate in media mix and quantity** - Content is delivered in appropriate media and quantities (media mix and volume)
9. **learner-centred** - Learning content employs appropriate learning approaches
10. **explained** - Learning approaches are explained (Knowledge Media Division Deakin University, 2010).

Accompanying the core quality principles are detailed best practice guidelines and course materials standards that provide exemplars of the application of the quality principles in a range of media formats. You can use this set of principles yourself, or seek the assistance of your KMD Faculty client services manager. This is an area where it is also likely to be very helpful to get a trusted colleague(s), either inside or outside of Deakin, to conduct a frank and honest appraisal of course materials for you, considering both content and presentation aspects.

Activity
In addition to the KMD 10 core quality principles for course materials, are there any other

characteristics of course material quality that you would identify? What are they?

<u>The workload in this unit was manageable</u>
While Deakin does not currently include the optional Appropriate Workload Scale (AWS) in its CEQ, results from those universities that do (Graduate Careers Australia, 2006) and other research into the CEQ (Ramsden, 1991) suggests that a majority of the variation in the results for the AWS is due to the students' field of study – students in the health sciences and engineering consistently rate their courses lower on the AWS than students from the humanities and visual and performing arts fields of education. There is also a strong inverse correlation between the mean course contact hours per week reported by field of education (McInnis & Hartley, 2002) and the corresponding mean AWS rating in the CEQ. What this indicates is that there are historical/traditional differences in student workload (at least that component measured by contact hours) between fields of education, and these are likely to influence the ratings given by students when asked about the workload quantum in a unit. However, while there may be some systematic influences that impact on the way students evaluate the workload in a unit, there is also evidence to link low AWS ratings with a surface approach to student learning, and ultimately lower quality learning outcomes (Wilson et al., 1997).

A heavy unit workload may at first seem like a reasonable strategy for rigorous content coverage, but for many students it is likely to lead to less effective understanding if they take a shallow learning approach to grapple with the volume of material presented. Unit workload is more than the volume of material that students must digest and learn and the hours per week of timetabled classes and private study, it also includes assessment. Continuous assessment can help maintain student engagement with the unit across the semester, but taken to extremes, excessive assignment requirements may also encourage shallow, rushed learning. While research has shown that students' perception of workload is variable (Kember, 2004), a realistic balance between quantity (of student work) and quality (of student learning) has to be struck. This can be difficult where the content of a unit is constrained by tradition, course curriculum and/or professional accreditation requirements.

Electronic and online resources mean that large amounts of material can be made available to students at low cost and with minimal effort. Adding links to external Internet sites can be a good method of including practical exemplars and topical case studies, but if they require students to spend a lot of extra time reading, their workload may quickly become much greater than originally planned by the unit team. Explicitly indicating whether an electronic resource is a mandatory/required reading or simply optional for those interested is one method to avoid electronic resources getting out of hand.

One strategy in considering workload is to conduct an audit of the total 'workload' associated with a unit (Chambers, 1992). This includes items such as:

- timetabled class/tutorial/laboratory/workshop contact hours;
- expectations for private study;
- set review/revision questions;
- fieldwork/excursions;
- set readings; and
- assignment work (including required reading, group work, writing, etc.).

What else might be included in the tally depends on the discipline area under consideration. When estimating the time(s) required for these activities, place yourself in the shoes of a novice student, rather than an experienced academic. When considering the time available for students to complete these tasks, remember to take into account the varying patterns of the academic semester – are you expecting students to be working 'normally' during orientation week, week one of semester, public holidays that fall in semester time, intra-semester breaks, revision week, swot vac, etc? Is the total workload for the unit reasonable for a full-time student who will be studying other units at the same time? Also consider the workload schedule across the semester – look for coincidences of items that may lead to extreme loading at certain times – can the schedule be adjusted to even out the workload during the semester?

