Congruence of teaching, learning, assessment and evaluation

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Aspects of teaching, assessment and evaluation practices are generally considered in curriculum development. With the current trend towards making learning or 'what the student does' the focus of a curriculum, identification of the congruence of teaching, learning and assessment processes would help in determining what can or cannot be achieved in a particular educational environment. Based on the congruence model, more realistic aims and strategies can be developed for a unit or course. This paper looks at an idealistic model and a realistic model of congruence, and the role of evaluation in helping to reduce the difference between the two models.

Introduction

Curriculum encompasses a number of aspects of education and each has the potential to influence the other. The degree to which one component is able to influence another is dependent on a wide range of factors, e.g. current policies, available resources and stakeholders' perspectives, knowledge and skills. Given the intertwined nature of the components of curriculum, there are arguments for the use of a systemic or holistic approach in curriculum development to achieve an effective change. This paper will focus on four aspects of curriculum, i.e. teaching, learning, assessment and evaluation, and the congruence of those aspects. The main purpose for this discussion is to identify differences between the ideal situation and the current situation in higher education in relation to the aspects mentioned above in order to progress towards the ideal.

Perceptions and practices

Teaching and learning

Although research into educational practices and changes to improve educational outcomes are generally in a piecemeal fashion, a systemic or holistic approach is seen as being at least complementary to the analytical approach, if not more effective (Banathy & Jenks, 1993; Biggs, 1999; Frederiksen & Collins, 1989; Salomon, 1991). In Heywood's (1989) view "curriculum design, assessment and evaluation begin at the same point" (p. 23), i.e. the aims and objectives of syllabus.

The link between teaching and learning is generally expected. Assumption of this connection could lead some academics to think that once they have 'taught' something, students have automatically 'learned' it. The two processes have been considered as the two faces of the same coin, for "the aim of teaching is simple: it is to make student learning possible" (Ramsden, 1992, p. 5). Even though the primary aim of teaching may be simple, the means to achieve that aim generally requires a teacher to play multiple roles. They may have to become course/unit designers, facilitators of learning activities and assessors of learning outcomes. There are many suggestions for providing good learning opportunities, based on theories and research findings. Good learning opportunities include learning through experience or action, learning that uses contracts to encourage independence, and resource-based learning (Anderson, Boud & Sampson, 1996; Boud, Cohen & Walker, 1993; Brown & Smith, 1996; Pedler, 1991).

Provision of good learning opportunities does not guarantee good learning outcomes. The reasons for the discrepancy between the teacher's expectation of student learning and the actual learning that takes place are many. One obvious factor is student motivation. There may be as many reasons for taking a course as there are students enrolled for it. Motivation could and usually does influence learning approaches. Besides the motivation for learning, student engagement in the learning process is dependent on the background knowledge. These are just two of the myriad influences on student learning that have been identified in various studies into student learning, such as the Lancaster studies (Entwistle & Ramsden, 1983) and the Australian studies (Biggs, 1987).

Assessment and learning

Assessment is viewed as a:

> *systematic basis for making inferences about the learning and development of students … the process of defining, selecting, designing, collecting, analysing, interpreting and using information to increase students' learning and development (Erwin, as cited in Brown & Knight, 1994).*

In broad terms, assessment is a human encounter in which one party attempts to know the other (Rowntree, 1987). For this discussion, assessment is the evaluation of student learning and it refers to all aspects of assignments, tests and examinations.

While the link between teaching and learning is expected, assumed and promoted, the influence of assessment on learning is often deplored. Bowden and Marton (1998) state that:

> *one of the greatest problems [italics added] in institutional forms of learning is that students study for the tests and exams, instead of studying to grasp the object of learning and instead of studying for life (p. 13).*

The results of studies into student learning process have clearly indicated that "students will study what they think will be assessed" (Ramsden, 1992, p. 70), whatever the stated aim of teaching is. Brown and Knight (1994) claim that:

> *Assessment is at the heart of the undergraduate experience. Assessment defines what students regard as important, how they spend their time, and how they come to see themselves as students and then as graduates. It follows, then that it is not the curriculum which shapes assessment, but assessment which shapes the curriculum and embodies the purposes of higher education. (p. 12)*

Therefore there is not only the perception that student learning is closely linked to assessment of student learning, but also strong evidence to show that students indeed learn strategically in order to maximise their chances of obtaining good grades. Given this situation, ensuring assessment measures the intended learning processes and outcomes seems appropriate in order to encourage students to learn what we would like them to learn.

