BELIEFS OF STUDENT TEACHERS AND

THE STRUCTURE OF PROGRAMS

by

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. ABSTRACT

This thesis examines how the beliefs of student teachers about teaching and learning were

influenced by an innovative teacher education program. In general, the literature on teacher

education suggests that teacher education programs are largely impotent to change the generally

conservative beliefs about teaching and learning held by most teacher education students. As

well, there seems to be a connection between those beliefs and how teacher education programs

are structured, which in turn is related to the underlying professional epistemology which creates

that program structure.

This is a case study examining the effect of an innovative teacher education program on the

beliefs of student teachers. The teacher education program has an underlying professional

epistemology of craft knowledge. This epistemology has led to a program structure and staffing

practices congruent with that epistemology, and in turn to changes in the content and

methodology of both campus and practicum programs. These structural changes include

developing practice before teaching theory, the use of a long practicum, cohort grouping of

students, and vertical staffing of programs, such that a group of teachers becomes largely

responsible for all aspects of the cohort's educational experience. This structure is facilitated by

the use of a clinical professor, or faculty associate. In this study, action research was used to

inform the practicum experience, and methodologies used in campus teaching reflected the

content of the teaching: This approach included group learning, active learning, a variety of

teaching/learning strategies, reflection, cognitive modelling, and co-operative learning techniques.

The program had a significant impact on the beliefs of the student teachers.Thus, a program

based on an epistemology of craft knowledge, and structured such that the program is congruent

with that theoretical approach, led student teachers to that view of teaching and learning, a view

which is transactional in nature.

DEDICATION

This thesis is dedicated to the memory of Anne Boyd

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I would like to thank the many people who helped and encouraged me in completing this thesis. Specifically, I would like to thank Judy Scott, my senior supervisor, for her ongoing support from beginning to end. My thanks, too, to the students and teachers associated with this module, without whose contribution and work none of this would have been possible. To all my friends, for their constant understanding and continual prodding, my thanks. I would like to also thank the faculty at Simon Fraser University for all they have taught me, and for all the ways they have shown support.

I cannot adequately thank my friend and teaching partner, Bonnie Skobel. She has taught me what being a team really means, providing support, help, and encouragement whenever I asked, and, more importantly, when I could not ask. This thesis belongs to her as much as to me.

Finally, I could not have done this without my wife, Eva Boyd. She has made it possible to write this thesis, just as she has made possible so much of what is good in my life. She has my thanks, and my love.

TABLE OF CONTENTS

Chapter One

"Our stories are the masks through which we can be seen, and with every telling

we stop the flood and swirl of thought so someone can get a glimpse of us, and

maybe catch us if they can"

Madeleine R. Grumet

O.I.S.E. Curriculum Inquiry 17:3 (1987)

I am a teacher, and worked as a faculty associate in the teacher education program at Simon

Fraser University between 1989 and 1992. Within this program, there is no set curriculum as

such. Rather, there is a dependence on stated goals and an oral culture which assures some

continuity from year to year, and between groups in the same year. The program is also

structured so that decisions about what to teach, when, how, and in what sequence are made by

consensus of the group of faculty associates (seconded teachers), faculty, and program co-

ordinators. [A full description of the program is included in chapter three]. When I began, I was

full of questions: What to teach; how to teach it; how to supervise; how often to supervise; how

much detail was needed for this or that; outcomes; standards; and so forth. For my first semester,

I worked without a partner or a faculty contact, and simply trusted to the sense that my students

and I made together.

That experience in the first semester changed my questions. What I discovered is that teaching

people how to teach was as muddy and complex and difficult as any other teaching act. The

Professional Development Program, in not specifying a curriculum or invariant sequence, was

simply recognizing that reality, and allowing the faculty associates to continually create ways of dealing with the complexity of teaching teachers. However, such freedom to deal with complexity leads to a complexity of its own, and I found myself on shaky ground as a teacher educator, never knowing if I were doing the right things in trying to teach my students, supporting them on their way to becoming teachers. It seemed that every time I asked a question in order to help my work, it led to another whole group of questions.

Entering my second semester, I had the great good fortune to begin working with a partner, Bonnie Skobel, who encouraged me to ask questions in a more structured way. As we worked together that semester, we constantly tried to clarify what the important questions were. It quickly became apparent that the process of educating teachers was not going to be illuminated by the types of technical questions that I had been asking: Each seemed to lead to more critical questions that represented underlying dilemmas.

At the beginning of my second year, the Director began to strongly encourage faculty associates to conduct their own action research about their work - not research in the formal and rigorous sense which that word often implies, but rather inquiry which was rooted in our own, practice. At this time, Bonnie and I were fortunate enough to be working with Judy Scott, a faculty member who was most supportive of this idea of faculty associate research. Together with this team, I renewed my efforts to search for the question that might illuminate our work, and would help me to deal with the confusion of not knowing what was important to consider when teaching teachers.

During the previous year, I had noticed that the student teachers with whom I worked constantly referred to the program as a very powerful experience. In many cases, it had reshaped their beliefs about teaching and learning; or, at least, that is what they said. According to Judy, this sort of change was unusual in the teacher education literature. Accordingly, I began a search of the literature in teacher education, specifically with regard to the effect of teacher education programs on the beliefs of student teachers about teaching and learning.

2

The importance of beliefs was highlighted by the work of Sandra Hollingsworth, who suggests that "...beliefs, as philosophical schemata about teaching and learning, affect the management system one chooses, the subject matter one teaches, the pedagogy one chooses to teach with, and how much emphasis is given to student learning...Beliefs also affect how deeply beginning teachers learn specific skills and concepts. If beliefs do not match the skills to be learned, the skills either will be learned rotely or the mismatch will cause a shift in beliefs...". (Hollingsworth, 1989). This claim seemed to me to be the case, and explained to me why I had been working so much on the beliefs of my students, and less so on specific skills. That is, it gave words to my personal, practical knowledge.

The general literature on the beliefs of student teachers, however, was somewhat discouraging. I discovered that most student teachers enter teacher education with largely transmissive and conservative beliefs, which undermine much campus teaching. These beliefs are typically reinforced by the structural arrangements, or hidden curriculum, which underlies many campus programs. The practicum component of student teaching, which usually requires the student teacher to replicate existing conditions in the schools, similarly seems impotent to alter the pre-existing conservative beliefs of student teachers.

The professional development program, however, was an unusual and innovative program in teacher education. It had different structural arrangements, different staffing arrangements, different teaching methods, and different practicum arrangements than did most teacher education programs. It seemed to me that underlying all of these differences was a radically different conception of teacher knowledge, and my experience led me to suspect that the effects on teacher education students were similarly different from those of other, more traditional, programs. If the program at Simon Fraser led students from conservative and transmissive beliefs to more transactional ones, then it might provide insight into more effective approaches to teacher education.

Statement of the Problem

Accordingly, I set out to investigate the development of beliefs about teaching and learning in student teachers within the Professional Development Program at Simon Fraser, and, more specifically, the ReVision module, the group with which I worked, as an exemplar of that program. Guiding questions included:

*What beliefs about teaching and learning did these students hold upon entering the program?

*How were those beliefs influenced by the campus program?

*How were those beliefs influenced by the practicum program?

The term 'beliefs' was taken to mean the pattern of beliefs held by the students, defined with reference to the work of Miller and Seller (1985), who propose that beliefs about teaching and learning can be classified in three ways: transmissive, transactional, and transformational. These positions are roughly analogous to the positions identified by Liston and Zeichner (1990) as the traditions of educational thought - the conservative, progressive, and radical. These classifications of beliefs will be discussed in more detail in chapter two.

Method

In order to elicit the students' perceptions of their beliefs about teaching and learning, each student was interviewed three times by one of three people: a faculty member, a program co-ordinator, and a research assistant. These interviewers asked the following questions:

*"Has anything changed for you in your thinking about teaching and learning since the program began? Since the last interview?"

*"What kinds of things can you think of that helped to facilitate this change?"

*"Can you recall an instance that was particularly powerful in getting you to think about teaching and learning?"

4

Another source of data was the anonymous program evaluations conducted by the program co-ordinators.

Data were also gathered to help ensure the trustworthiness of the student response. This data came from a questionnaire used with the school associates and designed to elicit their perceptions of the program and the characteristics of the students. As well, the data were summarized and checked with the students.

Data analysis was conducted by a process of induction. Four people, including myself, read over the material at the end of the year, looking for patterns of changing beliefs as they interacted with program experiences. Once the patterns were consensually established, each of the interviews and program evaluations were separately coded by three people. The conclusions and implications derived from the data are my own.

Limitations

This study has a number of limitations. I was studying a group of people who were subject to my authority in my role as a faculty associate. I was studying the effects of my own teaching and of the arrangements which I helped to institute. Clearly, the students' perceptions of my role as a faculty associate must have had some impact on how they responded to the interviews and the program questionnaires which make up the core of my data. As well, the nature of my participation in the project may have coloured my view of what happened. Nevertheless, I believe that the findings are of sufficient value to report them, and the impact of my participatory role in this research will be fully discussed both in chapter three, which deals with methodology, and in the conclusions and implications that I draw from the findings.

The closeness of my research questions with the interview questions poses another limitation on the study. However, student responses were analyzed in quite a different way than the students themselves might have constructed, and the analysis of cause is quite different, in the end, then the causes which the students themselves perceived. The most direct route to finding out what

5

another believes is to ask the critical issue is the application of thoughtful and credible analysis to a given response. ·

Another limitation of this thesis lies in the unique nature of the Professional Development Program. It provides the kind of freedom to create programs which is uncommon among universities. Nevertheless, this study may help to generate the kinds of questions and insights which can be used to inform programs in other institutions. A full description of the program is included as a way of understanding the context within which the students learned.

Finally, this thesis began as a piece of action research, and spiraled into a descriptive/interpretive case study being publicly reported. Action research has been widely written and written about. There is an ongoing debate regarding the relationship in action research between rigor and voice, between the action component and the research component, between local knowledge and generalizable knowledge, between the benefits for the researcher and the benefits for the field. This study moved from purely action research, as codified reflection on action, to a more public form of discourse. That movement means that the methodology is problematic, as noted above, due to my role as a participant researcher. The review of literature was conducted in large part after data collection as the knowledge base needed to illuminate the study shifted from personal, practical knowledge to the literature in the field. The analysis is purely after the fact, concluded some five years later. Yet, for all the problems,the voices of the students provide some compelling insights into the process of becoming a teacher, and the difficulties provide questions from which to proceed. So, for all the inherent problems, I believe that it is a story well worth the telling.

Organization of Thesis

Chapter two contains a review of the relevant literature, including an overview of the literature on the prior beliefs of student teachers, and the effect of current teacher education programs on those prior beliefs. Chapter two also outlines calls for reform in the underlying conception of teacher knowledge, the nature of the practicum, the structure and staffing of teacher education programs, and the content and methods of teacher education courses, including an understanding of the metaphors underlying the beliefs of student teachers.

Chapter three provides detailed information about the methodology of the study, including the details of the setting, the subjects, the process used for interviewing , the nature of the program questionnaire, the nature and process of surveying school associates, and the process of analyzing the data. Some reflections on the experience of conducting the research are also included in this chapter. Chapter four contains the description of the program provided for the students, and chapter five details the findings from the data. Chapter four and chapter five go together as data which informs chapter six, in which I offer some conclusions and implications.

Chapter Two

Research indicates that the beliefs of student teachers about teaching and learning on entering

teacher education are very often conservative and traditional (Zeichner & Gore, 1990), and that

most teacher education programs want them to change to more transactional beliefs. Traditional

teacher education programs have not been effective in changing these conservative beliefs

(Goodman, 1988; Hollingsworth,1989; Lacey,1977; Britzman, 1986; Lortie, 1975; McNeil, 1986;

Zeichner &Tabachnick, 1981; Zeichner & Gore, 1990; Mardle & Walker, 1980). This lack of

effectiveness may be due to the hidden curriculum of teacher education programs (Ginsburg &

Clift, 1990), which is largely technical and rational (Schon, 1985), and is not aligned with the

stated intents of teacher education programs (Short & Burke, 1989; Zeichner & Tabachnick,

1981; Geddis & Frankel, 1994; Hoy & Woodfolk,1994; Feiman-Nemser, 1986; Hollingsworth,

1989, Wideen, Mayer-Smith, & Moon, 1993; Feiman-Nemser & Buchman, 1989).There are,

however, a number of innovations which hold some promise in being able to change student

teacher beliefs. In this chapter, I discuss the nature of the beliefs of student teachers, and ways

of categorizing such beliefs. I then discuss the impact of traditional teacher education programs

upon the prior beliefs of student teachers, and then go on to consider some of the calls for

reform of these programs. Finally, I relate such calls for reform to innovations which are in place

at Simon Fraser University, and comprise the program in which the student teachers in the

present study participated, as opposed to a more traditional program.

Review of the Literature

Belief systems in education

Defining beliefs

In this thesis, the term `beliefs' is taken to mean that set of entwined understandings, both conscious and not conscious, that inform how we perceive and act upon our environment, specifically with regard to teaching and learning (Goodman, 1988). In this study, the particular interest is in the beliefs that student teachers have as they enter teacher education, and the effect of that teacher education on such prior beliefs.

Beliefs (Hollingsworth, 1989; Zeichner & Tabachnick, 1981), have also been characterized as a latent culture (Lortie, 1975), orientations (Zeichner & Tabachnick, 1981; Miller & Seller, 1985), metaphors (Tobin, 1990; Marshall, 1990,1992), world images (Wubbels, 1992), gestalts (Korthagen & Lagerwerf, 1994), and teacher images (Clandinin, 1986). While these terms each have some distinct meaning, and imply some particular way of seeing, they can generally be thought of as `intuitive screens' that guide reflection on action (Rodriguez, 1993). These beliefs also are not well organized, poorly elaborated, and not ready guides for action (Calderhead & Robson, 1991), but, as organizing schemata, often affect the learning of students and relate to how they interpret and refine action (Hollingsworth, 1989).

Classifying Beliefs

Beliefs about teaching and learning have been subject to a variety of classifications. The classifications used in this study are those of Miller and Seller (1985). This model was adopted because it seemed that it was the most developed encapsulation, at the time, of belief systems in education, and fit our personal, practical understandings of the orientations that students brought. It also fits well with the other understandings in the literature. Zeichner (1990), for example, identifies the traditions in teaching as conservative, progressive, and radical.These

categories are roughly analogous to those proposed by Miller and Seller : transmission, transaction; and transformation.

Transmission

The position of *transmission* is linked philosophically to analytic philosophy and logical atomism. It is linked to behavioral psychology, and conservative views of society, including religious fundamentalism, political conservatism, social Darwinism, and technological conservatism. It draws from empiricism and technological rationality. Schon (1985, p. 3) points out that "Technical rationality is an epistemology of practice derived from positivist philosophy, built into the very foundations of the modem research university (Shils, 1978). Technical rationality holds that practitioners are instrumental problem solvers who select technical means best suited to particular purposes". Andrew Wake (Cited in Giroux,1980, p.9) notes seven pertinent assumptions about technical rationality:

- Knowledge is divided into relatively discrete components

- Units of knowledge are sequentially ordered

- Acquisitional success is quantifiable

- Knowledge is separate from its human origins

- Knowledge is stratified into various levels of status and prestige

- Knowledge based on experience is given low status

- Knowledge based on abstract and generalizable principles is given high status.

This technical rationality is the foundation of the transmission position, and is associated with a traditional conception of schooling, reflected in school practices such as mastery learning and the 'back to the basics' movement, as well as the breaking down of curriculum into smaller and smaller instructional objectives. The aim of this orientation is to transmit knowledge to students in the form of facts, skills, and values. It is characterized by Goodlad (1984) as teaching which

largely consists of an instructor transmitting knowledge, most often by telling, to large groups of passive individual students (see also Howey, 1985; Tuinman, 1995; and Peck & Tucker, 1973). Zeichner and Tabachnick (1981) suggest that the traditional orientation consists of teaching that is routinized and authoritarian, and seems to arise through traditional teacher education and experience. Such transmissive teaching, they suggest, creates learning which is passive, individual, competitive, and singular in style.

Transaction

The position of *transaction* has its roots in experiential pragmatism, particularly in the work of John Dewey (1938, 1944). As such, it is associated with the progressive movement in education (Zeichner & Tabachnick, 1981), which seeks to develop teachers who are thoughtful, imaginative, empathic, creative, and so forth. These are, of course, the very types of teachers which universities try to develop (Zeichner & Tabachnick, 1981). It is also associated with the developmentalist view in psychology, including the work of Vygotsky (1934, cited in Miller & Seller, 1985), Piaget (1963, cited in Miller & Seller, 1985), Kohlberg (1972, cited in Miller & Seller, 1985), and Bruner (1960, cited in Miller & Seller, 1985). It can be associated with political and social liberalism, and a democratic world view. It draws upon constructivism and learning in context - a view that knowledge is socially constructed. As such, it informs the work of Schon (1983,1987,1988, &1991) and is the position associated with a craft knowledge epistemology of professional practice (Grimmett & McKinnon, 1991). The aim of this orientation is to establish education as a dialogue between the student and the curriculum, with the student as problem-solver.

The transactional orientation is the opposite of an older model of learning as transmission (Short & Burke, 1989).Transactional classrooms are characterized by an approach in which students actively direct their own learning by operating within a group characterized by community and connectedness. Students are encouraged to be co-operative in interactions, and teachers engage multiple methods, or `sign systems', in learning. This form of instruction is not, by and

large, engaged in by university teacher education programs (Short & Burke, 1989; Tuinman, 1995; Howey, 1995; Peck & Tucker, 1973).

Transformation

The position of *transformation* is less well articulated. It espouses Huxley's 'perennial philosophy', claiming a fundamental unity of reality and the inner self, which can be cultivated through meditation and contemplation and so leads to social action in order to counter injustice and human suffering. It draws upon humanistic and transpersonal psychology, including the work of Maslow (1940, cited in Miller & Seller, 1985, Carl Rogers (1969, cited in Miller & Seller, 1985), and Ken Wilber (1983, cited in Miller & Seller,1985). It can be associated with the economic/social ethics of self-development, ecology, self reliance and social cooperation intertwined, and nonviolence. Politically, it is tied to decentralized political structures, direct democracy, political networks, and nonmanipulative leadership. Educational practices linked to this orientation are not well developed, but may include aspects of mainstreaming, holistic learning, and creative writing. The aim of such an orientation is self-actualization, personal or organizational change. While not fully analogous to the critical orientation elaborated by Zeichner & Tabachnick(1981), it shares many of the same characteristics.

Implications of the orientations

These orientations, or belief systems, point to the idea that the way one views teaching and learning is linked to the beliefs one has about knowledge. Since the modern research university is founded on technical rationality (Schon, 1986), then the methods used to teach in university classrooms flow from that set of beliefs (Ginsburg & Clift,1990). However, the content of what is taught about teaching is based on more current transactional theories of learning (Short & Burke, 1989; Zeichner & Tabachnick, 1981; Geddis & Frankel, 1994; Hoy & Woodfolk,1994; Feiman-Nemser, 1986; Hollingsworth, 1989, Wideen, Mayer-Smith, & Moon, 1993; Feiman-Nemser & Buchman, 1989) ,This dichotomy of what is taught and how it is taught leads to confusion, and helps to explain the apparent inability of traditional teacher education to change student teachers' beliefs, which are generally transmissive, to more transactional ones (Goodman, 1988;

12

Hollingsworth,1989; Lacey,1977; Britzman, 1986; Lortie, 1975; McNeil, 1986; Zeichner &

Tabachnick, 1981; Zeichner & Gore, 1990; Mardle & Walker, 1980). This failure to instil

transactional beliefs leads to a continuation of transmissive and traditional teaching in schools.

The prior beliefs of student teachers

Research on teacher socialization suggests that students in teacher education, like other

university students, have spent vast amounts of time in schools as students, and that this

comprises a form of apprenticeship in teaching, the 'apprenticeship of observation'. ((Lortie,

1975). Wideen and Holbom (1986) note that many students enter teacher education having

enjoyed their previous education, and so possess many values and attitudes of practising

classroom teachers. Because of this, they have established a set of norms, values, and beliefs

about teaching that constitute a latent culture ((Lortie, 1975), which is activated during teacher

education and later school experience. This latent culture is both transmissive and traditional, as

most teachers participate in the transmissive, traditional orientation (Goodlad, 1984). There are

now a number of studies on the sources and nature of prior beliefs of student teachers (for an

excellent summary, see Zeichner and Gore, 1990), which generally lead to the conclusion that

the prior beliefs of student teachers are conservative and transmissive, and are a significant

element in their socialization, representing a conservative influence in the formal presevice

education of teachers (Zeichner and Tabachnick, 1981), linking their biographies to their

induction program and undermining the effects of the campus experience. That is, Zeichner and

Tabachnick (1981) suggest that teacher education students, although presenting themselves as

more progressive as they move through university, return to a traditional orientation as they

experience the process of traditional teacher education.