The literature suggests that the design of the curriculum and the management of the learning environment can have an impact of students' perception of workload and whether they adopt a deep learning approach or not. The following guidelines are offered for the design of a unit which is perceived by students as having a reasonable workload while also encouraging them toward quality learning outcomes:

- a coherent programme of courses or subjects with a transparent relationship between components;
- teaching which concentrates on key concepts and promoting understanding;
- assessment which tests understanding;
- an approach to teaching which requires active engagement of students—projects seem to be particularly effective;
- teachers accepting responsibility for motivating students and stimulating interest;
- promotion of a climate in which student–student relationships and class coherence can develop—particularly through group discussion, assignments and projects;
- developing warm, supportive teacher–student relationships. (Kember, 2004)

Activity

Do you know where your discipline area traditionally sits/ranks on the CEQ Appropriate Workload Scale? Consider a unit that you contribute to. Consider the sum total of the workload contributions (including all of the elements identified above) that are expected of students in that unit. Do you think this workload is appropriate? Why?

<u>Requirements for completing the assessment tasks in this unit were clear</u>

Assessment is a powerful tool for guiding student study habits by strategically indicating what is valued and its comparative worth. Academic staff and students often view assessment from opposite positions – for academic staff, consideration on what to assess and how are often the last steps in the planning of the curriculum and learning environment; while for students assessment details are often the first point of reference for planning their approach to study for a unit (James, McInnis & Devlin, 2002). As part of a large Australian Universities Teaching Committee (AUTC) investigation of assessment practices in Australian universities, the following 16 indicators of effective assessment in higher education were identified:

1. Assessment is treated by staff and students as an integral and prominent component of the entire teaching and learning process rather than a final adjunct to it.
2. The multiple roles of assessment are recognised. The powerful motivating effect of assessment requirements on students is understood and assessment tasks are designed to foster valued study habits.
3. There is a faculty/departmental policy that guides individuals' assessment practices. Subject assessment is integrated into an overall plan for course assessment.
4. There is a clear alignment between expected learning outcomes, what is taught and learnt, and the knowledge and skills assessed — there is a closed and coherent 'curriculum loop'.
5. Assessment tasks assess the capacity to analyse and synthesis new information and concepts rather than simply recall information previously presented.
6. A variety of assessment methods is employed so that the limitations of particular methods are minimised.
7. Assessment tasks are designed to assess relevant generic skills as well as subject-specific

knowledge and skills.
8. There is a steady progression in the complexity and demands of assessment requirements in the later years of courses.
9. There is provision for student choice in assessment tasks and weighting at certain times.
10. Student and staff workloads are considered in the scheduling and design of assessment tasks.
11. Excessive assessment is avoided. Assessment tasks are designed to sample student learning.
12. Assessment tasks are weighted to balance the developmental ('formative') and judgemental ('summative') roles of assessment. Early low-stakes, low-weight assessment is used to provide students with feedback.
13. Grades are calculated and reported on the basis of clearly articulated learning outcomes and criteria for levels of achievement.
14. Students receive explanatory and diagnostic feedback as well as grades.
15. Assessment tasks are checked to ensure there are no inherent biases that may disadvantage particular student groups.
16. Plagiarism is minimised through careful task design, explicit education and appropriate monitoring of academic honesty. (James et al., 2002)

These indicators highlight a number of aspects relating to 'clarity of requirements' for assessment. If the Faculty and/or School has general guidelines covering assessment-related matters, such as late penalties, requests for extension, plagiarism, etc., then students should be informed that these exist, shown where to find them and given an explanation of their meaning. Such general guidelines should be applied consistently and equitably, so that students appreciate that they are more than rhetorical threats. At the unit level, adequate information about the requirements for each individual assignment should be provided to students. This should encompass both the task requirements (what students are being asked to do) and the criteria their submission will be judged against (how they will be marked). Students shouldn't be left to guess or infer the marking criteria – the flip-side to this is that when the marking criteria are provided to students, there can be little argument/misunderstanding about marks received. The provision of a model assignment submission is likely to assist students to understand the format and depth of submission required, as well as reduce their questions to you about the assignment.