Assessment in curriculum

Matching the objectives of assessment to the objectives of the subject or course is part of the alignment suggested by Biggs (1999) to enhance student learning through curriculum development. In his model of 'constructive alignment' the "desired level or levels of

understanding of the content" (p. 31) should be specified in the objectives. Achieving 'constructive alignment' may be a difficult target, if the climate in the higher education sector is still the way it is described below.

> *Rarely do groups of academics, when talking about the qualities they expect their students to develop, fail to mention such capacities as understanding, critical thinking, integration of concepts and ideas, intellectual independence, knowing how to find out rather than merely knowing. ... Unfortunately there is a good deal of recent evidence to suggest that the quality of student learning in tertiary institutions is adversely influenced by inappropriate assessment methods.*
> *(Bowden, Masters & Ramsden, 1987, p. 397)*

An even more critical view of assessment is given by Heywood (1989). His description of the examination process, which is the most common form of assessment in higher education, is as follows:

> *The students will be sensible enough to look up the questions set by the lecturer in previous examinations in similar courses, and with a bit more luck, few will fail. Examinations are the great afterthought of the educational process. Most new courses are set up without one thought being given to the methods of examining. The examination is remembered as a necessary evil ... (p. 1)*

Thus in reality, assessment does not necessarily match the espoused goals of teaching and students learn what they perceive as important for the assessment process. Willis (1993) argues that there are inconsistencies between the theory and practice of assessment, and that the objectives of curriculum, such as development of understanding and promoting life-long learning, would not be achieved unless assessment *genuinely* reflects the same principles.

Evaluation in curriculum

Evaluation is a "process by which the effectiveness of educational interventions can be assessed," and it is integral to reflective practice, since "it provides the raw material for reflection, the evidence to underpin changes in action and the means by which open-mindedness and responsibility are exercised" (Ashcroft & Palacio, 1996, p. 93). This description of Ashcroft and Palacio (1996) fits the *formative* or developmental reason for evaluation. The purpose of evaluation determines when and how it is utilised. In Calder's (1994) view:

> *Evaluation can be an integral part of [course design, development & presentation] from the beginning, or it can be bolted on as and when it is felt to be most appropriate ... The detailed evaluation plan for a course will, to a considerable extent, depend on which stage(s) you wish to focus and whether the function of the evaluation is mainly formative or summative. (p.81)*

Evaluation should aim to provide both wide-ranging and in-depth views. Teaching materials, teaching strategies, learning activities, assessment procedure and learning outcomes are among the many aspects that should be investigated. Ideally evaluation should be built into the curriculum so that there is continuous feedback from a number of sources. This formative evaluation is necessary in particular for a new subject or course in order to achieve the stated aims and objectives of the subject/course. However, anecdotal evidence suggests that it is not uncommon for academic staff to think of teaching/course evaluation in the last two weeks of

the teaching period. Not only assessment but evaluation too is quite often an afterthought in a curriculum design.

While there is general agreement regarding the necessity of including assessment in a curriculum design, the value of evaluating teaching and courses/units is often debated. Much of the contention is about the validity aspects, particularly if student ratings of teaching and courses are used in academic appointment, tenure or promotion processes (Greenwald, 1997; Mckeachie, 1997). If evaluation is separated from personnel decisions and if it is encouraged as a means to improve teaching/learning outcomes, then systematic evaluation to develop teaching and curriculum could becomes more acceptable to the academic community.

