
Vocational Education Teachers: A review of evaluation methodology and teaching effectiveness

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Abstract:

The increasing accountability of vocational education teachers to their learners and the wider community has been a feature of the post-compulsory, further educational environment for the past decade. This accountability has come about because students now have much greater expectations of their teachers than in previous times. This situation is the outcome of factors such as the creation of a vocational education marketplace, internal and external competition for students and students awareness of their rights as learners. In turn this has led to evaluation of vocational education teachers becoming more or less standard practice across Australia.

Most vocational education institutions utilise some type of evaluation methodology to provide both the individual teachers and administrators with feedback from the students. For example, reaction-evaluation questionnaires that are often administered anonymously by staff. The resultant comments are then provided to the teacher and other interested parties to act upon as they see fit.

This paper looks at some of the problems and issues associated with using a range of the most commonly used teacher evaluation tools. An examination of issues and problems in this area leads to the conclusion that the evaluation of vocational teaching and learning is limited by the quality and usefulness of the data that can be provided. It is concluded that further education teachers should seek to supplement data on their effectiveness from a range of different sources over time and that more evidence should be provided about actual student learning and outcomes in the evaluation process.

There is little doubt in the minds of most vocational education teachers that the halcyon days of being a teacher in a vocational education institution have passed. For example, as Smith, Allen and Stainton (2000) have pointed out, in the case of the universities, "before the 1980's teaching in a university carried prestige and a job satisfaction that came from working in an academic environment of lively and challenging minds". Vocational education institutions at the time could not be described as prestigious or necessarily academic, but teaching conditions were comparatively good and accountability to students and the wider community was not seen as a high priority. Vocational education institutions in relative terms, were also well funded from Government and Private sector sources and were, on the whole, well shielded from competition by having a virtual monopoly on the issuing of post-school vocational qualifications, such as certificates, associate diplomas and diplomas.

Since the late 1980's this situation has changed dramatically in virtually all OECD countries. Governments of all political persuasions have seen the need to encourage a

much greater proportion of school graduates into all forms of further education. This demand has been largely driven by the perceived need for a more skilled and educated workforce, required for the "new economy", globally relevant type businesses and industries. Governments have also seen the need to retrain older displaced workers whose occupations and industries have downsized or disappeared because of the changing nature of work. On top of this are experienced, older workers who need to "top-up" their existing skills or diverse into new areas of occupational opportunity.

As well as these changes in post-school student demographics in terms of numbers, age, abilities and educational backgrounds has been the shift in demand for courses. Most vocational education institutions, for example, have seen a shift from the traditional courses in the building, technology, metals and engineering sectors to those in business, information technology, tourism and hospitality as well as some areas of health science.

On top of all of these changes, there has occurred the breaking of the monopoly of TAFE institutions to issue nationally recognized qualifications. Governments have shifted to the right ideologically and have put in place measures to create a marketplace in the vocational education sector. This has meant that vocational education institutions are competing amongst not only themselves for potential students but also private providers such as major corporations and government agencies, who are increasingly offering qualifications in direct competition with many higher and further education institutions. Most of these private providers only offer courses in the high-demand, low cost areas or disciplines. Nevertheless, they are being increasingly seen by potential vocationally oriented students and other stakeholders, as alternatives to traditional vocational education (TAFE) colleges. They also have the added advantage of greater flexibility in the timing of their offerings.

Another factor that is currently affecting all further education sectors is the advent of e-learning. While there is only limited data available on the effect that e-learning is having in these places, there is little doubt that it will increase competition between institutions for vocational students. It will also open the way for an increasing number of private organisations to enter the further education sector. Data from the USA suggests that in 2000, over US\$8 billion (ASTD, 2000) was spent on e-learning. The resulting phenomenon is that there are now increasing pressure on all sectors of further education to begin offering their courses and subjects over the Internet.