If, in addition to unit-specific knowledge and skills, an assignment relies on particular generic skills (such as research, citing and referencing, oral presentation, etc.), then these generic requirements should be made explicit. If an assignment contains optional elements, sufficient information should be available such that students can make informed choices amongst the options, and the marking criteria should be structured so that all options are equitable in effort required and marks achievable. Assignment instructions given in 'plain English' may still be confusing to students for whom English is not their first language – be careful of using words that have multiple literal interpretations (such as 'nature'), and of using idioms whose meaning may not be self-evident to all students (such as 'the acid test' or 'as long as'). Any 'non-standard' marking criteria should be explained clearly, i.e. if a pass mark is something other than 50 percent, if specific assessment elements must be completed satisfactorily in additional to achieving a satisfactory aggregate mark, etc. Specific types of assessment will probably require additional information/explanation, for example online assessment, group work, laboratory work, etc.

Activity
Consider a unit that you contribute to. Consider the various items of assessment for that unit. Are all of the presentation/formatting, presumed prior knowledge and skills, marking criteria,

and other requirements for each assessment task clearly identified in the unit guide? Are there any improvements that could be made that would clarify the assessment requirements?

<u>The teaching staff gave me helpful feedback</u>
Feedback given to students can take a range of forms, including informal discussions with students on matters related to the unit, replies to email and phone queries, etc., but it generally refers to the feedback provided to students on returned items of assessment. While students do seek summative feedback in the form of marks/grades, most also seek formative feedback to assist in deep learning in their studies (Higgins, Hartley & Skelton, 2002). The AUTC investigation of assessment practices in Australian universities found that students, "…wish to understand how grades are determined and expect timely feedback that 1) explains the grade they have received, 2) rewards their achievement, 3) offers suggestions for how they can improve, and 4) can be used within the subject or their course." (James et al., 2002) These findings are embodied in their 'indicators of effective assessment' given in the previous section. The literature shows that the quality of formative feedback is strongly linked to student achievement. From a study of the conditions for effective assessment in higher education, the following conditions relating to feedback are offered:

- Sufficient feedback is provided, both often enough and in enough detail;
- The feedback focuses on students' performance, on their learning and on actions under the students' control, rather than on the students themselves and on their characteristics;
- The feedback is timely in that it is received by students while it still matters to them and in time for them to pay attention to further learning or receive further assistance;
- Feedback is appropriate to the purpose of the assignment and to its criteria for success;
- Feedback is appropriate, in relation to students' understanding of what they are supposed to be doing;
- Feedback is received and attended to; and
- Feedback is acted upon by the student (Gibbs & Simpson, 2004-05).

While the last two items here relate to student action that is not directly under the control of academic staff, students can be encouraged to actively engage with feedback in a range of ways, such as a two-stage assignment submission process where formative feedback only is provided initially, or using a marking schema that penalises successive submissions that show the same deficiencies that have been highlighted to students in previous feedback. Another form of feedback that may be helpful to students is global feedback to the entire class that identifies common problems observed in a significant number of assignment submissions.

Activity
Does your School or Faculty have a policy on the turnaround time for marked assignments to be returned to students? In assessment activities that you are involved in, what forms of feedback are provided to students? Apart from feedback provided on items of assessment, what other forms of feedback (to students) are employed in the units that you are involved in?

<u>The library resources met my needs for this unit</u>
The Library is a valuable resource that all students should be encouraged to use regularly. In addition to the traditional hardcopy resources, the Library is also a gateway to a large and growing array of electronic learning resources, such as:

- online databases, many containing full-text source material;
- online e-Journals;
- e-Books;
- online e-References – electronic versions of reference texts;
- online newspapers;

- e-Readings deposited by academic staff for use in particular units; and
- online past exam papers – where provided by unit chairs.

This information is supplemented with value-adding services for students and staff, such as:

- subject guides;
- tutorials on research skills – including referencing and writing;
- new title/contents alerts;
- audio-visual equipment loans;
- interlibrary loans;
- free delivery and return of borrowed materials for off-campus students;
- guides for bibliographic software, i.e. EndNote; and
- customised workshops on subject topics, information literacy, etc.

Students may not automatically be aware of the scope of the resources that are offered to them by the Library. To ensure that students become acquainted with the Library resources relevant to a particular unit, the existence of appropriate Library resources should be highlighted in class, in course materials and in assignment details. Given that many of the Library resources can be accessed electronically, direct hyperlinks to them can be included at strategic points within unit online materials. The involvement of the Library can extend to customised workshops on a range of topics for student groups – for on-campus students these can be held either in normal class time and/or within the Library. It is productive to build a working relationship with your Faculty Liaison Librarian to explore how the resources of the Library can be integrated into your units for best effect. You can also assist the Library to build their collection in your unit subject area by suggesting new titles to add.