Multiple goals of curriculum

Since there should be clear goals in a curriculum, and since teaching, learning, assessment and evaluation should be designed in such a way to meet those goals, it is necessary to identify the purposes of the educational intervention. What are the purposes of teaching/learning/assessment/evaluation? The Higher Education Council (1992) in Australia decided that quality of higher education is a 'fitness for purpose', that it could mean different things at different times, and that the interests and perspectives of all stakeholders should be considered in determining quality outcomes. Similarly the purposes of any one of the components of curriculum discussed here would depend on the stakeholders' interests and perspectives. The stakeholders, who include students, teaching staff, university administrators, government and other funding bodies, and employers, may have different agendas. The educational designer has the task of trying to meet their multiple goals as much as possible.

Congruence Models

The studies mentioned in the above discussion indicate the grave need for identifying gaps and misalignments in a curriculum. A means to identify the gaps or misalignment in teaching, learning, assessment and evaluation is to map the congruence of their purposes, processes and content. For instance, identifying the congruence of teaching, learning, assessment and evaluation content in reality may be very different from the ideal. One set of congruence models is illustrated in Figures 1 and 2 below.

Figure. 1. A view of Teaching, Learning, Assessment and Evaluation content in an ideal situation.
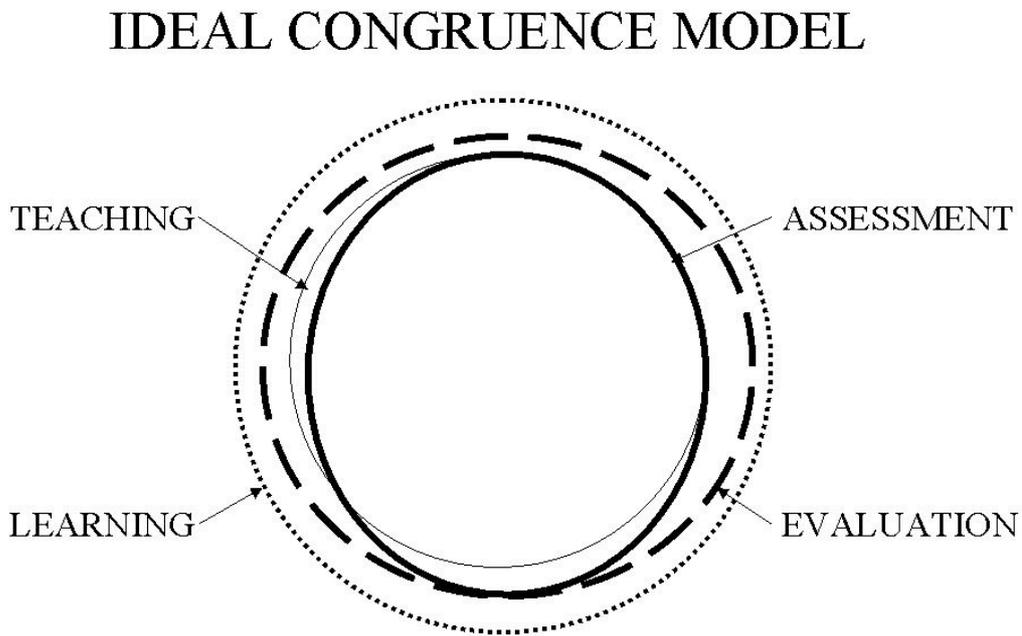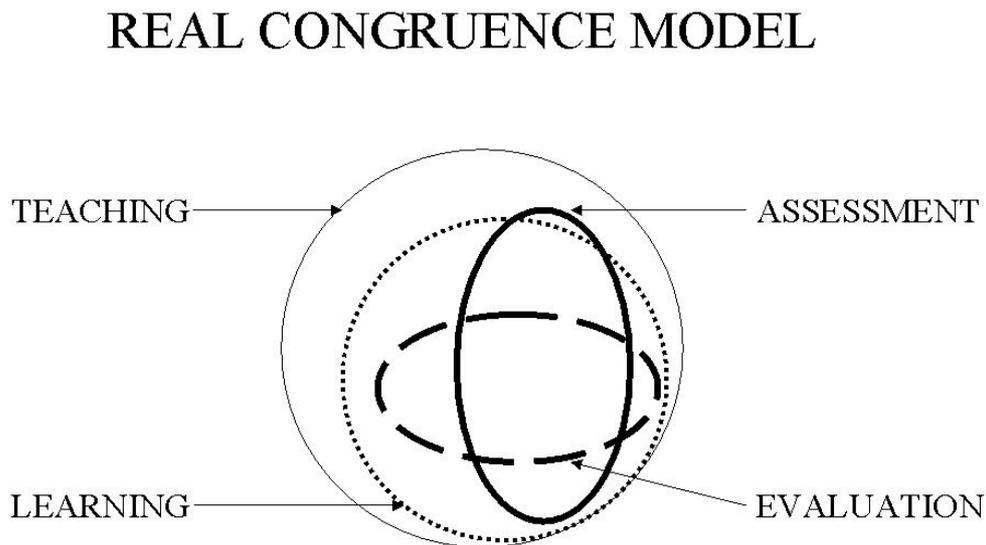
IDEAL CONGRUENCE MODEL

