

Research in Canadian Teacher Education: Promises and Problems

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The authors critically review reported research in Canadian teacher education to identify areas where research has been conducted and to offer suggestions for improvement. The bulk of the 102 research papers reviewed dealt with the practicum, student characteristics, or program effectiveness. In these areas a wide range of topics were covered with little replication. An empirical-analytic paradigm was the most commonly used methodological approach. The authors conclude that future research requires focused thrusts to understand better the context of teacher education, the options open to planners, and the conceptualizations that drive teacher preparation. For this, a more liberal methodological approach is required, and the concept of what constitutes research must be broadened.

Les auteurs font une revue critique de divers travaux de recherche sur la formation des maîtres au Canada dans le but d'identifier les secteurs où des études ont été réalisées et de suggérer de nouvelles avenues de recherche. Les 102 travaux de recherche passés en revue traitaient, dans l'ensemble, de la pratique de l'enseignement, des caractéristiques de l'étudiant et de l'efficacité des programmes. Dans ces domaines, un large éventail de sujets a été couvert, avec très peu de chevauchements. L'approche méthodologique généralement utilisée a été un paradigme empiriques-analytique. Les auteurs concluent que les recherches futures devront mettre l'accent sur le contexte de la formation des maîtres, les choix qui s'offrent aux planificateurs et les concepts qui guident la préparation des enseignants. Pour cela, il faudra une approche méthodologique plus libérale; il faudra également élargir le concept de la recherche.

INTRODUCTION

Interest in research in Canadian teacher education has been reflected by a number of recent developments. First, the Social Sciences and Humanities Research Council has released a position statement on research in teacher education describing the state of the art and recommending areas of priority (Hersom, Birch, & Gaskell, 1982). Second, individuals and groups interested in such research have emerged at several institutions, and centres have been established at the University of British Columbia and the University of Regina.² Third, the Canadian Association of Teachers Educators (CATE) in cooperation with the Faculty of Education at the University of British Columbia sponsored an invitational conference on teacher education research prior to the 1983 annual meetings of

the Canadian Society for Study in Education (CSSE).³ It seems timely, then, to report the results of a comprehensive review of research in Canadian teacher education, conducted as part of a 3-year Canada-wide study of anglophone Faculties of Education.⁴ This paper describes and assesses research in teacher education conducted in Canada over the past 15 years and identifies substantive and methodological priorities for improving its quality.

As Hamilton (1975) recently pointed out, two broad strategies are open to any reviewer undertaking a review. One, a product-centred approach, aims at providing an extensive account of what has been done, as the anthropologist would do who sets out "... to unearth the totality of cultural artifacts embedded in a bygone age" (p. 318). The other, a process approach, focuses on the conduct of the research itself and seeks to characterize its underpinnings and directions. Because there had been no earlier extensive review of Canadian teacher education research, this review began with the former strategy, attempting to locate and categorize every piece of research we could find in the area. It soon became evident, however, that the latter strategy was necessary to identify future needs. Thus, this review represents both strategies. After outlining assumptions and procedures employed for reviewing the research, we then discuss its general characteristics and summarize its methodological approaches. We next report the conceptual findings and conclude with our perspectives on how the conduct of research might be improved to better inform teacher education.

ASSUMPTIONS AND PROCEDURES

A fundamental assumption underlying a review of this type which draws together research findings and comments on them is that it will stimulate interest and collaboration among researchers in the area and provide a basis for further research. A further assumption is that teacher education represents a field of endeavour having its own set of characteristics and problems distinguishing it from the schools for which it prepares teachers, the university in which it is housed, and the departments of education or higher education to which it is accountable. Research and development activities in other fields in education do not necessarily inform teacher education per se. While they may be used by faculties of education in planning their programs, they do not resolve the essential problems faced by those preparing teachers. We return to this issue later.

All Canadian journals of education were surveyed to locate reports of research studies in Canada which focused on teacher education. The *Alberta Journal of Educational Research* and the *Canadian Journal of*

Education provided the majority of published studies. ERIC searches and a review of American journals proved relatively unproductive. The 49 teacher training institutions in Canada were also contacted to request information on research activities, and replies from 15 institutions provided both published and unpublished reports. The most effective means of accessing unpublished documents proved to be personal contact and attendance at conferences by members of the research team.

This review was limited to research in preservice teacher education conducted in Canada. However, to provide benchmarks for comparative purposes, we refer throughout this paper to reviews of research conducted in other countries. The review was limited to reports in which data had been collected, analyzed, and interpreted. This excluded papers of a prescriptive and philosophical nature. In limiting the review to the preservice training of teachers, we excluded literature dealing with inservice education and the recent work in teacher effectiveness. While such research is important for teacher preparation, it has been reviewed extensively elsewhere.

From this process, we located 146 documents of which 102 met the criteria and were examined as part of a general review of research in teacher education (see note 4). These studies fell into several categories including selection variables (11%), training variables (67%), placement variables (4%), work success (19%), and other areas (8%).⁵ Within the category of training variables, many studies focused on the extended practicum and, in particular, its effect on the anxiety level and self-concept of teachers.

Context for the Review

Teacher education in Canada is characterized by diversity. Programs differ widely from one institution to the next and, in some cases, within institutions. Moreover, the landscape is constantly shifting as new programs are planned or introduced. While it might be argued that such change is more apparent than real, this is not an issue in this paper. The fact remains that program variety and ongoing changes provide a diverse context to interpret research findings.

