

Over the past decade a number of studies has been conducted in primary and secondary schools related to curriculum implementation. In general, these studies have indicated that curriculum products developed externally to user systems have low use rates once they enter the system.

This paper reviews those studies. It highlights conceptual issues relating to strategies of curriculum implementation and explores the notion of curriculum implementation as the study of actual practice. Methodological issues relating to implementation research are discussed as well as the implementation problems related to the nature of curriculum materials themselves. Based on this review, the main issues involved in designing an implementation research study are discussed.

#### CURRICULUM IMPLEMENTATION IN TAFE: ISSUES AND METHODS

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#### Curriculum Implementation: The TAFE Background

The Broderick Report (1982) marked a significant phase in the history of curriculum development in TAFE. For the first time it was possible to view in an holistic manner the processes of occupational curriculum development as they operated in all Australian states. As Maling (1982) has pointed out, these processes are related to notions of systematic curriculum development espoused by educational technologists (Briggs, 1970) and systems theorists (Dick and Carey, 1978) rather than the views of mainline curriculum theorists such as Stenhouse (1975) and Schwab (1962). In this sense, occupational curriculum development in Australia has chosen to rely on the efficacy of curriculum design systems to create usable products.

The Broderick Report described such systems as they operated at the administrative and managerial levels of TAFE in each Australian state. The final recommendations highlighted the importance of carrying out studies related to the curriculum implementation process. This recommendation was supported by Hermann (1982) who cited the need to identify factors that would lead to the effective implementation of TAFE curricula. These suggestions recognize that a knowledge of curriculum design processes should be supplemented in order to understand the complete context of occupational curriculum development.

The purpose of this paper, therefore, is to provide some indication of that context. In particular, it will examine the theoretical and conceptual issues related to curriculum implementation in TAFE and relate these to specific methodological approaches. In addition, it will describe a framework that can be used as the basis for the practical study of curriculum implementation in TAFE.

#### Curriculum Implementation: Securing User Compliance

The characterisation of occupational curriculum development as systems oriented taps only one dimension of the design process. A second dimension focuses on the actual location of curriculum development. Within the location dimension, occupational curriculum development can be described as external to the user. That is, curriculum is developed in a central location and disseminated for local use. In theoretical terms this approach has been described as the Research, Development and Diffusion (R,D&D) model (Havelock, 1971).

The R,D&D model has been used extensively and problems associated with it have been well documented (Stenhouse, 1975; MacDonald and Walker, 1976). In general, it has been argued that the most to be expected in using such a model is that curriculum will be adopted by the intended users. A decision to adopt, however, cannot be equated with a decision to use the curriculum and cannot be interpreted to mean that the adopted curriculum is in actual use. While the R&D components of the model ensure adherence to a systems oriented approach to curriculum development, developers have little control over their products once they are diffused into user systems.

Curriculum specialists have expended a great deal of time and energy in devising and seeking strategies to assist developers gain some control over the diffusion process so that their products will be used as originally designed. Communications theorists such as Rogers (1962), relying on an older tradition with its roots in rural sociology, seemed to provide an important clue by emphasising the importance of providing information to potential users concerning the product's main characteristics. The assumption was that the reception of such information would automatically lead to the appropriation of the new product on the part of users. Later writers such as Fullan (1972) also recognized the important role that users play, yet his emphasis differed. Whereas Rogers (1962) had viewed the user as a passive receptor of information, Fullan (1972) was more inclined to see the user as an active decision-maker. For him it was a matter of increasing the user's sense of efficacy over the environment and gradually expanding the user's role in the actual decision-making process.

The strategies suggested by the writers are similar in the way they emphasise the role of the user yet different in their views of the user: Roger's (1962) adopts a technological view while Fullan's (1972) is more humanistically oriented. In both cases, however, the aim is to secure the compliance of the user to the requirements of the innovation. This is done by the judicious selection of behavioural strategies. The strategies are determined by the view that is held of the user.

