REFLECTIVE THINKING IN EARLY CHILDHOOD EDUCATION

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Reflective Thinking
in
Early Childhood Education

by

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Abstract

This study considers the reflective thinking of early childhood education students at the end of the first year of a two-year diploma program at the provincial college in Newfoundland and Labrador. Reflective thinking has been found to be a means of internalizing theory, reflecting on practice, and learning meaningful ways to improve and change practice. Graduates are expected to demonstrate knowledge of theories and practices necessary to plan and implement curriculum for individual children and groups in early childhood settings. A qualitative research design was selected to determine descriptive evidence of reflective thinking levels and behaviours for the 7 early childhood education students who comprised the study group. The students, who were selected from a population of 72, ranged in age from 20-58 with an average age of 37 years. There were 6 females and 1 male. Data were collected while students were engaged in discussion groups, guided journal writing, and discussions of observations of practice. There was evidence of 622 reflective thinking responses in total. The researcher concludes that these early childhood education students, at the end of the first year of a two-year diploma program, engaged in reflective thinking. The researcher recommends further research and provides recommendations to faculty involved in early childhood education.

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I am dedicating this work to my parents, Paul and Audrey Peter, my first teachers, who guided and nurtured me throughout my life, and instilled the values of caring for others and believing in oneself. My newest teacher, my grandson Avery, is my inspiration to continue my work.

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Chapter 1

Introduction

1.1 Background to the study

The provincial college in Newfoundland and Labrador offers as one of its programs the Diploma of Applied Arts in Early Childhood Education. The diploma program is offered on-site to full-time students for five semesters which are delivered over a two-year span. This program is also offered through distance education to interested individuals who are currently employed in early childhood settings. These settings include child care centres, preschool programs, head start programs, family child care homes, after-school programs, pre-kindergarten classes and family resource programs.

The diploma program integrates theory and practice. Students who study through distance education learn the theory component through selected readings, teleconference seminars, small group study sessions, and individual instruction. The practice component of the program takes place during practicum institutes at the demonstration child care centre of the college, and through fieldwork placements in the students' community and in their workplace. Faculty assist students in becoming reflective about past experiences and the integration of theory into practice throughout the delivery of the diploma program through distance education. Students, therefore, participate in discussion groups, guided journal writing, and discussions of observations of practice.

According to the National Association for the Education of Young Children (NAEYC) (1996) during formal study and in the workplace, reflection on practice is

central to the acquisition of best practices, and to the refinement of the individual's evolving philosophy of early childhood education. Reflection enables individuals to self-evaluate, to be open to innovation and to be willing to change in order to strengthen their standards of practice. Reflection assists individuals in considering the role that cultural background, biases, values, and personal experiences play in their practices. At the same time, reflection supports synthesizing the theoretical underpinnings of the early childhood education discipline with daily practices. Reflection can become a learned mechanism which facilitates practitioners' depth of knowledge, skills, and dispositions and adds dignity to their practice.

Reflective thinking has been written about and discussed within the teacher education sphere to varying degrees over the years. However, it is only recently that faculty have realized the importance of finding effective ways to assist students in early childhood education programs to become reflective and to view themselves as self-directed, critical thinkers. Learning about reflective thinking is the first step in becoming reflective about practices. It is intended to assist individuals in personal growth and in understanding that they are developing their practices within a field that requires them to instill critical thinking, self-control, and self-direction in the children with whom they work.

Graduates of the diploma program are expected to demonstrate knowledge of theories and practices necessary to plan and implement curriculum for individual children and groups in early childhood settings. Early childhood educators must regularly analyse,

evaluate, and strengthen the quality and effectiveness of their work (NAEYC, 1996). The individual early childhood educator is key to the quality of dynamic and continuous interaction with children. According to the Canadian Child Care Federation (1996) the interaction between the child and the caregiver is the critical component of quality which can be encouraged through daily implementation of best practices. The National Association for the Education of Young Children (1991) states that the most important determinant of the quality of children's experiences is the adults who are responsible for children's care and education.

The quality of education for early childhood educators is, therefore, of utmost importance. In the delivery of the diploma, the faculty have realized the importance of incorporating reflection as a means of internalizing theory, reflecting on practice, and learning meaningful ways to improve and change practice. It is, therefore, necessary to determine whether students are learning to be reflective during their educational experiences.

1.2 Purpose of the study

The purpose of this study was to determine if early childhood education students demonstrate reflective thinking by the end of the first year of a two-year diploma program. The skills and strategies of reflective thinking are important in early childhood educators' ability to reflect upon the way they work with young children. The study may also inform faculty whether there is any evidence of reflective thinking at the end of the students' first year of study, so that they may plan for ways to ensure students' learning of the skills and

strategies during the second year of the program. The research question therefore was, "Do early childhood education students in a two-year provincial college diploma program demonstrate reflective thinking at the end of the first year?"

1.3 Definition of key terms

This section contains a brief description of specific terms used in the context of this thesis.

Early Childhood Educator: An early childhood educator is a person who works as a teacher and care provider of young children in an early childhood setting. These settings include child care centres, preschool programs, head start programs, family child care homes, after-school programs, pre-kindergarten classes, and family resource programs.

Faculty: The faculty are the teachers in the college early childhood education diploma program. In distance education, their responsibility is to deliver all theoretical and practical aspects of the diploma. In this study, the researcher is a faculty member of the college.

Reflective Thinking: Reflective thinking is the ability to describe and question one's practices; analyse through self-evaluation and plan learning goals; evaluate, review and reconsider through acquired knowledge; and use judgement when making decisions about one's own performance. Reflective thinking can assist individuals in developing a depth of understanding about the role of an early childhood educator, by linking past experiences with present practices, and projecting future ideas and actions in order to develop reflective practices.

Student: The student is an early childhood education student enrolled in the two-year diploma at the provincial college who participates in the diploma program through distance education. Students involved in the study group also worked in their community in the child care centre or school with young children.

1.4 Significance of the study

Research has demonstrated, repeatedly and convincingly, the impact of educator preparation in early childhood education on optimal child development outcomes (Arnett, 1989; Berk, 1985; Fosburg, 1981; Friesen, 1992; Howes, 1983; Pence & Goelman, 1991; Ruopp, Glantz, & Coelen, 1979; Stuart & Pepper, 1988; Whitebook, Howes, & Phillips, 1990). These findings indicate that the individual early childhood educator is the primary factor in child care in providing high quality, responsive, positive and developmentally appropriate experiences for the children.

Data from the National Child Care Study indicate that roughly 70% of children under age three, and 60% of those between age three and five, received non-spousal care while their parents worked or studied (Lero, Pence, Goelman, & Brockman, 1992). The National Longitudinal Study of Children and Youth (1996) reports 1.5 million children under age 12 were in child care in 1994. An estimated 2.8 million children under the age of 12 years have mothers in the paid labour force (Prentice, 1997). In Canada, 788,108 children under age six and 1,707,681 children between the age of 6 and 13 were living in families where the lone parent, or both parents, worked or studied on a full-time basis (Human Resources Development Canada, 1995).