The effect of university coursework on beliefs of student teachers

Recently, there have been efforts to expand what is known about the effects of the university,

the professional program on campus, and the practicum program on these conservative beliefs

of beginning student teachers. With regard to the impact on the student of college or university

attendance, there seems to be a clear link between college attendance and liberalization of

personality and values, increases in sophistication of moral reasoning, and increases in various measures of cognitive development (Zeichner and Gore, 1990). However, there is a lack of empirical data about the impact of academic courses on students (Tom, 1987; Trow, 1987)

Regardless of the general effects of a university education, the professional component of preservice teacher education has not generally been regarded as effective in changing the prior beliefs of student teachers. As Schon (1986) points out, "What aspiring practitioners most need to learn, professional schools seem least able to teach" (p.8). This dilemma "...is rooted...in an underlying and largely unexamined epistemology of professional practice - a model of professional knowledge institutionally embedded in curriculum and arrangements for research and practice"(p.8). The underlying epistemology to which he refers is technological rationality, which, as noted, participates in a transmissive and traditional view of schooling. Such an epistemology, as it manifests itself in the hidden curriculum of professional programs, is in contradistinction to the stated intents of most teacher education programs (Short & Burke, 1989; Zeichner & Tabachnick, 1981; Geddis & Frankel, 1994; Hoy & Woodfolk,1994; Feiman-Nemser, 1986; Hollingsworth, 1989, Wideen, Mayer-Smith, & Moon, 1993; Feiman-Nemser & Buchman, 1989).

Traditional teacher education - dividing theory and practice
The professional component of teacher education programs is generally divided into two areas: the campus program and the practicum program. In itself, such a division may be problematic, because each represents different conceptions of how one learns to teach (Feiman-Nemser, 1983), and may, in fact, be competing conceptions, representing the split between theoretical knowing on the one hand, and knowing through practice, or reflective practice, on the other (Zeichner & Tabachnick, 1981; Crow, 1987a,1987b). This split conception of theory and practice arises from a technical and rational view, wherein practice is lower in status than theory, and so dividing programs in this way participates in undermining the development of transactional beliefs, which lead to a teacher using theory to reflect on practice, and practice as the means to both test and create theory.That is, such a perceived split, in itself, makes an image of the

reflective practitioner very difficult to attain, as reflection requires the ongoing intentional focus of creating a synthesis of theory and practice, or praxis (Ginsburg and Clift, 1990).

The campus program

Given that the development of teacher education programs, both in epistemology and in structure, has arisen from and participated in the technical rationality of the modern university, it should be no surprise that campus programs in teacher education have generally not been effective in changing the largely transmissive prior beliefs of student teachers. (Goodman, 1988 ;Hollingsworth,1989; Lacey,1977; Britzman, 1986; Lortie, 1975; Zeichner & Tabachnick, 1981; Zeichner & Gore, 1990; Mardle & Walker, 1980) . One reason for this is the most obvious: the nature of teaching in most university campuses is transmissive, and a poor model to students (Howey,1995; Tuinman,1995). That teacher education faculties do not practice what they preach is fairly constant in the literature (Ginsburg & Clift, 1990).

In fact, some studies have indicated that campus experiences may be interpreted by students so as to reinforce their prior conservative conceptions of teaching (Mardle & Walker, 1980; Crow. 1988; Atkinson & Delamont, 1985; Feiman-Nemser & Buchman, 1986; Ginsburg, 1988). While this holds true as a generalization, the particular course and course focus may make a difference (Hollingsworth, 1991), as not all programmes are the same, so that the results. even from many studies, may not speak to any particular program which has different arrangements. (Zeichner & Gore, 1990). Such courses and programs would seem, however, to be exceptions. The epistemological underpinnings of the modern university lead to teaching roles, program structures, timetables, and teaching practices that support transmissive beliefs about teaching and learning. Typically, university practices are as follows: students are treated as individuals being constantly regrouped rather than as cohort groups; the teaching of theory precedes the practice of student teaching; knowledge is presented sequentially and gradually rather than as an immersion in pedagogical thinking; and the courses are taught by professors who are selected for their excellent theoretical knowledge, not teachers who are selected for their knowledge of practice; and, finally, the courses are not integrated except in the mind of the student (Tom,

1991,1995). The teaching methodology used by many professors of Education is poor (Howey, 1995; Tuinman, 1995), and is largely that of lecture (Ginsburg & Clift, 1990). All of these transmissive practices are the result of technical and rational assumptions about knowledge and how it is learned, and comprise much of the 'hidden curriculum' (Jackson, 1968; Ginsburg & Clift, 1990) of teacher education programs.

The literature on the 'hidden curriculum' of teacher education programs provides further insight into the relation between university practices and student beliefs.In this literature, an assumption is made that teacher education institutions have both an explicit curriculum, and a hidden curriculum, which is defined as " the content of the messages that are transmitted to students through the underlying structure of meaning in both the formal content as well as the social relations(Giroux & Penna, 1983, p.8) of teacher education programs beyond that conveyed by the stated curriculum." (Ginsburg and Clift, 1990;p.225). When the explicit curriculum fails, the hidden curriculum may be the reason why. As noted above, the explicit curriculum is often transactional in intent, but the hidden curriculum is transmissive.This hidden curriculum sends implicit messages to teachers about their occupational status and power, the nature of pedagogy, their role as a reflective practitioner or technician, the nature of curriculum and the teacher's role in defining it, the nature of knowledge, and society's role in schooling. These messages are often in conflict with the explicit curriculum, but link more powerfully to the biographies of students, and so replicate the existing conditions in schools. The hidden curriculum is the most powerful element in teacher socialization (Mardle & Walker, 1980), even though some of the messages of a hidden curriculum will have little impact on some students (Ginsburg & Clift, 1990).

Such a view of teacher education programs, then, might suggest that, at the level of teaching, and the structure of programs, campus programs are very effective in teaching students.They teach students, generally, that teaching is a low status profession, or semi-profession; that teachers are 'employed professionals', rather that 'autonomous professionals'; that pedagogy is about telling, with emotional detachment and technical expertise valued over emotional engagement and reflective practice; and that knowledge and curriculum are generally

unambiguous , public, molecular, and given, with the role of a teacher as a `curriculum deliverer' rather than a `curriculum decision maker' (Ginsberg and Clift, 1990). This implicit curriculum clearly lies within the transmissive orientation, and seems to be a powerful influence on the beliefs of preservice teachers. (Giroux, 1980; Dale, 1977; Ginsburg, 1988; Popokewitz, 1985).

The effect of the practicum on student teachers' beliefs
The clinical portion, or practicum, associated with most teacher education programs is similarly problematic. It is generally more valued than the campus portion of teacher education by the students (Zeichner, 1980; Amarel & Feiman-Nemser, 1988; Johnston,1992). However, the literature tends to suggest that the practicum is miseducative with regard to the stated intents of teacher education programs (Hoy & Woolfolk, 1990; Calderhead, 1988; Zeichner & Gore,1990, Johnston, 1992). This seems to be because both the curriculum and the methods valued within the practicum tend to reiterate the preservice teachers' educational background (Hollingsworth, 1989; Zeichner & Tabachnick, 1981), and so the culture of the school connects with the latent culture of the student teacher (Lortie, 1975), and washes out the effects of campus teaching (Zeichner & Tabachnick, 1981).

It may also be the case that the practicum is a form of `situated cognition' (Brown,Collins & Duguid, 1989), wherein the knowledge that is learned is situated in the context in which it will be used, whereas learning on campus is more abstract (See also Wubbels, 1992). The ideal images and practices that are presented on campus are often seen as at variance with the more gritty and functional images of veteran teachers(Hoy & Woolfolk, 1990), and the reality of the practicum shocks the student teacher into a survival mode, with the veteran teacher as the lifesaver (Hoy & Woolfolk, 1990; Wideen & Holborn, 1986). This is the dilemma of `coping with the present' vs. `preparing for the future' (Geddis & Frankel,1994), in which beginning teachers are rewarded for replicating the often inadequate practices in classrooms in order to make it through the practicum with as little conflict as possible.

Calls for reform

There have been many calls for reform in the teacher education literature, including reform of the structure of teacher education programs, the content of what is taught in these programs and the methodology used in teaching the programs, as well as reform of the clinical portion, or practicum. These, in turn, seem to depend on adopting a more transactional set of beliefs to underpin teacher education programs, a form of professional expertise known as craft knowledge (Grimmett & McKinnon, 1991),

Changes to the underlying conception - craft knowledge

One major challenge to the traditional structure of teacher education programs has been to the underlying conception of professional knowledge. This conceptual change draws heavily on the work of Schon (1983, 1987, 1988, 1991), and his notion of `knowing in action'.The prevailing view of professional knowledge, *knowing that*, or technical rationality, views the professional as applying theories and techniques, known explicitly as abstract propositions and derived from research, to the problems of practice, which, while difficult, can always be resolved by reference to the facts. "Knowing in action" refers to *knowing how* to do things, like making a chair, or riding a bike, or typing a letter. Parts of any of these actions can be made explicit, but the knowing is in the action, and cannot be separated from it in any satisfactory manner. Professionals such as doctors, architects, and teachers depend on this kind of knowing as they engage in their practice. Such knowing is embedded in the context of professional work, in the institutions and social interactions and relations shared by a group of practitioners. The problems of practice, from this viewpoint, are resolvable through reflection both in action and on action. That is, the reflection on action drives the problem solving, just as action conducted by the professional provides the context of a given problem arising from practice. Typically, practice situations have some commonalities, and there is a shared body of professional knowledge, called craft knowledge (Grimmett & McKinnon, 1991), to draw upon in order to inform and direct ongoing reflection. Professional knowledge, then, is constructed from situated practice, procedural rather than declarative in nature, and, in the case of teaching, is oriented toward students and how they can best learn a content in their particular situation. This constructivist view owes much to Dewey's

experiential pragmatism (Miller & Seller, 1985), and posits that knowledge is socially constructed, rather than resting on a base of facts. That is, it is transactional rather than transmissive.

If teacher education programs want student teachers to adopt transactional beliefs, the central reform required is that teacher education programs should be based on a transactional view of professional knowledge rather than that of transmission. One such basis for teacher education, drawing upon the work of Schon, is that of craft knowledge (Grimmett & McKinnon, 1991), or 'knowing how', rather than on 'knowing that'. What is called for in this orientation is an "emphasis on a special kind of pedagogical content and learner know-how, a 'teaching sensibility', rather than a knowledge of propositions." (Grimmett & McKinnon, 1991, p.10) This, "as a form of professional expertise, ...is neither technical skill, the application of theory or general principles to practice, nor critical analysis; rather, it represents the construction of situated, learner-focused, procedural and content-related pedagogical knowledge through 'deliberate action' (Kennedy, 1987)." (Grimmett & McKinnon, 1991,p.10). The work of Schon indicates that a craft knowledge orientation, the orientation which is designed to develop a reflective practitioner, has some central ideas: the idea of learning through practice; the idea of an initiation into a tradition of practice; and the idea of senior mentors who help the student to learn within the practice situation

Craft knowledge is associated with a practical orientation, with reflection and experimentation, where learner-practitioners consider both different interpretations and courses of action, drawing on a repetoire of images, theories, and actions to guide them (Feiman-Nemser, 1989). The mode of learning generally associated with the practical orientation is the apprenticeship (Feiman-Nemser, 1989), which involves working with a master, or senior mentor, over a period of time. In teacher education, such a model requires modification. Two suggested by Feiman-Nemser are the practicum, based on Schon's idea of the reflective practicum; and cognitive apprenticeship (Collins, Brown, and Newman, cited in Feiman-Nemser, 1989), in which teachers think out loud, so that apprentices can observe not only their actions but also their thought

processes (Feiman-Nemser, 1989). In this context, the students can develop appropriate images and practices in order to reflect on their own practice. As Shulman (1987a, p.21) notes, "Learning from experience in teaching is more than honing a skill so that it becomes automatic. It is raising the skill to thinking, giving reason to action and value to goals. It is the transformation of showing and telling into pedagogy. This will require that teachers work in structures that permit such interactions, are prepared in programs and institutions that both teach and model such processes, and are themselves individuals who can engage in such effort."

Changes to the practicum within a craft knowledge orientation

A change in the underlying epistemology of professional practice in teacher education. from a technical-rational, transmissive orientation to a more transactional, craft knowledge orientation, then. may lead to a structural change, with the practicum as the basic framework around which the rest of the teacher education framework is built. The practicum should be designed to instil reflective practice. The practicum, then, would not be a slavish following of a master, but rather provide for student learning through the demonstration of practice by outstanding teachers, through the student's own teaching, and through ensuring that both are carefully and reflectively discussed and analyzed (Grimmett & McKinnon, 1991). It requires carefully selected models in order to provide excellent modelling both of technique and of cognition. either through thinking aloud or collaborative reflection,or both. As Johnston (1992) notes, experience may be the best teacher, but only if student teachers are willing to learn from all of the experiences they encounter, and if they actively seek specific experiences from which to learn and upon which to reflect. Feiman-Nemser & Buchman (1987) point out that student teaching becomes teacher education when student teachers are moved toward a practical understanding of teaching; when their abilities to understand and enhance student learning are strengthened; when they learn to question their own actions. beliefs, and assumptions; when they develop pedagogical justifications for their actions and beliefs; and when they see experience as a prerequisite to learning, rather than a demonstration of what has been learned. They go on to suggest that for student teaching to be teacher education. it must help students to sort out appropriate from

20

inappropriate lessons of experience. The practicum within a craft knowledge orientation would have to be so constructed that students would not be given right answers, but would have to engage in reflective practice about real-life teaching situations; and in so doing, come to know and perhaps accept the ambiguities endemic in teaching. (Flodden & Clark, 1988; Feiman-Nemser, 1989).

Yet, practica take place in classrooms which may be based in a more traditional form of teaching. Accordingly, university supervisors must act in concert with co-operating teachers. To transform a miseducative practicum to one which is educative in nature, then, calls for an inquiry-based practicum in which the co-operating teacher and the university supervisor are collaborating as teacher educators (Feiman-Nemser & Buchman, 1988).

Action research within the practicum

The increased attention to craft knowledge, or teachers' practical knowledge (Fenstermacher, 1986), has led to a re-emergence in action research (Lewin, 1946,1947, cited in Tripp, 1990) in U.S. preservice teacher education (Gore & Zeichner, 1991). Such action research projects for student teachers seem to hold promise in developing reflective teachers, as they draw on teachers' practical knowledge, calling for reflective rather than routine practice, and an epistemology of practice rather than the technical rationality which has dominated teacher education programs and permeated the hidden curriculum (Gore & Zeichner, 1991). Since reflection is promoted and codified by action research, and the action research can provide a focus for reflection, then action research can be considered an important part of the practicum within a craft knowledge conception (Liston & Zeichner, 1990; Gore & Zeichner, 1991; Grimmett, 1995)).

If a practicum should have a basis of reflection codified and directed through action research, then what becomes of the role of the co-operating teacher? If student teaching depends on an apprenticeship model, then the co-operating teachers themselves should be engaged in action research also in order to be appropriate models, and to provide appropriate conditions for student teachers. University faculty in teacher education programs should also be such models.

Cochrane-Smith (1990) suggests just such an arrangement in which the school and university teacher education programs form learning communities in which all participants, including student teachers, cooperating teachers, and university instructors and supervisors, function as both learners and teachers. Student teachers would then not be inducted into 'business as usual' teaching, because when teachers engage in action research, 'business as usual' instruction is challenged and inquiry and learning become the focus of teacher work (Miller, 1990). Action research, then, is one way of assisting all teachers to become reflective practitioners, and so to develop praxis in teachers through the development of self-reflective communities (Carr & Kemmis, 1986). When teachers engage in action research, such action implies a craft knowledge epistemology which would redefine what it means to have knowledge for teaching and also redefine how knowledge about teaching is generated, and from where it can legitimately arise (Lytle & Cochrane-Smith, 1991). It engages "an emphasis on processes of inquiry, a collaborative work context, and teachers' sentiments and voice, and a view of knowledge as humanly constructed", the very conditions that are suggested as hallmarks of revitalized schools (Grimmett, 1995, p.219). That is, engaging in reflective inquiry through collaborative action research might have the potential to create the revitalized schools characterized by Grimmett, and to reconstruct the university as one such revitalized school. A teacher education program which has, as a core, a relective practicum with student-teacher, cooperating teacher, and · university faculty all engaged in action research together has the potential to elevate the profession (Lytle & Cochrane-Smith, 1990), change the nature of pedagogy(Gore & Zeichner, 1991: Miller, 1990; Korthagen & Wubbels, 1991), and place the teacher in a role as curriculum decision-maker (Korthagen & Wubbels, 1991). The literature, then, suggests that such arrangemehts are the antithesis of the traditional hidden curriculum, and may therefore help to break the 'apprenticeship of observation'.

Innovations to the structure of teacher education programs
Grimmett (1995) also calls for the structure of teacher education programs to change, in order that collaborative arrangements can be fostered. Although on a structural level, many

alternatives have been proposed and attempted (Feiman-Nemser,1989), the proposal which most clearly advocates a transactional, craft-knowledge structure in teacher education programs is that of Alan Tom (1991,1995). Tom (1995) suggests that teacher education programs have generally been structured on four assumptions:

1. Gradualism: "..the idea that prospective teachers ought to be introduced to professional content and teaching experience in a carefully planned and gradual way" (p.118), which is "boring" and "fails to shatter the apprenticeship of observation , or does so only during student teaching"(p.118).

2. Knowledge before practice: the belief that "teaching, even student teaching, is a forbidden activity until the novice public school teacher has mastered certain prerequisite professional knowledge"(p.120). Tom critiques this assumption on two bases: that the knowledge base on teaching is weak and difficult to stockpile; and that such knowledge requires context to understand and apply, and may well be best taught within a teaching context, not prior to it.

3. Horizontal staffing: This refers to the general practice of specialization in education faculties, such that any individual professor only teaches her specialization. Tom suggests that this presents to the student teacher "the difficult task of integrating the diverse forms of knowledge and skill that are sequentially introduced ..."(p.124). As well, he indicates that it tends to provide a knowledge base that is far too large and diverse to be useful , and is difficult to transfer into the context of classrooms.

4. Continual student regrouping: This refers to the practice of not defining students as a cohort, which Tom suggests leads to a lack of "shared ordeals", and citing Lortie (1968), he says is associated with "low self-esteem, mistrust between generations in the occupation, and the low salience of colleague bonds"(p.126)

Instead of these assumptions and practices, which comprise a kind of hidden curriculum (Jackson,1968), Tom calls for programs with the inverse of these assumptions. These reconceptualized teacher education programs would have four assumptions:

1. Compression: This might involve a first course as a "short and intense experience, for example, a fulltime experience conducted either for a few weeks or for several consecutive weekends", which would foster "...such advantages as the 'deliberate building of group consciousness, emphasis on both conceptual and experiential learning, [and] a learning environment that involves both intellect and emotion' (Lasker, Donnelly & Weathersby, 1975,p.8)" (p.119). Such a structure would also be disorienting, which is "an essential characteristic of effective professional education", (p.119)as it helps to break the apprenticeship of observation. Such a break is necessary in order to induce pedagogical thinking (Feiman-Nemser & Buchman, 1986). This type of thinking, in Tom's view, requires student teaching and "the presence of teacher educators, presuming they are commited to a comprehensive pedagogical perspective" (p.119) , and that these teacher educators, both campus and co-operating teachers, would be involved in ongoing analysis of the student's teaching.

2. Providing teaching experience early in the professional program, even concurrently with coursework: Although a high-risk strategy, this "facilitates the integration of educational knowledge and practice ...[and]...directly challenges the apprenticeship of observation" (p.123). He further posits that it helps "to develop a base of concrete perceptual images of classroom life on which later theoretical knowledge can be built" (p.123), and assists the student teacher through the developmental concerns of learning to teach, deciding if the teaching role is the right one, and reducing the expectations of the function of student teaching.

3. Vertical staffing: This assumption is that faculty members be responsible for "...a greater portion of the professional program than a single course or experience" (p.124). Tom suggests that faculty form teams which would take responsibility for much of the student-teaching program. He also forwards the idea of a teaching supervisor , who would link the campus program to the practicum program through

being both a co-operating teacher and a faculty member. Such suggestions would, in his view, increase knowledge depth, and narrow its breadth, and present a more coherent view of teaching and learning in the campus program, the practicum program, and in the relations between them.

4. Cohort grouping: the assumption that students have to undergo their professional training in a social group. Central to this idea is that such a group would undergo a shared ordeal , and other rites of passage. The course would have to qualify as an ordeal, but it is notable that Tom suggests in this article that having a "...short, intense course (p.127)" would qualify as a shared ordeal. This cohort grouping and shared ordeal would, in Tom's view, facilitate the professional year as a true rite of passage, develop a close and supportive social group that would help mould the developing teacher into a professional, and facilitate monitoring and advising of the students.

The substance of the teacher education program is not discussed by Tom. Instead, he suggests that what is needed is a sense of balance among structural and substantive issues. It is my contention that such structural changes as he suggests participate in a craft knowledge orientation to teaching, with an emphasis on teacher knowledge, the practicum, socially constructed knowledge, and induction as a rite of passage rather than a process of developing expertise.