Broadly speaking, two types of programs in Canada were being examined in the research reviewed. On the one hand, most provinces have some form of one-year (or one-year equivalent) program in which education courses are interspersed with one or more short practice teaching periods. Course work and the practicum are more or less separate, with little attempt to relate campus activity to the school experience. Patterson (1984) recently pointed out that such programs are

very similar to the teacher's college or normal school concept. On the other hand, in almost every province examples exist of alternative thrusts which provide a more extensive field experience and innovative approaches to course work (Ellis, 1968; Michelson & Pearce, 1976; Overing, 1973). In addition, in many institutions, smaller innovations have occurred which typically are directed toward a closer relationship between and an integration of campus input and school experience (Holborn, 1983).

Research Methodologies

Research findings are meaningful only in the context of the methodologies which produced them. In our review, we asked three questions: what methodological approaches are predominant, how well do individual studies comply with acceptable methodological techniques, and to what extent are areas saturated by study and replication?

The predominant methodological approach was what Popkewitz, Tabachnick, and Zeichner (1979) termed an empirical-analytical paradigm in which isolated variables were examined, sometimes without reference to a broader context. The use of questionnaires was quite common, but little true experimental work was reported. The methodological adequacy of individual studies varied considerably; particular strengths and weaknesses will be addressed in the following sections which deal with the content and findings of the research. In general, we found most studies adequate to provide insights into various aspects of program planning. Certainly they raise issues concerning decisions about the training of teachers. However, the question of saturation and replication within areas was seen to be particularly problematic. This stemmed partly from the origins and purposes of the studies, which seemed to fall into three groups. The first included provincial and national surveys conducted by individuals or provincial teacher organizations. While such studies provided highly interesting and useful information, they were rarely replicated across time or across institutions. The second group of studies originated within institutions from faculty members and graduate students. These are among the most rigorously designed and best planned of those reviewed. While some replication did occur, the areas of study were far from saturated. The third group of studies arose from program evaluation procedures conducted within institutions. Thirty-seven evaluation reports were read for this review. Because the bulk of these aimed at solving specific problems within faculties, little of a generalizable nature resulted from most reports. However, information which appeared of interest to a wider audience was

contained in the 11 reports cited in this review. The findings reported in the section that follows must be interpreted in the light of these observations.

CONTENT AND FINDINGS

The studies were characterized first by diversity of content and findings. A wide range of unrelated topics had been pursued, with infrequent reference to other studies of teacher education in Canada. Therefore, categorization was difficult and sometimes arbitrary, especially in the early stages of this review. However, the bulk of these reports addressed three content areas: characteristics of students, the practicum, and program effectiveness. These three areas will be discussed in that order. Later, reference will be made to other areas which were totally ignored or where only one or two studies were identified.

Characteristics of Students who Enter Teaching

Six studies provided information about the students who choose to become teachers. Why those students select teaching as their profession was the subject of a study conducted by Neufeld (1974) using students from the University of Saskatchewan in his sample. The highest ranking motives were the opportunities to work with children in the case of prospective elementary teachers and to work with subject matter in the case of prospective secondary teachers. Prestige, high salary, and advancement were less important. Similar results with regard to the split between this learner orientation and the subject orientation were obtained at the University of Toronto (Martin, Isherwood, & Rapagna, 1978) and in the University of Calgary evaluation data (Unrah, 1981). Unrah also found that most education students reported having enjoyed their previous school experience. Thus, it is not surprising that Sedgewick, Hill, and Russell (1980) found that students possess many values and attitudes of practicing classroom teachers, a fact which the authors attributed to students' experiences with those teachers.

Only one study was identified which sought to examine a full range of characteristics regarding the students in the Faculty of Education. This was conducted at Lethbridge by Dravland and Greene (1979) who drew on the extensive QUALTEP⁶ data bank. They found no differences between students entering teaching and those entering other faculties with regard to sex, age, or GPA. However, students entering education were found more susceptible to guilt and conservatism than their counterparts entering other faculties. A higher proportion of males than

females entering teaching held degrees. The Lethbridge study also showed that males entering the Faculty of Education tended to be more conscientious, to be more group dependent (as opposed to self-sufficient), and to have a higher self-concept than males entering other faculties. The demographic picture of students entering the profession has not been examined extensively. Bessai and Edmonds conducted a nation-wide study in 1977 which provided some demographic data from eight representative institutions. They found the proportion of females to males to be 60:40, with 70% of the sample being 20 to 25 years old.

The Practicum

The student teaching experience is an important component of teacher preparation. All Canadian programs include some form of practicum, ranging from two 3-week experiences during a professional year to 1½ semesters. Recently, a number of alternatives have been initiated which attempt to integrate on-campus input and school experience (Holborn, 1983; Overing, 1973; Worthen, Owens, & Anderson, 1975). Exploratory field experiences (classroom experiences preceding a practicum) existed in 23 of 42 institutions surveyed by Twa and Dung (1981). According to their study, these experiences varied in purpose from use as a screening device to providing a link between theory and practice.

Increasing emphasis on the practicum has been questioned by Covert and Clifton (1979) who reviewed the research on practice teaching. They found limited empirical evidence to support the value of the extended practicum particularly in the development of beginning teachers' attitudes and values. Despite appeals for more empirical studies in this area (Allen, 1973), to date there is surprisingly little documentation of what actually occurs during the practicum experience. The research studies located during our review took three perspectives on the practicum: the students' perception of what is involved in the experience and what changes are needed, the cooperating teachers' role, and the effects of the practicum on various student teacher outcomes.