Children of preschool age who are in full-time, non-parental care typically spend nine hours a day, five days a week, in that environment (Human Resources Development Canada, 1994). A growing body of research from Canada, the United States and Europe has consistently shown that there is a direct relationship between the extent to which the non-parental care is of high quality and:

- children's peer relationships in preschool (Kontos & Feine, 1987; Phillips, McCartney & Scarr, 1987; Vandell & Powers, 1983; White, Jacobs, & Schliecker, 1988) and in elementary school (Howes, 1990; Vandell & Corasaniti, 1988);
- children's ability to regulate their own behaviour as preschoolers (Howes & Olenick, 1986; Peterson & Peterson, 1986; Phillips et al., 1987);
- children's language competency in preschool (Goelman & Pence, 1988; McCartney, 1984; Melhuish, Lloyd, Martin, & Mooney, 1990; Peterson & Peterson, 1986; Schliecker, White, & Jacobs, 1991) and in elementary school (Jacobs, Selig, & White, 1992; Pence & Goelman, 1991);
- children's cognitive skills as preschoolers (Howes, 1990; Melhuish et al., 1990; Vandell & Powers, 1983); and
- children's classroom skills and learning strategies at school entry, for example, ability to follow multi-step directions and to work independently (Howes, 1988; Jacobs & White, 1994). (Canadian Child Care Federation, 1996, p.9)

The significance of this study, therefore, was to focus on one aspect of the

educational program which may be significant in ensuring appropriate early childhood educator preparation. This study examined whether early childhood education students demonstrate evidence of reflective thinking at the end of their first year of a two-year diploma program. According to Kaiser and Rasminsky (1999) the importance of learning to reflect on one's practice is that "child care practitioners filter all of their knowledge through the prism of their own beliefs, values and culture, their own temperaments, emotions and experiences" (p. 33). LaBoskey (1994) identified the following characteristics of reflective students in her study:

- an orientation to the needs of the children;
- an ability to take the long-term view;
- a concept of the teacher as a facilitator;
- a willingness to acknowledge that conclusions are tentative;
- an understanding of the importance of listening to feedback;
- an awareness that teaching is a moral activity;
- a penchant for both imaginative thinking and strategic thinking;
- a propensity to ground reason in a knowledge of oneself, the children, and the subject matter (p. 123).

1.5 Limitations

According to Lincoln and Guba (1985), qualitative research must establish "truth value for a study and in doing so, its applicability, its consistency, and its neutrality" (p. 290). The first construct is its credibility. Through the selected methodology, participants

were intensely involved in a variety of activities which required them to be insightful and reflective over a period of three months. This level of intense self-evaluation provided several different opportunities to record accurate descriptions of reflective thinking. Each data collection method was designed to focus the participants on reflective thinking about their practices. The three methods were discussion groups, guided journal writing, and discussions of observations of practice. The intense personal reporting and dialogue with the researcher during these methods brought a high level of credibility to the study.

The second construct is transferability or generalizability. The case study's purpose was to inform the researcher about reflective thinking in early childhood education students at the end of their first year of study in a two-year diploma program. The small sample will limit its findings for direct transferability to the larger population, although there may be general applications to other early childhood education students who have reached the end of the first year of the two-year diploma program. Faculty working in this program may be informed about the evidence of reflective thinking at the end of the first year of study and plan for ways to encourage reflective thinking during the second year of the program. This in-depth study of evidence of reflective thinking is highly transferable to students when they meet the same criteria as the study group, thereby establishing internal validity. In order to strengthen external validity and increase transferability, patterns indicated that students engage in reflective thinking in more than one activity. In addition, all sources of data were measured against criteria for one single point: evidence of reflective thinking.

The third construct is dependability or reliability. In this study of reflective thinking, students experienced feelings of change in themselves as well as in the nature of their work. Their work place contexts were not stagnant and continued to evolve in ways that could not be controlled during this study. These personal and professional factors had a positive bearing on individual participant's contributions to the study and progression with reflective thinking. These factors were accounted for through documentation and description during the study. Although the study may not be exactly replicable, because of changing social constructs, the selected methodology could be used in a parallel study to demonstrate the findings as dependable. Working with young children in early childhood settings will never be stagnant, nor will interaction with co-workers and families. The design of the diploma program addresses the needs of students to have the knowledge, attitudes, and skills to work in these variable settings. The nature of reflective thinking is proposed as a means to strengthen the practices of early childhood educators partly because of the complexity of relationships which leads to the questioning of ethics, beliefs, and values from personal and professional perspectives. The methodology, therefore, provided high dependability or reliability.

The fourth construct is confirmability or objectivity. The researcher needed to be sensitive to the personal nature and professional implications for each of the participants. Participants were encouraged to be truthful and critical while exploring their experiences and were made to feel that a trustful relationship existed with the researcher. The researcher, having significant professional involvement provincially and nationally in the

field of early childhood education, and having studied this concept of reflective thinking, guarded against having higher expectations of the students' participation in reflective thinking than was evident. Data were collected in natural settings where students were reassured that their personal stories were being documented, and there were no right or wrong answers to questions. In the introduction of the study the researcher emphasized the need for students to participate naturally and according to their own level of understanding. Students were also told of the possible benefits of knowledge about reflective thinking and the developmental nature of using reflective thinking to improve their practices.

In order to reduce the limitation of objectivity, data were collected in a variety of formats. Data were then cross-checked through triangulation with audio-taped transcriptions of the discussion groups, researcher's notes, and flip chart notes. An audio tape was kept of the discussions of observations of practice and its transcriptions were cross-checked with students' self-evaluation notes and researcher's descriptive field notes. A separate set of interpretative notes was derived from raw data. The Ethnograph V4.O Software (1996) program provided structure to the coding and analysis procedures which increased objectivity during the analysis.

1.6 Summary

This study determined whether early childhood education students demonstrated evidence of reflective thinking at the end of the first year of a two-year diploma program. Faculty who teach early childhood education at the provincial college through distance

education realize the importance of learning about the ability of students to use reflective thinking strategies during their post-secondary studies, in order to better prepare them in becoming reflective practitioners. The researcher who was a faculty member teaching in this program, engaged students in a variety of opportunities to use reflective thinking in order to determine whether there was any evidence that they engaged in reflective thinking on their practice. This study examined the reflective thinking of 7 early childhood education students as written about and discussed by them in discussion groups, guided journal writing, and discussions of observations of practice.

Chapter 1 has provided an introduction to the study. It has included the background of the study, purpose of the study, definition of key terms, significance of the study, and limitations of the study. Chapter 2 is a review of the related literature focussing on a definition of reflective thinking, differences between the reflective thinking of novice and expert teachers, conditions conductive to reflective thinking, strategies to aid reflective thinking, and the reflective thinking processes. Chapter 3 provides a detailed account of the methods and procedures by which the study was conducted. Chapter 4 describes the evidence of reflective thinking of the participants of the study as determined through data analysis. Finally, Chapter 5 summarizes the findings, makes recommendations, and suggests future research directions and interventions.

individuals who are engaging in reflection.

2.1 Background to Reflective Thinking

Reflective thinking in educational practice can be traced back to the work of Dewey (1933) when he distinguished between "routine action" and "reflective action." As one of the founders of progressive education, Dewey (1958) maintained that education be a continuous reconstruction of living experience, and that through reflective thinking, thoughts are made explicit, the quality of experience changes, and it becomes reflective practice *par excellence* (Addison, 1999). Schon (1983, 1987) began to write about reflective practice in other professions and in teaching, focussing on the innovative problem-solving practices such as debate about the nature of the decisions, the value of goals, and the ultimate implications of the actions being utilized.

The interest in reflective practice during the 1980s was perhaps not surprising. It appeared to be a time when school teachers and others in education were experiencing a sense of disempowerment and a diminishment of their professional autonomy as control became more centralized (Chalmers & Fyfe, 1996). Reflective thinking in education has been seen as a reaction to systems which appeared to place the teacher at the level of a technician, implementing plans developed by someone else (Sparks-Langer & Colton, 1991). Gradually, experts in supervision, staff development, and teacher education began to recognize that teachers needed to be more than mere technicians. Teaching needed to be recognized as complex, situation-specific, and dilemma-ridden (Sparks-Langer & Colton, 1988, Zeichner & Liston, 1987). Teachers of young children need to examine

their strengths and needed areas of improvements, evaluate the relative merits of teaching practices considered exemplary, and judge appropriateness for their own particular circumstances. Such teachers distinguish themselves by their capacity for ongoing, dispassionate self-examination, their openness to innovation, and their willingness to change in order to strengthen their teaching (NAEYC, 1996).

