

Competency-Based Training: An Assessment of Its Strengths and Weaknesses by NSW Vocational Teachers

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Abstract: Competency-based learning has been widely introduced in vocational education in Australia. There has been much debate concerning the nature of competency-based learning and its effects upon learning but there have been few surveys which have reported vocational teachers' attitudes to and experiences with this approach. Vocational teachers are in the position of directly implementing competency-based training policy. They are dealing with the teaching and learning problems stemming from this implementation as these arise and are likely to play a very important role in determining the overall effectiveness of this approach to training. This paper reports the finding of a survey of attitudes towards competency-based training using a group of NSW vocational teachers from a wide range of trade and professions in the first and second years of their Bachelor of Teaching degree at UTS.

Introduction

Competency based training continues to be controversial and a major issue in vocational education circles as it is being progressively introduced into vocational education systems and to business and industry across Australia (see FitzGerald, 1994). The fact that it was introduced by the Australian Federal Government after consultation with representatives from business and industry and the unions, but without substantial consultation with representatives of those directly involved with vocational training, now seems to have been accepted even in some government circles (see Jones, 1995). The omission of training experts and those actively engaged in day to day training from consultation may yet prove to be a fatal weakness. Examination of the history of innovation and change to the curriculum indicates that no new system has successfully been introduced in democratic countries without the consultation with and support of teachers who are key players in the implementation of such innovation.

Even after Australian Federal Government vocational education policy

based on competency based training philosophy has been developed and implemented in the various states, there still continues to be debate about what competency based training really involves (eg, Watson, 1993; Hager, 1995). The uncertainty and lack of conceptual clarity cannot but impinge upon implementation practices, that is upon the development and translation of policy into effective curriculum in the classroom and training workshop. Unfortunately curriculum issues, which involve course design, structuring and arranging learning sequences, selection of teaching methods, and selection and design of assessment schedules, have been pushed to one side while the formulation of standards and assessment have dominated policy thinking and initiatives.

The intense focus upon standards and assessment is evidence of how

rationalist economic philosophies have resulted in focus upon the end product rather than the processes which are essential to achieve the desired outcome (Cornford, 1993). Indicative of the fragmented government approach and lack of understanding of the learning process has been the fact that only since 1 July 1995 have bodies responsible for standards and curriculum been amalgamated with the formation of the ANTA Standards and Curriculum Council.

Given the lack of consultation with teachers and trainers in initial policy formulation stages, it is perhaps not too surprising that there have been few efforts to consult with teachers involved in implementing competency based training to ascertain their views concerning the effects of competency based training and its implementation. To date the only major investigation of the effectiveness of competency based training in Australia in its most recent manifestation has been the FitzGerald Report (1994) and that focused upon the attitudes of business and industry. Yet it is the vocational teachers who are most actively involved in dealing with the teaching and learning problems stemming from this implementation as these arise. Hence these teachers are likely to play a very important role in determining the overall effectiveness of this approach to training. This paper attempts to redress the balance and reports the findings of a survey of attitudes to competency based training and implementation using a group of NSW vocational teachers from a wide range of trade and professions in the first and second years of their Bachelor of Teaching degree at the University of Technology, Sydney.

Purpose of the Survey and Some Limitations

Clearly there are likely to be teething problems with the implementation of any new system like competency based training. Part of the purpose of the survey is to try to identify major issues and problems being encountered by those teachers seeking to teach effectively in order that the problems may be tackled and hopefully overcome. This will then result in more effective training which is the

overall objective in vocational education. More effective training is essential in order to meet the challenges mounted by changes to technology and increased international competitiveness, and to maintain the level of living standards and prosperity to which Australians have become accustomed.

A number of issues related to competency based training and its implementation were specifically addressed in the survey. The first was perceived pressures, whether there are perceived to be any pressures upon teachers to pass students in the new system and if there were where this pressure was seen to originate from. The second is adequacy of provision of resources and information. These appear to be an important set of issues both from the perspective of teachers being informed and also in terms of provision of resources to enable them to carry out training to industry standards which is at the core of competency based training policy in Australia. The third set of issues, also of considerable interest, is how well the the modular approach to course design and delivery is functioning. Competency based training has come to be closely associated with modularisation but the method has some potential problems as well as strengths and there are some doubts about its effectiveness (Thomson, 1995; Hager, 1995; Ainley, 1993).

The fourth set of issues examined in the survey concerned types and standards of assessment. Currently in NSW TAFE there is enormous teacher concern about types of assessment used to assess the effectiveness of competency based training. Finally respondents were

asked to consider the overall level of improvement in skill learning that they saw as springing from the introduction of competency based training.