The nature of the practicum: Student viewpoints

The most prevalent means of examining the practicum and determining how it might be improved has been to ask student teachers. One national survey (Bessai & Edmonds, 1977), four studies conducted within institutions (Housego & Boldt, 1980; Martin, Sheehan, & Anderson, 1978; Ratsoy, Babcock, & Caldwell, 1978; Wideen, 1973a; 1973b), and one in-depth analysis of students' reflective essays (Sanders, Andresino,

Isaacs, & Irvine, undated) provide, for 11 institutions across Canada, a basis of student opinion from which some inferences about the experience can be drawn.

The Bessai and Edmonds study surveyed 907 students in eight faculties of education. In addition to providing valuable demographic data, the study reported on the learning experiences of the students preparing for the practicum and on the evaluation of student teaching. Despite rating instruction in disciplinary methods as essential, less than half the students had received instruction in that area. Preparatory course work focused on methodology and human development, with much less emphasis on classroom evaluation and micro-teaching. Students also reported that their evaluation during student teaching was carried out primarily by supervising teachers, next by faculty members, and third through self-evaluation. The predominant criteria for such evaluation were the students' relationships with pupils, their ability to arouse and sustain interest, and their energy and enthusiasm.

In the survey conducted at the University of Edmonton by Ratsoy and his coworkers, 206 students in three practicum areas responded to an evaluation questionnaire administered at the completion of the practicum. This survey covered a range of variables and led the evaluation team to identify seven issues for discussion within that institution. Two outcomes, length of the practicum and preparation for teaching, are of interest in this review. The majority of students, particularly those in the elementary program, found the three-week practicum too short and favored a lengthier 10-week duration with some portion occurring in each of the four years of the B.Ed. program. Students in all practicum areas perceived themselves as only moderately well prepared, a view confirmed by supervising teachers and faculty supervisors. Students also wished to have more time free from evaluation.

The first year assessment conducted by Martin, Sheehan, and Anderson at the University of Toronto supports some of the findings cited from the two previous surveys. In this study, a project designed to improve the effectiveness of the student teaching experience was evaluated following each of the fall four-week and the spring two-week practica. A random sample was drawn from the regular program to serve as a comparison. Students in both groups perceived the practicum experience as helping them to identify with the teacher's role and to gain a sense of belonging more than to learn the dimensions of teaching or to rehearse the teacher's role. The most frequent suggestions for improving the practicum were having more of the total program time devoted to student teaching, a more careful screening of school associates, and more evaluation-free time.

Another view of student teachers' priorities is provided by Housego and Boldt (1980) who studied an innovative program at the University of British Columbia. They found that students assigned the highest priority in student teaching to behaviours related to direct and positive interactions with pupils and the lowest priority to organizational and administrative behaviours. However, the nature and expectations of the innovative program may have influenced students' priorities in this case.

Selected results from a questionnaire administered to 362 elementary and secondary students who had completed their first six weeks of the practicum at Simon Fraser are also of interest to us in this review (Wideen). Students felt a lack of clarity regarding their evaluation procedures, questioned the expertise of their school associates, and identified "learning to communicate with children" as the most valuable asset to their practicum experience.

Sanders, Andresino, Isaacs, and Irvine, at the University of Western Ontario, conducted a content analysis of the reflective essays of 97 students (13% of cross-section of the student body) near the end of their one-year program. The authors expressed some surprise at the highly negative tone of the data. Over one third were highly dissatisfied with the practicum. The dual role of the student teacher and the sense of gamesmanship which existed were at the centre of this criticism. Students reported that the courses preparing them for the practicum were taught by faculty who did not practice what they preached and who provided courses that lacked challenge.

What might be said about the practicum, then, on the basis of students' perceptions? First, students view practice teaching as an opportunity to adapt to the role of the teacher. They also place considerable importance on learning to interact with children, seeing the main criterion of success as the demonstration of interest and enthusiasm. In terms of improving the practicum, better selection and preparation of school associates were identified in most studies. Students in six-week classroom experiences recommend a lengthening of the practicum period and more time free from performance evaluation in the classroom.

The role of the co-operating teacher

The importance of the supervising teacher in the student teaching triad is evidenced by the abundance of proposals for improving that role,⁷ the views expressed by students, and the increasing research interest in that role. Many of the studies reviewed in the previous section contain data pertaining to the role of the supervising teacher. The results from these studies indicate that the role is poorly defined, that co-operating teachers

feel unprepared for their supervisory responsibilities, and that they seek more input into the planning process (Holborn, 1978; Ratsoy, Babcock, & Caldwell, 1978; Wideen, 1973).

The supervisory assistance provided to co-operating teachers has received a great deal of attention in research and evaluation, particularly within individual institutions. At the University of Alberta, nine studies have been conducted to investigate the impact of inservice workshops to assist teachers in the supervision process. Sloan (1981) recently summarized both the provision and effects of this activity. In response to the findings noted earlier that considerable confusion existed among supervising teachers regarding their role, the faculty provided, over a four-year period, a co-operating teacher workshop program which was well attended. The findings from a rather extensive evaluation of this program included questionnaire and interview data and indicated that teachers perceived the workshops to be highly beneficial in clarifying their role and in providing skills to work better with students. Teachers also felt the need for a continuing program. Similar responses have been reported by Holborn (1978), who summarized a study conducted by the Manitoba Teachers' Society, and by Richards and Stinson (1975), who conducted a study of internships in Saskatchewan. In the needs-assessment survey reported by Holborn, co-operating teachers requested that student evaluation procedures be included in training workshops. Thus, wherever teachers have been surveyed regarding the provision of workshops on supervision, they have responded positively. The question of the impact of such workshops on the supervisory process and the implementation of the particular skills learned was the subject of four studies and one summary evaluation report.