Teacher education as a rite of passage

The rite of passage approach is outlined by Eisenhart, Behm, & Romagno (1991):

"During separation, the first stage of any rite of passage, individuals old social networks are intentionally disrupted and, thereby, their sense of social identity is eroded. At the same time, these newly isolated individuals are grouped with strangers and confronted with an overwhelming array of unfamiliar duties associated with their new status. This conjunction of separation from the familiar and confrontation with the new, functions to make individuals temporarily impotent. They realize that their old ways of thinking about

their prospective status are inadequate; they are uncertain where to turn for help or how to proceed. The second stage of the rite, transition, is intended to address this need. During transition, representatives of the institution attempt to organize novices' behavior, appearance, speech, and ways of thinking to bring them in line with conventional wisdom. ...After some period of transition, the final stage of incorporation, when the institution confers the label and credential of the new status, occurs."(p.4)

Such a rite of passage is, according to Eisenhart et al, the opposite of learning a set of noncontextual pedagogical routines which must later be applied, and is consistent with learning knowledge in context. In other words, it is consistent with a view of teaching as craft knowledge. Each element of Tom's structural proposals, in that it leads to a rite of passage experience, can therefore be seen to be consistent with a craft knowledge orientation to the preparation of novices for teaching.

The role of the clinical professor

A craft knowledge orientation means linking the worlds of the school and the university, such that students learn in practice situations with a master teacher. Another way of promoting closer ties between the university and the schools is the use of the clinical professor (Dawson, 1995). The term `clinical professor' refers to teachers who are seconded to the university for periods of time to teach and supervise student teachers (Dawson, 1995). Such teachers have also been called faculty associates, or teachers in residence. This role extends and enhances the idea of teaching supervisor suggested by Tom (1991). As Dawson (1995) notes,

> "When the faculty associate role was first conceptualized, it was thought that the
> research-based, theoretical focus brought by professors would be critically tested by the
> personal/practical knowledge brought by faculty associates. At the same time the
> potential for faculty associates to expand, deepen, and verbalize their personal/practical
> knowledge would be greatly increased because of the challenge and prodding by
> professors. A dialectic was envisioned which would foster the growth of knowledge and
> understanding in both parties. Moreover, because direct supervision of student teachers

would be left to faculty associates, professors would be free to pursue their research and writing programs. Student teachers would be supervised by the faculty associates who had very recent classroom experience thereby removing the complaint that university supervisors were out-of-date and ivory-towerish! Faculty associates and school associates (the term the program used to describe cooperating teachers), both with deep roots in the classroom, could function collaboratively in their work with student teachers" (p.175).

That is, the faculty associate could represent each culture to the other, having a credible position in both. As Dawson says, " The faculty works very hard at selecting and orienting new faculty associates and a primary objective is to build a cadre of professionals who are held in high esteem by both their school and university colleagues"(p.176).

The positition of faculty associate at Simon Fraser University seems to be somewhat unique among the possible 'clinical professor' roles (Tuinman, 1995). This uniqueness arises from several conditions, which include the following: there are numerous faculty associates, all of whom are assigned major teaching responsibilities; they are at the university for a period of two, and occasionally three, years; and, finally, they represent the very best the teaching profession has to offer (Tuinman, 1995). The faculty associates normally represent about half of the faculty. Their responsibilities include planning, teaching, and research within the program; assisting with admission selection of students; assisting with program evaluation and revision; and supervising a small group of students. These responsibilities are carried out with other faculty associates, with faculty, and/or alone. (Dawson, 1995). Such major responsibilities for faculty associates exemplify the assumptions embedded in the the teacher development program at Simon Fraser about the relative importance of teacher knowledge, and teacher voice and teacher sentiments: that they are equal in status to those of the university professor, if different in kind.

Faculty associates are assigned to work in a module, which is a cohort group of roughly twenty-six student teachers along with two faculty associates and a professor. About four months before the students arrive, the faculty associates and the professor begin to plan the module program.

This structure ensures a collaborative work context within which a curriculum for teaching the students needs to be worked out, as no formal curriculum exists other than a broad set of goals established and approved by the faculty (Dawson, 1995). As well, in this ongoing inquiry into what comprises a teacher education curriculum, no voice takes precedence; instead, faculty and faculty associates struggle to place personal, practical knowledge within a theoretical frame or to find a theoretical frame which can integrate the personal/practical knowledge (Dawson, 1995).

Knowledge, in this structure, is viewed as constructed, not given by outside experts.

The role of the faculty associate, then, in addition to the advantages it provides to the university, represents the blending of the school and the university, and provides models, in both persons and practice, of a craft knowledge orientation. Faculty associates give life to a transactional set of beliefs about teaching and learning. They can act as models and as mentors, facilitate the vertical staffing called for by Tom, and link powerfully to schools as well as the university. The use of the faculty associate enables the campus to function in its hidden curriculum much as a school might which Grimmett (1995) characterizes as a revitalized school, with an emphasis on inquiry, collaborative work contexts, teachers sentiments and voice, and a view of knowledge as humanly constructed.

Changes in teaching/learning methods in teacher education

Along with changes to the underlying orientation, practicum experience, program structure, and staffing of programs have come calls for changes to the nature of the process and content of campus courses. Short and Burke encapsulate the literature on teacher education, and suggest that teacher education is still based on a model of learning as transmission, the 'conservative' model described by Zeichner (1990), with teaching as telling the dominant methodology. They further suggest that teacher-education programs do not provide support for students in finding a sense of their own voices or of themselves as decision-makers. To remedy this, they suggest that teacher education classrooms must become wholistic learning environments, based on a transactional set of beliefs. Short & Burke then go on to explain the characteristics of such an approach.

- Uninterrupted engagement: The provision of large blocks of time to facilitate active learning and reflection on that learning

- Using learners questions to direct their own learning

- Making learning an intertextual experience: Help learners connect their past, present and future understandings in a classroom characterized by community and connectedness

- Providing multiple sign systems for learning (language, visual forms, music, movement)

- Helping learners live in an ambiguous present: To develop a risk-taking attitude of ongoing inquiry

- Providing demonstrations of learning, so that students can be actively engaged in learning, observe other learners, and relate to the most significant demonstrations

- Building a collaborative community

Such suggestions amount to a call to teach the way that one says teaching should occur; that teacher educators explore more fully how to live their own models. The use of the clinical professor, or faculty associate, is one way to facilitate such modelling. Grouping students by cohort, introducing practice early in teacher education, compressing the learning experience, and using action research collaboratively to guide the practicum are all ideas which facilitate and enhance the suggestions made by Short & Burke(1989).

Another proposal for changing the nature of campus programs is the idea of cognitive apprenticeship (Collins, Brown, & Newman, cited in Neiman-Femser, 1989; Brown, Collins, & Duguid, 1989). Brown et al present the idea, similar to that of craft knowledge, that knowledge, and not just learning, is situated, and so the learning methods that are embedded in practice are not only useful, but are essential. This is in contradistinction to a more traditional and prevalent set of beliefs about education which lead to the assumptions that knowledge is individual and self-structured, that schools are merely neutral transmitters of what is learned, and that concepts are abstract and fixed, and are not influenced by the activity through which they are acquired and used. Such a set of traditional assumptions, as we have seen, also permeates the 'hidden curriculum' of teacher education institutions. Brown and his colleagues advocate for cognitive apprenticeship, instead, as a means of enculturating students into professional practice through a

craft apprenticeship model. As they point out, apprenticeship helps to emphasize how one learns and creates professional knowledge through practice; learning which is inherently context-dependent, situated and enculturating. From this analysis, they suggest a teaching/learning process which has three stages:

1.] The teacher makes their own tacit knowledge explicit, either through thinking out loud, or by modelling, or both;

2.] Teachers and the cohort group support individual students as they attempt the task;

3.] The students continue independently.

They further note that such a process must take place within a group learning situation, which should have the following features: collective problem solving; the display of multiple roles by all involved; the confrontation of ineffective strategies and misconceptions; and the provision of collaborative work skills. Again, the idea of cognitive modelling is clearly a suggestion within the tradition of craft knowledge, and depends upon the presence of a master teacher who both models and makes his or her tacit knowledge explicit. This is one of the major functions of both the faculty associate and the collaborating teacher, and depends, as we have seen, on the use of processes of inquiry. The idea of enculturation as the mode of professional learning is embedded in the idea of the rite of passage approach which Tom's structural suggestions help to bring about.

Finally, there has been a call to work directly and consciously on the metaphors or orientations that students bring with them to teacher education.Suggestions have been emerging on how to change these metaphors. Zeichner & Liston call for direct study of the traditions of teaching - the conservative, the progressive, and the radical - as a way of putting student teachers into more conscious control of such traditions, or metaphors. Korthagen & Lagerwelf (1994) suggest using more 'right hemisphere' teaching strategies, such as figurative language patterns, stories, the use of metaphor, visual images, modelling, photographs, videos, and so forth. They also suggest

blocking the `left hemisphere' through a concentration on the emotions so as to induce more global images. In another paper, the same authors (Korthagen & Lagerwelf, 1994b) argue that in order for "reframing" (Schon, 1987) to occur, the student teacher requires sufficient suitable experiences and opportunities for reflection on those experiences. This process, they suggest, leads to change in the gestalts, or world views, or implicit metaphors, of student teachers. They note the characteristics of a program based on this approach: a complete connection between theory and practice; a close professional relationship between the teacher education staff and the cooperating teachers in the schools; an alternation between time on campus and time in the schools; a view of the teacher educator as a generalist who is able to connect experience and theory; and no fragmentation by course or topic in the program. Their underlying theory is similar to that underlying a conception of "craft knowledge"; that is, that teacher knowledge which is assumed to function in practice is knowledge based on experiences; just as their suggestions for change to teacher education programs are synonymous with the changes outlined earlier as arising from a craft knowledge orientation and transactional beliefs.

The proposals on metaphor, cognitive apprenticeship, and teaching through a process which is based on the theory of what is being taught, form a set of intertwined proposals for change to campus programs, with implications for practica. They each incorporate group learning, active learning, modelling rather than telling, a variety of teaching strategies, and individual and group reflection rather than the more conservative and transmissive practices commonly found in teacher education. These link with an emphasis on the practicum, collaborative research, the role of the clinical professor, and Tom's (1991) structural changes, all within an approach to teacher education rooted in craft knowledge, as possible innovations that might help to break the `apprenticeship of observation'.

Argument Summary
Student teachers enter teacher education with largely transmissive and conservative beliefs and images about teaching. Such beliefs have the effect of undermining one of the reform efforts in education, which is aimed, in large part, at changing the image of the teacher as a transmitter of

knowledge, usually by talking, to large groups of passive students, into the image of the teacher

as a facilitator of active learning, which is both social and co-operative, and involves many styles,

or approaches, to teaching. Students with conservative beliefs have difficulty in adopting   or

accepting such a transactional image, or developing the necessary skills to embody the

transactional teacher. Most teacher education programs, in spite of good intentions and much

work, have not been succesful in changing these pre-existing beliefs. Campus programs have

largely been ineffective due to the structural arrangements,or hidden curriculum, which forms the

basis of most such programs. These structural arrangements form an underlying message, or

meaning which is founded in technological rationality, and is transmissive in nature, and so is

often in opposititition to stated program intents. Practica in such programs are similarly ineffective

in promoting change in beliefs, as they equate success on practicum with the student teacher's

ability to replicate current practice. In this way, the practicum reinforces the conservative prior

beliefs of students, and undermines the intent of campus teaching.

There have been a number of calls for the reform of teacher education programs. One major body

of literature suggests that the nature of teacher knowledge is a form of craft knowledge, and has

more to do with *knowing how* rather than *knowing about* teaching. This craft knowledge

conception is related to a transactional view of learning, and implies a number of associated

reforms, each of which can be supported independently. These include changes in the practicum

and relations with schools, a revised program structure, the use of a clinical professor role, and

reform in the teaching methods and content of teacher education courses, with special attention to

changing the underlying beliefs, or metaphors, with which students enter teaching.

Because a craft-knowledge orientation requires situated learning, the practicum needs to be

emphasized, with modification, such that it is a reflective and collaborative experience. One way of

doing this is to introduce action research projects as central to the practicum. This, in turn,

requires close collaboration between the university, schools, student teacher, co-operating

teacher, and practicum supervisor. Such arrangements may help focus teacher education on the

dilemmas of teaching and learning, and so impact on student teacher beliefs about such dilemmas.

The hidden curriculum of campus programs may best be changed by attending to the structure of teacher education programs. Such structural changes include compression of courses, experience preceding or congruent with theory, vertical rather than horizontal staffing, and cohort grouping of students. These changes would have the effect of converting the hidden curriculum to one of a rite of passage, an initiation into a renewed teaching culture based on craft knowledge, which may have much more impact on student teachers' beliefs.

In order to ensure that these structural changes work, it may be important to encapsulate the craft conception of teacher knowledge in the role of a clinical professor, or faculty associate. Such an innovation will help to facilitate vertical staffing, provide a link between universities and schools in collaborating during the practicum, and help in providing models of appropriate teaching methodology. Importantly, the clinical professor is a role model to students of a renewed professionalism, and will embody the end result of the rite of passage for the student.

Congruent with the calls for changes in underlying conception, practicum, structure, and staffing have come suggestions regarding the content and methodology of university courses in teacher education. These generally have suggested a move from didactic teaching, teaching as telling, to much more holistic learning environments. That is, the general trend has been towards a shift from transmissive methodologies to much more transactive and constructivist methodologies. These methods are largely what is taught as content in university courses, so the calls have been for university instructors to model what it is they teach.

Such a shift involves incorporating group learning, active learning, modelling rather than telling, a variety of teaching/learning strategies, and both individual and group reflection. There have also been calls to work at the level of metaphor, or the world view of students, through cognitive modelling as well as through a variety of right brain hemisphere teaching techniques, such as

figurative language, stories, modelling, photography, and so on. These techniques are very powerful in promoting beliefs which are consonant with a transactional view of learning.

The end of such changes is to create revitalized schools through revitalizing teacher education. In order to do that, the universities themselves have to become revitalized, and promote the characteristics that are desirable for schools. That is, faculties of education have to model the very characteristics that schools should have. Each of these innovations was present in the revision module at Simon Fraser University, and this thesis is to investigate the effect of this experience on their underlying beliefs about teaching and learning. In seeking confirmation of the effectiveness of thses innovations, then, the research seeks to first describe the program, then to discover if student teachers adopt transactional beliefs - that learning is active, social, co-operative, and involves many styles, or channels, of learning.

Chapter Three

METHODOLOGY

This chapter is divided into five sections. The first section presents a rationale presented for the use of a

case study methodology. The second section details information about the researcher. The third section

deals with the subjects and setting, and the fourth with methods used to collect data and to analyze it. The

fifth section describes the measures that were used to ensure a trustworthy study. The sixth section contains

some reflections on the process.

1. Rationale for the use of a case study.

As I considered this study, the following factors were evident:

- ❏ I needed to fully describe the program and the context, as any understanding would be dependent on such a description.
- ❏ The program under study is a very complex one, which does not lend itself to simplification of variables.
- ❏ There were a great number of subjective factors to be considered in the course of the study.
- ❏ It is a relatively new line of inquiry, which is attempting a further conceptualization of factors under study.
- ❏ It involves an understanding of the subjects' interpretations of events.
- ❏ The observer was a participant.
- ❏ The study occurs in a naturalistic setting with a clearly bounded group, program, and time.

These conditions seem to lead naturally to a case study design. Merriam (1988), in summarizing the nature

of case studies, points out that:

"A qualitative case study is an intensive, holistic description and analysis of a single instance, phenomenon,

or social unit. The main concern of case studies versus surveys or experimental research is 'interpretation in

context' (Shaw, 1978, p. 13). Case studies are particularistic in that they focus on a specific situation or

phenomenon; they are descriptive; and they are heuristic . . . Qualitative inquiry is inductive - focusing on

process, understanding, and interpretation - rather than deductive and experimental." (p. 21)

35

This case study is both descriptive and interpretive, seeking to answer the questions of what happened, how it happened, and why it happened. The intent is not to find some 'true' account, but a reasonable, plausible one which will lead to insight, understanding, and some further questions.

2.   A brief personal description.

Since both this study and the context under study are both, to a large extent, my creations, I thought it important to include some information so that the reader will better be able to judge the effects of that on the study.

I have some twenty years experience as a teacher, after having graduated from the same program which provides the context for this study. The first seven of those were as an elementary teacher in a middle-class suburb of Vancouver, teaching largely grades five, six, and seven. The next seven years were spent teaching at a junior high school in the same district, teaching grades seven, eight, and nine. At that school, I was department head in English, Humanities, and Drama at various times. The next four years were spent as a district program co-ordinator. The various programs for which I was responsible included secondary English, Social Studies, Communications 11/12, and Gifted education. During this time, I was also accountable for the district programs in critical thinking and secondary writing. The responsibilities in these areas were to develop, implement, and evaluate the district program.

At the same time, I was asked to provide in-service education sessions for various schools, districts, conferences, and so on. At the time when I started at Simon Fraser University, I had given literally hundreds of workshops to groups of teachers on diverse topics, such as writing, critical thinking, models of planning, models of learning, and so on.

At the time of this study, I was a Faculty associate at Simon Fraser University. During my first year, I had worked with a group of teachers on a re-certification program, and a group of beginning teachers during their first practicum experience. I had also taught at two courses at the Prince George site: one in critical thinking; the other in language teaching across the curriculum.

I hold a social reconstructionist view of the function of education, and a constructivist/progressive view of teaching and learning. These views permeated my teaching of the student teachers.

During this study, I was the teacher - along with my partner, who held the same views as my own - during the campus program. I was also the supervisor of the students during the practicum program. All of the teachers with whom the students were placed were familiar to me, and some are personal friends of mine, as were the administrators of the schools. These people knew me personally, and viewed me as a seconded member of the district staff (the practica were sited in my own school district). The program was supported by the assistant superintendents of the school district, two of whom are also personal friends and previous supervisors of mine. This was known to all participants.

I had supervisory authority over the students, I taught them, and I also wrote their evaluations. During the eight months of this study, I became very friendly with most of the students, and still keep in contact with many of them.

3. Participants and setting.

Participants

The participants in this module were 26 students ranging in age from 21 to 47, with an average age of just over 30. There were eighteen females, and eight males. With the exception of one Korean male, none were from visible minority groups, or from recognizable ethnic groups based on accent, dress, or other distinguishing characteristic. Their educational background ranged from between five semesters of university to master's degrees, with most having completed an undergraduate degree, or being within one semester of such completion. Nine students were in the secondary teaching program, the rest were in the elementary teaching program. The curriculum areas in which they worked included Social Studies, English, Mathematics, Humanities, Art, and Sciences at the secondary level; at the elementary level, all were generalists.

All of the students had met the generally high admission standards of the Professional Development Program. These include marks of at least 2.7 G.P.A. (and up to a 4.0!). Normally, they have had previous experience in working with children, and have been able to provide good references as to their character and ability.

This group (with exceptions noted below) stayed together for two full semesters, taking all their classes together and working in clustered placements during their practica. Impressionistically, this group was

bright, friendly, outspoken, hard working, intelligent, and co-operative. Relations between them, myself, and my partner were excellent.

During the study, three of the students withdrew from the program, and two switched modules, leaving a reduced total of 21. There were various reasons given for these events which cannot be reported here. As a result, the data from these students is both incomplete and unanalyzed. This is unfortunate, as I recognize the insights which might have been gained from them. However, in this case, ethical considerations must override the concern over lost data.

All participants consented to participating in the study after being informed that, while the actual research questions could not be shared, I was "interested in your beliefs and concerns, and how they change over time".

SETTING
Simon Fraser University is a medium sized university in Burnaby, British Columbia, Canada. The teacher education program at the university is called the Professional Development Program. It enjoys an excellent reputation both locally and nationally, drawing students from across the country. Entrance to the program is very competitive.

The program consists of three semesters. The first semester is divided evenly between time on campus and time on practicum. The second semester is a full semester of practicum experience, with the student taking 85% or more of a teacher's load for at least six weeks, with the rest of the time spent working up to that percentage. The last semester is spent on methods courses. (For students entering the program in January, semester two and three are switched, although that was not the case with this study.)

The program operates around three constant practices. The first is differentiated staffing, in which most of the teaching and supervision is done by seconded public school teachers, called faculty associates. The second is the long practica, and the third is that practice,for the most part, precedes theory. Given these conditions, I would suggest that the program has a radicalized apprenticeship structure based on a model of reflective practice, or deliberate action (Kennedy, 1987).

The students within the program are organized into module groups, which consist of a group of 25-28 students with two faculty associates and a faculty member. In many modules, the faculty member plays a

minimal role. That was not the case in this study, wherein the faculty member played an active role - not in teaching or supervising, but in administration and guidance.

The modules do not operate with a stated curriculum as such, but do respond to program goals (see appendix). A great degree of freedom is accorded to module groups with regard to instructional arrangements, curriculum, practicum placements, assignments to students, and so on. The calendar is more rigid, especially with regard to the amount of time students must spend in schools. Other than that, most instructional arrangements for the modules are left up to the modules. The program description in chapter four specifies what the instructional arrangements were in the module specific to this study.