Given the magnitude of the issues, this study is seen as a preliminary to a later, more extensive study There are some limitations too in the fact that respondents are NSW teachers and hence the findings from this study may not correspond with the views and experiences of teachers in other states and vocational education systems. The vast majority of the respondents in this study were teachers in the NSW Technical and Further Education system and their opinions may be substantially different from those who teach and train in private enterprise in NSW. It is also recognised that by surveying across all trades and professions, that is using a macro approach, that significant differences between subject specialty groupings may be obscured. Follow-up research on a micro level is required to concentrate upon specialist subject groups since different management practices and the nature of the content itself can substantially alter the procedures and competency based training strategies adopted.

The Nature of the Sample and Justification in Using Vocational Teacher

Trainees

Vocational education has some significant differences to primary and secondary education. One of the greatest differences lies in the types of people who are recruited to teacher or train in this sector. One of the chief requirements for employment in the sector as a teacher is subject matter proficiency and relevant industrial experience. Not only does this result in individuals entering teacher education who are much more mature, but the entry of those who have the ability and background to make potentially valid and reliable judgements concerning the effectiveness of training and organisational management within their teaching specialty area.

Of the 72 individuals whose responses were included for analysis on the basis of having taught or currently teaching competency based subjects or modules, that is having direct and relevant experience of this form of training, the average length of relevant industrial experience was 18.57 years with a range from 4 to 35 years. Many of the respondents had at least 10 years industrial experience. Of the 72 whose responses were analyzed, 70 were teaching in TAFE while 2 were teaching in both TAFE and private training organizations.

The selection procedures currently being used by NSW TAFE are resulting in many quite experienced teachers enrolling in initial, formal, inservice vocational teacher education degree courses. These students enrolled in the Bachelor of Teaching at the University of Technology in the first and second years of the course averaged 5.23 years teaching. The range was from 9 months to 23 years teaching experience with many having at least 10 years experience teaching, either part or full time. All teachers surveyed were at least at the end of the second semester of their degree. First year mid-year intakes who had commenced in July 1995 were not included in the sample.

Questionnaires were distributed to intact classes in regular weekly attendance in the Bachelor of Teaching at the University of Technology, Sydney which trains non-graduate vocational educators. Questionnaires also were posted to students enrolled in country block mode. Sixty eight percent of questionnaires posted out were returned. This is considered good considering that a reasonable proportion of country students would not be teaching in competency based course and hence would find many questions in the survey not applicable. Only responses

of those teachers who had had direct experience of competency based training were selected for analysis although as judging by written comments the survey was of considerable interest to those teaching in areas in which competency based training approaches are about to be introduced.

A wide cross section of trades and professions were represented in the

sample although it could not be claimed that all trades or professions are represented or that the proportions of these in the general working population are similarly represented here. Indeed some trades like hairdressing have not yet introduced competency based courses hence are not included in the sample selected for analysis. Respondents included in the analyses as having direct experience with competency based training included those teaching in information studies, office administration, computing, carpentry and joinery, shop fitting, electrical trades, electronics, real estate and valuation, hospitalities industries, commercial cookery, travel and tourism, horticulture and bricklaying among others.

The questionnaire generally presented a range of statements about competency based training and its implementation and invited teachers to select from a range of provided responses. The possible responses involved either four or five point scales of graded intensity of response.

Perceived Pressures

Judging from discussion in classes at various times it was considered that there may be pressures operating to force teachers to pass students even if teachers did not consider that students were able to demonstrate sufficient skill or knowledge to be passed. Since the philosophy of competency based courses centres upon demonstrated capability alone, this is of interest. Question 12 asked "Do you feel that there is any pressure from superiors for you to pass students in competency based or other subjects?". Of the 72 respondents to this question 16.7% (12) indicated a great deal, 33.3% (24) indicated some, 26.4% (19) indicated little and 37.5% (27) indicated none.

Question 13 asked "Do you feel there is any pressure from industry to pass students in competency based or other subjects?". Of the 71 respondents to this question 9.9% (7) indicated a great deal, 26.7% (19) indicated some while 35.2% indicated very little and 28.2% (20) indicated none.

Although numbers of country based respondents were smaller, there do appear to be more feelings of pressure to pass students in country areas. The problem of maintaining student numbers and the viability of courses may be responsible for this. That there are reasonable numbers perceiving pressure to pass students when competency based training is supposed to be about passing students only on demonstrable performance indicates a need for further investigation. What is by no means clear from responses to the questions asked is whether teachers are succumbing to these pressures that they perceive.

Provision of Resources

Competency based training linked to industrial standards is unlikely to

be successful unless there is adequate provision of resources to enable this to occur. These resources may take the form of provision of knowledge to assist in effective teaching, administrative back-up through adequate rules and regulations, in addition to physical resources such as equipment.