Some attention has been paid to assessing the effectiveness of these strategies in a large scale investigation carried out by the Rand Corporation (Berman and McLaughlin, 1978). In general, it was shown that when the user was viewed in a technological perspective and strategies such as outside consultants, packaged management approaches and one shot pre-implementation training were used effective implementation could not be guaranteed. On the other hand, when more humanistic approaches were used, for example, involving the user in decision-making, the level of implementation increased. The study indicated, however, that some kind of change to the received curriculum was almost inevitable: users will seek to change the curriculum just as the curriculum itself seeks to change the behaviour of the user. This process was labelled "mutual adaptation" and while it has been criticized recently (Crandall, 1983; Loucks, 1983) it provided an important conceptual framework for the study of implementation. The task of seeking user compliance proved difficult. More was obviously involved in curriculum implementation than the selection of appropriate strategies.

#### Curriculum Implementation and User Autonomy

The search for effective strategies to secure user compliance to the intentions of developers has masked the far deeper issue of user autonomy. Users are important not because they are amenable to change by a selected behavioural strategy, but because they inevitably imprint their own ideas, values, beliefs and understandings on the received curriculum. The concept of 'mutual adaptation' highlighted this point and confirmed an already existing trend to focus curriculum research on actual practice - on events that were taking place in schools and classrooms. This change in thinking about the nature of research interests gained impetus from a number of directions.

First, the curriculum reform movement of the 1950's and 60's stimulated interest in the process of change. Especially in the United States, and to a lesser extent in Great Britain and Australia, curriculum developers assumed that quality efforts in the design and dissemination of innovation would guarantee high use rates in schools. Seminal studies such as that of Fullan and Pomfret (1977), however, indicated that in many instances use rates for such products, at least in the United States, had been radically overestimated. Users had not succumbed to the glossy products of external developers.

Second, the problem of low usage of new curricula was highlighted by curriculum evaluators (Charters and Jones, 1973; Evans and Sheffler, 1976). As Kritek (1976) pointed out:

Evaluators (came) to realize that programs (could) not be faulted for failing to achieve intended outcomes if, in fact, they (had) not been successfully implemented. (p.87)

By the late 1970's such a view was commonly held (Hall and Loucks, 1977; Leithwood and Montgomery, 1980). The importance of studying curriculum implementation not so much in terms of strategies to be used in the process of implementation, but as the actual use of an innovation

or practice was accepted as a logical necessity if accurate measures of student learning were to be obtained.

Since that time, the study of curriculum implementation as the study of actual use has emerged as a discrete area of interest for curriculum specialists. The need to look "behind the classroom door", to tap the thoughts, ideas and feelings of teachers and students, to examine organizational procedures and constraints: all are viewed as important ways of providing key information about the characteristics of new programmes and curricula.

At the same time, attempts have been made to measure the degree of implementation in order to establish the relationship to student outcomes or staff development needs. It is not too much to assert that a curriculum implementation industry is in the process of being created - an industry focused on the actual practice and use of curricula.

A recognition of the importance of studying curriculum implementation has raised the question of appropriate methodologies. As with educational research in general, the literature provides no definitive answers, yet the exploration of alternatives will indicate the main directions that implementation research has taken.

#### Curriculum Implementation: Measured or Portrayed

In adopting a methodology for the study of curriculum implementation it is important to distinguish between means and ends. For example, if the developer aims to ensure full implementation of the product, the purpose for the implementation study will be to gather information that will indicate the actual level of implementation being achieved. A knowledge of this level can be used to improve the degree of implementation so that it more closely resembles designer specifications. Viewed in this way, the study of implementation is a means to an end. It places emphasis on the fidelity of users in conforming to pre-specified goals.

Different methods have been suggested for measuring user fidelity in relation to an innovation. Hall and Loucks (1977) identified six levels of use describing the potential behaviour of users ranging from non-use of an innovation through to renewal. The Levels of Use (LoU) model uses a structured interview technique with users. The main characteristics of the innovation are pre-specified and the results of the interview enable actual use to be compared with ideal use. The results of such interviews can be used to conduct staff development programmes to secure higher degrees of fidelity to the innovation's main characteristics.