All of the foregoing changes have increased the accountability of all teachers in the vocational education sector enormously. In addition, however, most vocational education institutions now have quality units or designated staff, charged with ensuring that the institution meets internal and external quality guidelines. As well as this quality demand, most colleges also have access to some type of professional development group to assist their teachers with reflecting on and 'improving' their actual teaching. This type of human-resource development exercise generally provides professional development opportunities for vocational teachers in areas such as teaching, assessment and curriculum design.

In addition, in order to gather relevant information, they often conduct evaluations of individual teacher's teaching and effectiveness, usually by some form of reaction-evaluation questionnaire. In recent years this form of evaluation has become a very

important event for individual teachers as the quantitative and qualitative information obtained from it is often used for promotional and performance management purposes in many institutions. On the surface, student reaction evaluation appears to be a better methodology than are some of the alternatives such as self-appraisal and peer appraisal.

Self-appraisal as one form of teacher evaluation, has been found to suffer from a range of methodological problems. For instance, research evidence has shown that it suffers from inflation of scores, when compared to the judgement of others and a tendency to exhibit response patterns that are socially desirable (eg. Moses, 1986). All of these problems can affect the value (ie., decrease the validity and reliability) of the obtained data.

Expert and peer ratings have also been used to evaluate teachers, however, in these instances, the raters may not be too familiar with the teacher's teaching-learning context as are the learners themselves. Another potential problem here is sampling bias (eg. Cohen & McKeachie, 1981). They may also be influenced by halo effect. A 'halo effect' operates when a general impression about an individual is based on a single attribute such as their appearance or their sociability or perceived intelligence. Added to this potential problem, any limited sampling of a teacher's teaching may not be representative of that teacher's teaching over time or over the whole course.

Another line of research evidence has provided some evidence that student ratings have better validity than self-ratings, expert or peer ratings (eg. Howard, Conway & Maxwell, 1985; McKeachie, 1986). Certainly, student ratings have been the most widely used method of teacher evaluation (Cruse, 1987). It should be noted, however, that most of this research was and continues to be based on school or university settings and not in vocational education settings. Nevertheless, despite the lack of direct evidence, it seems reasonable to conclude that evidence found in similar settings using the evaluation methodologies just outlined, has relevance to vocational teachers.

The use of student-rated, teacher evaluation questionnaires usually follows a typical process. Individual teachers, often in conjunction with the professional development unit, construct the questionnaire by choosing appropriate items from a questionnaire item bank. Most questionnaires contain items concerning the teacher's methods of presentation, his/her presentation skills, how interesting the subject was, the way it was assessed, timing of assessment events and the perceived relevance of the content for the learners. Individual teachers can include other items if they wish and most questionnaires utilise either a numeric scale, Likert scale or word-rating scale (eg. 'good-average-poor', etc) so that learners can rate the individual teachers against each item. Some questionnaires also provide a space for student comment against each item and a general space to allow for more holistic comment about the teacher, teaching, learning environment and the subject curriculum.

There is little doubt that these questionnaires can provide vocational and other teachers with feedback about their teaching, assessment and the subject in general and can be a very valuable tool for the teacher's own personal and professional development. However, in the current environment where vocational teachers are

increasingly being held accountable for their teaching the use of these questionnaires as often the sole form of evidence for teaching quality must be further debated.

In recent years, many colleges and institutes of vocational education within Australia, have adopted a policy of requiring teaching staff to demonstrate a 'high' level of performance and leadership in the area of teaching. This is in order to be deemed suitable for promotion or to improve quality standards, sometimes to set benchmarks. This has also proved to be the case in the university sector as well, although in this sector evaluative criteria pertinent to another major area of evaluation- the research/scholarship area- is fairly clear cut in most disciplines. For example, the number and quality of the teacher's publications in refereed journals and books.