Reflective thinking challenges the individual to transform information into knowledge and therefore towards a sense of "knowing," as described by Belenky, Clinchy, Goldberger, and Tarulke (1986). Belenky et al. describe successive stages through which the learner reaches constructed knowledge, "the objective and subjective ways of knowing, personal experience and the experience of others, seeking to achieve understanding and actively participating in the construction of new knowledge" (p. 143). Mezirow (1999) found that it is not so much what happens to people but how they interpret and explain what happens to them that determines their actions, their hopes, their contentment and emotional well-being, and their performance.

Developmental psychology has contributed to the new view of education by emphasizing the individual nature of learning, personal learning styles, the influence of internal motivations and drives, and the complex interplay of emotional, perceptual, and cognitive responses to problems. Cognitive science has contributed a wealth of new knowledge about how the brain functions, about the internal structural changes which occur as a factor of learning, and about the role of the individual learner in reflecting on

and constructing learning by finding meaning in new experiences that fit with what is already known (Shipley, 1995).

2.2 Definitions of Reflective Thinking

Early contributions include the significant work of John Dewey. The nature of reflective thinking is characterized by Dewey (1933) as a specialized form of thinking. Dewey states,

> It stems from doubt and perplexity that is felt in a directly experienced situation which then leads one to purposeful inquiry and problem resolution. Central to the process is the paradox that one cannot know without acting and one cannot act without knowing. The foundation of reflective thought is, therefore, to transform a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clear, coherent, settled, harmonious. (p. 100-101)

What is clear from reviewing the literature is that there are a number of definitions of reflective thinking. The terms used vary (reflection, reflective practice, reflection in action, reflection on action), as does the definition of any single term (Calderhead, 1989; Gore, 1987; Noffke & Brennan, 1988). Hatton and Smith (1995) noted that the terms are often ill-defined, and have been used rather loosely to embrace a wide range of concepts and strategies. The literature reflects some important differences in the ways in which reflective thinking is defined.

Chalmers and Fyfe (1996) found that the definitions given by Cruickshank (1985) and that of Zeichner (1981) were markedly different. While both writers advocate the

development of reflective teachers through education programs, Zeichner takes a macro or conceptual approach in contrast to the micro or technical approach taken by Cruickshank. Zeichner's definition embraces the critical inquiry approach of Dewey (1933) which states that reflective thinking is "an integration of attitudes and skills in the methods of inquiry, with the attitudes of open-mindedness, responsibility, and wholeheartedness prerequisite to reflective action" (p. 30-32). This definition includes consideration of ethical, moral, and political principles which make it a critical inquiry approach.

Cruickshank's micro approach is a technical approach based on thinking about one's competencies, and evaluation of their effectiveness after implementation, and then changing behaviour as a result of that thinking. In fact, the narrower, technocratic approach advocated by Cruickshank has been strongly criticised by Gore (1987) and Smyth (1989). Cruickshank's approach has been rejected by some on the basis that, "technocratic rationality limits itself to how to do it. It is the obsession with calculation and measurement, the drive to label all that is human. It represents the devaluation and marginalization of feeling...and malforms individual and social growth" (Hatton & Smith, 1995, p. 34). It is also clear that the literature highlights the need for faculty and students to be clear about how this term is being defined.

Van Manen's (1977) work depicts a developmental sequencing or hierarchy with different levels of reflective thinking referred to as technical reflection, practical reflection and critical reflection. Technical reflection is described as the level at which the teacher considers the best means to reach an unexamined end. It involves the everyday thinking

and acting - partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them (Van Manen, 1991). Cruickshank (1987) reinforces the technical definition as the ability to analyse one's own teaching practice. At this level, teachers would assess their teaching performance in a structured pre-designed situation to determine the effectiveness of their daily practices and how to perform them better.

At the practical level, the teacher considers not only the means, but also the goals and the assumptions upon which these are based, and demonstrates the ability to discuss and negotiate through language to improve the actual outcomes. Schon (1987) uses this second level to describe reflection in action as the process through which teachers learn through continuous action and reflective thinking on everyday actions. Van Manen (1991) includes in this level the ability to consider everyday experiences and incidents, and to formulate practical principles and limited insights into the effects of their teaching on children's experiences.

A third level is that of critical reflection. Critical reflection builds on the first two levels and occurs when teachers examine the issues of ethics, morals and justice in education and open up a discourse about the role of schools in a democratic society. Critical reflection locates any analysis of personal action within wider socio-historical and politico-cultural contexts (Noffke & Brennan, 1988; Smith & Lovat, 1991; Zeichner & Liston, 1987). At this level one makes judgement about professional activity and whether or not it is equitable, just and respectful of other persons (Van Manen, 1977). In early

childhood education, standards of best practices include compliance to a code of ethics with obligations to children, parents, co-workers and society at large. Reflective thinking at this critical level includes examining the role that educators' cultural background, biases, values and personal experiences play in their teaching. Educators may conduct action research in their classrooms or collaborate with educational researchers to examine their practices critically (NAEYC, 1996.) The critical level of reflection involves reflecting on the way one reflects and developing theoretical underpinnings and critical insights about our experiences and those of the children we teach (Van Manen, 1991).

Much teacher education research has focussed on teacher education programs designed to promote reflective thinking on all three levels (Chalmers & Fyfe, 1996). The majority of the research has taken place in preservice teacher preparation, and more success has been achieved in promoting technical reflection than critical reflection (Zeichner & Liston, 1987). In a more recent study of preservice and inservice teachers at Murdoch University in Australia, varying levels of reflective thinking ranged from superficial to deeper levels. At the superficial level, teachers were descriptive of teaching and learning strategies and carried out simple analysis of conceptual development and outcomes. At the deeper levels, teachers engaged in critical analysis of issues and could construct their own views about education from experience and evidence (Schibeci, Hickey, & Speering, 1999).

For the purpose of this study, the definition of reflective thinking has been drawn from a variety of these sources. As defined in the Definition of Terms, reflective thinking

is the ability to describe and question one's practices; analyse through self-evaluation and plan learning goals; evaluate, review and reconsider through acquired knowledge; and use judgement when making decisions about one's own performance. Reflective thinking assists individuals in developing a depth of understanding about the role of an early childhood educator by linking past experiences with present practices and projecting future ideas and actions in order to develop reflective practices.

2.3 Differences Between the Reflective Thinking of the Novice and the Expert Teacher

The literature indicates that the quality of reflective thinking by the novice is different from the experienced educator. More experienced teachers put certain routines into automatic action with little conscious attention. This "automaticity" enables the teacher to perform some behaviours unconsciously while attending to those events that are more novel or important (Chalmers & Fyfe, 1996). Novices, on the other hand, will attend to the immediate situation in isolation of past experiences and future projection of ideas or actions. Therefore, the ways in which faculty help teachers and novices to develop the skills and strategies of reflective thinking have to acknowledge these differences.

The hierarchy referred to by Van Manen (1977) as technical, practical and critical reflection, indicates that there is a developmental sequencing which is acquired over time and through experience. In this developmental context, the work of Dreyfus & Dreyfus (1986) identifies five levels or stages of teacher development as novice, advanced beginner, competent, proficient, and expert. In terms of viewing oneself as a lifelong

learner, a developmental view of this novice to expert process, Katz (1972) describes four stages: survival, consolidation, renewal, and maturity. Inservice students can be involved in reflecting on their own progress through these stages by noting their needs in current stages and preparing for the following ones. Students can document their successes and mistakes in previous stages, and be involved in discussion with peers. Knowles (1980) ties this same notion to adult education principles and recognizes the vocational tasks of adults from early adulthood through to older adulthood. This psychosocial aspect of adult development impacts on both personal growth and professional growth. The application of psychosocial theory to the novice to expert notion is further supported by Gratz and Boulton (1996) in their research on the application of Erikson's (1963) framework of eight stages of the life cycle through a developmental sequence.