This study looks at the first two semesters of this program, the practicum and theory/practicum semester, with a module group called ReVision.

4.   Methods of data collection and analysis.
The data collection was accomplished using a variety of methods.

❏   Interviews - Each student was interviewed three times - once after the first three weeks on campus, just before the initial practicum experience; once after the first semester; and once after the long practicum in the second semester. These times were chosen as they represented natural ending points for quite separate experiences. The interviewers were a research assistant, the faculty member associated with the module, and an interested program co-ordinator. The interviews were structured by three questions:

1.   Has anything changed for you in your thinking about teaching and learning since the program began? (or since the last interview?)

2.   What kinds of things can you think of that helped to facilitate this change?

3.   Can you recall an instance that was particularly powerful in getting you to think about teaching and learning?

If question one was not answered affirmatively, then the next two questions were not asked.

These questions were structured so as to get the information which we needed without cueing the students as to any expected answer. I also wanted to ask questions which would allow for unanticipated, unusual responses. The interviewers used active listening skills such as paraphrasing and phatics to carry on a

39

conversation, but did not depart from the question schedule or ask any further questions or make any further statements.

The first set of interviews were carried out during the last day on campus before going on the initial practicum. Interviews were carried out with individual students in small private rooms. The next two sets of interviews were done by appointment at the student's practicum school during the last few days of the practicum. Again, the interviews were private.

The students were able to remain anonymous from the investigator through the use of code names. They were informed that the interviews would not be read until after they were finished the first two semesters, in order to remove any fear of the interviews affecting their performance evaluations.

The interviews were tape-recorded, then transcribed verbatim.The N varies because of extremely poor recording quality of one interview , and due to illness of a participant in another.

❏ Anonymous program evaluations (student)

In the Professional Development Program, program evaluations were conducted at the end of every semester. The program evaluations completed by the students at the end of their second semester were included in the data for this study. Specifically, material used were the student responses to the following question:

"Comment on those features of the program which were most important to your development this year."

These evaluations are anonymous and are filled out by every student in the program. They are directed to the co-ordinator of campus programs, and were not perceived by our students to be in any way connected with this study. I decided to use the responses because of these conditions, and the students consented to this use after having filled them out. These were completed on the last day of the semester, roughly one week after the students had received their final evaluations. Not every student completed a program evaluation [N=13], but this was due to poor attendance, not unwillingness.

❏ Analyzing the data.

The interviews and program evaluations were first organized by event, then by student. The data from five randomly selected students were then all read by myself, the faculty member for the module, and our

research assistant who had helped in the interviews. We did this separately, with the intent of finding recurring regularities in the data. First, we each identified units in the data that seemed to us to be significant. We brought these in, and made a chart which was composed of the headings into which some of these units might fit. We then separately looked through the data from all the other students to see if the chart which we had composed made sense of the data, and was able to account for most of the units. Next, we revised the chart, and went through the process of sorting the data by the chart headings again. Finally, we counted the number of units that were in each heading, and compared our findings, attempting to account for discrepancies by discussing each discrepant unit. We attempted to make sense of it all, where "the sense of the whole is built from a rich data source with a focus on the concrete particularities" (Connelly & Clandinin, 1990). Finally, I sat down and tried to make some sense of the categories with relation to significant events. These findings are presented in chapter four, and the conclusions in chapter five. (see appendix one for example of codes data and chart.)

5.   **Measures taken to increase trustworthiness.**

- Multiple investigators "to establish validity through pooled judgment" (Foreman, 1948, p. 413, cited in Merriam, 1988).
- Member checks
- Peer examination by other faculty associates
- Multiple sources of data
- Anonymity of students provided
- Postponed analyzing data until after the two semesters ended, and so informed the students.

After the initial process of data analysis had concluded, I engaged in an active search to discover anomalies or negative cases. While not all cases fit the general pattern exactly, none disproved the general hypotheses which emerged.

'The data were then informally checked with the students to check for their sense about the accuracy of the findings. This was done with fifteen of the students only, as the others were not available. However, all registered enthusiastic agreement. A caveat here: By this time, these people were no longer my students, but were my friends. It is possible that some of them simply did not wish to cause me any distress, even though they were repeatedly asked for an honest assessment.

Finally, the data from school associates (outlined below, in the section on measures to ensure a trustworthy study) were then scanned to see if there might be any indication that the student data was not trustworthy. No indication of this was found. Indeed, when the questionnaire from the school associates was analyzed, it seemed to confirm what the students were saying (see chapter four).

In order to increase the trustworthiness of the study, the findings were presented to a group of faculty associates. The comments that we received were unanimous in suggesting that the findings seemed to make sense to them in their experience.

Finally, a questionnaire was administered to the school associates, using a Likert scale. Again, the primary motive for using this was program evaluation, but it also was a valuable way of checking for the trustworthiness of student comments. A sample is included (appendix two).

6.   Reflections on the process.
The process of data collection was made more difficult because of my relationship with the students. In spite of the various measures taken to increase trustworthiness, that relationship must be taken into account when looking at the data. It is heartening, however, to note the degree of agreement between students on the key points from multiple data sources. As well, I am sure that my closeness to this project facilitated my understanding and interpretation of the key events.

Although the questions asked were carefully constructed, they did not provide us with as much information as I would have liked about the developing pattern of issues of practice faced by the students, but rather highlighted only the truly significant ones. Designing questions to elicit more detail would be a high priority for me in undertaking another such study. As well, I think that the student writing was a significant source of data. and one that I would use more frequently in future.

There was the loss of one interview session due to bad batteries. Technology may improve our lives, but it certainly can add to our frustration!

The study has been a very large one for a novice researcher to undertake. In the next study, I would better limit my questions to create a more manageable study.

Finally, the process of analyzing one's own work has been both rewarding and painful. It is rewarding in that one comes to know more about the impact of that work on others. It is painful in that one sets the

limitations, blind alleys, and missed opportunity in one's own work. Reflective it may be, easy it isn't.

Chapter Four

This chapter is divided into two sections. The first section is a description of the campus program which was created for the students. The second is a description of the practicum program, and the process used to structure this program.

THE CAMPUS PROGRAM

The campus program that we arranged for the students had to be completed in three weeks, as a part of the normal program constraints at Simon Fraser University. We planned the program without conscious reference to any body of literature, although certainly we were all read in various aspects of education, and both used and modelled transactional teaching methods for other teachers. Generally, though, we were intent on keeping in mind only that we wanted to focus on a transactional form of learning, what we called "kid-centered", and that we wanted not just to talk about it, but to lead the students to it by modeling it as well. The elements of this program were drawn from our knowledge of teaching in general, and from our first year of working with student teachers; that is , from our personal practical knowledge. As we talked, we decided to focus on how learning occurs, rather than on how to teach, as we felt that it was through reflecting on themselves as learners that our students would come to understand how a teacher's actions affect student learning. A large area of concern for us was attempting to get students to "think like teachers", a phrase that emerged in our group, but was given no referent. We had watched student teachers over the last two semesters behave in ways that they thought teachers behaved, but with no really good reasons. Instead, we wanted to use a series of methods such that our students adopted a child-centered approach to learning in which they were metacognitively aware of the reasons for their actions.

We believed that the best way to do that was to set up an environment where they were taught a lesson, then had a chance to reflect on how they reacted to that teaching, then apply this new insight to generalizations about teaching. They would be taught in a reflective and transactional manner, that might alter their perceptions as teachers to adopting such an approach. Finally, we wanted to model that reflection on action for them so that they could understand how teachers thought.

We recognized that our modeling would be a limited way of educating them, but we reasoned that we could not cover the broad spectrum of knowledge about teaching in three weeks, and our intents were to "get them ready for the classroom" and we also understood that the modeling and teaching we did would be further informed by the classroom and by the methods courses that they would receive following the two practicum semesters. Our intent was to use our skills as teachers during that three weeks to convince them that transmissive teaching, which most students seem to have a clear image of, was not the best way to teach, and that transactional and reflective teaching - or "kid centered teaching" - was better in a number of ways.

We decided to plan the entire three week practicum first. The first thing we did was to structure the physical environment. We already had a room assigned to us, and so we structured it as one would a regular classroom. We created a reception area at the door to demarcate the difference between the rest of the university and this room. It was done through placing a stand with flowers and a large welcome sign in front of the door. Inside, we created groups of tables and chairs such that students would be sitting in groups of four. A classroom library was created, containing a number of books about teaching, as well as a selection of children's literature. A blackboard was placed at the front of the room, with overhead and screen to one side of it. A table was placed at the side to hold food for our breaks.

We then decided on the structure of the day. We decided that we would run a regular school day, from 8:30 to 4:00, with morning recess at 10:15, lunch from 12:00 until 1:00 and afternoon recess at a flexible time around the middle of the afternoon. Each recess lasted 15 minutes. This, we thought, would emulate the school day and provide natural breaks which would facilitate the shift between activities or topics that we would have to make. In addition, we created a sustained silent reading time for the first 20 minutes after lunch, with a ten minute discussion time for the readings following it. The day, we decided, would always begin with group-and team-building activities for the first 20 minutes, with time to process for the next ten.

Our next set of decisions had to do with the structure of each lesson. We decided to have each lesson teach something about learning or teaching in two ways: the content of the lesson; and the process of the lesson. So, one of us would teach the lesson, then the other would process the teaching of the lesson by asking the following questions:

1. How did you feel during that lesson?

2. What did you learn?

3. What did the teacher do to create that learning?

   Those feelings?

4. What can you learn about teaching from this?

   In terms of the content? In terms of the process?

We would ask them to reflect on themselves as learners, first, then to derive the critical attributes of the teacher's skill in having them learn that way. This would be done for virtually every lesson, and they would be asked to keep a journal in which to record various teaching competencies, skills, and strategies that they had experienced and been taught. In addition, a class chart naming the content, strategies, and skills taught was maintained.

In order to facilitate their reflection on the lessons, we decided to reflect aloud ourselves as teachers on how the lesson had gone. By being openly critical or accepting of our own behavior, and by attempting to describe it by reflecting aloud, we reasoned that the students would be more likely to become reflective of themselves as learners, and so more likely to become reflective teachers.

Next, we attempted to decide our content. After much discussion, we decided that the process of planning that we were going through was exactly the process that our students needed to see modelled. As a result, we decided to plan the curriculum with our students, both for the three week period, and in daily planning sessions. Accordingly, we structured the first two days to elicit information from the students as to their beliefs and questions about teaching, and the third day we spent a morning planning the next three weeks with them, based on the information that they provided. What would emerge would be a weave of our

intents and their questions. Each day, in the afternoon, Bonnie and I would plan the next day out loud with the students so that they could see how planning decisions were made. Each of these planning sessions was to be followed with processing the student's perceptions and questions about planning and drawing out generalizations about how teachers plan.

Some content we knew that we would include. We agreed that we would devote much time to understanding learning. So, part of our content was an analysis of the various traditions of learning so that students would be able to label particular learning and teaching activities as transmissive, transactional, or transformational learning. We reasoned that this approach would help them with their reflections by giving them a set of categories within which to reflect. We also knew that we would spend some time teaching them learning styles, not because we were believers in the categories that such inventories provide, but because the idea of learning styles tended, in our experience, to provide a host of insights into learning differences. We knew that we would teach them planning, focusing on those planning methods that led to transactional teaching. Finally, we knew that we wanted to teach them using a wide variety of strategies and skills. Thus, while the curriculum may have included their questions and concerns, we knew that our co-planning with them would include some content.

Next, we planned the creation of social interactions that would occur in class. We believed that good transactional learning required the formation of a cohesive and open social group, and we also believed that the development of a strong cohort group would help the students as they went through the process of student teaching, by giving them emotional support and assistance with all the various tasks that student teachers have to perform - planning, teaching, evaluating, reporting, relating to kids, teachers, administrators, and so on. Accordingly, every day was to start with a group or team building activity. As well, they would be assigned phone calls to each other about class activities as a way of breaking down barriers. They would be placed in triads and groups to go to lunch together on the first five days. Finally, we also decided to put them into permanent groups, called tribes, the purpose of which was to give the students a sense of a small cohort whose sole function was to help them deal emotionally with the transitions that they would have to make in the program. The tribes were groups of four, selected by Bonnie on the basis of possible shared interests (personally or curricularly - this information was gleaned from the information sheets required of the students during the entrance procedures), balanced as much as possible

by age and sex. The class spent the last 15 minutes of the day in these groups, just discussing the day.

Groups were assigned to generate a name for their tribe and a banner. These banners hung in the classroom for the entire three weeks. Many of the team building activities were directed at the tribes.

The following is a listing of the content that was directly taught to the students:

- ❑ learning styles
- ❑ co-operative learning (Johnson and Johnson)
- ❑ unit planning
- ❑ curriculum orientations (Miller and Seller)
- ❑ classroom management strategies
- ❑ Concerns Based Adoption Model
- ❑ Writing process
- ❑ Components of a lesson
- ❑ How to lecture
- ❑ questioning strategies
- ❑ recent research on learning
- ❑ critical thinking
- ❑ control theory (Glasser)
- ❑ school culture

The focus in each of these was on student learning, even when the content was teaching methodology.

This content was taught using these processes:

- ❑ writing process
- ❑ doubting/believing game
- ❑ diamond ranking
- ❑ thinking skills from CoRT thinking (DeBono)
- ❑ sort and predict
- ❑ play/debrief/replay
- ❑ carousel
- ❑ line-outs based on beliefs
- ❑ t-charts
- ❑ four corners
- ❑ mime
- ❑ drama activities (various)
- ❑ storytelling
- ❑ drawing
- ❑ think/pair/share
- ❑ lecture
- ❑ Socratic questioning
- ❑ visual organizers
- ❑ concept attainment
- ❑ concept development
- ❑ webbing
- ❑ brainstorm and categorize
- ❑ station approaches
- ❑ readings
- ❑ structured controversy

The group-building activities included:

- ❑ roadmaps of personal lives
- ❑ attribute linking game
- ❑ various name games

- share a secret game
- creating a tribe name/banner
- taking pictures of each other for the walls
- creating educational slogans/bumper stickers
- "find someone who . . " game

It is important to note that these activities, just like the structures that we planned, arose from our personal, practical knowledge of teaching. Both of us had been consultants/helping teachers for large school districts, and so had a fund of strategies and workshops gleaned from those days, as well as from our own teaching experience.

In order to highlight how this came together, an example of a typical day might be in order:

8:30	Students have arrived. Opening activity is on overhead. Group is to create a new drawing of what learning "looks like". One group member will be called upon to report the group's thinking to rest of class.
8:50	Bonnie uses cards to randomly select group member to report groups representation to class.
9:00	Hugh processes activity with group. They record activity and critical attributes of teacher behavior in strategies journal.
9:15	Topic for morning is introduced - critical thinking. Minilecture only points out that this is a difficult and complex topic, and provides instructions for process of learning about it. Class will first be divided into two groups. One group will receive an article which is hostile to the idea that critical thinking is a set of skills. The other group will receive an article praising a skills approach and view a videotape of classrooms using such an approach. This will last until recess time.
10:15	Recess. Class shares in food that one tribe has brought for the day. (A procedure that the students proposed and did).
10:30	Groups are created, taking two people from the "anti-skills" group, and two from the "pro-skills) group to create a new group of four. All six groups now enter into a carousel - a structure whereby each group is assigned to a station which asks a question, and asks that the group respond to the question on a large sheet of paper using a felt pen. After ten minutes, a bell rings and each group moves to the next station. There, they encounter a new question with the last group's responses to that question. This continues until each group has answered each question, and had a chance to respond to the answers provided by other groups.
	The students find that they really disagree, based on the readings that they had done previously. Questions have been structured to bring out the points of disagreement from each article. However, in order to respond, they have to find persuasive arguments. Debate is lively. The articles are brought out. Examples from their own life are used.
	The carousel is ended, and Hugh asks each group to report on what they have learned about critical thinking. As they report, notes from their comments are placed on the overhead, and copied into the students' notebooks.
11:45	Bonnie processes the strategy used to teach critical thinking (Carousel based on readings' minilecture). Students note what they learned, how they felt, the critical attributes of the various strategies, and how the teacher set it up.
12:00	Lunch. Everybody heads to the cafeteria, where they sit in a large group and continue to argue about critical thinking.
1:00	Sustained silent reading. Students are sitting or lying all over the carpeted room, reading.
1:20	Some students share what they have been reading. Hugh reads a brief Sufi story about Nasrudin, which may help inform further thinking about critical thinking.
1:30	Bonnie presents mini-lecture on the Learning Brain: Children learn through demonstration, engagement, and sensitivity. (Frank Smith). Students are asked to discuss this theory in groups. After 15 minutes, class discussion follows.

2:45	Hugh processes last lesson. Students note group facilitation skills demonstrated, and record in journals.
3:00	Afternoon recess. General chatter in room.
3:15	Recess ended by singing song - "oats, peas, beans, and barley". Primary students note lyrics in notebooks.
3:30	Bonnie and Hugh co-plan the next day's activities with class, and reflect aloud on that day's teaching.
3:45	Class moves into tribes to discuss the day.
4:00	Dismissal

We further planned two important events. The first was the school associate in-service, a time when the school associates, the teachers with whom the students would be placed on practicum, came to the university to learn about the program and the expectations of the practicum experience. We planned that the students would run this day, but we would not tell them about it until 2:00 in the afternoon on the day preceding the in-service day. We had three intents in doing this. The first was based on our experience that, in the beginning of our program, the students would go through an intense disorientation as they did not receive the standard university lecture/seminar format, and so would need to demonstrate to themselves that they were actually learning. Having to prepare a teacher in-service would, we felt, reassure them that they were learning how to teach, albeit in a non-traditional fashion. The second was because we believed that the formation of a social group was facilitated by having to undergo a difficult experience together, and teaching their own school associates would certainly be such an experience, especially with a minimum of planning time. Our third intent was to help them overcome their nervousness about teaching, and we reasoned that having to prepare a full teaching day, with a minimum of time to plan and agonize over it, would be the biggest help we could render in terms of overcoming nervousness about teaching.

The second major event that we planned was a retreat during the last half of the second week of the campus program. This would be a two day retreat, which we reasoned would facilitate team building and provide uninterrupted time for talking about teaching. The curriculum for these two days would be a new provincial education program called the "Year 2000". The students would prepare this retreat, find the site, create the workshops, plan the menus and social time, and be, in general, in charge. We wanted them to understand how it felt to be learners who were responsible for their own learning.

To summarize, the campus program had the following attributes:

❏   Multiple methods of expression of learning.

❏   A dominant metaphor - that of transactional learning (Miller and Seller) - that governed all of our discussions and actions.

- The development of a strong cohort group within a highly social and co-operative content.

- A strong focus on how learning occurs, as opposed to a focus on how to teach.

- Modeling of how to teach embedded in the content of how learning occurs.

- The processing, after each 'lesson', of the critical attributes of those lessons both from the point of view of the learner and that of the teacher. (Co-operative modeling)

- The demonstration of trust in their learning through having the students teach their own school associates and organize their own retreat.

- The modeling and processing of planning techniques as part of everyday experience.

The students came, and we did as we had planned. For the first two days, they seemed stunned. On the third day, we started to hear strongly their perceptions that they were not being taught as they expected. Where were the lecture notes? They had come to learn how to teach, they said, not how to bond. There was much truculence. Bonnie and I reflected aloud on what was happening, and our sense of it. As the students became aware of our intents, they started to settle in to this form of learning. Nevertheless, many were uncomfortable with this way of learning, and they told us so . . . publicly . . daily.

On the third day, for example, Geoff, a young male student, refused to participate in a group building activity called "roadmaps". This assignment was simply to draw a roadmap of one's own life, and to share it with the newly formed tribe. Geoff pointed out that he considered such activities "B.S.". He wanted to know when we were really going to teach them something. We convinced him - as well as the now restless rest of the group - that they really were learning, and that they needed to trust themselves as learners and us as teachers. They were busy calling each other at night, and going to lunch together, but Bonnie and I had the sense that they were critically uncertain, and wanted the security of lecture notes, assigned readings, and so forth. This sense continued through day four, when we took them to the campus pub for lunch. Many still complained that they weren't sure what they were learning.

On day seven, at 2:00, we told them that they had to prepare the in-service day for the school associates the next day. They were shocked. We told them that they had observed and learned enough to do a good job, and that we absolutely refused to have anything to do with it, other than getting them any materials that they needed. They worked together late into the night, and we gave them materials that they needed.

The next day, the school associates arrived, expecting the usual greeting by a program co-ordinator or faculty associate. Instead, they were greeted by a student, who gave them a nametag and introduced them to a group. The day began with a group-building task that we had used earlier, in modified form (group storytelling). Then, the program objectives were clarified using a carousel technique that we had modelled a few days previously. Reporting on the carousels was accomplished using a random selection technique that we had used. Lunch was provided, and the afternoon was largely taken up with the school associates and students discussing the upcoming practicum, using a list of questions that the students had brainstormed the previous evening. The day ended by processing the day in terms of content and process. The school associates spoke in very flattering terms of how well the students had taught that day.