Nevertheless, demonstrable teacher effectiveness must be an important component of any quality assurance system for all teachers (Schalock, Schalock & Myton, 1998). The major problem, however, is that the teaching area is by far the hardest to demonstrate a teacher's 'performance and standing' in a valid and reliable manner. The most common form of evidence in this area is of course, the information and data collected via the anonymous, reaction-evaluation questionnaire.

Given the difficulty in collecting "objective" data concerning teaching performance, it is not surprising that student self-report, questionnaire data is favoured by vocational education administrators and teachers alike. However, the assumptions that underlie the use of self-report, reaction-evaluation questionnaires needs to be once again critically examined and questioned.

The design of reaction evaluation sheets make several assumptions about those charged with completing them. The major assumptions are:

1. Learners are able to make accurate judgments about how much they have learned and will remember;
2. Learners are able to make accurate judgments about the relevance, value and worth of subject-matter content (over other content that may interest them or that they see to be important);
3. Learners are able to make accurate judgments about the link between perceived learning and learned performance in practice;
4. Learners are able to make accurate judgments about the link (if any) between teaching style and individual learning;
5. Learners learn more from course/subjects they are interested in and enjoy;
6. Learners learn more from teachers they perceive as motivated and skillful;
7. Learners learn more from teachers they perceive as having (a select number of) 'good' communication skills;
8. Learners learn just as well if they are reasonably 'passive' learners, that is as long as they are interested, attentive and listen.

There is a dearth of relevant published, research literature on all of the foregoing issues from the vocational, further education sector as already mentioned. Nonetheless, as an example of relevant literature about these issues from a related area, Fisher, Alder and Avasalou (1998) found that tertiary staff and students differed significantly in their interpretations of what was to be measured in the assessment of good information delivery session such as a lecture or demonstration. For instance,

the students in their study placed very high importance on the teachers' speaking voice and the pace of the delivery in their appraisal of the presenters' performance. A teacher's relaxed, pleasant style was very positively reported on by the students but issues especially about the subject-matter content, were not viewed and appraised with the same value or importance.

Furthermore, there is a lot of evidence, especially from the Human Resource Development (HRD) area, that the foregoing issues and student assumptions are not supported by empirical evidence. For example, Clement (1982) and Israelite (1983) both conducted studies on the relationship between actual learning achieved in a course and how the course participants completed the reaction-evaluation sheet. They found that the relationship between the two measures was either very small or non-existent. Similarly, a study of 1400 employees at all levels in a manufacturing plant to determine the amount of actual learning versus the course participant's perception of their learning, found that there was no significant relationship between the two with correlations between the two ranging from -.07 to -.18 (Dixon 1990a). This study dealt with learners possessing a range of abilities due to the context of the manufacturing environment.

Traditionally, most vocational, further education teachers as others, believed that students' perceptions of their own learning were reasonably accurate and hence questioning them about how much they perceived that they had learned would give a reliable picture. But between the student perception and the reality there likely falls a shadow. Indeed, many questionnaires are completed before the final student assessments are complete and this link can be properly tested. This is certainly an area where further research is needed, particularly in the higher education sector.

Another issue arising from the use of reaction evaluation sheets is that it increases the students' expectation that learning events will be entertaining. Dixon (1990b) proposed the following (see Figure 1) positive feedback loop that may develop as a result of using reaction-evaluation questionnaires.

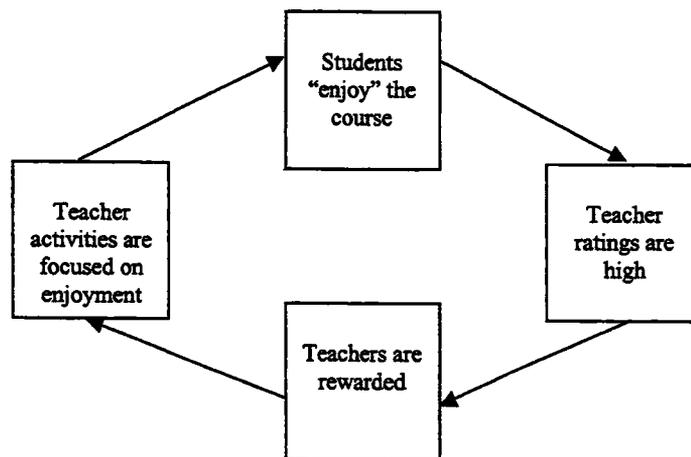


Figure1 Feedback Loop (Dixon, 1990b)