In Question 6 Teachers were asked to respond to the statement "Information provided by TAFE or your employer to help you to provide effective competency based training has been:". Of the 72 respondents 2.7% (2) indicated this had been very good, 23.6 (17) indicated good, 40.3% (29) indicated average while 26.4% (19) circled poor and 6.9% (5) circled very poor.

Question 8 asked teachers to choose from a range of responses to answer "Do you regard the support provided by your employer in terms of resources and equipment to be:". Of the 71 who answered this question 7.0% (5) considered these to be very good, 19.7% (14) considered them to be good, 39.4% (28) thought average while 25.4% (18) and 8.5% (6) considered these to be poor or very poor respectively.

Question 9 asked teachers "Do you considered that one-to-one testing is required in your subject area to meet competency based training ideals?". Of the 72 respondents 69.4% (50) circled yes while 30.6% (22) circled no. Respondents who answered yes were then asked in Question 10 : "Are other teachers provided in actual fact to assist with one-to-one testing if you consider this necessary?". Of 48 follow-up responses 16.7% (8) indicated that this support was provided while 83.3% (40) indicated that it was not.

Group assessment and use of groups in assessment tasks are also being widely discussed in TAFE, particularly by teachers who can experience upsets to carefully planned assessment programs in a variety of ways if students are absent from assessment sessions. Question 11 asked teachers to select an appropriate response to answer "Where groups assessment and testing is required, provisions made to cope with the problems of a member of the group being absent on the day of testing are:". Of the 69 who responded 5.8% (4) considered the provisions very good, 26.1% (18) considered them good whereas 29.0% (20) considered them average, with 23.2% (16) and 15.9% (11) respectively considering them poor or very poor.

In Question 14 teachers were asked to respond to the statement "The rules and regulations governing repeating subjects/modules and assessment after initial failure in competency based subjects and modules are:". Of the 68 respondents 26.5% (18) indicated that these were good, 36.8% (25) indicated that they were average, 23.5% (16) indicated that they were poor while 13.2% (9) indicated that they were very poor. No respondent indicated that these rules and regulations

were very good.

Question 15 was designed to ascertain what the teachers thought concerning the application of the rules and regulations referred to in Question 14. Choice of responses to Question 15, which stated "Procedures that operate in practice to deal with students repeating subjects or modules which have been failed are:", indicated that 1.5% (1) considered these very good, 32.4% (22) considered them good, 20.6% (14) considered them poor and 11.8% (8) considered them very poor.

Overall, while a considerable percentage of the teachers appeared to be quite content with the resources provided there are approximately a third of respondents who see the resources as either poor or very poor. Further investigation is need since these differences may result from specific specialty areas or even reflect city-country differences. There is clearly a need to investigate ways in which additional teachers can be provided to assist in assessment processes where teachers believe this necessary. It is very difficult if not impossible for any one teacher to validly and reliably assess the performance of

all students through all substages of relatively complex skill performance when students in a class are all being assessed at the same time.

Modules and Competency Based Approaches

Competency based training has come to be associated with presentation of content in modular form. Modularisation is certainly seen by many as very much in accordance with the performance based assessment philosophy underlying the competency agenda. Like all teaching strategies however, modularisation has particular strengths and weaknesses and there is now emerging doubt about modularisation and its effectiveness in achieving sophisticated training objectives (Thomson, 1995; Hager, 1995; Ainley, 1993). There is also concern that competency based training has been implemented without adequate consideration of skill learning theory and the literature on the development of expertise (Cornford, 1993). Modularisation tends to compound the possible problems here and there appears less than adequate regard for the amount of practice necessary to attain reasonable levels of skill learning. There are also concerns that older conceptualizations of competency based training (see Hager, 1995) do not adequately recognize the importance of knowledge and theory elements. Questions 16 to 19 were designed to assess teachers reactions to some possible problem areas in modularisation and competency based training.

Question 16 asked teachers to respond to the statement " Generally provisions made for adequate practice in competency based subjects or modules are:". Of the 72 teachers who answered 1.4% (1) considered the provision for practice aspects very good, 27.8% (20) considered them

good, 34.7% (25) considered them average, while 27.8% (20) and 8.3% (6) respectively considered them poor and very poor. Question 17 asked teachers to respond to the statement "Generally the time allowed for teaching relevant theory in practical performance subjects/modules in competency based courses is:". Of the 72 respondents 2.8% (2) indicated that the theory time provision was very adequate, 44.4% (32) indicated that it was adequate, 44.4% (32) indicated that it was inadequate and 8.3% (6) indicated that it was very inadequate.