Needless to say, the students were ecstatic. They were still critical of many of our methods, and critical of not allowing them enough time to be completely ready for the in-service, but they were now convinced that they were learning. They were aware of how they were coming together as a group.

The next two days found us on retreat, close to Whistler village, in a house found for us by one of the students - at no cost, too! The students went through a series of activities that they had co-planned on day six and seven, relating to the new provincial curriculum. During this time, we relaxed and left it up to them. We had a party on that night, and we all ended up around the fire at about 11:00, with Bonnie and I telling stories about our teaching in response to the questions that we were being asked. We told those stories that teachers tell about our big blunders, about kids that had given us a hard time, about happy and sad times in the classroom. There was a sense that night of a change - of the development of trust in us as teachers, of a faith that they would be fine as student teachers. This is not quantifiable, but from that night forth, we were invited to lunch each day. And there was a subtle shift in our relations with the students; they became our junior colleagues.

The rest of the three week campus program unfolded according to plan. We ended with a series of understandings about learning and teaching, a series of skills and strategies, a method of planning, a model of reflective practice, and a belief that they could be successful. At least, that was our sense of things as teachers. Each of the students was then interviewed as to their perceptions of the three weeks by a faculty member, co-ordinator, or research assistant. The results were not shared with us until much later. We were busy planning the practicum program.

THE PRACTICUM PROGRAM

In the campus program, our large intent had been to provide student teachers with transactional ways of seeing teaching and learning. We were aware, however, that they were going out on practicum, a kind of apprenticeship. We were also aware that school associates might not share our beliefs in transactional teaching; indeed, many teachers in our experience were transmissive in their approach, and we wanted to ensure that our teaching was not "washed out" by the day-to-day realities of working as a student teacher in a transmissively-oriented classroom. Accordingly, we seized a unique opportunity that was afforded us by a confluence of circumstance. I was on leave from Delta, a local school district, and had been talking to a principal there by the name of Neil Inglis. He had said that he and some other principals had approached Simon Fraser the previous year to see if they could set up a kind of 'remote campus' for student teachers at his school, South Delta Senior Secondary. The school was located so that it shared fields with a junior secondary and an elementary school. Neil thought that it would be good for the teachers to have a number of student teachers there, that in teaching student teachers, classroom teachers could gain new insights and a sense of dignity. He had no response from the university, but asked if I could perhaps pursue it.

I had discussed it with Bonnie and Judy, and they both seemed in favor. The co-ordinator of my module, David Fisher, saw no problem with the idea. We all agreed that we would gain from clustering students in a few schools. It would give the student teachers and school associates a community to assist them in their tasks, and would mean that our visitations could be more frequent, as we would have more students in any given school.

Just as we were beginning to discuss this with the school district officials, the provincial government of British Columbia announced that they were willing to fund action research projects that involved teachers in trying out parts of the new Intermediate program, based on the year 2000 document that our students would be learning. The grants could only be obtained through schools and school districts. As we considered this, the possibility of involving our students in such an action research project, in co-operation with the schools and school associates in Delta, emerged. We broached the subject with school district officials, and they were enthusiastic.

What finally came about was a collaboration with Delta wherein we would place our students with school associates who were willing to conduct action research with them. These school associates would be drawn

from the three schools that shared one site, and the three closest elementary schools (six schools in total). In this way, we would be placing all of our students within one kilometer of each other, facilitating our visits and maintaining the cohort group through such informal interactions as car pooling and physical proximity (as well as going to the local pub together on Fridays!). The school associates, many of whom knew each other, could help each other to work with the students.

Perhaps more importantly, we thought, was that the school associates who would volunteer for such a project would themselves tend to be reflective and innovative. As well, the notion of doing action research was one that was likely to make a regular curriculum and regular classroom practices open to question - intentionally and legitimately so. Since the document under investigation had as some of its central tenets those of transactional learning, we felt the action research project would be a good way to gain permission for our students to try out some of the practices that we had been teaching and modeling. The action research, too, was one way to support the kind of reflection that we thought was vital to good teaching.

The only question that remained was the topic that we would choose for the action research. Through a convoluted process, we decided on the topic of curricular integration. It was one that interested Bonnie, and we felt it could be adapted to all curriculum areas and would allow for a variety of teaching practices. Certainly, it would disrupt 'business as usual', and promote a questioning of classroom practice. Since it shifted the school associate into the role of learner, the project would also disrupt the usual 'master/apprentice' roles so common in teaching practice.

We applied for and got the grant, enough money to allow us to take four extra release days for school associates and students to co-plan their integrated units, and to report on them at the end of the semester. The school district also contributed three release days for each school associate, and the university contributed two. There were now sufficient release days to maintain the project over two semesters, and sufficient extra funding to provide time to write a report on the findings. Judy approached other faculty about the possibility of receiving some help with the topic, Roland Case, who had been working on the topic of integration, agreed to assist by giving a workshop. To round out the program, we structured a series of after-school workshops by volunteer faculty on various topics of interest to classroom teachers.

In order to manage the project, Neil suggested that we create a steering committee of teachers who would work with us on overseeing the project, and help with providing some direction for the release days. This

we happily agreed to. We also agreed to meet with the principals of the schools to explain the project and enlist their aid in recruiting teachers as school associates.

The practicum program, then, was not a typical one, but was a three way collaboration focusing on action research for a new curriculum as a way of providing preservice education for student teachers, in-service education for practicing teachers, and practical research for the Ministry of Education. It provided us with clustered placements, selected school associates, ongoing cohort support for the students, and permission to try out a variety of learning and teaching strategies in a variety of classrooms at various grade levels. Finally, ongoing reflection was built in to the program. With all agreed, we asked the teachers which of them might be interested. We got enough responses to place all of our students in the targeted schools for the first semester. And so, we began.

The steering committee was formed, and they took up the task of providing us with ongoing support and direction. They helped us to select the appropriate release days. They gave us feedback about how the project was going. In the end, through the mechanism of the steering committee, the report on research that was provided to the Ministry was written by the steering committee. They also supported the idea of the school associates being responsible for organizing some of the release days. Finally, school associates planned and facilitated the midterm report day during the second semester, and the day for reporting on the research on integration at the end of the second semester.

Meanwhile, the Ministry had taken more of an interest. They asked our permission to videotape our students and school associates as they each reported on their action research to the whole group at the end of the first semester. Naturally, we agreed. The result was that the school associates and student teachers took the whole project much more seriously.

We took planning days during both semesters during which the student teachers and school associates planned an integration. Then, a release day was provided to each school associate so that they could prepare the presentation of their findings with their student teacher. Finally, a release day was provided so that they could share the results of their action research with all of the other school associates and student teachers. However, the steering committee asked that we give the reports after school, as other teachers, principals, and district staff wanted to attend. We agreed. So, on the last day of the first practicum, our

students were co-presenting workshops on the integration of curricula to other students, teachers, administrators, district staff, and the Ministry of Education for the province.

All had not gone smoothly that semester, of course. The action research projects, which had been loosely structured assignments, had taken a lot more time than we had originally anticipated. We had reasoned that since the students had to plan anyway, then planning an integrated unit would take little more time, and that the school associates would help, since they had volunteered. We were wrong. The planning became a very difficult thing, as it had to encompass the normal school structures. For example, in one junior high school, they had been teaching a course called Humanities, a blend of English and Social Studies. Two of our students wanted to do an integrated unit on religions of the world, which would fully integrate Social Studies and English skills and knowledge. When they proposed this, the Humanities department initially refused. After all, they kept the English and Social Studies components separate. Right then, they were doing skilpacks in Social Studies, and grammar in English. They had thought that integration might mean 'trivial changes, such as integrating grammar into writing. However, after talking with us, these school associates went back to their department and forced the issue of what it meant to teach Humanities. They pushed for the integration of the two subjects. As a result, the department changed its policies about Humanities, and set as a department goal the integration of English and Social Studies.

The two students then planned an exhaustive unit, the first to be tried out under the new focus. Because their school associates had taken it so seriously, they seemed to be putting in extra effort. As a result, they produced an integration plan that was so complete and thoughtful that the school district bought it from them as an instructional resource for other grade eight, nine and ten Humanities teachers.

In other schools, the issues did not seem as large; but integrating curricula often posed interesting timetable challenges, and often forced discussion of what was most important to teach, and what could be let go. What did seem certain was that this was not 'teaching as usual'; nobody was the master and nobody the apprentice when everything seemed open to discussion. However, when it came to enacting the plans, the students still leaned on their school associates to assist them with the everyday mechanics of the classroom.

Going into the second semester, our students left the pairs in which they had been working (for the first semester practicum at Simon Fraser University, the students are placed in pairs with one school associate).

Some were able to continue with the same school associate, others had to be placed with a new school associate. We were able to place them all, but had to expand the geographic zone slightly to include schools in Delta up to 5 km away from our original site. We were able to keep clusters of 4 or 5 students at three schools, with all the rest in groups of two or three, except for one student who was by herself (but her tribe and the other students made sure that she was kept involved).

This time, we had decided to be very clear and more helpful with the planning. Our students were sent to their school for an initial three days, with instructions to negotiate their teaching assignments with their school associates on paper, including notes on everything that the school associate considered vital in terms of content or process. As well, since this was the semester in which they were to look after a class virtually full-time, we asked that they draft with their school associate a code of conduct that would work with that class, and to set up a filing system for every one of their students.

Unfortunately, it snowed, and many could not get to their schools. However, they contacted their school associates by phone, and brought the necessary information back to the campus for initial unit planning. We helped them to plan for a day, then brought their school associates to the university the next day to go over these initial plans, and give further guidance. When issues arose, the student, school associate, and faculty associate were able to discuss it right away. The result was that there seemed to be far less uncertainty about planning in the second semester. As well, it helped to bring new school associates, who had not worked with us in the previous semester, into a broader understanding of our intents. Through discussion with the school associates, we were able to clarify the intents of our module with regard to transactional learning methods and integrated planning.

We followed up, as we had with the students the previous semester, with a series of supervisory visits. Each student was observed a minimum of six times each semester. We made some changes to the usual reporting format, however. We required each student to present us with a portfolio for their midterm report. This portfolio process was designed to require the students to select evidence that they were successful in planning, teaching and evaluating students. In asking them to present the portfolio, we also asked them to write brief reflections on themselves as teachers. In doing so, we hoped to support the idea of transactional learning as we interacted with them, and place centrally in the evaluation process the beliefs of the module, which may or may not fit with the idea of the school associates.

In the first semester, the students presented their portfolios to the faculty associate and school associate, showing us evidence of their work. After the presentation, each of us wrote a brief assessment of the student teacher. In the second semester, the school associates decided to create an event out of the portfolio/midterm evaluation. Two school associates, Mark and Maria, who were in the Humanities department that had to wrestle with integration, wanted to plan a day such that the portfolios could be shared with others. This was supported by the steering committee, and so a day was held in which our students shared their portfolios with small groups, then asked questions or shared observations about the portfolio presented. The School associates and planning committee, in doing so had affirmed the essential community nature of our module. The Ministry of Education heard about this, and asked if they could attend and videotape the session for inclusion in a tape that they would be producing for the province on the action research projects. We agreed. They then asked if they could also interview a number of the students and school associates individually, and go to the schools and videotape some of the work that was being done. Everyone agreed, and so it was done.

By this time, the students felt that they were really involved in something special. Ministry videotapes, presenting workshops, selling instructional materials, conducting action research . . . it was heady stuff. But for most of them, it was also a time of grinding hard work. As for all student teachers, getting into the routine of a teacher's workload was difficult and time consuming. The extra research and attention might have been fun, but it also added to their already heavy workload. The school associates complained of this also. We recognized the complaints, but kept on with our program.

At the end of the second semester, the students and their school associates presented an integration fair. This time, it was organized and facilitated by two different school associates: Julie and Margot. The students brought materials produced by the children for display booths, and each student teacher was asked to present a two-page summary of their second integration research project. These summaries were bound and placed in a book that was circulated to all who participated. Once again, it was attended by teachers, administrators, district staff, and Ministry personnel. After that, final reports were written and given to the students.

The students had been interviewed by Judy, another co-ordinator and a research assistant three times: once after the first three weeks, once after the first practicum, and once after the second practicum. As well, they

were asked not as part of our project, but as part of the regular program, to complete a questionnaire about the program. These results will be reported below. But before we ended the module, and after we had a chance to look at the results of the interviews and final questionnaires (these had been kept from us until after the final evaluations had been completed), we went on a final retreat with our students. During this time, we asked them if our initial perceptions had been correct. At that time, they agreed with our results. During the following semester, they were all taking courses within our faculty, and so we had a lot of opportunity to share with them our emerging results. They continued to agree. Four years later, many of them are still in touch. They became our colleagues and our friends. While I believe that our research is interesting, it cannot approximate that sense that we all had that we were engaged in something special. It prepared our students well, but it also led to the development of a community that continues to this day. And that really is something to have accomplished.

Chapter Five

FINDINGS FROM THE DATA

The data were collected through three interviews with the student teachers, as well as the year-end course evaluations. The data from the interviews is reported in two ways: in chart form , and as major findings in four categories, citing specific examples of each. The four categories include:

❑ Comments on prior beliefs (interview one only)
❑ Comments on how their views of teaching and learning changed
❑ Comments on why their views changes
❑ Comments on sources of difficulty with or resistance to their beliefs

INTERVIEW ONE - FOLLOWING THE THREE WEEK COURSE

Questions asked:

Has anything changed for you in your thinking about teaching and learning since the program began?

What kinds of things can you think of that helped to facilitate any change?

Can you recall an instance that was particularly powerful in getting you to think about teaching and learning?

Results from the interview at the end of the first three weeks (the campus program):

* **Changed or Enhanced Beliefs**

Learning is an active process	8
Learning is a social/co-operative process	15
People learn in different ways	8

* **Prior Beliefs**

Teacher as expert	9
Contrast to prior experiences	11
Module learning was unexpected	6

* **What facilitated the change?**

Faculty associates/modeling	16
Module activities	18
Social group (cohort)	13
Reflection	7
Readings	2

* **Tensions that Arose**

Experienced disorientation	6
School Associate In-service	2

N = 20; numbers given refer to the number of students mentioning category.

□   **Comments on prior beliefs**

A small majority of the students (11) said that they came into the program with prior beliefs in a transmissive form of teaching, most often due to their own prior experiences as learners:

"I can remember saying to a friend, you know, I don't know about all these wishy-washy ideas that are coming in, but I think there should be basics." Brenda

"I guess (I've) changed in the fact that we're going from a lecture type of mode as a teacher to being . . . one who knows how to involve the kids." Carene

"I guess I always envisioned the teachers that I had at school. (Teachers) are interested in what the children are saying more now than before. It was 'Do this and do that'" Ken

"So much has changed. Getting away from the lecture approach to learning where (students) have to listen and take notes . . . I always thought lecturing was the best way to get information across, but . . . I realized that the only reason thought lecturing was best was because I didn't have any way of judging it against something else." Geoff

"When I came in I was really a transmissive kid of . . . .like I bought into transmission because I am very competitive and individualistic . . . It just seemed to me that's what I would do." Darlene

"Where I came from the basic structure was the total transmission method of teaching." Ellen

"Before, I saw a lot to the teaching going from the teacher to the student. Even though I know that it wasn't always that way, I felt that it was the predominant way. I am beginning to look at it going in many different directions in the classroom." Glen

"In the past I guess the only knowledge I could draw on (came from) my experiences in the classroom when I was going to school." Craig

A large minority of the students, however, found that the course had reinforced a prior belief in transactional learning:

"I don't know it was so much a change as a complementary development from my basic ideas coming in here about teaching and learning . . . You teach them to find their own ideas and ask their own questions." Rob

"I went into this program hoping it would be this way." Maggie

"I think that my view has been expanded, but I don't think that its been in conflict with anything that I've been learning." Laura

"Actually, I was surprised . . . Things that I have always believed were reaffirmed, which was nice. I have wanted to teach for a long time, but there has always been that problem that you still view teaching the way it was thirty years ago and being frightened to be in that system that you really don't believe in." C.M.

Comments on how their views of teaching and learning changed

The students' responses seemed to indicate that their view of learning became, or was reinforced as, one that embraced four central characteristics: active (8); social (4); co-operative (3); and involving many styles, or approaches (8). These views are consonant with a transactional approach.

ACTIVE

"You see that sitting in a classroom where everything is neat and tidy and quiet and the kids sit and listen to the teacher and do their work quietly, and stuff, isn't the best classroom. And it isn't the gauge of how much studying is going on." Brenda

"Now I know some ways to teach kids how to also learn by doing." Carene

"You have to get them to try things, hands-on, talk, argue, because there are more of that kind of people." Darlene

"I have always wanted to figure out ways of involving the students, more actively involving them, and some of the ideas I've gotten here I'm going to use because I can see how I could have used them before." Glen

SOCIAL

"I see learning as a shared experience more than I did before, the responsibility for the curriculum, as well as the content and the approach to how . . . to learn it shared with the students. It's a team approach more.

That's one of the main things." Wendy

". . . the way that we have worked in these groups, like actually doing these strategies ... I find that I really retain a lot more than I would if I was at home reading or something else on my own. I think it really helps talking about it with your peers." Ken

"[The change in my beliefs] was facilitated by the fact that I have been talking a lot to students, not only in the classroom, but also in the coffee room. That changes the way I think . . . We talk about things we heard in class and things we read." Brenda

"[The class] is organized in such a way that they promote interaction, they promote co-operation, they promote freedom . . . it almost sounds like a contradiction, but . . . the structure is actually working as a way to have people open up and co-operate with each other. And I think that is going to be very beneficial for the classroom." Craig

CO-OPERATIVE

"The biggest change for me is this idea of co-operative learning. I am really sold on the idea, now that I have experienced it." Craig

"I like a lot of the group co-operative learning and making everybody feel that they are contributing and I really want to work on that." Darlene

INVOLVES MANY STYLES (CHILD-CENTERED)

"It makes a lot of sense, just allowing kids to learn in whatever way it takes them to learn, as long as they are learning." Brenda

63

"I always knew there were different types of learners, but it's becoming more clear and definite that there are people who like to write things down, and there are other people who like to listen to . . . lectures, and there are other people who actually like to go out and do things. I think that is a really important step." Edeen

"I think . . . learning about the learning styles changed my ideas.' Becky

Causes of changed beliefs
The causes of the changed or reinforced beliefs seemed to centre on the lived experience of the module classroom - that is, not so much on what was said, or read, or written, but experiencing teaching and learning in a transactional mode. Many comments were made about the effect of the module activities (18) as the central component of the students' education. As well, modeling (6) and faculty associate interaction with students (10) were highlighted as significant separately from generalized activities. The effects of the cohort group (13), the use of co-operative learning (8) and individual reflection (7) were separated as important recurrent processes as distinct from individual activities.

MODULE ACTIVITIES/ FACULTY ASSOCIATE INTERACTIONS/ MODELING

"They have a lot of strategies that promote interaction and I have found that, for myself, the fastest way to learn the material is discussing it with my peers and the strategies they use, where it is interviews, think-pair-share, or . . they have a 'Carousel' where it is almost like a debate where one group will take a certain point of view and another group will take a different point of view and there is no right or wrong. There is just the action between the two. I find it far more stimulating and you learn both sides instead of just one side. So it is a human bonding experience. I think if it works for me, it will work for the students. It is one thing to tell me that co-operative learning is going to work. It is another thing to be in there and co-operatively learn." Craig

The format, the activities; you are learning through the activities." Brenda

"With co-operative vs. competitive learning, the way Hugh modelled those and the way our class got to try those, it really made me say, 'Hey, that's right'. It gives a lot more impact than when [a teacher] just says,

'co-operative learning works best because of da da da da.' I like the way we started our with the class getting to know each other. I think that would be very important at school, too . . " Warren

"A lot of the activities around strategies that we did, such as diamond ranking, a lot of the things that made us say why we were making a particular choice, doing an activity in our groups of four or other groups, put us in a place where we could draw on our own capacity and intuition as individuals, so these things which engaged us and allowed us to state our own feelings, and then hear other people, to have input and then adapt, change, and evolve our own feelings and pick them up again. You can bring that into your own. A lot of times when [the faculty associates] have said, 'O.K. Flip that and look at it from a teacher's perspective', I've just found that to be very quick [learning] and now less of a hard time about how to do that." Bob

"Their modeling helped me learn and a lot of the strategies that we've learned . . . I found really helpful and seeing what they look like and actually doing them, I found a lot better than just reading a book, like actually going through them and imagining myself as the teacher". Carene

"It's been Bonnie and Hugh's modeling. When they were modeling what teachers think, they were doing the verbal agenda, and they were going back and forth, listening to each other. I had no idea that you had to have that degree of purposefulness. I think when they talked to us about, not learning and teaching, but about becoming a teacher, they just wanted us to see it is so necessary. I felt like that was a sort of . . . it kind of clicked because I'm going to have to start thinking differently, from a different angle, my approach, process. Not to memorize, but to really think." Zoe

"We were at the retreat and Bonnie and Hugh were talking to us around the fire and all that. It was pretty hokey in one way, but in another way I could just see how they were so committed to it and all of a sudden I realized what they were saying all before that: You don't just learn to teach, you become a teacher. I guess that was a turning point. Now, when I'm learning things, I think how I can make this a part of me, rather than how I can just sort of tack this on as a method in my binder." Wendy

"I've learned just from the style of Bonnie and Hugh. It is so hard to narrow down. I mean, every day there was something that stuck in my mind that I would want to keep. Saying any specific thing? The first day we walked in I didn't think I would get to know everyone so fast." Edeen

THE COHORT GROUP

"The integration, as I say, it is a lived experience. It works. People do get together, they do discuss, they do learn from each other, and that has been a really high experience; a pleasurable one, too." Craig

"[In our tribes] we all had fun and learned, too." Brenda
"I mean that helped, getting right in there and doing our tribes and going through P.D.P. together. I am not alone." Edeen

"I really like the idea of tribes. I think it is really important for us to move around a lot, to get to know other people." Zoe

"It's been night and day from day one when I started with just, like, 'Where is the lecture? Give me the information!' . . . now . . . I don't want to be without my tribe . . . you know, I really need those people." Darlene

"You've got that group, that you're going to build a bond with, and they are going to be there as a support group for you. To me that was important, because you know when you are working really co-operatively, you're not afraid to give them you materials, to give your ideas, or whatever, because they are not going to laugh, they are not going to ridicule you, because you know they are one of your group." Brenda

REFLECTION

"Reflection - I think that is an important thing, too. Giving us time to sit back and reflect on what [we've] seen, and then put out the positive reflections. There is so much that has happened." Brenda

"Before, I felt my ideas were more insightful. I did not have a chance to honestly take a look at them. But now I think this program has enabled me to be more honest." Maggie

"All the participation . . . [has] been unexpected and has been good, like for making me think. Although, I've felt like most of my reflection has been happening outside of class, because there is so much happening." Laura

Sources of difficulty with beliefs

There were two sources of difficulty in this first three weeks noted by the students. The first, noted by only two students (9%), was the school associate in-service. The second, noted by seven of the students, was the initial disorientation period.