Reflective thinking involves looking back as well as looking ahead. According to Dewey (1933), "the closer the process of reflection moves towards a resolution of the problem, the more critical it becomes to examine past events and experience" (p. 64).

2.4 Conditions Conducive to Reflective Thinking

Reflective thinking in educational practice is dependent on a number of conditions in order to develop and be sustained. Dewey (1933) noted that the attributes of openness, wholeheartedness, and responsibility, together with the skills of observation and analysis, are needed in order for students to be reflective. While these are the student conditions necessary for reflection to flourish, there are also faculty considerations which are necessary if reflective thinking is to be developed and sustained. These considerations

include support, security, and collegiality (Nias, 1984a, 1984b).

Reflection develops best when students feel secure. It does not work well in an atmosphere of fear, insecurity or stress. In other words, if students are to be brave enough to reflect, they must not feel threatened by the way others may react to the results of such reflection (Chalmers & Fyfe, 1996). In one important respect, reflection cannot be left to students: it has to be supported by others (Rogers, 1980). Rogers, writing as a psychotherapist, argues that, "individuals have within themselves vast resources for self-understanding and for altering their self-concepts, basic attitudes and self-directed behaviour" (p. 115) within a supportive environment.

Duff, Brown and Van Scoy (1995) found that a nurturing, supportive environment is needed for teachers of young children to reflect on their practices and internalize professionally acceptable expectations and standards. McIntyre (1988) notes that knowledge and understanding about teaching is tentative and that it should be viewed as such by tutors, mentors, and students. According to Zeichner and Liston (1987), the reflective teacher is one who views knowledge as problematic rather than certain, who views the role of teacher as moral craftsperson rather than as a skilled technician, and the curriculum as reflexive rather than as received. Much research suggests that reflection develops best where a problem-solving approach is adopted (Addison, 1999; Calderhead, 1988; McIntyre, 1988; Zeichner & Liston, 1987).

Rogers (1961, 1969, 1980) maintains that personal development is facilitated by genuine acceptance by others. This has great relevance for professional and personal

development in teaching. In particular, it points to the importance of working collaboratively with colleagues and developing open, trusting relationships. Such relationships should not only provide an alternative source of insights into our own practice, but should also provide the support to face and deal with whatever issues may arise (Chalmers & Fyfe, 1996).

Much of the literature related to reflection indicates that the act of reflective thinking is no easy task and does not necessarily occur naturally. Those supporting the development of reflective thinking need to understand that reflection is a difficult and uncomfortable process for some students. Kortagen (1988) found in his study of students on a pre-service teacher education course designed to promote reflection that not all students seemed to benefit. Faculty had assumed that students learn to teach with an internal orientation, that is, that they use their own knowledge and values to examine and evaluate their practice. What they found, however, was that some students used an external orientation in that they expected to be told how to teach and that they expected others to examine and evaluate their practice. It is agreed by many writers, however, that more research into how reflective thinking operates in practice is necessary (Calderhead, 1988; McIntyre, 1988).

Some research (Hoover, 1994; Staton, 1987; Zeichner and Liston, 1987) suggests that reflective thinking is a learned activity which requires a carefully planned set of experiences. Other researchers (Field & Field, 1994; Wildman, Niles, Magliaro, & McLaughlin, 1990) believe that the ability to reflect formally on teaching practices must be

taught. They claim that after formal training in reflective thinking practices, teachers will then know how to stand back and observe objectively what they are experiencing, have experienced, or will experience in the future, prior to discussing it more meaningfully. The American Psychological Association (1997) states,

> Thinking about thinking as a learner-centred psychological principle involves higher order strategies for selecting and monitoring mental operations which facilitate creative and critical thinking. This enables learners to reflect on how they think and learn, set reasonable learning or performance goals, select potentially appropriate learning strategies or methods, and monitor their progress toward these goals. (p.2)

The internalization or reflection on one's practices must be as carefully thought out and intentional as planning a curriculum for a group of young children (Duff et al., 1995).

Course planners and faculty need to ensure that students understand the rationale for the reflective thinking activities in which they are invited to engage (McIntyre, 1988). It is clear from the literature that students begin their courses with their own diverse preconceptions of what teaching involves and how it can be best be learned (Calderhead, 1989; Zeichner & Liston, 1987). For the acquisition of reflective thinking to become less difficult and more attainable, those involved with supporting students need to start with the students' own agendas (Smyth, 1987). They must frame the problems upon which they wish to reflect and modify practices (Seifert, 1998). Relevant to this concept is the work of Belenky et al. (1986) which focuses on the experiences of women and their

particular learning processes. Supported by Gilligan's (1982) research on women's moral development based on responsibility and care, Belenky et al. documented the struggle that many women have experienced in traditional schooling approaches which denied the relevance of their personal and subjective knowledge to the topics that were being taught. Reflection in learning acknowledges personal experience, supports making the interconnections with accepted theoretical notions, and challenges the learner to make links and associations between and amongst intrinsic and extrinsic knowledge concepts.

Reflection often involves change, and research has shown that change is not without its difficulties (Jewett, 1998; Ruddock, 1988). Ruddock outlines how change and the process of reflection influenced a group of school teachers. She acknowledges the difficulties that experienced teachers have in identifying the values and assumptions which underlie their practice. Jewett noted that teachers may realize that for a long time they had been responding in a way that is far from optimal and experience regret over lost opportunities; they may also fear the tough work ahead brought about by reflection and change. Ruddock concludes that notwithstanding the difficulties encountered in reflective practice, teachers' decisions to use such practice empower them at a time when feelings abound that they are demotivated and disempowered.

According to the findings in the study *Caring for a Living* (Canadian Child Care Federation & Child Care Advocacy Association of Canada, 1991) and its updated version *You Bet I Care!* (Doherty, Lero, Goelman, LaGrange & Tougas, 2000) early childhood educators feel undervalued by society and this is evident in the low wages paid to this

sector in relation to the level of responsibility they have for the developmental outcomes of young children. Dawn Francis (1995) believes that teachers need to develop attitudes, skills, and confidence to frame their own agendas, use their puzzlement to drive useful inquiry, and influence policy and educational thinking beyond the classroom context. Reflective practice may become a means through which educators become empowered and develop a "voice" (Belenky et al., 1986; Francis, 1995). Just as self-initiated activity is critical to the child's development, so are reflective thinking, self-evaluation, and self-direction critical to the process of professional development (Duff et al., 1995).

2.5 Strategies to Aid Reflective Thinking

The review of the related literature indicates that several strategies, including those that are verbal and those that involve writing have been used alone as well as in combination. Certain authors suggested that writing can be a powerful tool for reflection (Clark & Yinger, 1987; Cochran-Smith & Lytle, 1990; Holly & McLoughlin, 1989; Smyth, 1987; Staton, 1988; Surbeck, Han, & Moyer, 1989). It was also noted that the use of writing is most effective when combined with opportunities for re-reading and dialogue (Yinger & Clark, 1981).