Questions 18 and 19 related to the sequencing and integration of modules. Question 18 asked teachers to respond to the statement "The logical sequencing of competency based or other courses is generally:" and 6.9% (5) of the 72 respondents indicated that they thought it was very good, some 52.8% (38) considered this aspect good while 13.9% (10) considered it poor and 5.6% considered it very poor. Of the 70 who responded to the statement in Question 19, "If you are teaching competency based modules do you consider the opportunity provided in the modules to integrate work from present and past modules to be:", none considered it very good, 42.9% (30) considered it good, 32.9% (23) considered it average, 20% (14) considered it poor while 4.3% (3) considered it very poor.

The results indicate that there is reason to be concerned about the combination of modularisation and competency based learning as it exists in NSW upon teaching for effective skill learning. Some 36.1% of teachers considered that the opportunity for practice was poor or very poor while 52.7% indicated that the time allowed for teaching adequate theory was inadequate or very inadequate. Since effective skill performance and problem solving related to this will not be attained without the understanding of relevant theory and sufficient practice, further investigation is warranted. Teachers generally seem more satisfied with the sequencing and opportunities for the integration of previous and present work. However there are still sizeable numbers who

see problems with these aspects so there is little room for complacency.

Assessment and Standards

Forms of assessment and standards required and obtained are currently the subject of much debate since they are central to the competency based training agenda. Questions 20-26 addressed a range of issues associated with assessment and standards in competency based training and modularisation.

To Question 20, which asked "Is there a need for selection or specific entry requirement to be met before students can enrol in competency based subjects or modules?", 76.4% (55) of the 72 respondents indicated that yes, there was a need for this while 23.6% (17) of the 72

respondents replied that this was not necessary. Question 21 asked "Do you consider that competency based subjects and modules should be marked as : Pass/Fail, or Pass, Pass+/Fail or be graded as A, B, C, D or Fail, Pass, Credit, Distinction, etc." Of the 72 teachers the overwhelming majority 76.4% (55) chose grading. Of the others 12.5% (9) preferred Pass/Fail while 11.1% (8) preferred Pass, Pass+/Fail.

Question 22 asked teachers to respond to the statement "Do you consider the standards set in the objectives for competency based subjects or modules to be:". Of the 72 respondents 4.2% (3) considered these to be very high, 13.9% (10) considered them high, 44.4% (32) considered them at an average level while 29.2% (21) considered them low and 8.3% (6) considered that they were very low. Question 23 then required the teachers to respond to the statement "Do you consider that the standards actually achieved by students in competency based subjects or modules are generally:". Of the 71 teachers who answered 1.4% (1) selected very high, 7.0% (5) selected high, 49.3% (35) selected average level, 33.8% (24) selected low and 8.5% (6) selected very low.

Question 24 asked teachers to select a response to the statement "The standards employed by different teachers of the same subjects/modules in judging student performance are:". Of the 71 teachers who answered this question none indicated very consistent, 23.9% (17) indicated consistent, 60.6% (43) considered these standards not consistent while 15.5 % (11) considered that the standards were very inconsistent. The majority clearly perceive great differences in standards employed by different teachers.

Questions 25 and 26 addressed issues relating to effectiveness of competency based training and whether the passing of previous modules has ensured an adequate grasp of theory and skill performance for later modules. In Question 25 teachers were asked to select an appropriate response to the question "Do you encounter problems in teaching students in more advanced competency training subjects/modules because they have insufficient understanding of theory from previous modules they have passed?". Of the 65 teacher who answered this question 18.5% (12) indicated very often, 30.8% (20) indicated often, 47.7% (31) indicated occasionally while 3.1% (2) indicated that they never encountered this. Question 26 asked the teachers to repond to the question "Do you encounter problems in teaching students in more advanced competency based training subjects/modules because they have insufficient mastery of practical skills from previous modules they have passed?". Of the 64 who responded to this question, 21.9% (14) indicated that they encountered this very often, 37.5% (24) indicated often, 37.5% (24) indicated occasionally and 3.1% (2) indicated that they never encountered this.

There appear to be several findings here which should be cause of concern. The fact that 76.1% of repondents considered that standards

employed by different teachers in the same subject/modules in judging student performance to be either inconsistent or very inconsistent indicates at the very least a need for substantial inservice training on standards issues. There also appears to be evidence that at present the approaches to competency based training are not working if 42.3% consider the standards actually achieved by students under competency based training to be low or very low. Some 49.3% of teachers also indicate that they encounter problems in the understanding of theory often or very often while 59.4% indicted that they encountered problems of insufficient mastery of practical skills from previous modules often or very often. These results suggest real problems in the competency based training approaches that have been implemented over range of different subject specialties.

Overall Effectiveness of Competency Based Training and Learning

The ultimate issue is of course whether competency based training has resulted in the increased level