SCHOOL ASSOCIATE IN-SERVICE

"Panic. Just panic, that we planned the day for the teachers coming up. There was a lot of panic. I don't think panicking that was . . . like, we . . . did something and then afterwards they say, "look, this is what you've done!" [Then I find myself] looking back on it and saying, 'Oh, I did learn that and I do understand it when someone asks me what it is.'" Laura

"It was tough, but the big positive thing is where we actually taught the teachers. I thought that was really good and it really helped us come to the realization that we are actually looking at this through teacher's eyes as well." Warren

DISORIENTATION

"At first it was a little confusing, because I hadn't imagined being caught in that kind of style before. The first few days were kind of . . . Oh, what's going on? . . . It has stuck more in me because now I know what it feels like." Warren

"Maybe on the first day I would have had them give more background about the whole program, but then I can see the fact that they did not do that was very positive in some ways . . . Because it seemed to speak to the nature of the module, and what we are trying to do, and it kept us from getting stuck into our own expectations." Bob

"It took me a week to get into the class. Like, I was totally disoriented when I arrived. I needed the syllabus . . . I needed something! I did not even realize there was a structure to this class and then I realized it is so much a part of the classroom . . . I was just trying to grasp for something that was familiar." Wendy

"I don't think that it was until the third day that I understood that they are talking out loud what they are thinking, that they were verbalizing that. Like it took three days! Maybe that is better. I don't know." Zoe

"It was very disconcerting for the first week or the first three days. Now I think that was very worthwhile doing it that way, not telling us what was going on so that we should not have any preconceived notion . . . By not telling us . . . it brought everybody to the same field . . . and therefore easier to mould and manipulate. Not manipulate in a pejorative sense, but to teach a different way." Geoff

Overview of findings from interview one

Although over half of our students had entered the program with a set of prior beliefs in the efficacy of a transmissive form of teaching and learning, all of them ended the three week intensive campus course with transactional beliefs: that learning is active, social, co-operative, and child-centred. They came to this through experiencing it themselves in the class, then reflecting on it both individually and with others in the class. They were able to view this, not only from the point of view of a student, but from the point of view of a teacher due to faculty associate modeling of both the critical attributes of each strategy used and the cognitive processes of a teacher through thinking out loud. Their cohort group became a strong influence in supporting and extending these beliefs, and themselves as people. Their new, or renewed, beliefs became even stronger due to an initial period of disorientation, such that the consolidation of a different way of looking at things came as a kind of relief: They had finally figured out the class! Their new learning was made more tangible through the school associate in-service. We ended the three weeks with a tightly bonded, mutually supportive group of students who shared similar beliefs about teaching and learning.

Interview Two - Following the Six Week Practicum

This interview was conducted after the student teachers had completed the first practicum, which was six weeks in length, and during which the students taught up to half of a regular teacher's full load, but beginning with observation, then adding classes up until the last week.

Questions asked:

Has anything changed for you in your thinking about teaching and learning since the last interview ?

What kinds of things can you think of that helped to facilitate any change?

Can you recall an instance that was particularly powerful in getting you to think about teaching and learning?

Results from the interview at the end of the first practicum:

- **Changed or Enhanced Beliefs**

Learning is an active process	11
Learning is a social/co-operative process	6
Teachers should focus on students	10
Teaching/learning is complex	3

- **What facilitated the change?**

Classroom experiences	17
Effect of teaching on students	16
Faculty associates	9
School associates	5
Modeling [F.A. or S.A.]	4
First three weeks on campus	3

- **Tensions that Arose**

Classroom management	3
Tension between S.F.U. and schools	4

N=21; Numbers refer to number of students mentioning category.

Changed or Enhanced Beliefs

During this interview, we found that the students all retained, and were generally stronger in, transactional beliefs about teaching and learning. That is, they continued to view learning as active, social, and co-operative, and involving many styles. There was an emerging focus on concentrating on students as a guide to practice, and several students commented on how complex teaching now seemed.

"A lot of the ideas I'd come from in university were reinforced ... They were actually promoted in the class". Tami

"... in the first three weeks we were taught a lot of strategies and we finally got a chance to use them and I think it developed a sense of what I'd like to do in future." Carene

"No, I think that since then not much has changed ... Just finding out that things in the first three weeks ... were bang on ..." Geoff

"[I am] . . . trying to continue some of the things they started on in those first three weeks . . . because it is fine to do it in a workshop up here and go home and read a book. But then, to do it in a classroom, find out what went wrong, what you need to do to change - I feel that I'm in that process." Darlene

"It was really interesting and I learned a lot in a short period of time . . I wasn't aware that the teacher didn't stand up and lecture. When I grew up, that's what it was: Teacher lecturing, and now I see that it's teacher facilitating. The children do learn. And giving them power . . ." Kathy

"I wondered if I could be a teacher. I wondered whether I could do it. Now, given all that Hugh and Bonnie have taught us with the strategies and the creative way of teaching, I'm finding myself a lot more comfortable and it's exciting coming up with new ideas . . ." Beckie

"The whole philosophy of education and teaching . . . should be student focused. . . . in the past I think the philosophy has often been teacher focused. You know, the teacher goes in there, he has an agenda that he has to complete. He might have some standards he has to follow, content he has to follow and all the rest. He's quite happy getting that done. So, it's almost like an assembly line, with the classes not student focused at all. But this philosophy of co-operative learning is definitely student focused and personally, although it is fairly hard to teach at the beginning, I can see that in the long run it being a lot more enjoyable and a little bit easier for the teachers, because personally I don't like to stand up and lecture. I don't feel comfortable with that because you can see . . . I mean you can look around and you can see

that a lot of people buy out after five, ten minutes. In this co-operative learning, getting students in groups, they become more responsible for their learning themselves. And once they get used to that aspect, I think you'll see the results." Craig

". . . I thought before I started the program that you sort of went in to the classroom and you had a curriculum and you taught it. I knew nothing about different ways of teaching. I didn't know anything about strategies, abut letting the students learn. Now, I see the teacher as a facilitator. Just give them the strategies, give them the basics, but what they actually learn and the way that they learn, they choose. They get out of it what they can get out of it, in a lot of cases. . . . What I was impressed about last night was that I heard student teachers saying how they went in thinking they were going to teach a specific thing and then found out that they had changed because it was not what the students needed or what the students wanted. It wasn't exactly their interest. There was the same overall content, but what they were really interested in was something different that what the student teacher thought and that impressed me because I realized that where I thought before that . . . we went in with a specific thing and we taught it. I see now that as long as we're still meeting the curriculum, we have to look at what is important to the students and so it is student-directed instead of [teacher-directed]."
Brenda

CAUSES OF CHANGED/ENHANCED BELIEFSThe student teachers attributed the ongoing beliefs about transactional learning to classroom experiences [17] and to learning from watching the effects of their teaching on students (16). Interestingly, nearly twice as many [9] attributed ongoing learning to their faculty associates as compared to their school associates [5] . This is in stark contrast to most programs (Hoy & Woofolk, 1990; Geddis & Frankel, 1994). The learning from the first three weeks was strongly mentioned by three students, and four mentioned modeling by either their faculty or school associate as important. Importantly, then, they viewed the experience with the students as far more important than the modeling or coaching by their school associate, and seem to have seen these experiences through a screen of transactional beliefs.

"The great resource has to be the faculty associates, that they are always available to you. They are extremely supportive and their knowledge and experience is immense. It goes beyond any textbook and that, augmented with the readings . . . and working directly with the children, and our school associate brings it all together." Dianna

"Obviously, my faculty associates. The reading they suggested . . . I had a very wonderful school associate, very supportive, who would let me try anything that I felt, in being so positive . . . I felt it was a drawback for me." Tami

"My school associate was one, a big factor. Of course, my faculty associate and the children, just their responses. The class wrote journals to us and we would respond to them. Just some of the things they would say in the journals were very impressive. I was amazed at what these kids, in this grade five class, knew and how deep some of their thinking went." Warren

"One observation [by a Faculty Associate] in my grade nine Science class revealed through data that I was talking three-quarters of the time, and it just made a lot of things fall into place . . . when you see that kind of data, it slaps you across the face . . . Then, some reading I've done about younger classrooms . . ." Rob

"I try to try out a variety of different strategies . . . in a safe environment and take some risks and I found I was doing a lot of risk taking during my practicum . . . and I had a wonderful school associate . . . and partner . . . and [Bonnie] coming in and evaluating and getting some really positive feedback and some really good suggestions. . . I just gave students evaluations of myself and I think getting them back was really valuable." Carene

"Mostly from my reading and just from practical experience with the classroom . . . just even some of my lessons." Edeen

"Just observing the teachers [who work hard and are] more reflective themselves as teachers." Maggie

"Learning on campus about learning styles, learning the learning strategies, learning how to write a lesson plan, how to unit plan. All of these things - that's what I needed. I felt that what I learned has been really fantastic and to be able to go into a classroom and pull these strategies out and think, 'I'll try that one and see how it works'. And to watch the kids and the types of kids learning . . . Working in co-operative groups and making kids individually accountable. One child in the class that I was just in did not work well in groups, but once he realized that his part of . . . his participation in the group was going to count for a lot and that they needed him . . . He did participate and he did a good job. That really showed me a lot. . ."
Pam

"I guess I'm just amazed at what I've seen kids do this last term. It seems that whatever . . .the higher your expectations or the broader your visions . . . integration seemed like such a big thing to do and yet the kids responded so well. And I think it encouraged our way of thinking. It seemed like there was no limit to what we could do." Wendy

"I think that when I hear other people's views of teaching and learning, it is new question . . . my beliefs or thinking or my opinions . . . it makes me think about whether I agree. I think the reading about the role of educators or students [helps me think]." Zoe

"I just tried to think about what would be best for them rather than what would be easiest for me and I felt that if they took a larger role in the learning process, in my classroom, then that would be best for them. [I had kids who] went to E.S.L. and I did not want them to go. I kept them in and worked with them. They worked in groups and they all produced paragraph essays. For two of them, it was the first time this year that they had done stuff in that classroom." Ken

"Time in the classroom and watching . . . being able to interact with the students . . . because it is hard to know what really helps them learn until you can actually see that that happened with the students and see them where they are struggling and which students respond well to which types of teaching styles and techniques." Laura

"Just trying things out in class that prove to me that what [the Faculty Associates] said was valid . . . Only because we saw it work in actuality rather than in theory. Like I think I'm basically skeptical of just about anything that comes from a textbook until I see actual evidence somewhere . . . and . . . I took it to the classroom and the students expressed to me that they enjoyed the class more . . . than what was going on before. More discussion, more group involvement, different forms of testing . . . and . . . students were more than willing to have me return to their class . . . I figured there was something that I did learn up here that was beneficial." Geoff

"I think the experience and I think being able to have someone have complete faith in what I am doing [the school associate] . . . There were a couple of times in the classroom. It was sort of the silence and the absolute awe of something that had been read and the thinking, the emotional response . . . Hugh was . . . extremely supportive, sensitive to my needs. Erica, my [school associate] was just superb - very supportive - I had a really good team behind me."
Chris

"Hugh has been a really good source of information . . . I think it is still the support I get from him and also working with a teaching partner really helped." Darlene

"The reality of what it is like being in the classroom with your students . . . I saw a traditional classroom that worked extremely well and so I was able to analyze what was going on in there. The key is the relationship with the kids. So that is one of my big focuses when I teach is to be able to develop a really good mutual respect . . . Even in the most traditional classroom, he [the school associate] was working in co-operative groups but I could see in what he was doing how a movement more toward that direction would help more of the students who were having difficulties. I saw . . . the teacher-student, teacher-student instead of the student-student and . . . sitting back and just watching that work made me realize how important, even in a motivated classroom it would be for the student to be in control of their own learning." Ellen

*"I think that during the first three weeks that we were on campus, and just us going through . . .
Rather than just tell us about strategies, we did them and that I couldn't believe the retention of
the information that I had, more so than I had ever had before when reading or being in lecture
format. I found that really gave me the motivation to want to go out and do co-operative learning
and all that with the students . . . It wasn't just a book saying this theory - It actually works."*
Kathy

TENSIONS THAT AROSE

Three student teachers commented on difficulties with classroom management. These were not serious
difficulties:

*"Classroom management can be a little bit interesting, shall I say. So, it would have been useful to find out
how to manage the class a little bit better. Sometimes, I felt like an ogre."* Warren

Four students commented on some tensions between the University and their school associates. These
tensions tended to arise from miscommunication.

*""The main trouble is with the relationships with the faculty associates and the school associates with
information getting across and we're in the middle."* Warren.

It is interesting to note that in no case did concerns with management or school-university relations cause a
change in beliefs. Indeed, in general, such issues tended to lend support to a transactional view of learning.
As one student noted, in the context of reflection upon some management difficulties

*" [It]... made me realize how important, even in a motivated classroom, it would be for the students to be in
control of their own learning"* Ellen

In this set of interviews, the students indicate that they have met the schools, and yet have retained highly
child-centred, transactional beliefs. They received both positive and negative confirmation. Only three
student teachers commented on difficulties with classroom management, and four commented on tensions
between the University expectations and those of the schools. In summary, there seemed to be a high
degree of focus on student learning, a way of looking at that learning which was consistent with transactional

beliefs, and a low level of concern for traditional difficulties of student teachers: classroom management and inconsistent expectations

INTERVIEW THREE - FOLLOWING THE THREE-MONTHS PRACTICUM

The final interview was conducted after the three-month practicum, during which student teachers quickly assumed between eighty and ninety per cent of a teachers workload.

Questions asked:

Has anything changed for you in your thinking about teaching and learning since the last interview ?

What kinds of things can you think of that helped to facilitate any change?
Can you recall an instance that was particularly powerful in getting you to think about teaching and learning?

Results from the interview at the end of the final practicum:

- **Changed or Enhanced Beliefs**

Learning is an active process	12
Learning is a social/co-operative process	13
Teachers should focus on students	16
Teaching/learning is complex	12

- **What facilitated the change?**

Classroom experiences	17
Effect of teaching on students	18
Faculty associates	6
School associates	8
Modeling [F.A. or S.A.]	4
First three weeks on campus	2

- **Tensions that Arose**

Classroom management	5
Tension between S.F.U. and schools	8

N=20; numbers given refer to number of students commenting in a given category.

During the long practicum, student teachers assumed between 90% and 100% of a regular teaching load. This practicum was more challenging than the previous, shorter practicum for many student teachers in terms of their ability to make things work in a classroom, yet there was increased evidence in the interviews

of their beliefs that learning is active, social, and student centred. The student teachers found that teaching was more complex then they had originally thought, but that sense of complexity did not seem to lead to a simplistic complexity reduction through falling back on more traditional methods or beliefs.

Most students commented on the effect of interactions with students as their most frequent basis for reflection and change. School and faculty associates were important for about one-third of them. Some mentioned modeling by their faculty and school associates, and a few brought up the first three weeks on campus.

STUDENTS REPORTING NO CHANGE, WITH LITTLE CHALLENGE

"No, I wouldn't say [my beliefs] have been challenged." Carene

"Not any major changes." Ken

"Change? That's all just growth more than anything. Just learning more about the students . . . Challenged? I don't know if they have been challenged. I think they've been reinforced." Pam

"What has been challenged has been my ability . . . to make that happen in a classroom . . . people interacting with information, integrating it with their past experience, and deriving new meaning . . ." Rob

"I'm staring to be more comfortable [with teaching] and I'm finding . . it's so much easier and I'm enjoying it so much more than I was before when I was sort of nervous and I was trying out a lot of new things." Edeen

STUDENTS REPORTING RETAINED BELIEFS DESPITE CHALLENGES
A number of student teachers found that their beliefs were challenged. None of these students reported that their beliefs had changed. Rather, they came up with critiques and strategies that would allow them to retain their beliefs, and work toward a congruent practice in the face of some discouraging school and teacher cultures. It is interesting to note the kinds of feedback some of these students got from practicing teachers, and their response to it. Their beliefs allowed them to interpret the feedback from teachers and kids as contextual, arising more from an habituated system than a desire to enhance learning.

"... I do believe that children are always learning. And that they probably learn best hands-on. But I don't know if that is different from when I first came in ... I believe ... that I have learned a lot about learning styles. That children do learn differently and they have different strengths and weaknesses. [I have been challenged by] ... working with and observing other teachers that have different views on learning and education. It is different than what we learn up here [on campus] ... There are these differences between [them] ... we come out very idealistic ... you know the old saying, "That works fine in theory, but put it into practice". It is challenging because I think, 'Gee, these are teachers telling us this, and who would know better.' However, I do not think that I have necessarily adopted their views. Like I can see the differences. But I do not think my beliefs have changed." Zoe

"Where do I start? I don't think anything really changed since last time as far as philosophical. It is more seeing what the nuts and bolts of the whole thing are and trying to come up with new ways to use new ideas with students who are not used to them. I suppose we have tried group work, but a lot of the kids have been complaining that they would rather be in their rows and doing their own work, which I can understand, and so I don't know if I can break the habit in just six weeks of teaching, but I'll give it a shot ... I think probably if I'd had my way about it, I would have started very gradually introducing things, taking strategies that they maybe haven't seen very slowly ... leave them in their rows, bringing them into groups very slowly until they are properly trained and then can operate and function properly. But nothing has really changed since last time.

... a lot of what we did with Bonnie and Hugh was very interesting and inspirational but I have not seen it done in the university and ... high school was one thing and I felt like I've stepped into a totally different environment here [a junior high school] and everything that I'd learned before had to be modified and some of it not even used, so it has been stressful." Geoff

"This semester I've had the opportunity to use more strategies ... the interesting thing about it is even though it is an opportunity to make class discussion more stimulating to both the teacher and the student ... the kids really have not been as responsive to that ... Upon reflection ... I think that we are going to see more students become receptive to that as they go through the new primary system where ... they have been in more supportive, risk-taking environments and thereby they will be encouraged to look at things in a

different way other than through textbook learning. . . . I find that some of the teachers are reluctant to change. A lot of the feedback I have got in this practicum is that when I become a real teacher, I won't be able to do the things that I have done and, consequently, I will burn out . . . so, I think there's a barrier there in which the teachers have to be willing to change and to learn, too, because they have gone through the same system, the same processes as a lot of the kids have and what we have gone through. But we have had the opportunity to look at things differently and be taught and trained in a different way, and I feel very fortunate for that but there [are] a lot of changes that are going to have to be made as far as the teachers that are now in the system are concerned." Dianna

"[My beliefs] have been challenged all the way along, because as Hugh and Bonnie mentioned just this morning, there is that tension . . . this is the classroom and S.F.U. has its ideals . . . I've had my [school associate] come up to me and say that, 'Oh, all your fun is going to end as soon as I get back into the classroom', or comments like that. I don't think I'm doing fun and frolic. I think that it is just different but to the school associate or whatever, they just think I'm having fun and giving the grade twelve's a bit of a break until the real sergeant comes back into the classroom and gets them ready for the exam. You know, that kind of thing.

