A CASE STUDY OF THE USE OF CLOSED CIRCUIT TELEVISION IN PRE-SERVICE TEACHER EDUCATION

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A thesis presented in partial fulfilment of the requirements for the degree of Master of Arts in Education at Massey University.

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1974

Abstract

Faced with the general problem that there can be 'adoption' of an innovation without its effecting intended changes, the ultimate interest of this study is to make some contributions towards facilitating the implementation of educational innovation. The research involves a case study of the use of closed circuit television in pre-service teacher education as an innovation at the primary division of the Christchurch Teachers' College. It first investigates the severity of problems experienced by regular and non-regular users (or which have led to the non-usage of the innovation). Secondly, it examines the perceived relevance of a list of variables which have been proposed in the literature as influencing the process of change and adoption. Relevance in this study is considered in relation to perceptions of the innovation in an organizational setting.

The participants for the study consisted of a defined population of the lecturing staff. This population was selected on the basis that they were full-time, had been on the staff since the introduction of CCTV at the College, and were in regular attendance during the academic terms. Reference to the record of bookings made for use of the equipment revealed data to determine the 28 users as being 13 non-regular and 15 regular users, as distinct from the 15 non-users. These three groups provided the information sought. The information was obtained by means of a semi-structured interview schedule and the use of two separate questionnaires.

The first questionnaire was intended to elicit a measure of the extent to which problems were experienced by the regular, non-regular and non-users in relation to CCTV. As a preliminary to this questionnaire, a semi-structured interview was used to identify the difficulties or problems which had been experienced. The list of

problems thus obtained formed the context for the questionnaire 1.

The second questionnaire contained a list of 25 variables. These represented concepts drawn from the literature where it was suggested that they influenced change and the adoption of an innovation. The participants were required to rate each of the variables on the extent to which they perceived their relevance in relation to the use of CCTV by the staff as a whole.

A four-point rating scale (i.e. Great Deal, Much, Not Very Much, and None) was used to obtain the responses in both questionnaires. Descriptive statistical procedures involving means and standard deviations were used to analyze the data, in accordance with the aims of the study.

The findings were used to identify the particular problems that could be anticipated so that they might be obviated before they became dominating and hindered adoption. The findings also showed that the problems were on the whole not severe. The variables in Questionnaire 2 generally were seen to be relevant to the case study. Those variables which were relatively outstanding over the others were examined. It appears likely that they have influenced adoption. It was concluded that the problems experienced were of a relatively minor nature.

It is suggested that the procedures used in the study do go some way towards identifying both difficulties and facilitating factors. These procedures may be of some use as one aspect of evaluation for change agents, for administrators or for other personnel concerned with change and adoption.

Acknowledgements

I wish to thank Professor C.G.N.Hill for his guidance and approval of this research.

To Mr E.L.Archer, I wish to acknowledge my great indebtedness and gratitude for his advice and supervision throughout the course of my work.

To the staff of the Christchurch Teachers' College, I owe an immeasurable debt of thanks. Their kind participation, co-operation and goodwill has enabled this research to be carried out. In particular, my sincere thanks go to Mr C.J.Wright, who has been of tremendous help and guidance in many ways.

To Professor P.J.Lawrence, University of Canterbury, who has kindly assisted me with relevant contacts when I arrived in Christchurch, I also express thanks.

I am grateful to my husband, Mr J. Chow, and my parents, Mr and Mrs S.M.Low, for their support and encouragement. To Joe, especially, for his understanding and patience I express my gratitude.

Finally, I thank Mary Sorongan, whose commendably efficient typing has facilitated the completion of my work.

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CHAPTER I

- Introduction -

The Problem

General

Innovation and its process have been the focus of increasing interest in recent years. During this period change in education appears to be related to prevailing and endemic changes in the technological and social world. It may be assumed that innovations are necessary if educational organizations are to meet the burgeoning challenges generated by current change and development.