Three of the studies showed positive effects from supervisory training. Mokosch (1979) and a team at the University of Lethbridge assessed the extended practicum, including the role of seconded teachers as supervisors. They concluded that supervisory training did have positive effects although the nature of the training and its precise effects were not included in their report. The question of whether specific training in supervisory skills for co-operating teachers affects their students was pursued by Martin, Isherwood, and Rapagna (1978). They studied the impact of direct and indirect verbal supervisory styles on open- and closed-minded student teachers. Both styles of supervision effected change in students' behaviours in the expected directions when compared to a control group, but there were no differences in effects between the two treatment groups. Hill (1977) examined the effects of communication skills and supervisory training given to both student interns and supervising teachers on teaching behaviour during an internship program at the

University of Saskatchewan. Fifty-six interns with degrees enrolled in their first year in education were studied, using a posttest-only control group design. Hill found the communication skills and supervisory techniques developed during laboratory training to be in evidence six weeks after training. Thus, tentatively at least, it appears that training in supervision can have impact on teachers in their supervisory role.

The extent to which a training model is implemented by teachers was the subject of a summary report prepared by Marble (1981). This report incorporated data from surveys, interviews, and observations conducted at Simon Fraser University, where training in clinical supervision has been provided for several years. Marble analyzed the implementation of each phase of the supervisory cycle: pre-conference, observation, data analysis, and post-conference. He reported that the pre-conference phase most frequently identified sequencing, questioning, and lesson pacing as foci for observation. In the extended practicum of 13 weeks, classroom management took priority at the stage when students assumed the majority of responsibility for classroom. Cooperating teachers observed students' entire lessons in only 39% of their observations, and objective data were typically recorded in the form of brief notes. The analysis stage of the supervisory cycle was frequently omitted although some form of post-conference was invariably held.

Data on the implementation of supervisory training vary in their support for training programs. Some of this variability in results undoubtedly arises from the different methods of supervision that serve as the basis for training. The difficulties encountered in implementing such models is also due to the different expectations held by cooperating teachers and university sponsor-teachers. For instance, Perfrement and Sigurdson (1978) reported on a study in which they found that teachers simply did not use clinical supervision methods even after extensive training. Consequently, they are currently developing an alternative model of "consultative" supervision which incorporates and legitimizes activities in which teachers seem to engage more naturally such as informal discussion and modeling activities. In discussing his own experience in supervising teachers, Olsen (1980) contends that cooperating teachers most frequently take a global or "friend in the audience" view when evaluating student teachers. This conflicts with the university expectation of an analysis of specific elements of performance, an analysis which resembles more the view of a critic. While Olsen's work was based on a limited sample of teachers in only one institution, it does support the experience of other researchers and points towards an area of conflict between the sets of expectations of the supervising teacher and the university supervisor.

The effects of association with a university on the professional growth of co-operating teachers was the focus of a study at York University by Wideen and Hopkins (1984). They identified three factors which appeared to maximize professional growth among teachers: involvement, philosophical compatibility, and source of influence. Student teachers were found to be a powerful source of influence. But the study did not necessarily support the commonly held myth that teachers grow professionally during their association with a Faculty of Education. For many teachers, it appeared that supervision of students was simply a chore to be endured. At Simon Fraser University, a team of interviewers questioned 81 co-operating teachers about the effect of the student teaching program on their professional growth (Terry, 1980). For most, the contact with students bringing fresh ideas and the necessity to be more self-analytical in their own teaching were the most influential factors. Supervisory training and other in-service rated poorly by comparison.

In summary, it appears that a lack of clarity exists regarding the role of the supervising teacher. Where supervisory training has been provided, teachers have found it useful. In all but one of the studies reviewed, such training appeared to have an impact on the supervisory process. While some of the elements of that training have been found to be in evidence in the classroom, implementation is somewhat limited. Cooperating teachers see the student as a more important influence in terms of affecting their professional development than other sources such as the principal, university supervisor, or various inservice activities.

Effects of the practicum on students

Research aimed at determining the effect of the practicum on the student teacher has focused largely on measures of self-concept, motivation for teaching, professional attitudes, and the reduction of anxiety. The results from clusters of studies conducted at Memorial and Simon Fraser suggest that, while the length of the practicum is important, a longer period of student teaching is insufficient by itself to produce higher levels of motivation and self-concept and lower levels of anxiety among student teachers. Certain types of programs are more conducive to affecting desired changes, and these can only be accomplished in longer practicum teaching periods. Thus, a longer period of student teaching combined with specific program characteristics is apparently needed for significant change in these attributes.

Clifton and Covert have investigated changes in self-concept and the development of professional dispositions among student teachers in several practicum situations (Clifton & Covert, 1977, 1980; Covert &

Clifton, 1979). Their early study (1977) suggested that students' self-concepts and professional attitudes were more positive at the conclusion of an experimental program in which efforts were made to balance theory and practice than in a regular program which acted as a control. Both were short-term classroom experiences. However, in their second study (1980), they compared students in two extended practicum situations with a control group having only two weeks of student teaching and found no significant differences in self-concept, motivation, or attitude to teaching as a result of the longer practicum. They concluded that a number of factors within the practicum such as the discrepancy between students' ideals and the reality of teaching, the lack of legitimacy in a student teacher's role, and the rituals of socialization into teaching may work against many of the goals of an extended practicum.

At Simon Fraser University, where student teachers spend one-half of their professional year in the school, a gradual introduction to full-time teaching and support from selected and trained personnel have been used to minimize the negative effects of the practicum (Allen, 1973; Tattersall, 1979). While a variety of studies have been conducted in that institution examining the practicum, only three which address attitudes, self-concept, and anxiety will be reviewed here. Gregory and Allen (1978) assessed the changes in student-teacher self-concept and anxiety in three student teaching situations: an initial six-week practicum, a practicum having combined on-campus and off-campus experiences, and an extended 13-week teaching experience. They found positive gains on pre- and post-test measures with some fluctuation in between. They concluded that the overall positive results were due to the length of the continued practice under conditions of high level support. Similar results were obtained by Kaufman and Shapson (1981) using comparable instruments and students from the same program.