. . . I think there has been a change more in myself. I think what I have gone through in P.D.P. has been so powerful just in terms of looking at learning, like even myself as a student, learning in completely different way . . . I think I transfer that vision to a classroom but I think that is something I will cling to is that kind of empowerment for the student." Darlene

STUDENTS REPORTING RETAINED BELIEFS WITHIN A CONTEXT OF DEVELOPING SKILLS

The next group of students did not suggest that the challenges to their beliefs came out of any systemic problem, but rather that they needed to more fully develop the skills that would allow them to enact these beliefs. In most cases, it is interesting to note that such reflections seemed to arise from observing how students reacted to the methods that they brought.

"Well, yes, a lot of things have changed for me, that's for sure. More so this semester than at any other time. What is easily applicable strategy wise and getting the discipline and that underway before you can really implement co-operative learning strategies and any of that kind of stuff doesn't necessarily work

unless you have your group together, a sense of class feeling . . . that is so important, too. You can talk about using these strategies but unless you can get the kids to like each other and work together you can't just throw them into groups. It is just not going to work that way. And to try to get them motivated I found is really hard to get them to become active learners under the system that they are in right now. It is an ongoing process for them right now . . . to try to implement new ideas and strategies. It is more than just an eight week program. I think I had grand ideas when I went in and what I could do over a long period of time, but it is certainly not long enough, and you realize, O.K., now I know what I have to do in September and maybe by November I'll have gotten to a certain point with the class that I can start doing some interesting things with them to make learning fun and have them participate more in their own learning." Ellen

"I think in some ways I've become a bit more practical in my view. I realize, especially working with Junior High, that although it is nice to do a lot of fun things and very high activity things, there are days when you have to slow down and have them sit in their seats and do some work. You know, some very normal type stuff. And for their sake as well as my sake. I mean I realized I could not keep it up every class and then I realized also for them that they need something that is fairly concrete every once in a while so that they have something that they are holding on to. It is hard to do things that are abstract day after day for them, especially junior highs. I don't know if that is true of the other ones but I know it's definitely true of the group that I was teaching." Glen

"I came to a realization that in Science, I'm in Science, and not every lesson is going to be really creative. As a matter of fact, when a lesson is creative, I found - not creative, but when I moved away from, like, textbooks and more structured, rigid learning, I felt that I had a problem with classroom management . . . and so I had a talk with my school associate who teaches very straight from the text book . . . the kids love him. They learn a lot . . . the kids need to know some of the facts. Not only that, but in both of the schools that I have been to, they have . . . standardized multiple choice exams . . . So this, plus the fact of the class management thing, really humbled me again . . . my school associate, sort of, not convinced me, but we sort of talked about it and came to the realization that I need to start at the bottom again . . . and work on my class management. Now, I have . . . gotten hold of the class management and I've come down on the kids quite a bit, not too strongly . . . to sort of say, 'Look, this is a learning environment but you have to play by

the rules in the classroom and da da da da'. So, now I'm at a point where I realize that I can do that at the beginning of the year or at the beginning of a practicum . . . it is only six weeks long, that I can do that and then I can get into the lessons that make some sense to me as far as teaching and, not only that, but I have realized that I can make those lessons and gear them to the multiple choice exam, if I am in a school district that has that kind of thing, I can do that. So, I'm at a really good point right now." Becky

". . . I have discovered that even for a child centred and for a co-operative classroom, there are . . . it still stands out that there are kids that need to learn on their own. And need that time. And that aren't comfortable sometimes with . . . a large amount of people. But I think that hasn't . . . I mean I think that is something that stood out and it is a reality that I did not . . . pick up last time because I wasn't teaching a 100% so I, you didn't have that exhaustion and the burnout and all that kind of stuff. But I don't think it has changed my philosophy. Like I think that the kids do need some quite time and do need to work individually, still is part of the child-centred classroom. And it's still a part of being a facilitative teacher because you have to teach to their needs as well and their learning styles." Brenda

STUDENTS WITH UNCHALLENGED ENHANCED BELIEFS
There were some students whose growth in teaching arose purely from noting the effects of their teaching on children, and whose beliefs, when put into practice, were not a source of challenge.

"I've really noticed that . . . you have to structure lessons to sort of match with the mood for the best learning to happen and just [do] a variety of types of assignments, giving kids a sort of different ways to show success in the same area. Like, I'm doing a project contract for their final product and they have an opportunity to do art or creative things, creative writing or collages and an essay or an autobiography, all different things to show the same information and I'm really noticing that the kids are putting more effort into it. I feel like they are analyzing with more self-confidence because they feel it is something that they can choose and that they can do better at. So, I guess that fits in with their learning styles and how they learn best." Laura

"I seem to be now zeroing in on different problems that kids have and how to deal with that and I just find that it changes all the time . . . I'd say with co-operative learning . . . I might have felt a little reluctant

sometimes but once I was actually doing activities, I'd look around and say, 'Hey, this is working. It's O.K. . . . . They're learning. They are doing some active learning.'" Maggie

"I don't think I'd go into teaching if I did not have that philosophy because I believe in interaction. I believe . . . the students have to get involved. They have to tap each other's imagination. There is no way I'm going into a classroom and having the students sit in rows and do worksheets . . . I've had quite a bit of success, actually. There have been . . . some students that buy out, but overall I've got a lot of good feedback. . . . At the same time, . . . [with] a lot of these ideals you sort of have to be aware that there are going to be troubles. Those ideals may not always fit in some classrooms with some students and you're going to have to make adjustments to make it work." Craig

SUMMARY OF INTERVIEW DATA

These interviews indicate that the student teachers in this study either adopted or were reinforced in the beliefs that learning is active, social, co-operative, and involved many styles, and that teachers should focus on student learning in order to derive teaching strategy. Although a number came in to the module with prior beliefs in a more traditional, teacher-centred, 'frontal' teaching, the program seems to have been able to change those views into the more transactional views held at the end. When examining the causes of those changed or enhanced beliefs, the student teachers clearly indicated that the first effect on their beliefs was the modeling and facilitative teaching that occurred during the first three weeks on campus. This lived experience of transactional teaching was supported by the development of a strongly united cohort group. As they gain more experience in teaching, they tended to impute more learning to their interaction with students, their school associates, and their general growth of experience.

This increase in experience was mixed as to the direct support it gave to the emerging transactional views of the student teachers. However, when their experience with schools and teachers did not support their beliefs, they were able to apply a systemic analysis to that experience, and use the analysis to support their own developing beliefs. Half of them reported some level of tension between the expectations of the university and those of the schools in which they were placed, yet none adopted the traditional beliefs that were being offered to them as a way to make their teaching lives simpler. Some did adopt more traditional practices, but viewed them as a continuum of gradual development towards what they considered their goal

- transactional, student-centred teaching. In every case, their basis-of reflection seemed to be the readiness of the children to become active learners, and their own ability to so manage things in the classrooms that such active learning became possible.

What seems to be the case is that the first three weeks on campus gave these students a way of seeing learning that was so strong, and so supported through ongoing module activities, that this view became the lens through which they viewed all other activities in the practicum.

ADDITIONAL DATA

At the end of the practicum, the university distributed a program questionnaire, in order to assess the P.D.P. program [not just this module]. The responses were anonymous, and the distribution and collection of the questionnaire was done by the program co-ordinator. Students had already received their final evaluations, and the responses were, to the best of the students knowledge, for the purposes of program evaluation. The students were aware that their responses might form some part of ongoing research into the program, but were not aware of the specific research program. Not all students completed this questionnaire, but the responses of those who did provide an interesting insight into their overview of the program.

THE QUESTION WAS ASKED:

"Please identify and comment on those features of the program thus far that have contributed most to your growth and development as a beginning teacher."

The responses were as follows:

		#
•	Faculty associate teaching/modeling	11
•	Faculty associate support	8
•	First three weeks on campus	7
•	Peer support	6
•	School associate	4
•	Practicum experience	3
•	Grouped placements	3
•	Safe environment	3

- Readings   1

- School environment   2

  N=13

Numbers reported refer to numbers of students mentioning category.

The data clearly indicate that those activities within the university portion of the program had significantly

more influence that those activities in the practicum part of the program. This finding is especially

noteworthy as the program questionnaire was distributed on the day following the last day of the long

practicum, so that the expectation might be that the students would have that experience uppermost in their

minds, but such was not the case.

Responses include:

*The first three weeks on campus . . . were the most intense and brought about the great changes in my

development as a teacher. The introduction to co-operative learning and teaching strategies, via 'learning

through experience' was an exciting and often frustrating experience; often, I was learning without even

realizing it, and this technique of letting the kids make the connections with facilitative discussion was

valuable in the classroom. The building of a safe environment with my peers was a part of this period that

came to mind time and time as I encouraged the children to take risks in their own learning."

*Stuff that faculty associates taught/modelled how and what teachers think, what they worry about, how they

plan, considerations they make, and what inspires them as teachers (kids).

- Strategies were taught to us by using them ourselves to learn content in 401/2
- observation periods during 401/2
- teaching alone in the classroom, and reflecting on my practice
- having a close, supportive module: This was created by faculty associates in the beginning
  and it held together through 405. That support group was invaluable."

*The first three weeks on campus were critical in helping me develop and reinforce my beliefs about

teaching. Being in [this] module was significant in contributing to my development as a teacher. Strategy

based teaching, co-operative learning, tribes and positive role models made my P.D.P. experience excellent.

Bonnie and Hugh were the best!"

"Bonnie Skobel and Hugh Burke are the main contribution to my development as a teacher. The first three weeks in 401/2 laid the foundation for my beliefs on learning and teaching. Throughout the remaining months these beliefs were reinforced through practicums and their workshops and support."

"My faculty associates - Hugh Burke and Bonnie Skobel - Wonderful ideas /strategies /support /placements /enthusiasm. My school associates - Sally Garton and Ron Larson - Totally enthused about and supportive of our Revision module and myself."

"The first three weeks on campus - good strategies for teaching and learning - modeling instead of telling - energy packed and draining, but great practice."

"The first three weeks on campus were very crucial to laying a base for the rest of the program. This is especially true for someone (e.g. myself) who has no significant background in education theory and methods.

The faculty associates for this module were key in developing a positive atmosphere for learning and risk taking. They were quick to encourage and specific in their criticism. The school . . . was especially important. The staff and administration were very progressive and supportive, and were also committed to the program and the changes taking place in B.C. education. The time given at the beginning of 405 to plan . . . [helped to] set me up for success."

"The first three weeks on campus - learned teaching strategies, worked co-operatively, tribes, built trust.

- *having supportive, caring faculty associates*
- *planning time was valuable at the beginning of 405*
- *most of all, Faculty associates and fellow teachers being supportive, fun, and always there for me."*

"...development of relationships with peers in program and in schools...I enjoyed having two different faculty associates: both had different styles and was able to learn from both

- *ample time in beginning to prepare for two-months practicum (3 weeks)*
- *feedback/evaluation from students*
- *sources of support - F.A., S.A. Peers."*

"My two faculty associates have contributed the most to my development as a beginning teacher. They both taught us by modeling the strategies themselves and not just telling us. They taught us how to teach in a way that makes sense (integration, co-operative learning, etc.). They taught us to be reflective and progressive in our teaching. They were always there for us and believed in our ability. They offered their suggestions for improvement and encouragement in a very positive and beneficial way. My school associates and the school I was in also contributed a great deal. They taught us a lot and offered me many suggestions and a lot of encouragement. They also let me take over the responsibilities of teaching fully. I learned a lot from this...I guess I learned a lot from all the experience of teaching which was made possible by all of the knowledge gained from Hugh and Bonnie. It is amazing to think of the metamorphosis that has taken place."

DATA FROM SCHOOL ASSOCIATES

At the end of the year, we held a meeting with school associates. Judy administered a questionnaire, seeking further information on their perceptions of the student teachers and of the module. This information was again given anonymously, and was separated in time from the evaluation of the students, coming after the final evaluations.

We were curious as to whether or not the students actually did resist current practice, bring something new to the classroom, make a contribution to the school associates practices, and present themselves as someone with whom the school associates would like to teach. Additionally, we wondered if this had been a good experience for the school associates. The data were collected by means of a Likert scale response to questions. [See appendix two]

Out of twenty school associates who responded, nineteen agreed or strongly agreed that they would like to have their students teachers as a colleague. Only two did not feel that their student had adequate preparation. Fourteen school associates agreed or strongly agreed that their student tried out strategies that they did not use themselves. Nearly as many [13] agreed or strongly agreed that their student challenged them to think about their own beliefs and practices. Nearly half of them [9] said that their own classroom practice would change as a result of having a student teacher. Only one would not recommend being a school associate in the module, although two said that they would not again be a school associate with the

module (largely because of the amount of work involved). Fifteen of them agreed or strongly agreed that the students had a positive effect on the school culture. Overall, the data suggest that the school associates found the student teachers to be a very well-prepared and able group who brought new ideas within a collaborative framework, and whose presence was beneficial to both the school and the school associates as individual professionals.

FINDINGS

This data suggests that the students in this module had a very strong experience in the first three weeks of the campus program, and that this led to changed and/or enhanced beliefs about good teaching being transactional in nature, that is, the student teachers viewed learning as active, social, co-operative, and involving many styles. Their experiences in the schools seemed to be shaped by those transactional beliefs which had been so strongly supported in the campus program. The student teachers tried out strategies and approaches which had not been used before in the classrooms in which they were placed. The students were well prepared to do this, and had a cohort group and faculty associates which together functioned as a support system for them in working out how beliefs translate into practice. All was not smooth, as they also challenged their school associates to think about their own beliefs and practices, to the extent that many of the school associates intended to change their own classroom practice. In classrooms where the students were reluctant to become active learners, the student teachers became reflective about the school system, and modified their approach so as to move more slowly toward what they believed. In no case was a critique of the campus approach mounted based on what they learned abut routine practice in the schools. In the end, however, they were well accepted as teachers by the school associates, and the experience of being a school associate with this module was positively regarded by most school associates.

The faculty associates were well regarded by the students as sources of knowledge and support, as were many of the school associates. The cohort group was another clear source of support.

This data support the conclusion that the campus experience for this group of students was a potent force in changing their beliefs about teaching and learning, and that those changed beliefs and practices were not washed out by contact with the schools; rather, the schools themselves began to change.

Chapter Six

Discussion and Conclusions

The findings in this study are somewhat unusual. In the literature on teacher education, it is a commonplace observation that preservice programs are not generally an effective means of changing the prior beliefs of student teachers, beliefs which are dominantly those of transmission or `frontal teaching.' This module seems to have been effective in doing just that, however. Interestingly, the students reported that the first three weeks on campus were instrumental in shaping their beliefs. They impute much learning to the modeling and support of the faculty associates, and to the support of their peers. The school associates were important in their last practicum especially, but did not play a large role in shaping their beliefs, but rather in assisting them to implement those beliefs. What did seem to be very important were the effects of classroom experience and the effects of teaching on kids. Although a number of the student teachers reported tension or disagreement between the schools and the campus in terms of a view of teaching, the students seemed able to retain the transactional beliefs which were supported by the campus program and their faculty associates.

In considering these results, It is very tempting to analyze in depth the first three weeks on campus, in an attempt to map for others what specific things seemed to be successful. It then would be comforting to conclude that I and my partner did something special, something unique. We may have, but I think that such an analysis, modesty aside, would be faulty. Instead, I am compelled to the conclusion that a confluence of factors allowed for those first three weeks, and allowed the beliefs emerging in the student teachers to be supported in the practicum. Those factors include the program design of the professional development program, the unique role of

the faculty associate within that program, the program leadership at the time, and the emergence, parallel to this program, of a focus on reflective practice and action research as cornerstones in teacher education.

All of this is not to say that the process and content of the first three weeks that were spent on campus did not matter. They did. What was important about them is that the teaching was so structured that the medium was the message - how the teaching was done was based on what was being taught about teaching. Such a situation gave great credibility to the faculty associates and to the teaching program, This was possible because it was being done by teachers who had, like all faculty associates, been selected as exemplars of teaching.

In general, faculty members are neither selected not rewarded for their classroom teaching abilities, and, indeed, too much of a focus on teaching can actually hurt faculty members; as pointed out by Sandy Dawson (1995) , "...faculty members, though working year after year in the program, pay a high price for that involvement, because the reward system of the university comes in the form of peer-reviewed publications, yet much of the work faculty do in the program is more suitable for presentation in practitioners' magazines, a far less prestigious outlet for ideas than research journals" (p.184). He goes on to suggest that the younger, newer faculty actually can, in working diligently as teachers and participants in the program, "...risk...their careers if they do not produce sufficient scholarly work to gain them tenure." (p.184) Howey (1995) points out that ,"...teacher educators, frankly, are limited in their pedagogical abilities... We simply have not manifested widely the best of what we know about how to enable learning that is active, conceptual, and monitored both by individual learners and the group or learning community- learning which simultaneously contributes to social as well as cognitive development" (p.21). Jaap Tuinman, (1995), is more blunt: "Faculties of education are simply not modeling in a sufficient manner good teaching, or good education for that matter" (p.111).

My partner and I had both worked as program coordinators for large school districts for several years before coming to the P.D.P. , a role which calls for exemplary teaching within the community of teachers, and , through that demonstration of exemplary teaching, an examination of the best of research and practice by our peers. However, almost every faculty associate with whom we worked was chosen as exemplary, as Dawson (1995) points out: "the faculty works hard at selecting and orienting new faculty associates and a primary objective of this process is to build a cadre of professionals who are held in high esteem by both their school and university colleagues" (p.176). The point here is that we as faculty associates were not exceptional: we were at the university as part of an explicit program intent, within a program that has been doing just that for thirty years.

When students conclude that their faculty associate has been the greatest single influence on their beliefs, then, it is in large part because the program is structured in that way. This module was also fortunate to have, as a faculty member, Judith Scott. Again, apart from her personal qualities of ongoing collaboration, inclusion, and scholarship, she was a new faculty member. She took the opportunity to study the structure and content of the program. She asked questions. She played the role which the program was structured to encourage, and she had not been in the field long enough to consider herself an expert, which would have very much complicated matters, as Dawson (1995) points out: "...many faculty members working in the program have limited (and likely dated) school teaching experience, but nonetheless feel they too possess practical as well as academic knowledge. They therefore see themselves as having the benefit of an enhanced view of teacher education to that of the faculty associates. Even if they have not had classroom experience, some faculty members believe that because they have studied the broader issues in teacher education they are in a better position to judge what and how a teacher education program should be organized and operated.... Faculty associates tend to bristle at such a characterization of their knowledge because it implies that school thinking is not broad and conceptual" (p.183). Judy was a learner, and she was in our classroom every day, studying

us. She was a most credible role model to the students of a powerful learner and collaborator in learning. Through her actions, she enhanced the effectiveness of the three week teaching session, and the faculty associate role. Again, the program is structured so that this can take place. As Tuinman (1995) notes: "...if ever there was a perfect arena where the classical conflicts between professor and practitioner, whether the latter are teachers, lawyers, engineers, or family physicians, could be played out creatively, the faculty of education at SFU is it" (p.106) In her newness, as well as in her person, Judy was able to turn a classical conflict into a collaboration. The typical problems of the program, characterized by Dawson (1995) as: "the status of personal, practical knowledge versus scholarly, academic knowledge; and power and authority" (P.187) were simply not issues.

The nature of the module system is such that it brings together two exemplary teachers and a scholarly teacher educator , who usually have had no previous experience together, into a team which is guided, not by a curriculum, but by a set of goals within the context of an oral culture. Given such a set of circumstances, the process and content of the learning experience are matters for negotiation. The roles that each teacher will play are also up for negotiation. Yet, no hierarchical structure for final decision making exists (or did at the time this module was functioning). There is a sense, however, that the decisions reached have to be such that it satisfies the needs of a group of student teachers, and the needs of the schools in which they will do their practica. The faculty associates and faculty member have little choice but to collaborate in creating a curriculum for their students. The net effect is to encourage reflection about what teaching is, about who teachers are, about what it means to become a teacher, and thus to engage in " learning that is active, conceptual, and monitored both by individual learners and the group or learning community- learning which simultaneously contributes to social as well as cognitive development", as Howey (1995; p.21) is calling for. In doing this, the PDP recapitulates the "revitalized schools" described by Grimmett (Grimmett,1995) as having: "an emphasis on processes of inquiry, a collaborative work context, and teachers sentiments and voice, and a

view of knowledge as humanly constructed" (p.215). There is necessarily an emphasis on processes of inquiry as the module teachers struggle to make sense of what their role is, how to best perform it, how to know when it is going well ... That is, the teachers become learners in their own courses. The collaborative work context arises when all of this is negotiated together. Teachers' sentiments arise as, together, they discuss what it means to learn to be a teacher, and frame their vocation as the curriculum. Similarly, teacher voice is given a new and powerful legitimacy and a stage; the moral, critical, and political voices of the faculty associates are encouraged by the process of speaking up for what needs to be learned by new teachers. All of this is made possible by the refusal of the PDP to admit to a clear curriculum. Because the faculty view the teacher education curriculum as problematic, and dependent on the construction of "human agents in the personal and social situations of learning" (Grimmett, 1995; p.216), all of the rest becomes possible. Were the faculty to impose a curriculum arising from their expert knowledge, none of the rest of these conditions could obtain. Again, the program structure imposes a particular view of learning and teaching, and does it more through demonstration than through telling. Just as we, the faculty associates, modeled what we believed, so the PDP is a strong demonstration that precisely such modeling is what is intended. The way that we were treated as faculty associates became the way in which we treated and taught our students, and, inevitably, the exemplar for our students' beliefs.