Faced with both the prospect and need for significant change educators have advanced several different kinds of hypotheses to explain and predict the effects of innovations. They have also employed various strategies designed to bring these about. Massive inputs of resources have been geared to achieving intended ends. Yet, despite numerous adoptions, evaluation studies have indicated that such efforts have in general been less than successful. Few significant additional changes, corresponding to the intended consequence of the innovation, have in fact been effected, (Abbot and Eidell, 1970; Carlson, 1965; Fullan, 1972; Goodlad et al, 1970; Gross et al, 1971; Heathers, 1972; Martin & Harrison, 1972; Sarason, 1971; Smith and Keith, 1971).

Gross et al, (1971) examined the educational literature on the implementation of organizational innovations. He concluded that user resistance to change was the major explanation for the apparent lack of implementation. There may be, however, a number of underlying implications. For example, resistance may reflect uncertainty on the part of the users about their ability to play new roles. (Fullan, 1972). Or when change involves a rearrangement of patterns of power, association, status, skills and values in the organization (Bennis, 1966), it may be seen as a threat to the prerogatives of those established in the organization and therefore resisted. In any case, in recent years, a number of variables have been suggested as contributing to or inhibiting adoption in education. These variables have been seen to include the

attributes of the innovation (e.g. Brickell, 1969; Chin, 1967; Katz, Levin and Hamilton, 1963; Rogers and Shoemaker, 1971; the strategies of change (Bennis, Benne, and Chin, 1969; Havelock, 1969; Maguire, 1970; Miles, 1964); the organizational setting (Halpin, 1967; Jones, 1969; Miles, 1965); and an individual's perception (Barnett, 1953; Foster, 1969; Hilfiker, 1969; Rogers, 1962).

Miles, (1964) suggests that change is difficult for permanent systems, whether they be persons, groups or organizations. According to him the major portion of the available energy in a system is used in carrying out routine operations and in maintaining the existing relationships within the system. Consequently, the fraction of energy which is left over for matters of diagnosis, planning, innovation and growth is usually very small. Hoyle argues (1969) that a basic problem in education is that of 'tissue rejection' whereby an innovation, although formally adopted by a school, does not become an effectively functioning part of the system. In consequence, there can be no assurance that they will be adopted in more than a superficial manner (Huberman, 1973).

The hiatus between the inception of an innovation and its full implementation suggests that in future it may be necessary to plan greater emphasis on action research which has its focus on adoption.

Aims of the study

Insofar as there an be 'adoption' without effecting intended changes, it may be inferred that members of a given organization are not making use of the innovation to the extent that it becomes incorporated as an integral part of the system's programme. Thus, whether the individual members use the innovation regularly, non-regularly or do not use it at all may determine whether or not the innovation becomes an effectively functioning part of the system as a whole.

Within the context of an organization involving a specific innovation, a study of two aspects may provide useful information for both this system and for similar systems intending to plan for change. The two aspects are (a) the problems experienced with the usage (or which have led to the non-usage of the innovation); (b) perceptions of organizational responses to the innovation, in relation to a list of variables which have been proposed in the literature as influencing the process of change and adoption.

In any particular system it seems probable that there will be problems associated with change. Responses to problems of innovating may be expressed as human defences, as organizational constraints or as other means which can frustrate intentions to bring about change. On the other hand, as Gorton, (1971) indicated, although one should not assume that change will always be resisted, research and experience show that the change agent frequently has to face many obstacles. It seems reasonable to assume that as one becomes more involved with change, one encounters new difficulties or problems which were not experienced before. Thus, while some members may not be using an innovation due to some specific problems, regular and non-regular users may encounter problems of a different nature.

If these problems are left to become dominating factors the actual adoption of the innovation may subsequently be prevented.

Gross et al, (1971), had suggested the possibility that organizational members who were not initially resistant to change, may encounter a number of obstacles in their efforts to implement an innovation. Subsequently they could develop a negative attitude to change.