A third investigation by Tattersall (1979) sought to identify patterns of change in student-teacher anxiety and self-concept over the course of the extended or 13-week practicum. Measures were taken at the beginning of the semester and again at weeks 3, 6, 9, and 12. The randomly-selected groups ($N = 195$) totalled 60% of the students in the professional development extended practicum at the time. While the results supported previous studies in terms of maintained or improved self-concept from pre-test to week 12, they also revealed striking fluctuations within the practicum. For instance, anxiety declined during the early weeks from a high point at pre-test, but rose markedly at the mid-point when self-concept was lowest. Steady improvement occurred only during the latter half of the practicum. Tattersall concluded that:

It does seem clear that had the practicum ended after three weeks, the student teachers, as a group, would have left the classroom less anxious and ... with their ideal of personal orderliness more visionary. Unfortunately, their lowered teaching anxiety may have resulted in false feelings of security and achievement as they had not yet faced the challenges, traumas and attendant responsibilities and demands of full-time teaching. Results from this study suggest that it takes a minimum of approximately nine weeks for student-teachers to achieve what may be durable and desirable decrements in teaching anxiety, and twelve weeks for positive trends and significant changes in professional self-concept and self-concept to appear. (p. 150)

As follow-up to these two clusters of studies at Memorial and Simon Fraser, Covert and Clifton (1980) undertook a comparison of practica at the two institutions in terms of effects on students' self-concept, motivation toward teaching, and attitudes toward a teaching career. The institutions provided data from twenty-week and three-week practicum experiences. Although both groups improved slightly in self-concept, students in the extended practicum decreased significantly in both motivation and attitude toward teaching compared with those in the shorter practicum. The researchers attributed this decline to the *reality shock* which occurs only after students have spent considerable time in the school. They speculated that students in the three-week experience may still perceive themselves as students, rather than teachers.

The studies cited so far in this section have examined effects of the practicum on the student teacher. Two studies sought to use success in the practicum as an outcome measure. Mundel-Atherstone (1980) attempted to identify the psychological characteristics of high- and low-scoring students in practice teaching using the QUALTEP data base at the University of Lethbridge. Those rating high had a better self-image and were more self-assured. Lower scores on measures of trust, self-control, and responsibilities were typical of those who had low ratings during student teaching. Harper (1977) tested the hypothesis that a student's performance in practice teaching would be a function of the relative strengths of the motive for success and motive to avoid failure. His hypothesis was sustained using a sample of 591 students where it was found that those having high motive for success and a low motive to avoid failure did significantly better during practice teaching.

The apparently contradictory and yet complementary results obtained from the above studies illustrate many of the unresolved issues related to the conduct of research on the extended practicum and in teacher education as a whole. First, the studies reviewed focus on only one outcome whose relationship to successful teaching has not been defined.

Other critical outcomes such as student teachers' instructional and interpersonal competence and their impact on children have not been addressed. Yet even within this narrow framework, the evidence suggests that an interaction of variables is at work. Second, these studies illustrate the difficulty of comparing programs from one institution to another since students may be in completely different contexts and program experiences and control of the treatment variables is impossible. Nevertheless, these studies represent some of the more carefully designed and conducted research on teacher education in Canada, and provide a foundation and starting point for further research.

Program Effectiveness

The study of program effectiveness has taken different forms in different jurisdictions. One line of research aimed at determining program effectiveness uses components such as the methods course as the independent variable and teacher behaviour as the dependent variable. This approach has dominated much of the research on teaching in the United States (Berliner, 1980). A fairly consistent body of information has resulted in the suggestion that through certain approaches to instruction such as modeling and feedback it is possible to train preservice teachers to use various techniques effectively. This line of research is not largely in evidence in Canada. Only four research reports were located which used this paradigm. At the University of Regina, Wideen and Butt (1975) found no overall differences in the outcomes for student- and instructor-directed approaches to the preparation of elementary science teachers. They did find that students planning to teach in the primary grades reacted more favourably to a student-directed approach than their counterparts in intermediate grades. Squire, Cathcart, and Worth (1981) used attitudes as a dependent variable to assess the effects of two instructional techniques within a math course. A seminar/workshop group showed greater improvement in attitude than a lecture group.

In two other studies (Horowitz, 1974; Martin, Sheehan, & Anderson, 1978), programs which combined campus and practicum activities were compared with regular programs where the two remain more or less separated. Not only were campus and field experiences combined but attempts were made to involve teachers and principals to a much greater extent than is normal in regular offerings. Unlike the studies by Wideen and Butt (1975) and Squire, Cathcart, and Worth (1981), these relied on student self-report data, observation, and interviews with various people concerned. In both studies, the students in the combined campus and field program saw their program more positively than those in the regular

program saw theirs. In the case of the Martin, Sheehan, and Anderson study, students involved in a program called the Practice Teaching Centre project (PTC) were compared with those in a regular program. The PTC students were more positive about their practice teaching than were regular students about theirs and less critical about other elements of the program. In the case study reported by Horowitz, students were interviewed immediately after a program designed to provide a more effective mix of theory and practice and again one year later. Their perceptions led him to conclude that the crucial aspect of developing a better program was to find the most harmonious mix between university input and the field experience.