Activity
For the unit(s) that you contribute to, what Library resources are used? Have you ever consulted your Faculty's liaison librarian to consider how the resources of the Library could be integrated into your unit(s)? What other Library resources might be useful in the units that you contribute to?

<u>I would recommend this unit to other students</u>
The results from this item need to be considered carefully, as the question does not refer to any specific aspect of the unit content or delivery. A positive result provides some confirmatory evidence that students are generally satisfied with the unit. An equivocal or negative result requires further investigation of the results for other SETU items and the open-ended student feedback, to see if there are identifiable aspects of the unit that might have contributed to student dissatisfaction.

<u>The technologies used to deliver the online content in this unit performed satisfactorily</u>
Like the Library resources SETU item, this item primarily relates to aspects of the students' experience that are beyond the control of the academic staff member. However, also like the Library resources item, there are a number of things that academic staff can actively do to ensure that the students' experience with online technology infrastructure related to their unit studies is as positive as possible, including:

- ensuring students know where to locate important unit online resources;
- directing students to sources of assistance for problems with online technologies, such as the ITSD help desk and Deakin Studies Online (DSO) support web site;
- if you are using any special online technologies (such as eLive), provide students with the necessary instructions – both general technical instructions for access and information about the particular use(s) of the application(s) in your unit;
- advise students of any known IT technical issues, such as required versions of software,

web browser compatibility issues, etc.; and
- keep students well informed about any known/planned IT outages that could affect their usage of key unit online resources – forewarned is forearmed, and students can take action to mitigate the impact (and subsequent negative perceptions) of IT outages if given sufficient warning.

Although student access to broadband Internet access is increasing, it is by far from universal, particularly in Australia and some other areas internationally. Before placing large volumes of material online for students to download and/or requiring students to use third-party online resources that need broadband access for effective use, consider whether your students will have the required level of Internet access and what the likely download costs to then will be. In addition to basic IT infrastructure such as Internet access and DSO applications (learning management system, eLive, iLecture, etc.), 'technology for delivering online content' can include any discipline- or unit-specific software packages that students are required to use. Student open ended comments will sometimes reveal that their dissatisfaction was not with IT infrastructure, but instead with unit software that is out dated, faulty or difficult to use outside of an on-campus computer lab.

Activity
For the unit(s) that you contribute to, what methods do you use to inform students of the IT resources available to them, and to help ensure that students have a trouble free experience using the IT associated with their learning? Are there additional things you could do in this regard?

<u>The online teaching and resources in this unit enhanced my learning experience</u>
There exist many other published frameworks for what constitutes 'good online teaching', but, "…the quality principles that underpin successful online teaching and learning are exactly the same as those that underpin successful face to face teaching." (Oliver, 2003, p. 9) Regardless of any special characteristics of unit content and delivery that might arise from the particular form(s) of technology mediation of teaching and learning used in a unit, this SETU items asks students for their perceptions about teaching and course materials, so it would be unwise not to start with consideration of the basic guidelines for good teaching and quality course materials given previously. Unless there is a compelling reason to employ a unique visual appearance in online materials, it would be wise to use any School or Faculty templates for presentation of online materials. Using a template as the basis for the presentation of online materials ensures a level of consistency with other units that students are likely to be studying, making it easier for students to navigate through a web site and find what they are looking for in a familiar location.

The addition of online aspects (content or teaching) to a unit should be considered carefully. Online approaches can significantly enhance the teaching and learning experience for students studying in all modes, but online 'stuff' added into a unit without any clear purpose may sit unused and be a distraction to students, or worse, create expectations for students that aren't met, possibly leading to an unnecessarily critical evaluation on this SETU item. Deakin has a significant history in the development, implementation and evaluation of technology in teaching and learning which you can access through the Institute of Teaching and Learning, as well as specialist resources for the development of online learning materials through the Knowledge Media Division.