As ratings on the participant questionnaires are often the major source of teaching evaluation data, then teachers naturally will tend to modify their teaching practices to ensure participant enjoyment. This is especially the case if promotional activities, 'good' teaching awards, further employment and so on are all based on student feedback. As courses become more entertaining, the standard by which students evaluate the teacher escalates and hence, it produces a trend toward learning activities that are primarily entertaining; the teacher now doing most of the work, not the student.

This focus on enjoyment conflicts with the reality that learning often is an uncomfortable process. Having learned is pleasurable but the process of learning may not be so; it may have required the 99% perspiration and only the 1% inspiration to which Edison alluded when developing successful inventions. Furthermore, recent workers in this field have argued that student learning, not perception-laden surveys, should be the 'yardstick' for assessing teachers (Cornett, 1995; Schalock, et al., 1998).

As a further example, Sund (1976) has shown that much learning involves altering an existing idea or schema, that an individual has constructed in his or her own mind. This alteration often entails a period of confusion, during which the existing schema is in doubt and the new construction not yet in place. The more complex the idea being learned, the longer the period of confusion that may be tolerated. When learning involves the changing of values and attitudes the period of dissonance can be even more stressful. This additional stress occurs because such learning affects the identity of the individual more than the less personal learning involved in learning facts or abstract concepts. Lewin (1951) uses the term "unfreezing" to describe the act of unlearning an existing concept or behaviour. Unfreezing leaves the learner feeling vulnerable and dependent until a new attitude is incorporated or refrozen.

Thus, vocational teachers hence must make the choice between teaching simple ideas in a pleasurable way, thus insuring themselves high ratings, or teaching complex ideas that will generate uncertainty and confusion in learners, thereby risking lower ratings on the participant reaction forms. Another teaching plan may call for periods of extended rote practice in a laboratory or practical workshop to develop important practical skills; likely to suffer in student evaluations where the vocational teacher's perceived personal characteristics are more highly valued (eg. Cruickshank, 2000; Fisher, et al., 1998).

The desire "to be liked" as measured by positive reactions ratings also handicaps vocational teachers in other ways. The teacher's effectiveness in challenging incorrect or shallow thinking by learners can be lessened. As an example, teachers become reluctant to be critical; to tell learners that their comments and answers, whether oral or written, are only partially correct or are incorrect. The more acceptable practice is to offer alternatives for the learner to think about or perhaps, for the teacher to somehow expand on the participant's answer until it becomes acceptable.

Soar (1982) showed that when learners receive positive feedback on all answers they become less discriminating in their own thinking and exercise less critical thought before offering comments or answers. Hence the positive feedback loop may impair the learning process. This may be an important reason for emerging evidence with a

sample of graduate and undergraduate vocational teachers, enrolled as students in university courses, showing relatively poor development of critical thinking during and at the end of their courses (eg. Pithers & Soden, 1999).

A further issue arising from the use of reaction evaluation forms is that they reflect the notion that it is the teacher's responsibility to ensure that learning occurs. The learners in such a case are perceived as passive, someone to be acted upon. The reaction-evaluation form reinforces this perception by asking questions about the teacher's performance, the design of the subject/course and the difficulty of the assessment activities. What it does not inquire about is the learners' own effort: their learned behaviour or performance.