Matrix sampling has been suggested as another approach to measuring implementation (Newfield, 1980). He recommends that the recurring characteristics of a programme be generated in such a way that they reflect items describing the behaviours of users implementing the programme. This results in a large item domain requiring dichotomous responses that can be statistically analysed. He recommends the use of self-report techniques such as questionnaires and log sheets while acknowledging the limitations of such data gathering instruments. The overall results of this technique would be relevant to a range of decision-making situations including programme refinements and staff development.

These are but two examples of measurement approaches to implementation. They share a common concern with ends rather than means, with developer intentions rather than user responses and rely on an assessment of the behavioural characteristics that users display in relation to the innovation. In addition they rely on self-reported data and quantitative approaches to the analysis of that data. These attempts to measure curriculum implementation are firmly rooted in the traditions of educational positivistic research.

An alternative to the measurement of implementation have been attempts to portray it within a particular context rather than as a comparison with a pre-defined ideal. This alternative methodology provides a description of the interaction of the innovation within the educational context. Attention is focussed on the reality of the situation and it is acknowledged that implementation has unlimited variations and these variations should be welcomed and encouraged. This approach is favoured by curriculum researchers who believe that it is undesirable and misleading to predetermine implementation. Rather, their intention is to provide explanations of the complexities of implementation, thus promoting greater understanding of curriculum change. In order to portray or describe the implementation, data are usually gathered by direct observation, unstructured interviews, questionnaires and document analysis. These different sources of data can be used to cross-check findings and establish the patterns of the study. It

is the complex nature of the implementation process that is of most concern to persons seeking to portray rather than measure what has actually happened.

As evidence of the further influence evaluators have had on the study of implementation, the work of people such as Parlett and Hamilton (1977), MacDonald (1977) and Becher and Maclure (1978) has been important. The emphasis on contexts, on illumination and on the dynamics of the classroom process extended evaluation methodology to concentrate on actual practice rather than pre-determined outcomes. In portraying what actually happened, implementation studies evolved as an end in themselves rather than as a means to an end.

Implementation studies in this genre are few, yet a number of have appeared as the product of academic study. Elliott (1980) attempted to portray the implementation of Social Education Materials Project (SEMP) materials across selected school sites in Victoria. Using ethnographic techniques, he was able to describe how the materials were actually being used in classrooms by teachers and students and compared that use to the developer's intended use. In a similar manner, Patterson (1982) reported on the implementation of the Arthritis Education Programme in selected primary and secondary schools in Western Australia. Using direct observation and informal interviews, she prepared case studies of each teacher's use of the materials within their particular classroom settings. The purpose of both Elliott's and Patterson's studies was to provide a picture of what was happening in classrooms. The process of curriculum implementation was simply portrayed - a photographic process that captured actual practice at one point in time.

The decision to use either a measurement or a portrayal approach to the study of implementation is determined to some extent by the intentions of the designers for their materials and the purposes for which the study is being conducted. In the end, it seems clear that multi-methodological approaches to the study of curriculum implementation will recommend themselves to researchers.

#### Curriculum Implementation: Translation from the Ideal to the Formal

The bulk of curriculum implementation research has been concerned with the interaction of users, products and environments. Goodlad (1979), however, has raised another issue. To what extent do curriculum materials accurately represent the intentions of designers? He has distinguished between the ideal and the formal level of materials. The former represents the philosophical intentions of the designers, while the latter represents the actual materials that have been produced. A recent empirical study by Sabar (1983) has indicated that significant gaps can occur in the translation from the ideal to the formal. The importance of this finding is that when teachers make changes to materials they may not be disagreeing with the philosophical intentions of the designers, but with those intentions as they have been embodied in the materials themselves.