One of Sparks-Langer and Colton's (1991) key strategies for reflective thinking is having teachers write narratives about their teaching practices. Developing voice in these narratives includes asking questions, writing, intentional talk, and interpretation. These strategies help students to gain a better understanding and to improve their own practices. Yinger and Clark (1981) have researched the effects of journal writing on both preservice

and inservice teacher education students. They reported that the process of writing requires the writer to simultaneously represent ideas in all three of Bruner's (1966) modes of representation: enactive, iconic and symbolic, forcing a degree of integration of thought not found in other modes of expression. Yinger and Clark suggest that this link between writing and learning indicates that journal writing may be a powerful learning tool, one uniquely suited for professional thought and reflection. Emig (1977) argues that "writing represents a unique mode of learning - not merely valuable, not merely special, but unique" (p. 122). Grimmett, MacKinnon, Erickson, and Riecken (1990) reviewed the reflective writing of experienced teachers who were current graduate students and found that reflection on their practical teaching experiences brought about changes in the students' thinking about their teaching practices. Through writing, they began to identify specific ways in which their teaching practices might become more consistent with their personal philosophy of teaching. Grimmett et al. (1990) believe that it is through the use of writing as an exploration of one's teaching practices and the reflection on such writing that will promote reflective thinking in a teacher.

Chalmers and Fyfe (1996) reported that Yinger and Clark's (1981) research into how journals were used in preservice and inservice teacher education, indicated that students were using a three-step process which they called systematic reflection. These three parts were organized to include: 1) intensive writing in a journal, 2) re-reading of and reflection on what one has written, and 3) dialogue with another person about one's journal entry. While the program achieved successful outcomes in terms of encouraging

reflection and making clear links between theory and practice, it did not suit all students. Some students, for example, were uncomfortable with writing as a learning style, while others had difficulty in talking about their feelings, thoughts, and ideas.

Staton (1988) promotes the use of dialogue journals in the form of a log for the purpose of carrying out a written conversation between two persons on a regular basis. In early childhood education, these persons could be the student and the supervising teacher in a field placement. Dialogue journals could also be used for ongoing narration by the student about their experiences and subsequent feedback from the faculty. Further research is recommended on the types of writing tasks which may effectively promote intellectual development and reflective thought in teachers (Hoover, 1994; Johnston, 1994). Chalmers and Fyfe (1996) found that, "the assessment factor was an additional key issue in that students felt that this could be seen as an important barrier to reflection" (p. 28).

Hatton and Smith (1995) explored the use of several techniques in combination. They used journals, group discussions, and practicum experiences which are not directed towards the solution of specific practical problems. They also investigated such strategies as action research projects, case studies, ethnographies, and microteaching, but found that unless these strategies were combined with journal writing, narratives, biographies, reflective essays, and students' metaphors of teaching, there is limited potential to claim that these approaches effectively promote reflection. Sparkes-Langer and Colton (1990) found that a combination of methods was effective for increasing the level of reflective

thinking in students who were involved in a study, *Collaboration for the Improvement of Teacher Education* [CITE]. They incorporated the use of structured field experiences, microteaching, one week classroom teaching, journals, and written assignments. These methods were intended to help teachers analyse, question, and reflect on issues presented in courses. The faculty paid special attention to role-modelling of questioning and discussion techniques that would facilitate reflective thinking. Grinberg (1990) carried out research comparing students enrolled in CITE and those who were not. Their findings indicated that CITE students had significantly higher ratings on reflective thinking; courses with guided field experiences promoted greater reflection than did courses without field experiences; and that the coaching caused a significant rise in scores in explanations using pedagogical principles.

Guided field experiences are an important strategy in the development of reflective thinking during teacher preparation (NAEYC, 1996). The *Guidelines for Preparation of Early Childhood Professionals* (1996) state, "field experiences provide candidates with opportunities to learn how to work in collaboration with field-site staff, to work as a member of an interdisciplinary team, and to reflect on their practice in collaborative relationships" (p. 6). Roth (1989) believes that theory and practice must be integrated in both the classroom and in field experiences when preparing the reflective practitioner. His study suggests that guided practicum is a potential area in which reflective practitioners tie theory to practice. Roth's work shows a strong correlation in how students in becoming reflective practitioners relate theory to practice.

The role of the faculty in supporting students to be reflective is an important consideration. As several writers noted, the faculty coach and collaborate with student teachers, and together as researchers they explore possible explanations for situations that arise. Faculty and students discuss implications for practices, and work together towards the broader goals of education (Crebbin, n.d.; Duckworth, 1977; Schon, 1987; Tabachnick & Zeichner, 1991). At times the faculty will provide one-on-one tutoring and guidance to help students achieve some identified goals. Studies show that through the use of strategies including video taping, journal writing, and tutoring, critical reflection takes the process beyond daily practices and gives the individual the "ability to recognize instances in teaching which demonstrate the injustice and inequality which are embedded in everyday school experiences, to be able to acknowledge the social and political agendas of the environment in which our practices are situated, and to question their interconnectedness and injustices" (Crebbin, p. 3).

The review of the literature suggests that a combination of approaches is most effective in helping student teachers to develop reflective thinking as a means of critically analysing their practices and experiences in relation to theoretical principles and professional development. The approaches are effective when they personalize the experience for students and support students in gaining an understanding of their personal views and beliefs in relation to the professional standards of practice.

2.6 Reflective Thinking Processes

Studies which used specific criteria to determine whether a participant was showing evidence of reflective thinking were reviewed and contrasting views emerged. Schon (1987) promoted a problem-solving approach during which a problem would be identified, information would be brought to bear, and then possible solutions would be debated by a group of students until agreement was reached on the best solution. Students were encouraged to approach their teaching with a problem-solving approach. Addison (1999) supports this view and notes a problem-solving approach as an essential condition of reflective practice. Tremmel (1993) argues that "a problem-solving approach limits the individual to concreteness, and he suggests that to reach critical reflection students must learn to focus on the mental processes that support their practice" (p. 446). Tremmel indicates that the starting place for students to detach themselves from their practice in order to reflect on it objectively is developing the skill of paying attention. "This means paying attention to what is around us as well as what is going on within us, which is the first step to 'mindfulness' and the basis for any skilful action to take place" (p. 447).

Based on Glasser and Strauss (1967) who identified organizing categories which emerge from thought units, and Dewey (1933) who conceptualized the categories as routine or reflective thinking, Wedman and Martin (1991) carried out analysis on a reflective student teaching program. The reflective thought units were characterized by writing that questioned, analysed, evaluated or reconsidered schooling practices. These

behaviours were consistent in students who learned to reflect as opposed to those who noticed and wrote about only routine occurrences without questioning or evaluating their responses.

Sparks-Langer and Colton (1991) denoted the three main categories of reflective thinking processes as describing, analysing, and making inferences about classroom events. Ross (1990) extended the ideas of Schon (1987) and Van Manen (1977) into five components of reflective thinking:

> (1) recognizing an educational dilemma, (2) responding to a dilemma by recognizing both the similarities to other situations and the special qualities of the particular situation, (3) framing and reframing the dilemma, (4) experimenting with the dilemma to discover the consequences and implications of various solutions, and (5) examining the intended and unintended consequences of an implemented solution by determining whether the consequences are desirable or not. (p. 97)

The first three are similar to Schon's problem-solving approach, whereas the last two demonstrate critical thinking necessary for high levels of reflection (McLaren, 1989).

Ferguson, Ferguson, Singleton and Soave (1998) studied various mentoring models in early childhood education. They assessed the reflective thinking of protogés using an adaptation of Wedman and Martin's (1991) categories for describing reflective thinking. The reflective thinking behaviours of Ferguson et al. were: describe, question, analyse, plan, evaluate-review, evaluate-reconsider, and evaluate-decide.

2.7 Summary

Research studies confirm that reflective thinking has played a significant role in teacher education and ongoing professional development over the last twenty to twenty-five years. Originating from the works of Dewey (1933), others in and outside the education field over the last 20 years have explored the benefits of reflective thinking. In education, the importance of teachers becoming reflective about their practice is that they have acquired the skills and strategies to review, reconsider, and make decisions about their ideas, beliefs, and values about teaching and learning.