Program effectiveness has been assessed more frequently in Canada through the use of follow-up studies in which attempts have been made to relate the total program to the opinions of those who hire teachers, to some measure of teaching effectiveness, or to first-year teacher placement. The opinions of those who hire teachers seem to depend a great deal on who asks the questions. Where third parties have been involved in conducting surveys, the responses tend to be quite negative (Bessai & Edmonds, 1977; Flanders, 1980). Bessai and Edmonds sum up their results this way. "Most comments indicated that there was a wide gap between the idealistic teaching situations in university classes and the real world of the classroom" (p. 26).

Flanders used focus-group interviews to probe teachers' perception of their roles and various aspects of their professional preparation. His research was unusual in its attempt to construct a view of the teacher's role within the current social context and to relate it to both preservice and inservice programs. Participants in the study were highly critical of their preservice teacher preparation but did favour the extended practicum as a more effective introduction to the realities of teaching than shorter student teaching periods. The two studies of program effectiveness just cited sought people's opinions through either a questionnaire or an interview as a means of gauging effectiveness. Four studies were reported that used supervisor or principal ratings of teaching as criteria for program effectiveness. Three used the QUALTEP data base collected at the University of Lethbridge.

Greene and Dravland (1981) correlated principals' ratings to measure teaching performance with performance in their teacher preparation program and found no links between the two. Dravland (1981), in a second study, focused on the strengths and weaknesses of student teachers perceived by principals over a three-year period. Planning ability was the most frequently cited strength, and skill in questioning was the one most in need of improvement. Skill in questioning and variety in approach

declined over time, leading Dravland to conclude that evidence argued against the longer practicum which had been introduced within the time frame of his study. It was not clear however that the practicum was the variable at work. Twa (1978), again using the QUALTEP data base, attempted to predict student teaching performance from a knowledge of 40 test scores and five demographic characteristics of preservice teachers. He found differences related to sex, grade level, and subject taught. He also found that greater specificity with regard to these variables and the inclusion of psychological and personality tests increased the accuracy with which student teaching performance could be predicted. Twa and Greene (1980) attempted to validate the predictive equation on a second sample but concluded that their particular method of predicting was too inaccurate to be of any practical value in selecting students for teacher education.

One of the most comprehensive follow-up studies reported was conducted at the University of Calgary as part of a four-year evaluation of the Faculty of Education (Unrah, 1981). Termed Operation Pinpoint, this aspect of the evaluation sought the opinions of 43 principals in the Calgary area in interviews and four area superintendents in a meeting. In general, the author of the report found the results favourable in the sense that "though it may be a dubious compliment, we [University of Calgary, Faculty of Education] are seen to be doing about as well as most teacher preparation institutions" (Unrah, 1981, p. 52). Among the more favourable aspects of the program was the practicum. The major negative perception was "that some faculty members are out of touch with the schools – with teachers, pupils, content, methodology, day-to-day problems, etc." (p. 52). The education courses themselves were not seen to be particularly relevant.

A study conducted at Simon Fraser by Elliott (1971) attempted to predict success in teaching using supervisory ratings as criteria. He found that student performance in the extended practicum accounted for 11% of the variance in teacher ratings in their first year of teaching.

Program effectiveness has been examined largely through the use of questionnaires and interviews administered to principals and teachers. Where institutions themselves have approached those in the field to assess their programs, the results are typically positive. On the other hand, third-party evaluations tend to be quite negative. The practicum is seen as the strongest feature of teacher preparation while the courses taught are usually thought quite irrelevant to what teachers and principals see as classroom needs. Attempts to predict student performance in the field based on a knowledge of specific performance variables measured on campus have been unsuccessful. Some evidence exists that the socializa-

tion effect of the lengthened practicum may erode instructional gains made during campus instruction.

Areas of Limited Attention

Of considerable significance are those areas to which very little or no research attention has been devoted in teacher education in Canada. One might expect an applied faculty to study very carefully the hiring policies of districts and to conduct follow-up studies to assess the relationship between preservice training and the teaching careers of graduates. Three surveys were identified which examined the hiring policies of districts (Greene, 1980; Hutcheon, 1972; Randhawa & Kirkpatrick, 1975). A common theme among them was graduate dissatisfaction about the lack of links between preparation and placement.

Apart from the studies conducted by Clarke and Coutts (1971, 1975), which sought the opinions of key decision makers about the future of teacher education, and a recent presentation made by Andrews (1983), one finds very little attention in the literature devoted to the future of teacher education. Other seemingly important areas received only minor attention. For example, only single studies were located in such areas as the priorities assigned to various functions by faculty members (Gregor & Hedley, 1978), length of training (Emerson, 1977), and faculties of education as organizations (Hopkins, 1980). Another vacuum in the research reviewed, which was also noted by Peck and Tucker in their 1973 review, involves the preparation of teacher educators. Further, we found no examination of the relationship between faculties of education and external groups such as the universities, the departments of education, or teacher associations.

Emerging Themes

What then can one say about teacher education in Canada based on the research that has been conducted? As already indicated, the lack of replication, the different programs in which research has been conducted, the predominant use of questionnaires, and the examination of variables out of context limit the findings. Within these limitations, some themes emerge from the data where certain issues and questions are being addressed. A consistent pattern of perceptions among students and teachers concerning course work, the practicum, and teacher training in general is apparent from the studies reviewed. Second, the socializing effects of the practicum are strong. Third, confusion and differences of opinion exist concerning the role of the practicum.

Where the practicum and the campus input are offered separately, particularly in one-year programs, students are highly critical of most aspects of teacher education. Where attempts have been made to combine campus course work with practice teaching, students are much more positive toward both campus course work and the student teaching experience. Campus courses are not held in high esteem by students, teachers, or principals. The most favourably viewed component of teacher education is the practicum. Where follow-up studies have been conducted by third parties, teachers report that the teacher training component occurring on campus had little impact on teaching.