Figure. 2. A view of Teaching, Learning, Assessment and Evaluation content in reality

REAL CONGRUENCE MODEL

Similar models can be created for the purposes and processes. This technique is not going to solve the problem of mismatch between theory and practice, or between the espoused goals and outcomes, but it can make the gaps more obvious to the practitioners. The following incident that happened a few years ago illustrates this point. When an academic staff, who had many years' experience in teaching and co-ordinating a unit, was asked to identify the specific content that students were expected to know at the end of a particular week of lectures, the academic responded by stating the lecture topics. When pressed further to list the new concepts and terms that will be introduced to students during those lectures, the academic was astounded to discover a lengthy list. The final examination question on those lecture topics in the previous year touched just a tiny fraction of that list. The evaluation of that unit was carried out to obtain an overview of that unit, not the details of the content. This situation is not unique to any one department or institution. Therefore, illustrating the reality with a simple tool like mapping congruence of various aspects of a curriculum could help in identifying the gaps between the aspects.

Moving towards the ideal

In order to move towards the ideal model of congruence, whatever that may be, the model in reality has to be determined. Since it is the perceptions of reality that influences actions and the actual reality for both teachers and students (Prosser & Trigwell, 1999; Ramsden, 1985), these perceptions need to be identified. The picture of reality as seen by the various stakeholders could be obtained through various means of evaluation. Some of the steps that need to be taken in order to get closer to the ideal are outlined below.

Practitioners

Teachers (lecturers, unit co-ordinators, etc.), perhaps with assistance from educational developers, need to evaluate the purposes, processes and outcomes of teaching, learning and assessment, and adjust or re-design them to better achieve the goals of curriculum. This approach is part of the scholarship of teaching advocated by Boyer (1990). It enables academics to improve their teaching practices, to share their findings with their colleagues and students, and even to submit them for the peer review process that is critical for any research. Therefore reflection, collaboration and scholarship are necessary for making an effective and efficient move towards the ideal model.

Students

From the perspective of the students, comparison of the ideal and real models of learning process and outcomes may aid in the identification of gaps in their knowledge and skills. With the identification of gaps, appropriate study strategies could be planned and instituted to close the gaps and reduce mismatches. Comparison of congruence models can be a powerful motivator for learning, particularly for achievement-oriented students. Helping students in their meta-learning would encourage them to become more self-directed. Ultimately it is students who can make the learning goals match the teaching and assessment goals.

System

Staff and students interact in a complex system, and changes to the system generally require input from many levels. For instance, controllers of educational policies and resources can have a high degree of influence over the pace of movement towards the ideal model. Adequate direction, incentives and resources are necessary to progress.

The above discussion attempts to highlight and link some of the issues raised by other workers in the field of educational development. It is by no means a comprehensive prescription for enabling reality to match the ideal. There are many prominent works that provide suggestions to improve the quality of higher education, such as "Learning to Teach in Higher Education" (Ramsden, 1992) and "Teaching for Quality Learning at University" (Biggs, 1999).

The congruence models introduced in this paper provide yet another perspective of higher education and they can aid in curriculum development. They can also be used in promoting reflective practice and self-directed learning. They form part of the tools available for the provision of high quality university education.

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