Although deriving from a variety of definitions, commonalities exist which support a body of knowledge which has the potential to assist both novice and experienced teachers in becoming reflective practitioners. The developmental sequence of reflective thinking discussed in many sources indicates that educators initially learn to describe experiences and question what they need to know. At this technical level, the focus is the immediate circumstances and how to improve them. At the second level, the reflective educator analyses situations in order to identify components, consider how the elements are linked or interact, including personal beliefs, emotions or biases. This is a practical level during which educators consider the goals and can use language to improve outcomes. They can formulate practical principles and insights into the effects of their teaching on children's experiences. When educators acquire the skills and strategies of the third level, the critical of reflective thinking, they examine the issues of ethics, morals and justice in education, and consider their actions within wider socio-historical and politico-

cultural contexts. They evaluate their practice in this context through self-evaluation, reviewing, reconsidering and making decisions about their practice.

Researchers also note that reflective thinking does not just happen. In teacher preparation programs, carefully planned strategies are necessary for making reflective thinking opportunities meaningful. Teacher educators need to be aware of the conditions necessary to be conducive to reflective thinking, and that students must be reassured of a trustful relationship with faculty who coach and encourage reflective thinking. Students must feel that they are learning within a secure and supportive environment. Within this environment students can reflect and make changes as they continue to integrate new knowledge into their practice.

Faculty also need to be aware of the advantages and disadvantages of various strategies for both faculty and students. Where writing is a predominant form used to increase reflective thinking, not all students benefit from it. Some are more comfortable with verbal sharing such as in discussion groups and one-on-one discussion with faculty. Studies confirm that a combination of strategies would be most effective in eliciting reflective thinking. Ongoing dialogue between students and faculty, whether written or verbal, is a strategy that can be used to encourage reflective thinking. Strategies need to be focussed on personalizing the experience for the students and be effective in supporting them in gaining an understanding of their personal views and beliefs in relation to the professional standards of practice. These strategies have been found to help students to reflect on their own practices and to improve their practice.

Chapter 3

Methodology

A qualitative methodology was selected as an effective way to describe the reflective thinking of students participating in this study. It also allowed the researcher to become immersed in the research setting, to use a conceptual framework for reflective thinking, and to seek an understanding of it through the experiences of students. The study was concerned with documenting evidence of reflective thinking of 7 early childhood education students at the end of their first year of study in a two-year diploma program. This single unit focus or case study allowed the researcher to document the variety of ways through which students reflected. Following Merriam's (1988) four essential properties of qualitative case study, the research was:

1. Particularistic. It focussed on a particular group of 7 students, at one point in their studies in an early childhood education program - the end of the first year of a two-year diploma program.

2. Descriptive. The data collection methods were designed to identify descriptive evidence of reflective thinking produced by the students.

3. Heuristic. The outcome has informed the researcher's understanding about reflective thinking during education.

4. Inductive. The study acknowledged that early childhood educators gain knowledge, skills and attitudes through their education, and the researcher anticipated that it would be possible to learn the extent to which students know and understand how to use reflective

thinking to improve these abilities. Findings from this study may be able to be generalized in order to inform the researcher about the reflective thinking of other students.

The research question for the study was, "Do early childhood education students in a two-year provincial college diploma program demonstrate reflective thinking at the end of the first year?"

This chapter provides: a description of the study's sample and setting; an overview of the three-month time frame; a depiction of the location for the data collection methods; the approach to data analysis; and a summary of the methodology used to answer the research question.

3.1 The Sample and Setting

The sample for the study was selected from a group of early childhood education students who were studying in a post-secondary two-year diploma program delivered by distance education at a provincial community college.

3.1.1 The setting.

Newfoundland and Labrador's provincial community college has 18 campuses located throughout the province. It is one of the largest post-secondary educational and skills training centres in Atlantic Canada offering over 70 full-time programs and more than 300 part-time courses. The College produces 3,000 graduates each year from career-oriented certificate and diploma programs which range from one to three years in duration. The range of programs include: Applied Arts, Business, Health Sciences, Engineering Technology, Industrial Education/Trades, Information Technology, Natural Resources,

Academic/Access programs, and English as a Second Language. The setting for this study was one urban location of the provincial college which offers as one of its programs, a two-year Diploma of Applied Arts in Early Childhood Education.

The full-time program at the College began in 1986 in response to a need expressed by the community. Post-secondary education for individuals working with young children in a variety of early childhood settings was viewed as necessary to ensure the quality of care that children received. A community advisory committee had significant input into the development of the program. In 1989, the advisory committee recommended that the diploma program extend its delivery to early childhood educators who were currently working and could not attend full-time course offerings. The recommendation was to develop the program for distance education delivery. During a research and development project from 1991-1994 the following objectives were fulfilled: the curriculum was prepared for distance education delivery; certification standards were established; and a course in portfolio development was developed for students to avail of prior learning assessment. The college continues to offer the diploma through distance delivery to approximately 70 students during the academic year.

The Diploma of Applied Arts in Early Childhood Education, comprising 29 courses and 4 practicum institutes, is delivered by distance education through a framework of eight general learning outcomes. By the end of the program, students are expected to:

- apply theories of child development;
- develop the children's environment;

- provide for children's health, safety and wellness;
- provide developmentally appropriate activities;
- guide children's behaviour;
- interact with families;
- perform administrative tasks; and
- conduct themselves professionally.

In the distance delivery, the theoretical component of the program is delivered by faculty through the course work presented in course manuals, media and technology resources, and selected readings. There are teleconference seminars twice weekly in some courses, to which students connect through telephone and satellite networks. In seminars the faculty focus on the concepts presented in their readings, involve students in discussion about relevant experiences, and review the assignments. Faculty are available daily and on designated evenings for one-on-one instructional support for the students. Examinations for each semester are invigilated in students' communities through local schools or college sites. Practicum institutes are three weeks in duration and focus on the practical aspects of courses such as art, music, and interpersonal communication, and the application of theory into practice. Institutes take place on site at the college demonstration child care centre. Students spend the majority of the time during an institute in a "field placement" completing practical assignments and interacting with the children in the children's program. Faculty engage students in discussion groups, guided journal writing, and discussions of observations of their practice as part of their practicum experience. Further

evaluation of students' practice occurs in their places of employment in order to ensure transferability of learning to their real-life experiences

3.1.2 The population.

In order to be accepted into the distance education delivery of the diploma program, students must have high school education and two years of work experience in settings with young children. Due to the part-time nature of distance delivery, course registration fluctuates. There were 72 students in the population during the semester that the sample students were selected.

Students live in various parts of Newfoundland and Labrador. The particular group of 7 students who participated in the research study lived in a small rural community with a population of about 900 people on the south coast of Newfoundland. In September 1997 when they began their diploma program, 2 students worked at the child care centre, and 2 in a home care outreach program from the child care centre. Three students worked at the school as assistants to children with disabilities in the pre-kindergarten and primary grades. All 7 participants completed their course-related observations of children, practical assignments, and a portion of their practicum hours at the child care centre in their community. When selecting the sample for the study, this group of 7 students, at the end of their first year in the diploma program had met the following criteria:

1. Completion of all first year courses prerequisite to the scheduled course in professional values offered during the last semester of the first year of the two-year diploma program.

2. Completion of practicum requirements prerequisite to the scheduled practicum institute at the college demonstration child care centre.