Activity
For the unit(s) that you contribute to, what forms of online resources and technologies are used to support/enhance teaching and learning? In what ways do these contribute to student

learning? For the unit(s) that you contribute to, are there other online resources and technologies that could add value to student learning? What are they?

This unit challenged me to learn

The results from this item need to be considered carefully, as the concept of 'academic challenge' is essentially a psychometric construct inferred from factor analysis of SET data relating to student engagement (Coates, 2010; Kuh, 2009). In the NSSE and AUSSE instruments, academic challenge is not measured by any single question item; rather it is a scale measure that is derived from student responses to a number of question items. In addition to the open-ended student feedback comments received, interpretation of the result for this item in SETU may be aided by considering the question items in the AUSSE SEQ instrument that are included in the academic challenge scale (keeping in mind that the AUSSE asks students to consider their program of study as a whole, during the current year):

- Worked harder than you thought you could to meet a teacher's standards or expectations (Never, Sometimes, Often, Very often)
- Course work emphasised: **Analysing** the basic elements of an idea, experience or theory, such as examining a particular case or situation in depth and considering its components (Very little, Some, Quite a bit, Very much)
- Course work emphasised: **Synthesising** and organising ideas, information or experiences into new, more complex interpretations and relationships (Very little, Some, Quite a bit, Very much)
- Course work emphasised: **Making judgements** about the value of information, arguments or methods, such as examining how others gather and interpret data and assessing the soundness of their conclusions (Very little, Some, Quite a bit, Very much)
- Course work emphasised: **Applying** theories or concepts to practical problems or in new situations (Very little, Some, Quite a bit, Very much)
- Reading assigned textbooks, books or book-length packs of subject readings (None, 1 to 4, 5 to 10, 11 to 20, More than 20)
- Number of written assignments fewer than 1,000 words (None, 1 to 4, 5 to 10, 11 to 20, More than 20)
- Number of written assignments between 1,000 and 5,000 words (None, 1 to 4, 5 to 10, 11 to 20, More than 20)
- Number of written assignments more than 5,000 words (None, 1 to 4, 5 to 10, 11 to 20, More than 20)
- Hours per typical seven-day week spent preparing for class (e.g. studying, reading, writing, doing homework or lab work, analysing data, rehearsing and other academic activities) (None, 1 to 5, 6 to 10, 11 to 15, 16 to 20, 21 to 25, 26 to 30, Over 30)
- Institutional emphasis: Spending significant amounts of time studying and on academic work (Very little, Some, Quite a bit, Very much)

Activity

In addition to the question items relating to 'academic challenge' included in the AUSSE, are there any other aspects of student engagement that you think constructively contribute to challenging students to learn? What are they?

In general

Used in an informed manner, the quantitative and qualitative results from SETU can be an aid in the improvement of teaching and learning. SETU is only one measure of the quality of teaching, and you may wish to supplement this with your own informal in-semester formative evaluations via focus groups, DSO surveys, etc. However, be wary of 'survey fatigue' amongst students, especially at the end of semester when most students will be asked to participate in multiple SETU surveys, and, as always, apply the same common sense and rigour to the interpretation of all student feedback before taking any action to change a unit and/or your teaching methods.

As with the CEQ, obtaining satisfactory numbers of respondents and response rates are issues for SETU. The larger the number of responses, the more reliable the data. You should encourage your students to complete SETU. Research indicates that students are motivated to participate in SET surveys by the desire to improve teaching and unit content, and by the expectation that their input will be acted on. It is suggested that one method for improving student participation in, and value of SET surveys is to publish the outcomes and actions that result from them (Chen & Hoshower, 2003). It is also a requirement of Deakin's Evaluation of Teaching and Units procedure that, "Faculties will provide feedback to students on the evaluation of teaching and units each time the unit is offered." (Deakin University, 2009) Currently, the required methods for doing this are including a summary of any changes in the relevant unit guide and presenting this information to on-campus students in class before the end of semester.

Reporting to students on actions taken in response to SETU results

Why report back to students?