An example from some local materials will help explain this point. Both the designers and the promoters of the South Australian Multicultural Education Materials intended that they should be used to highlight the cross-cultural aspect of multicultural education. Yet reports from teachers show that this is rarely done. Instead, the materials are generally used to highlight single rather than multiple cultures. Does this represent a philosophical difference between teachers and designers leading them to change the thrust of the materials? Some information provided by one of the designers suggests this is not the case. In a personal communication it was indicated that the one area over which the design team had no control was the actual packaging of the materials. An examination of the way the materials are packaged indicates that the intentions of the designers have not been incorporated. Rather, the packaging itself suggests the utility of using the materials in a mono-cultural way since individual countries are packaged together and physically separated from each other. While teachers' actions were congruent with the nature of the materials, the materials themselves were not congruent with the intentions of the designers.

In a sense, this represents yet another type of implementation problem that deserves further study. It raises the important question of the best sources of information concerning the main features of the innovation or practice under study. If the designers of the innovation are to provide the information, then some attempts should also be made to ensure that what the

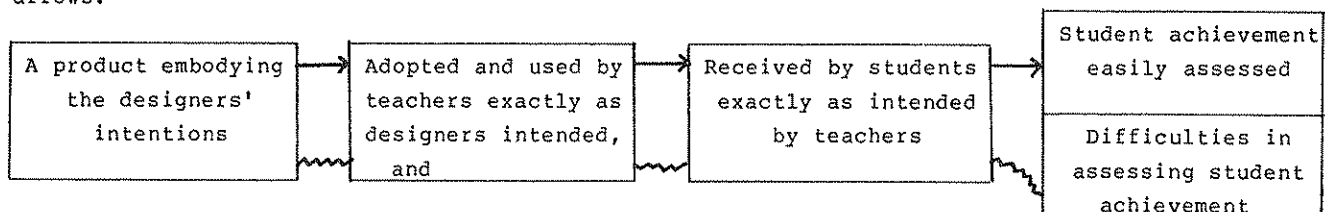
designers envisaged was actually translated into the format of the materials. This is particularly important with a discrete item such as a set of curriculum materials.

Curriculum Implementation: Framework for a Research Study

The study of implementation is perhaps best conceptualized as the study of actualities - the extent to which the intentions of those concerned with the product are translated into practice. The questions of importance to any study of curriculum implementation are:

- What were the intentions of the designers for the materials?
- Were these intentions embodied in the materials?
- What were the intentions of the teachers for the materials?
- Were these intentions translated into practice?
- What were the intentions of students in relation to learning from these materials?

Each of these questions is directly relevant to making accurate assessments of the impact on student learning. Answers to these questions will reveal the modifications that actual practice has made on either the product, the teacher or the student. The most orderly sequence of events around which these questions are posed is represented in the following diagram by the unbroken arrows:



The broken lines, however, represent dysfunctions indicating that the rational assumptions of the process may be violated. This inevitably results in the introduction of new variables. Some knowledge of these is essential if outcomes are to be accurately attributed to inputs. It is this concern, a concern with what actually happens, that characterizes curriculum implementation research.

Implementation research has been conducted with a range of methodologies. The selection of an appropriate methodology depends on the purpose for which the study is being conducted. A case study approach concentrating on a single classroom will yield rich information about the implementation context. Yet the generalizability of the results will be limited. On the other hand, multisite studies can be conducted in an attempt to broaden the sample and hence increase generalizability. Yet the reduction of the data from a multisite study will inevitably result in the reduction of the observed variance. It is just such variance, however, that holds interest for the implementation researcher. To remove the variance from an implementation study, is to remove the very reason for conducting the study.

Multimethodological studies will be useful in attempting to overcome these problems. Large scale studies using necessarily imprecise data collection techniques (e.g. questionnaires, surveys) need to be supplemented by field work including interviews and observation. Great care needs to be taken in reducing such data so that the essential implementation characteristics are maintained.

To date, such methods have proven useful although results have not always been consistent (Loucks, 1983). Yet as the technology of implementation research is improved, greater consistency can be expected. We are at the beginning of our understanding concerning the phenomenon of implementation - we need to explore appropriate methodologies that will reveal the complexity of the interactions between designers, products, teachers and students. The results may not be instant or in the format to which we are accustomed. Nevertheless, to gain some insight into what actually happens to TAFE curricula in college contexts will represent an important step forward in our understanding of the curriculum process and its impact on students.

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