We selected a curriculum that we have characterized as transactional (Miller and Seller, 1989). That we did so should be no surprise. We were selected as faculty associates by a faculty which had set up the whole program as a transactional, faculty who were accustomed to viewing the PDP as a 'learning place' (Tobin,1990; Marshall, 1992). That selection process, as noted previously, is seen by the faculty as an important task. During the interview process to become a faculty associate, close attention is focused on the beliefs of the candidates. The faculty seems, in our case, to have selected faculty associates whose views of teaching and learning closely

mirrored the underlying assumptions of the structure of the program. This seems to be a predictable outcome, so that even our selection is a built in assumption of the program structure.

The program structure, then, operates to select the faculty associates, to create a context of collaboration, to model a specific view of teaching and learning, and to give permission to constantly reconstruct the teacher education curriculum within these parameters. However, it also enacts assumptions about teacher education in the way it uses time, staffing, student grouping, and the relationship between theory and practice. Alan Tom (1995) , in calling for a reconsideration of teacher education programs, points to these as central areas for change in the way most programs are structured.

He suggests that teacher education might benefit from compressing courses, for example, that the first course might be a short and intense episode which, in his view, would lead to "the deliberate building of group consciousness, emphasis on both conceptual and experiential learning, [and] a learning environment that involves both intellect and emotion' (Lasker, Donnelly, and Weathersby, 1975:8)" (p.119). He further suggests that "a single year of professional study would lead to a more involving experience in which conceptual, affective, and skill components could be better integrated" (p.119). Both of these components are present in the PDP program, and our students comment frequently on the group consciousness, experiential learning, and emotional power of our module, in much the same way that I and Bonnie found the PDP to involve, for the faculty associates, the same three characteristics.

Tom goes on to recommend that the usual sequence of instruction in teacher education, that knowledge is taught before practice, be changed such that practice is introduced concurrently with knowledge, or even preceding it. The issue is one of transfer, of growing knowledge and application within a real context. Tom (1995) says, however, that ,"The decision to begin a professional program with teaching experience is a high-risk strategy. The enormous pressure of introducing the demands of teaching practice concurrently with educational ideas can lead the

novice to revert to survival techniques" (p.123). The PDP program is one in which a minimum of time is spent on theory before the practicum is engaged. The intent is that student teachers work within a context of real-life schools. Tom suggests that the risks can be ameliorated if "the beginner is working under the daily supervision of a master teacher who is both skilled in teaching technique and should be able to foster an analytic cast of mind within the novice - as opposed to the imitation-of - a- model approach that frequently occurs in conventional student teaching" (p.123).

The school associates within our module were teachers who had volunteered to be part of an action research program, and as such were self-selected exemplars of the kind which Tom describes. Not universally so, of course, but the selection mechanism was there and seemed to work. None of our student teachers commented that their school associate was overbearing or not open; they were researching curriculum together while the students were learning to teach. The school associates had volunteered to be models of reflective practice, not models of good teaching, although they were that, too. As well, the clustered placements meant that the faculty associates could be a strong and regular presence in the practicum. The in-service sessions attended by the school associates may also have had the effect of ensuring that the school associates were well-informed about the educational content being learned by our students on campus, a limitation which Tom notes that such master teachers may have. Again, the structure of the program in the PDP seems to be an exemplar of what Tom is suggesting. Our module, in asking for action research, may have created an even stronger filter for school associate selection, but school associates with the PDP are normally somewhat self-selecting, as they accept student teachers while recognizing that it might be a very intense experience of very long duration.

A third recommendation made by Tom is that staffing be vertical, not horizontal. That is, that teaching teams become responsible for many components of a teacher education program for a

particular group of students. Such is precisely the case in the PDP, where instruction, supervision, and evaluation of student teachers are all carried out by the same team. He points out that this promotes a gain in depth of material, at the expense of breadth, which he sees is typically delivered in a superficial and disorganized way. The depth gained in a few core ideas allows the student teachers to work out the implications in practice of these core ideas Certainly, this seems to be what occurred in our module. Three weeks is not enough time to adequately prepare teachers, yet the school associates reported very high levels of satisfaction with the preparation of the student teachers, as well as innovative ideas being put into practice by the students. It seems reasonable to conclude that the students were operating from a base of core assumptions which informed their action. Often, the students would encounter difficulties, then, as they overcame those difficulties, place their new learning in their frame of assumptions, their beliefs. At least part of the strength of those beliefs can be attributed to the vertical staffing, which gave depth. It also provided ongoing support to the base with which the students left the campus, as the instructors on campus were also their practicum supervisors, and so could facilitate such new learning and reframing.

The final program assumption to which Tom speaks is that of student cohorts rather than continual student regrouping. Tom suggests that student cohorts have several advantages:

'They can become an opportunity for monitoring student progress, in a caring and non-bureaucratic environment. These cohorts also help bring a social dimension to a teacher education program, establishing a norm for the group as a source of personal support and for an overall collegial approach to the work of a teacher. And, lastly, they can become the source not only of shared experiences but also of shared ordeals that help mold the developing teacher into a professional ready to assume substantial responsibility with a sense of self-confidence"(p.127).

This may help to explain the many comments made by out students about the importance of their peer group, their cohort, as a source of help and support. As well, we did fashion a number of shared ordeals: having them prepare a day for their new school associates with virtually no preparation time; having them present the results of their action research while being videotaped by the ministry of education, with principals and assistant superintendents watching; creating a portfolio to document their own competence. Such shared ordeals - some of which would test the most experienced of teachers - provided turning points wherein they could claim to have demonstrated mastery of some significant aspect of teaching.

Tom's four assumptions - compression, practice with theory, vertical staffing, and cohort grouping with shared ordeals - were all present in the structure of the PDP, and his hunches about the outcomes of such program assumptions reiterate the data which we received from our students. When such assumptions are combined with the role of the faculty associate, the selection of the faculty associate, the intentionally problematic nature of the curriculum, the context of collaboration, and the embedded view of teaching and learning which all of that represents, then the power of faculty associate modeling, the first three weeks on campus, and the cohort group to influence the beliefs of student teachers becomes more explicable. The program provided a highly structured context in which such an outcome might be considered predictable.

The beliefs of the student teachers were not washed out by their experience with the schools. Again, it is tempting to suggest that the campus program and all the people on campus were just so good at their work that we overcame the conservative nature of the schools. Again, such an analysis would not be a complete one. I believe that we all were good at our work, but the primary responsibility for the success of the practicum program lay in the fact that we so structured it that the conditions on campus were replicated in the schools. The key was in the action research component.

We were aware of a general understanding that a lot of what prospective teachers learn during their practica is miseducative in nature and often in conflict with the intentions of teacher educators (Liston and Zeichner, 1990; see also Feiman-Nemser and Buchman,1985,1987). Simon Fraser university has used long practica since 1965, and has a modified apprenticeship structure. The success of the program depends in large part on the placements made with supervising teachers. For some time, a concern has been that some students may not be getting the right classroom experience (Croll and Moses, 1989). Our concern was that the very act of learning about teaching in schools partook of a conservative and transmissive view of learning, and so would tend to reinforce pre-existing and conservative views that students may be expected to bring (Tabachnick and Zeichner, 1984; Zeichner, Tabachnick and Densmore, 1987.) We wanted to avoid the twin pitfalls of setting up the school associates to be critiqued by our students, or setting up our students into a 'master-apprentice' relationship so common in education programs (Hollingsworth, 1989). We needed our school associates to become co-learners with us.

The structuring of the module around action research involved the school associates as co-learners with us in a reflective community. This is an approach that Marilyn Cochrane-Smith (1990) has labelled as 'synergy' , that is, "...to link the school and university portions of preservice preparation through mutually-constructed learning communities in which all participants, whether student teachers, co-operating teachers, supervisors or course instructors , function as both learners and teachers... Underlying this relationship is the assumption that the joint efforts of school and university to reform teaching and student teaching make possible results that are both different from, and richer than, the results either could have alone." (p.7) Teacher inquiry itself, even without such synergy, challenges the school culture by making inquiry and learning the focus of teacher work (Miller, 1990). Teachers could become co-learners in this way.

At the same time as school associates were engaged in this action research, such that they could model reflection, the action research project allowed for a continuation of the other conditions that were inherent in the campus program. The school associates became a cohort - a social group which shared the same experiences. The student clusters at schools maintained the social structure of the student cohort, and the fact that the schools were close together geographically also helped. The school associates had their own shared ordeal in reporting research results to the government and their peers. Their roles within the module were subject to negotiation: it was the school associates who wrote the final report to the ministry, who organized and facilitated the portfolio assessment day and the final integration fair. And they had to find new ways of being sponsor-teachers, as they simultaneously learned and tried out new theory and practices, just as the student teachers were engaging in the same thing. Just as the campus recapitulated the conditions set out by Grimmett as characteristics of revitalized schools, so too did the practicum program: There was an emphasis on inquiry, a collaborative work context, teachers sentiment and voice, and a view of knowledge as humanly constructed. Caught in the same context as the students, the school associates became their coaches rather than their models or their critics. Since this sustained the learning on the campus, which had been initially modeled by the faculty associates, the students would continue to see the first three weeks on campus, the faculty associates, and their cohort group as the greatest influences on their beliefs.

This community was engaged in action research into curricular integration. The primary focus for the school associates and the student teachers became student learning, which is consistent with a transactional approach. The students consistently mention the experience in the classroom and their effect on students as being one of their sources of new learning. I believe that it was this focus on learning that led to so few issues with classroom management within our module. Typically, as Hollingsworth points out, student teachers grapple with management issues and organizational issues as they begin teaching. Indeed, experience would suggest that most student teachers have problems with management. That the great majority of our students did

not, and did not mention it, is unusual. The focus in our module and in the action research had

been on learning, not on teaching. Such an emphasis seems to shift the dominant way of

thinking about schools, from the "myth of school as a work-place", where "management is seen

as the first consideration...Only when management concerns are addressed are the learning

needs of students given consideration" (Tobin,1990,p.5), to the "myth of school as a learning

place" where the initial focus might be on learning. (see also Marshall,1992). Our students seem

to have adopted this myth of the school as a learning place, and the school associates, in

agreeing to action research, had strengthened that dominant myth, or metaphor. The students

may have developed and used this myth, this metaphor, " In the original sense of the word

metaphor - from the Greek metapherien - to carry across - they were engaged in a process of

metaphor, carrying a familiar experience over to a new context, transforming in this process both

the experience and the new situation." (Schon,1987; p.). In using the experience of the campus

as a way of seeing the situation in the classroom, then, the first three weeks becomes even more

powerful as time goes on, and is transformed from an experience, bounded in time and space,

to a way of seeing, embedded in the ongoing reality of the classroom. That way of seeing

changes an event from a management problem to a learning problem . The theme emerges

again: program structure led to a particular way of seeing teaching and learning, which led to

unusual results in the data.

While the program structure is important in interpreting the results, it is not the only factor.

Programs are set by people: people work within program structures. It is often difficult, however,

to separate the "dancer from the dance". The founders of the PDP took many risks in setting up

the program. For this module, the leadership of the Dean at the time, Jaap Tuinman, and the

director, Sandy Dawson, was critical. In calling for action research at the module level, and

encouraging research into teacher education practice, they gave an important set of permissions

to the PDP faculty at the time to return to the foundations of the program, to investigate the

possible, to negotiate new arrangements. Action research, with roots in reflective practice,

collaboration, teacher knowledge and voice, and a view of knowledge as socially constructed, made the structure of the PDP both more transparent and more workable. Their defense of that structure through lean years and politically difficult times was, in hindsight, both visionary and courageous. As they encouraged us to research our practice, so we encouraged our students and the school associates to join us in action research. As they set conditions for our growth, so we could set conditions for the growth of others. They dignified our knowledge and our status as faculty associates, so we, in turn, could honour the voice of our students, and they, in their turn, of their students.

Terrance Carson (1995; p.160) says:

"Teaching means to live in the flux of the newness of the world and in the play of competence and vulnerability. Part of the objection to overly technical teacher effectiveness programs is that they want to deny the flux. They see methods as a protective armour to ward off the unexpected and to control the engagement with students. If being armed with this armour is a student teacher's idea of good preparation, then it is probably a good thing that our students are never prepared well enough to meet classroom 'realities' . It is in the places where the armour wears thin, and in the naked places, that the openness to the Other and an openness to the relationship, that is teaching, enters in."

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Appendix One

Coded interview

Interview

Becky

(A = Interviewer, B = Interviewee)

A:

B: Well when I came into the program on my first
day I had total fear. I sort of, oh my God am I
going to be a good teacher, what am I going to
do, how am I going to react, and if I had gone
into a classroom that day I probably would
have wrote up a lesson plan that I would have
been lecturing to the class. I know that's how I
would have done it because that's the way I
was taught, and that's why I fall back. Now I
have all these new ideas and it is true that
most of them are Hugh's and Bonnie's ideas,
and they work for them, but there are still
ideas that I can elaborate on and sort of use
them, more creative and I guess integrative
way. And now I have gotten to the point where
I am excited about going into the classroom. I
may fail. I may go in there and say, oh no they
hate me and this is horrible and I can't control
the class, but at least I have all these ideas and
I know what to go in with. I certainly will use
a lot of their ideas.

A- 1

A - 2

A: So you are saying that your ideas about how
you would behave in a classroom or your
picture of what you would do there has really
changed.

B: Yeah. I think with the intermediate program
the ideas behind the intermediate program, I
sort of have this, I feel much more comfortable
just because of the cooperative learning ideas
and things that, instead of standing in front of
the class and just like talking for an hour
which I was really afraid of. I was going how
could you write up a lesson plan everyday and
talk in front of the class. And I have never
been in a classroom, and that was a big thing
how I was going to come across so this has
given me a lot more security and confidence.

B- 2

Coded interview

A: Do you think that you're ideas about how kids
     might best learn have changed?

B: I definitely think the learning styles, learning
     about the learning styles changed my ideas. I   *B - 4*
     never really thought that all kids learn the
     same, but the sort of put a bit of structure
     behind it, myself, that I was different than I
     thought or I was put into a category and I
     think putting kids into categories, or at least
     knowing that they learn differently that
     definitely changed my or at least put some
     structure behind it.

A: Can you think of any particular activities or a
     way that these three weeks has been
     structured. the things that you thought that
     really, that you think were pretty important
     and powerful that stand out in your mind of
     things that changed your ideas about what
     teaching is about or what learning is about.

B: It is hard to pin point it because the way Hugh
     and Bonnie teach, maybe it is not even teach,   *C - 1*
     the way they come across, it is so subtle, all the
     little things that they have learned over the
     years. It is so subtle that you can sort of pick
     them up. Just little things like when he said
     something like questions, can I get some
     questions on that as oppose to does anybody
     have any questions. Just little things like that
     and he always makes a point of saying did you
     see how I did that or did you see how Bonnie
     did that. It is sort of, you can just pick up on
     the subtleties. Things like that definitely help.
     Those are the things that stand out right now.

A: If you had a magic wand, what would you have
     changed about the last three weeks in terms of
     the activities, the structure or those kinds of
     things that might have better met your needs
     as a learner or your expectations.

B: I will probably be able to answer that better
     after I have been in the school. I might find
     things like, I wish they told us about this or I
     wish I had a bit more background on this. But
     right now I think everything seems to be, I've
     had a great three weeks. And I think I

Coded interview

definitely feel more confident going into the
school. But as far as what I would change, I
think I need some practical experience first.

A: Thank you.

DATA HIGHLIGHTS FROM FIRST INTERVIEW, 90-91

Prior Beliefs

Teacher as expert	A-1
Contrast to prior experience	A-2
Module learning unexpected	A-3
Disorientation	A-4

Learning and teaching beliefs changed

Learning is active	B-1
Learning is social	B-2
Learning is co-operative	B-3
Learning involves many styles	B-4

Causes of changed beliefs

Faculty associates/modeling	C-1
Module activities	C-2
Social group	C-3
Co-operative group	C-4
Reflection	C-5
Readings	C-6

We are coding the number of students who talk about each of these things.

Initial coding chart in development of final coding scheme

CODING SCHEME

1st Interview	2nd Interview	3rd Interview

Expectations/Prior Experience — **Teaching and Learning Changed** — **Teaching and Learning Changed**

010	Competition	201	Classrooms more complex than expected	301	Learning as continuous process (try outs)
011	Ideals on Hold		-concerns		
012	Teacher as expert giver of knowledge		-kids not way thought	302	Learn from classroom experiences (anticipate)
013	Learning through intimidation		-atmosphere, schools not same	303	Focuses on kids (difference acknowledged)
014	Course outlined in advance		-change in emphasis on content	304	Tension between SFU & current practice resolved by focus on kids
015	Course as giving information		-tension between planned activities and kids' interests	305	Balance program & school demands

Teaching and Learning Changed

		202	Focus on kids	306	Difficulty of establishing subject area boundaries
		203	Reflecting on SFU experience and wanted kids to have same	307	Beliefs from university - risk taken - butt against system - do anyway
101	Learn by doing				
102	Learning is social	204	Trying things out - learning from mistakes		
103	Learning is cooperative				
104	Unexpected - different model	205	Powerlessness as student teacher	308	Miss support
105	Transmissive-Transactive (Transformational only if use words)	206	Learned thru observation & teaching	309	Formed own opinions
		207	Importance of theory	310	Relate to own learning
106	Reflection as learning	208	Teaching is a way of learning		
107	Risk free environment	209	Integration as a vehicle for reflection		
108	Contrast to past experience				
109	Learning styles				
110	Initial confusion -disorientation				
111	Transition from student to teacher				
112	Acknowledgement of intentionality (purposefulness)				

Orientation **Why changed?** — **Why changed?** — **Why changed?**

0	Unsure	20	Activities	24	Readings	29	Length of semester
1	Self	21	Modelling	25	Classroom experiences	30	Learning thru effects on kids
2	Other	22	Development of	26	Act of teaching		
3	Both	23	cohort group	27	SA	31	Uninterrupted time
				28	FA	32	SA support

130

Appendix Two

School associate program evaluation

PROGRAM EVALUATION

We would like your assistance in evaluating the research project and your experience as a school associate this year. The information you provide is greatly appreciated, as it will be used in planning for next year.

Name (Optional) _____

Grade Level _____   I was an S.A. for   401 (Fall)   405(Spring)

A. I would enjoy having my student
   teacher as a colleague in my school

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

B. I felt that the student teacher had
   adequate preparation when s/he
   arrived in my class.

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

C. I felt that the Faculty Associates
   expectations of the student teachers
   were too high.

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

D. I enjoyed being part of a research
   group.

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

E. Having a student teacher led to
   more talking about teaching among
   teachers in my school.

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

F. A valuable aspect of the project
   was my professional growth as a
   teacher

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

G. I would rather not have anything
   to do with research or projects
   when I am a School Associate.

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

H. The amount of time and energy
   I invested in this project would
   not have been possible without as
   many release days.

   Strongly   Strongly
   Agree   5—4—3—2—1   Disagree

I. I felt that the Conversations Series
    was valuable

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

J. Engaging in research opened up
    communication between me and my
    student teacher

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

K. I will change my classroom
    practice as a result of the project
    this year.

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

L. My ideas about good teaching
    practices have been reinforced
    through conversations with others
    this year.

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

M. I felt empowered as a teacher
    -researcher this year.

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

N. I felt that the F.A.s supported
    the efforts of the student teachers

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

O. I felt that the F.A.s were valuable
    resource people.

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

P. I resented all the emphasis
    on integration

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

Q. The sharing of our integration
    ideas was very important to me

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

R. Having student teachers in our
    school had a positive impact on
    the school culture.

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

S. The research component of the
    project was too much work.

    Strongly   5—4—3—2—1   Strongly
    Agree   Disagree

T. My student teacher tried out strategies
that I did not use in my classroom.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

U. Other staff members commented on the
positive aspects of being an S.A. in this
module.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

V. My student teacher challenged me to
think about my beliefs and practice.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

W. I would recommend becoming
an S.A. to others on my staff.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

X. I feel that the amount of time spent
on the project was detrimental
for my classroom students.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

Y. I have gained an understanding of
other grade levels/schools as a
result of this project.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

Z. I would volunteer to be a School
Associate again with this module.   Strongly   Strongly
                                    Agree   5—4—3—2—1   Disagree

II. Please rate the importance of these elements of the project.
(5= most important, 1= least important)

_____ All the schools involved were in close proximity to each other.

_____ Co-planning with the student teachers

_____ Informal discussion with the F.A.s about teaching practices

_____ Release Time

_____ Easy access to ideas and resource people from the University.

_____ The involvement of the Ministry

_____ The sharing of ideas and unit plans.

_____ Getting to know other School Associates

_____ The support of the district and my principal

133