It is a requirement of Deakin's Evaluation of Teaching and Units procedure that, "Faculties will provide feedback to students on the evaluation of teaching and units each time the unit is offered." (Deakin University, 2009) Apart from being a courtesy to those students who make the effort to complete the SETU survey, providing this information demonstrates, in a transparent way, Deakin's commitment to enhancing teaching and learning.

Another important reason for reporting SETU outcomes to students is as a means to increase the validity of the data obtained via SETU. As with any survey instrument, the larger the number of respondents, the more reliable the data obtained is. Research indicates that students are motivated to participate in student evaluation of teaching surveys by the desire to improve teaching and unit content, and by the expectation that their input will be acted on. It is suggested that one method for improving student participation in, and value of SET surveys is to publish the outcomes and actions that result from them (Chen & Hoshower, 2003).

Responding to SETU

Deakin's Evaluation of Teaching and Units procedure envisages a range of activities in the use of SETU data for unit evaluation, including:

- conducting the evaluation
- Faculties will review SETU data
- Faculty boards will report the outcome of their review each semester to the Teaching and Learning Committee of the Academic Board
- the Teaching and Learning Committee will consider the Faculty reports
- SETU data will be used in the PPR process to identify opportunities for improvement in teaching
- The unit chair, relevant course/discipline advisory board, head of school, Associate Dean, Teaching and Learning, Dean and Deputy Vice-Chancellor (Academic) will consider SETU Questionnaire data and assess this information against school, faculty and University averages and previous evaluations of the unit
- Faculties will provide feedback to students on the evaluation of teaching and units each time the unit is offered. (Deakin University, 2009)

Reporting on actions arising from a SETU evaluation (to students and the university) are the final steps of the procedure, coming after several stages of review to develop any recommendations for changes to the unit. The following are suggested actions for unit chairs in reviewing SETU results, if they are available.

1. consider the item rating means and percentages of agreement for the ten SETU items;
2. consider the open-ended 'best aspects' and 'needs improvement' comments for the unit – these may provide some context or explanation of the item ratings received;
3. consider the teacher-specific 'quality of teaching' rating and associated comments for all identified unit 'teachers';
4. 'benchmark' the ten SETU items against the mean results for the School and Faculty, and, against any relevant similar units;
5. if SETU results are available for successive offerings of the unit, consider any time-series trends in SETU results for the unit;
6. consult with unit team colleagues on the interpretation of unit SETU results – the Institute of Teaching and Learning web site provides a professional development module on the use of SETU to enhance teaching and learning;
7. if required, seek advice from School/Faculty leadership;

8. if required, seek advice from the Institute of Teaching and Learning education consultancy service; and
9. develop recommendations for any required changes to the unit.

Activity
Have you ever previously been involved in a review of unit content and/or delivery that included SETU data as an input? If yes, in what way(s) was the SETU data used to inform the review process? If yes, what changes were made to unit content and/or delivery in response to SETU data?

Reporting back to students
Following review and approval at the Faculty level of unit SETU results and recommendations for changes, these results and changes should be reported back to students. While Faculties and Schools may have their own specific methods for communicating this information to their students, Deakin's Evaluation of Teaching and Units procedure indicates that appropriate methods for doing this include, "As a minimum requirement, faculties will provide feedback through…the Unit Guide…[and]…discussions in lectures by the end of the semester." (Deakin University, 2009) If using the web for this, the DSO section for a unit is an obvious choice as an online location for reporting back to students. A comprehensive report to students would include at least the following three items.

1 - A summary of the SETU results
This should include at least the mean item ratings for the ten SETU items. In addition to this basic information, other items that could be shown include:
- a summary of the open-ended student comments;
- teacher-specific ratings and/or comments; and
- standard deviation, percentage agreement and percentage disagreement for item ratings.

A complete tabular summary of the quantitative results for the ten SETU items can be extracted from the Planning Unit's unit evaluation website at:
http://www.deakin.edu.au/unit_eval/results/general.php

2 – A contextual interpretation of the SETU results
To assist students to interpret the presented SETU results, it is valuable to provide some background information about the unit. Where relevant, this could include the following issues:
- was there anything especially notable about the unit offering – for example, was it the first offering, had the unit been through a major revision, had there been major changes in unit staffing, etc?;
- SETU results for items that relate closely to the key objectives of a unit are worthy of comment;
- high ratings can be celebrated and low ratings can be noted as items for review and action;
- presenting the School and/or Faculty mean scores provides some benchmarks for comparison to the unit results;
- if there are trends evident in SETU results over successive offerings of the unit, these might be worthy of comment; and
- if there are concerns about resources or services that are important for the success of the unit, but provided by third parties (i.e., Library resources, IT access, etc.), it can be noted that those issues have been referred to relevant service providers for attention.