3. Completion of two years previous work experience with young children.

No other students enrolled in the program met all of the same criteria at the time participants were selected. To further strengthen the sample as a study group, these 7 students had the same experiences of course work and practicum delivered to them under special contract as a group. They were involved, as a group, in teleconferences, practicum institutes, assignments, and exams. Their work experience ranged from 3 to 10 years with an average of 7.3 years. There were 6 females and 1 male, who ranged in age from 20 to 58 years, with an average age of 37 years. Table 1 shows the demographics of the study's sample group.

Table 1

Sample Demographics

Students	Years of work experience	Age	Gender
ST1	10	33	M
ST2	8	34	F
ST3	3	20	F
ST4	10	58	F
ST5	9	38	F
ST6	5	29	F
ST7	6	47	F

The small, nested sample was 7 early childhood education students out of 72 enrolled during the last semester of the first year of the two-year diploma program. The size of sample allowed for an in-depth case study of reflective thinking. The students were not representative in every aspect of the total student population, but they had the same educational plan as all other students for the first year of their program and served to answer the question of whether students demonstrate reflective thinking at the end of the first year of the two-year diploma program in early childhood education. The study provided the researcher with opportunities to see different instances of reflective thinking, at different moments, in different circumstances, and with different people (Miles & Huberman, 1994).

3.2 Time Frame for the Study

The time frame for the study coincided with the first practicum institute at the college demonstration child care centre in the last semester of the first year of the two-year diploma program. The study began April 28, 1998 and was completed in a three-month period ending July 28, 1998. The first 3 weeks of the study took place at the college demonstration child care centre. In week 1, the first discussion group took place. In week 2, guided journal writing was introduced and students were asked to submit 3 guided journal writings in week 2, and 3 in week 3. Following the practicum institute, the students returned to work in their own community. During weeks 4 and 5 of the study, students were asked to submit 1 guided journal writing for each week. The researcher visited the students' community in week 6, and conducted the second discussion group

and observations of students' practice in the child care centre. In weeks 7 to 11 of the study, students were asked to submit a total of 4 guided journal writing submissions over the 5 weeks. In week 12 of the study, the researcher revisited the students' community and conducted the third discussion group, conducted observations of the students' practice in the child care centre, and held the second set of discussions of observations of practice. The study concluded at the end of week 12. Table 2 outlines the time frame of data collection for the study.

3.3 Data Collection

The researcher collected evidence of reflective thinking during the three-month time frame as the study group participated in discussion groups, guided journal writing, and discussions of observations of practice. The study was structured so that data could be collected from the 7 students in the study group for a total of 3 discussion groups, 84 guided journal writing submissions (7 students x 12 submissions), and 14 individual discussions of observations of practice (7 students x 2 discussions of observations of practice).

3.3.1 Discussion groups.

The researcher conducted three discussion group sessions involving the 7 students over a three-month period. The first session was held in week 1, the second session in week 6, and the third session in week 12 of the study. Each discussion group session lasted approximately two hours, and was recorded by audio tape. The researcher kept flip chart notes during brainstorming sessions of the discussion and the researcher's own

Table 2

Time Frame for Data Collection

Location	Study weeks	Data Collection Method	Totals
College demonstration child care centre	Week 1	First discussion group	1
	Week 2	3 Guided journal writing submissions	3 x 7 students = 21
	Week 3	3 Guided journal writing submissions	3 x 7 students = 21
		First set of discussions of observations of practice	1 x 7 students = 7
Child care centre in students' community	Week 4	1 guided journal writing submission	1 x 7 students = 7
	Week 5	1 guided journal writing submission	1 x 7 students = 7
Researcher visits the community	Week 6	Second discussion group.	1
Child care centre in students' community	Weeks 7 - 11	4 guided journal writing submissions over 5 weeks	4 x 7 students =28
Researcher visits the community	Week 12	Third discussion group	1
		Second set of discussions of observations of practice.	1 x 7 students = 7
Totals			3 discussion groups 84 guided journal writing submissions 14 discussions of observations of practice

descriptive notes were maintained for cross-referencing.

During the first discussion group (week 1) the researcher introduced the purpose of the study, and involved students in a discussion about reflective thinking and its benefits to early childhood educators. In an open-ended and interactive format, the discussion was guided by questions (Appendix A) which encouraged the students to talk about the strategies they used to reflect and how they thought they could use reflective thinking in their work with young children.

The second discussion group (week 6) involved the students in dialogue about standards of practice (Appendix A) and how the learning outcomes of the diploma program were designed to reflect the standards which relate to high quality early childhood experiences for children. The researcher presented introductory information on each of the standards of practice, and students reflected on their own practices in relation to the standards during the discussion group. They reviewed accounts of their own experiences in a spontaneous, "free-flow" manner, while the researcher guided the discussion. The standards of practice were based on the eight general learning outcomes of the provincial college's early childhood education diploma program.

During the third discussion group (week 12) the researcher engaged students in discussion about ethics and introduced the application of a code of ethics to dilemmas which arise in early childhood education. A case study was presented to the group, and using a recognized code of ethics for early childhood education to guide the discussion, participants identified and analysed an ethical dilemma in order to work towards a

resolution. Two further case studies derived from the group's own work experiences and the same process was followed in analysing the cases. The topics for the discussion group sessions (Appendix A) were chosen because they were relevant to the expectations of students at the end of their first year in the two-year diploma program.

3.3.2. Guided journal writing.

The researcher introduced guided journal writing to the students during week 2 of the study while they reflected on their practices in the first practicum institute at the college demonstration child care centre. Students were asked to submit 3 guided journal writing entries in week 2, and 3 in week 3. At the end of week 3, students completed the practicum institute and returned to their own community. Based on their reflections of their work in the child care centre in their community, students were asked to submit 1 guided journal writing entry in week 4, 1 in week 5, and 4 over the five weeks of 7 to 11. In total, students were asked to submit 12 guided journal writing entries over the period of the study. The researcher provided written guidelines (Appendix B) to assist students in using reflective thinking levels and behaviours in their journal writing. They were coached by the researcher through written questions and comments in their journals encouraging them to reflect while: describing experiences that cause them to reflect; raising questions that arise for them in their interactions with the children and the families with whom they work; analysing dilemmas; resolving or planning to address some of these questions; evaluating, reviewing, or reconsidering their actions in order to arrive at appropriate decisions; and applying course work and theoretical knowledge to their daily practices.

The researcher chose this language in order to be consistent with the reflective thinking levels and behaviours noted in this study (Appendix C). The researcher encouraged students to maintain an ongoing dialogue with the researcher in their journals.

3.3.3 Discussions of observations of practice.

Throughout the diploma program, discussions of observations of practice are completed as general evaluations of practice four times; once for each of the four practicum institutes. In addition, discussions of observations of practice are completed once for each of the eight general learning outcomes of the diploma program. The researcher and each of the 7 students completed two discussions of observations of practice over the study period. The first set of discussions (week 3) was based on the observation form "General Evaluation of Practice" (Appendix D) which contains practice descriptors from the eight learning outcomes of the diploma program. The second set of discussions (week 12) was based on the observation form, "Conduct Oneself Professionally" (Appendix D) related to course work and the learning outcome for the last semester of the first year of the diploma program. The timing coincided with the three-month time frame for the study.

The researcher observed the students' practice at the college demonstration child care centre as well as at the child care centre in the students' community. During weeks 1 to 3 of the study, the researcher observed the students on a daily basis, five days per week at the college demonstration child care centre. As part of the practicum institute, students were placed with the same group of children for a three-week period, and were provided

with feedback by a teacher who was supervising, and by the researcher. During the three-week period, students were asked to use the observation form "General Evaluation of Practice" (Appendix D) as a self-evaluation tool in preparation for the discussions of these observations with the researcher. The observation form outlines a rating scale for each item being observed and, where appropriate, descriptive observation notes be written. Its purpose was to help students to think about and reflect on the application of theoretical principles of their course work to their practices, and over the duration of the three-week practicum institute, improve their practices. At the end of the three-week institute and week 3 of the study, each of the 7 students and the researcher discussed on a one-to-one basis each of their findings during a two-hour discussion. Students were encouraged to establish learning goals and to plan ways to reach those goals.