In planning to prevent or at best ameliorate such effects, and in the interest of economy, research priorities

would have to be established. Such priorities would specify the problems that needed researching, rather than being solely concerned with solutions thought to be desirable. By scrutinizing such problems, certain solutions might be found preferable to a particular one which was originally thought to be desirable.

Thus, in a specific case study, attention could be given to finding out the particular difficulties or problems experienced (a) by the regular and the non-regular users with their usage of the innovation; and (b) by the non-users and which may have discouraged or prevented its usage. Following this, the extent to which these problems were experienced needs to be studied.

From the information gained about the severity of each of the problems, it becomes feasible to identify those which have been experienced more severely than others. These problems operationally defined, would be those which are above the average scores of severity by the total sample and of any or all of the three groups of regular, non-regular, and non-users. Prior attention could then be given to studying these particular problems to permit their alleviation. Each problem could be treated in accordance with how severe it has been for the three groups respectively. To illustrate, assume that problem X is above the average severity score of the total sample. Further analysis may reveal that it is also above that of the non-users, but not of the other two groups. Subsequently, in any attempts to study this problem, reference needs to be made particularly to the non-users. This understanding would provide the basis on which the problems could be dealt with appropriately.

Just as problems can influence the extent to which the innovation is adopted in the particular system, so does it seem to be the case for a number of variables as suggested in the literature. Within an organizational framework these variables may be summed up as covering attributes of the innovation, strategies of change, organizational setting and human perception. It appears worthwhile to have a measure of the relevance of these aspects as perceived by

the regular, non-regular and non-users to the use of the innovation by the organizational members in general. As these variables have been presumed to influence change by aiding or hindering adoption, it becomes likely that they may also lead to some understanding in connection with the problems which were experienced.

If the problems were not found to be severe in general, a recognition of the variables which may have aided adoption, would provide valuable information, particularly for similar systems planning for change. On the other hand, if the problems were on the whole severe, then the variables which are believed to aid adoption, but are below the average scores of relevance would form the basis for follow-up studies. It is probable that study of these aspects may reveal some connection with the problems noted, and thus provide information which may aid in the alleviation of the problems.

An investigation of these aspects could lead to further research which could contribute towards increased understanding of the elements hindering or aiding adoption. This would then pave the way for facilitating the implementation of educational innovation.

In conclusion, the aims of this study may be summed up as follows:

(a) To find out the difficulties or problems experienced by:-
   1. the regular and non-regular users with their usage of the innovation;
   2. the non-users who may have been discouraged or prevented in its usage.

(b) To find out the extent to which the above problems were experienced, in their order of severity.

(c) To find out the problems which were above the average severity values of the total sample and of any of the three groups of regular, non-regular and non-users.

(d) To find out the extent to which the regular, non-regular and non-users perceive the relevance of a list of variables to usage of the innovation at the general organizational level.

(e) To find out the variables which are above the mean score of relevance of the total sample and of any of the three groups of regular, non-regular and non-users.

Definition of Terms -

An Innovation

For the purposes of this study, an innovations would be seen as a new product which involves the novel application of knowledge (relative to the people and their situation) to bring about deliberately some desired specific changes seen to be more efficacious in accomplishing the defined objective of the system. This definition indicates a concern with the aspect of adoption. It presupposes that a student teacher, administrator, or entire school, puts into operation a new tool which is distinctively different from any former application by the people in the particular situation. There is thus a concept of novelty and an element of deliberate planning or intention to achieve intended ends. The specific changes are desired as they are seen as improvements over present or past practices in attaining a higher level of achievement of the defined goals and objectives. The element of specificity implies that the change is not vague and diffused but defined and specific.

Regular and non-regular users

The regular users would be seen as the organizational members with above average hours of usage. The non-regular users would be seen as those with below average usage.

In the following chapters, a review of the literature is to be found in Chapter II. The background of the case study will be found in Chapter III. Chapter IV will deal with the research design. Chapter V will present an analysis of the data obtained. The final chapter will include the findings, discussions and conclusions.