An active student learner usually ensures more effective learning and later remembering of that material or skill and thus likely better transfer of that knowledge and skill to the workplace. The learning acquisition process is better when it is not a passive one. Even when learning takes place during a lecture or a demonstration, where it gives the appearance of a passive activity, learners must respond covertly. They need to attend to and think about what the teacher is saying and doing, think of examples of the concept, relate the information to what they already know, check their remembrances for understanding and so on; what Schunk and Zimmerman (1994) have called self-regulatory and monitoring activity. Without such active processing, participants tend to quickly forget what was presented. Comments from students tend to reflect this:

"Could have been better organised"
"Examples provided were limited"
"The lecture was a little slow"

These types of comments, however, reveal little awareness about their own responsibility for asking what they need to learn or about working actively at learning, problem solving and at self evaluation (see Shunk & Zimmerman, 1994; Steinberg, 1998). The act of filling out the reaction form on the other hand, focuses the student on teaching process not on self learning and understanding. It reinforces the notion that the active involvement of the instructor, not the learner, is the most important part of the learning process.

In fact, in practice, it is the active, overt as well as covert responding (or active practice) of the learner that ensures effective learning. This active process also allows the teacher to provide positive reinforcement to strengthen learned behaviour and the provision of feedback to eliminate errors (Pithers, 1998). Motivation and interest is a necessary but not a sufficient condition for effective learning (eg. Mazur, 1998). Active practice needs teacher guidance and encouragement but it is predicated on student effort. Unfortunately, this is a factor neither taken seriously by students nor reflected in most student reaction evaluations.

There are other issues and questions that currently are impinging more and more on the vocational, further education teacher evaluation context. One concerns the notion of the use of data to inform instructional design. The question is who is the 'best' judge of the means of subject-matter delivery? the teacher or the student? or both? and if so, in what degree or proportion?

Another concerns the different contexts in which vocational teachers are increasingly required to teach. For example, in workplace learning contexts, with in-house learning and with e- learning. Are student expectations much the same for teachers in all contexts from a college lecture room, laboratory, workshop or to a field-practice exercise on site? In any case 'good' teaching is certainly not as one researcher put it 'a one size fits all model' but is rather linked to multiple desirable outcomes (Cruikshank, 2000), often needing quite flexible leadership and delivery options on the part of the teacher.

What of student cultural differences in teacher evaluation? As more and more further educational institutions search for more dollars and vocational education and training becomes globalised, vocational teaching is likely to involve different cultural student groups in different countries. Will the assumptions of these students be similar to say those students in the Western democracies? The present writers having had some experience teaching people from Asian cultures in Asia as well as other anecdotal evidence to date, suggests that there are differences in the criteria used by these students to evaluate teaching and learning. Even the age of the tertiary student may play a significant part in the way individuals evaluate their teachers and teaching (eg. a group straight from school, 18-19 year olds, vs a group of individuals nearer to 'middle age').

Patrick and Smart (1998) using typical student-reaction evaluation data of teachers found that tertiary teacher effectiveness, at least in their study, was multidimensional and was composed of three factors. These were respect for students, ability to challenge students and organisational ability (which included some elements of presentation skill). They pointed out that these teacher characteristics have been evident in other research on teacher effectiveness, using similar methodology.

What is interesting to note is that such reports say little about the effectiveness of student learning. They do illuminate answers to the question about what students' value as 'good' teaching. They indicate nothing, however, about the critical causal link(s) between the students' perception of those aspects of teaching (as well as other variables not rated at all) that lead to learned performance and the achievement of set goals and outcomes. Yet the achievement of the appropriate student learning and set outcomes are surely a most important aspect of the evaluation of any teachers' effectiveness.

What is required is more research on alternative methodologies of evaluating vocational teachers in a range of different contexts. These methodologies should still involve input from learners but they should try to extend the quality and type of data collected, perhaps over a longer period of time, from a greater variety of interested parties and certainly by examining aspects of students' learned performance. The current use of student reaction-evaluation forms alone, while producing useful data, has severe limitations that may actually reduce the quality of vocational teaching and student learning.

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