While the clients may see the practicum as the most effective component of teacher education, its complexities are poorly understood. The one conclusion that can be drawn from a reading of a number of studies is that the practicum, particularly if extended in length, has a strong socializing influence on students. Some evidence exists that the socializing effects of the practicum cancel out the effects of campus input. When this is coupled with the finding that students entered teaching because they enjoyed their own experience in classrooms, the tendency to retain the status quo in teaching is very strong. However, the student teaching experience is complex, and much more work is required to unravel such complexities. While students and teachers view a longer (three month) practicum as desirable and while some evidence exists to indicate that at least three months are needed in the classroom for certain attributes to develop, not all faculty are convinced of its merits.

Roles, particularly those of the supervising teacher, are confused. It appears that, amid such confusion, teachers tend to play a supporting role for students while faculty supervisors take a more critical position. While differences in perception can be positive in many cases, it is unlikely that different views held by the teachers and the university supervisors work to the best interest of students. Training in clinical supervision for supervising teachers is received positively, possibly because it tends to clarify their role.

While our findings must be viewed with caution in the light of the limitations cited, they do have reasonable support and should be considered in program planning. We hope these notions can be pursued through future research, an issue to which the discussion now turns.

IMPROVING RESEARCH IN TEACHER EDUCATION: SOME PERSPECTIVES⁸

How then can research in teacher education be improved? To paraphrase Jacob Getzels, the answer probably is "In almost every conceivable way known to man" (quoted in Schmuck & Miles, 1971, p. 14). The

complexities of teacher education are not about to yield to the type of scattered efforts that we have reviewed. Concerted, focussed efforts are required in those areas on which we reported and also in a number of areas which until now have been virtually ignored. Organizational studies of faculties of education, studies of the effectiveness of beginning teachers, and studies of the background, training, and expertise of those who train teachers are areas where virtually no investigation or research has been completed in teacher education. But perhaps what is needed most is focussed attempts to contribute sufficient duplication and variety in approach to produce substantive bodies of knowledge as a basis for program development. We offer two such general areas which appear key, at least from our analysis; these we term substantive priorities. The methods used in doing the research are probably as important as the research itself; thus we offer two methodological priorities.

Substantive Priorities

Knowing the context and understanding the options

Many studies reviewed, regardless of quality and merit, appeared to rearrange the deck chairs on the Titanic. Certainly, deck chairs may have to be arranged, but the quality and capability of the ship itself must be better understood, its direction must be known, and the perils and advantages of certain courses of action considered. Then there is time to rearrange the deck chairs. Qualitative studies are required to begin to unravel the complexities of competing agendas in faculties and the actualities as we prepare teachers both on campus and during student teaching. University faculties are among the most poorly equipped organizations to deal with changes. Whatever problems this might have created in the past, we can expect them to be exacerbated in the future as we enter a period of change described by some as paralleling that of the industrial revolution. Studies of organizational structure and function would aid greatly in understanding faculties as organizations and assisting the change process. In addition to knowing more about faculties of education, in-depth examinations are required of the social, political, and academic contexts which affect faculties of education and the alternatives open to them. The only certainty about the future is that things are likely to change. Teacher education will not be exempt from this process. But at the moment in this country there is surprisingly little examination of future options or of those factors which might determine them.

So, what we argue for are descriptive and analytical studies of Faculties

of Education and what takes place in them, the contexts in which teacher education occurs, the options open to us, and the methods by which the change process will be directed if we are able to decide upon options.

New visions, new goals

One of the characteristics of much research examined was its descriptive nature. Indeed, the studies we just proposed regarding the content and context would also be largely descriptive. We feel that such studies are necessary as a first step but must be followed up by conceptual and empirical studies which bear on policy and decision-making strategies and which set the course for new initiatives. Another characteristic of the research reviewed was that it took place in a theoretical vacuum. While we do have theory in many areas outside teacher education, it is not of the type that has much to do with how young people become teachers. At present it is very difficult to know what conceptualizations or second-order theory undergird programs of teacher preparation. The current assumption seems to be that, if we only expose people to professors from different fields and place them in the schools for a period of time, they will become teachers. But many of the studies we just reviewed indicate that the only effective component in this arrangement is the field experience. One of the difficulties in even assessing the results from the studies reviewed was knowing what the role of course work was and how it was intended to relate to the field experience. Thus, among our first priorities in teacher education is research that will stimulate not only new visions and goals but also the development of second-order theory about how to educate and train (or retrain) people to become effective teachers. Such conceptualizations would provide a basis for empirical research and serve to explain how other fields can be most effectively accommodated in teacher education.

In some cases, such second-order theory might emerge from theoretical papers such as a recent presentation made by Russell (1984). In that paper, on the basis of selected literature and his own experience, he argues for a model of teacher education based on reflective action by teachers. If his work could be extended to describe how the various elements in teacher education might then be organized to achieve that approach, we would have the makings of a theory; an application of that theory could emerge and could be tried and examined through research. Another approach would be to examine in detail certain changes that have occurred in teacher education, to document the essential components of those changes, and to apply and test them in practice. The problem at the moment is that we rarely know what arguments or theoretical tenets lie behind the programs we offer.

Methodological Priorities

The improvements required at the conceptual level are unlikely to occur within the enterprise that we currently call research in teacher education in this country. A more liberal methodological approach is required, and we need to broaden the concept of what constitutes research in teacher education.