If the unit chair/panel have a particular view on the success or otherwise of the unit offering, the report to students can be used to provide a sense of this.

3 – Details about specific changes made (or to be made) to the unit

Where changes are to made to a unit arising from review and consideration of SETU results, these should be reported to students in a factual manner. Generally, there should be an obvious link between the SETU results, the interpretation of the results, and, the subsequent unit changes made. If there are no particular changes made to a unit, then, this outcome of the SETU review process should also be reported.

While positive SETU results are easy to report to students, unit changes will most probably arise where SETU results suggest areas for improvement. As noted above, students are motivated to participate in evaluation of teaching by the desire to improve units and teaching, and, by the expectation that their feedback will be acted upon. There is no reason to attempt to disguise or unduly sugar coat low SETU scores or other areas of concern arising from SETU results. Tackling student feedback openly and constructively demonstrates to students that their expectations of the unit evaluation process are being taken seriously, and, real actions are being taken in response to their feedback. If you are unsure of how to present information in a report to students, seek the advice of your School leadership or consult the Institute of Teaching and Learning education consultancy service.

If no SETU data is available from the immediate previous offering of a unit (for example, due to a low number of respondents, there being no offer of the unit in the previous regular semester, etc.), then, options for reporting include:

- basing the report on the last complete report to students;
- which could be supplemented by a report from the unit chair on any matters of interest relating to unit changes arising from the immediate previous unit offering.

There will be some cases where there is no current or historical SETU data for a unit, for example, a brand new unit offering. In such cases, all that can really be done is to explain why there is no report on SETU results.

Activity
Have you ever previously prepared a report back to students based on SETU results from a previous offering of a unit? If yes, what types of information did you include in the report? If yes, in what form(s) was the report communicated to students? If no, what types of information would you include in a report back to students?

<u>An example report to students</u>
The following example is modelled on an actual report to students based on SETU results.

Student Evaluation of Teaching and Units (SETU)

Each semester, Deakin conducts an evaluation of all units by surveying students about their perceptions of their experiences in the units they take. The table below summarises the results for XXXNNN last year. The mean SETU scores are rated out of 5.0.

Response rate – 36.0%

No.	**Question asked**	**Mean score**	**Std dev.**	**% agree**
Q1	This unit was well taught.	4.03	0.93	77.8
Q2	The course materials in this unit were of high quality.	4.03	0.76	77.8
Q3	The workload in this unit was manageable.	4.03	0.84	77.1
Q4	Requirements for completing the assessment tasks in this unit were clear.	4.06	0.91	77.8

Q5	The teaching staff gave me helpful feedback.	3.78	1.00	66.7
Q6	The library resources met my needs for this unit.	3.76	0.84	55.9
Q7	I would recommend this unit to other students.	3.78	1.08	63.9
Q8	The technologies used to deliver the online content in this unit performed satisfactorily.	4.14	0.72	80.0
Q9	The on-line teaching and resources in this unit enhanced my learning experience.	3.80	0.98	60.0

Overall, the results were pleasing. Items relating to teaching, course materials and assessment were rated highly. Items with comparatively lower ratings related to feedback and online technologies. The ‘needs improvement’ comments included the following items:

“There where[sic] no examples put up on DSO of what he was looking for in assignments, and this made it very hard to get good marks.”
“Could not find any feedback on assignments on DSO. Maybe I was not using it correctly.”

In fact, for this unit model assignment submissions were provided for students via DSO, and, marked assignments with feedback were returned via DSO. Instructions for assignment submission and access to returned assignments were included in the unit guide. It seems that the methods for accessing model assignments and assignment feedback could be made clearer. Documentation on these processes will be enhanced in both the unit guide and DSO for 2007.

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