Toward a more liberal methodology

Popkewitz, Tabachnick and Zeichner (1979) gave their review of research in teacher education the title *Dulling the Senses: Research in Teacher Education*. The predominant empirical-analytic research paradigm, characterized by its focus on specific isolated variables, they argued, was highly inappropriate for understanding the process and new conceptualizations. As we said in our introduction, our review found a similar quantitative flavour in which questionnaires and standardized measures were used to focus on variables isolated from their context. Undoubtedly, these approaches have a definite place in the overall scheme of research into teacher education. But they also have shortcomings and limitations which Popkewitz and his group have pointed out. Furthermore, such paradigms have been greatly overemphasized, and we have reached the point where further developments in research will be impeded by the continued slavish adherence to them. The reductionist nature of the research conducted under such paradigms and the focus on variables taken out of context are unlikely to improve our understanding to any great extent or lead to development of the theory we so critically need. Thus, a first methodological priority in research into teacher education is a move toward a more liberal methodological approach. We need case studies, ethnographies, and what Brophy termed *focussed thick description* of the phenomenon of teacher education to triangulate and corroborate findings.

The notion of becoming more eclectic in our methodological approach, while seductive perhaps, does not relieve us in any way of the burden of methodological rigor – it simply complicates it. Case studies are of little value unless they are done well; ethnographic research is painstakingly time consuming. Fortunately, methodological approaches in these qualitative areas are becoming available (Miles & Huberman, 1984; Patton, 1975). But it is quite likely that retooling will be necessary for most of us trained in the traditional quantitative approaches to research.

Broadening the concept of research in teacher education

In a review conducted by Peck and Tucker (1973), most of the studies dealt with training variables (a systems approach to teaching, practice what you

preach, and so on). A recent review of science teacher education (Wideen, 1983) found that over 90% of the studies focussed on the methods class, using a process-product paradigm. In the review of research in Canada just summarized, selected areas such as the practicum drew most of the attention. While these pursuits are important and need to continue, they are too narrowly focussed to deal with the complexities involved. The scope of what is viewed as research into teacher education must be broadened to include other disciplines. We need what Dror (1983) has termed *multiple starting assumptions* to arrive at comprehensive general theories to serve as problem posers and selection criteria for empirical research. Historical accounts, particularly of innovations, are required as are policy analyses. Teacher education is a very complex process; to date, what has been called research in teacher education research has not reflected this fact.

NOTES

- ¹ This paper is based on research conducted under a grant from the Social Sciences and Humanities Research Council, #410-77-0459-21.
- ² The Centre for Research in Teacher Education has recently been established at the University of British Columbia. A centre has also been established at the University of Regina called the Educational Studies Group.
- ³ This conference was held at the University of British Columbia in June, 1983 (Grimmet, 1984).
- ⁴ This study was completed in September, 1983. A full four-volume report is available for a cost of \$10 by writing to M. Wideen, Faculty of Education, Simon Fraser University, Burnaby, B.C., V5A 1S6. Volume 3 of that report (\$3), on which this paper is based, contains a summary of all studies (published and unpublished) that were reviewed as part of that project.
- ⁵ These categories were those used by Turner (1975) who provided an overview of research in teacher education for the 74th NSSE Yearbook. Our categories which follow differ slightly from these.
- ⁶ QUALTEP is an acronym for the Qualitative Analysis of the University of Lethbridge Teacher Education Program.
- ⁷ Typical of this interest was the 1978 Annual Conference of WESTCAST (Western Canadian Association for Student Teaching) where most of the 18 papers presented proposed improved ways of preparing the teacher to supervise students.
- ⁸ Certain of the ideas that follow were presented at the CATE SSMRC Conference in Vancouver (see Grimmet, 1984). We are indebted to Ian Housego and Peter Grimmett for permission to reuse some of the materials contained in that presentation.

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In dieser Abhandlung unterziehen die Autoren bekanntgemachte Untersuchungen über kanadische Lehrerausbildung einer kritischen Prüfung um anzuzeigen auf welchen Gebieten Untersuchungen gemacht worden sind und wo Verbesserungen gemacht werden könnten. Die meisten der 102 Abhandlungen behandelten die Praxis, Eigenschaften der Studenten oder die Wirksamkeit von Ausbildungsprogrammen. Auf diesen Gebieten wurden die verschiedensten Themen behandelt ohne großen Wiederhall zu erzeugen. Die angewandte Methodik bestand gewöhnlich aus empirisch analytischen Paradigma. Die Autoren kommen zum Schluß, daß zukünftige Untersuchungen mehr konzentriert sein sollten um den Kontext der Lehrerausbildung, Planungsmöglichkeiten und die Vorstellungen auf die sich Lehrerausbildung aufbaut, klarer herauszustellen. Um dieses zu erreichen wird empfohlen, daß eine freiere Methodik angewendet wird und daß der Begriff Untersuchung erweitert wird.

Los autores pasan en revista crítica las investigaciones canadienses en educación de docentes para identificar las áreas en las que la investigación se ha llevado a cabo, y para ofrecer

sugerencias de mejoras. La mayoría de los 102 documentos sobre investigación que se han estudiado se ocuparon de la práctica, características estudiantiles, o la eficacia de los programas. En estas áreas, se cubrió una amplia gama de temas, con poca repetición. El método que se usó más comúnmente fué un paradigma empírico-analítico. Los autores concluyen que las investigaciones futuras deben ser acometidas de manera más enfocada para comprender mejor el contexto de educación docente, las opciones disponibles para los planificadores, y la conceptualización que impulsa la preparación de los docentes. Para alcanzar este objetivo se requiere un enfoque metodológico más liberal, y se debe ampliar el concepto de lo que constituye investigación.

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