The second set of discussions of observations of practice took place in week 12 of the study. Each of these researcher-student discussions was based on observations taken during weeks 6 and 12, five days per week while students worked with the children at the child care centre in their community. The focus of the second set of discussions was the observation form "Conduct Oneself Professionally." Students were asked to complete the observation form as a self-evaluation and be prepared to discuss each item with the researcher. The second set of discussions of observations of practice lasted approximately two hours with each of the 7 students in the study group.

Data collected from the first and second sets of discussions of observations of practice were recorded by audio tape. In addition, the researcher's and students' written

notes on the observation forms were collected and all data were examined for evidence of reflective thinking.

3.4 Data Analysis

Data analysis of this study was conducted in three stages. First, all data were coded. In the second stage, the researcher carried out searches of the data. In the third stage, the researcher arranged the data in order to identify the patterns and themes which emerged from the evidence. These three stages were applied to the three data collection methods which were discussion groups, guided journal writing, and discussions of observations of practice.

During the coding, the researcher coded the data in two ways. The first coding was based on the reflective thinking behaviours: describe, question, analyse, plan, evaluate-review, evaluate-reconsider, and evaluate-decide (Appendix C), as adapted by Ferguson et al. (1998). The second coding applied Van Manen's (1977) three levels of reflective thinking: the technical, practical and critical levels (Appendix C).

These two codings allowed the researcher to view the same data in each of the three data collection methods in two different ways. In examining the literature by Ferguson et al. (1998) and Van Manen (1977; 1991) in relation to the data collected, the researcher found that it was possible to equate the reflective thinking behaviours with the reflective thinking levels. The developmental sequence of reflective thinking noted in the literature review indicated that educators initially learn to describe experiences and question what they need to know. At the technical level, educators consider the best

means to reach an unexamined end. Reflective thinking at this level involves the everyday thinking and acting - partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how they can improve them. When coding the data, therefore, the researcher applied the reflective thinking behaviours of describe and question to the same data that were being coded as the technical level of reflective thinking. At the practical level, educators reflect by analysing situations in order to identify components, and consider how the elements are linked or interact, including personal beliefs, emotions or biases. At this level, educators consider not only the means, but also the goals and the assumptions upon which these are based, and demonstrate the ability to discuss and negotiate through language to improve the actual outcomes. They can think while acting and plan for change by exploring different possibilities for given situations. Thus, the researcher applied the reflective thinking behaviours of analyse and plan to the same data that were being coded as the practical level of reflective thinking. At the critical level of reflective thinking, educators examine the issues of ethics, morals, and justice in education, and consider their actions within wider socio-historical and politico-cultural contexts. They make judgement about professional activity and whether or not it is equitable, just, and respectful of others. They reflect on their practice through self-evaluation, reviewing, reconsidering, and making decisions about their practice. Therefore, the researcher applied the reflective thinking behaviours of evaluate-review, evaluate-reconsider, and evaluate-decide to the same data that were being coded as the critical level of reflective thinking.

The researcher coded the reflective thinking behaviours and levels of reflective thinking from each of the data collection methods using the Ethnograph V4.0 Software (1996) program. This process involved entering verbatim data into a computer file and categorizing portions of the data student by student according to each of the coding descriptors.

The second stage of data analysis involved searching the data using The Ethnograph V4.0 Software (1996) program search mechanisms. Through the software searches, data were moved and organized according to reflective thinking levels and behaviours for each student. Data were then organized into a set of matrices for analysis and interpretation.

In the third stage of data analysis, The Ethnograph V4.0 Software program was used to organize the data into separate matrices in order to examine the evidence of reflective thinking for each student in the three data collection methods (Appendix E). The first set of matrices was used to organize the data from each of the three discussion groups, student by student, according to reflective thinking levels and behaviours. The second matrix was used to organize the data from the guided journal writing, student by student, in relation to the reflective thinking levels and behaviours. The third set of matrices was used to organize the data collected from each of the discussions of observations of practice, student by student, according to the reflective thinking levels and behaviours.

3.5 Summary

Qualitative methodology was especially suited to this study because the researcher was seeking to document descriptive evidence of reflective thinking by early childhood education students at the end of their first year of a two-year diploma program. Through discussion groups, guided journal writing, and discussions of observations of practice, data were collected of students' reflective thinking on their own practice.

The setting for the study was a provincial college demonstration child care centre and a child care centre in the students' community. The study took place during a three-month period in the last semester of the first year of a two-year diploma program in early childhood education offered through distance education. The sample was selected based on having met all of the same criteria at the same time established for the study period.

Data were collected from students' written and verbal evidence of reflective thinking as they engaged in each of the data collection methods. Three discussion groups were held with students, each with a specific focus for encouraging reflective thinking. Students were each asked to submit 12 guided journal writing entries over the three-month study period. Discussions of observations of practice took place twice with each student.

Data were coded, searched and analysed in order to organize material in various ways for the researcher to examine and interpret the findings. Data were analysed using criteria which supported evidence of reflective thinking behaviours and levels as follows:

- the technical level contained all the evidence coded for the reflective thinking

behaviours of describe and question;

- the practical level contained all the evidence coded for the reflective thinking behaviours of analyse and plan; and
- the critical level contained all the evidence coded for the reflective thinking behaviours of evaluate-review, evaluate-reconsider, and evaluate-decide.

A student by student documentation of evidence was possible. Data were clustered and reorganized into sets of matrices for further interpretation and analysis.

Chapter 4

Data Analysis Results

The purpose of this chapter is to present the results of the analysis of the descriptive data collected during the study of reflective thinking of early childhood education students at the end of their first year in a post-secondary two-year diploma program. The researcher documented evidence of reflective thinking of the 7 students in the study group over a three-month time frame as they were engaged in discussion groups, guided journal writing, and discussions of observations of practice. The descriptive data were analysed to determine evidence of reflective thinking levels and behaviours.

This chapter reports the results of the data analysis in each of the data collection methods. The evidence of reflective thinking levels and behaviours collected in each of the three discussion groups are reported separately, and the results are summarized as one data collection method. The results of analysing the guided journal writing are reported for the total of all guided journal writing submitted for each student and the results are summarized. The results of analysing the discussions of observations of practice are reported separately for each of the two discussions and are summarized as one data collection method. Tables are used to present the results of the data analysis. Descriptive data from each of the students supports the data reported in the Tables.

4.1 Discussion groups

The researcher conducted three discussion groups involving the 7 students over the three-month time frame as follows: the first in week 1, to introduce reflective thinking

in early childhood education; the second in week 6, to discuss standards of practice; and the third in week 12, to discuss the application of a code of ethics. Each discussion group was designed to last approximately two hours. Data were collected by audio tape, researcher's written notes, and flip chart notes taken during the discussion.

4.1.1 First discussion group.

The first discussion group took place during a practicum institute at the college demonstration child care centre. The focus of the discussion was the topic of reflective thinking and its benefits to early childhood educators. In an open-ended and interactive format, the researcher guided the discussion with questions (Appendix A) which encouraged the students to talk about the strategies they used to reflect and how they thought they could use reflective thinking in their work with young children. Table 3 represents the incidences of reflective thinking by each student during the first discussion group. The data were organized by reflective thinking levels and behaviours.

There were a total of 83 responses of reflective thinking documented from the first discussion group. The results of the data analysis are supported from the students' contributions to the discussion.

At the technical level of reflective thinking there were18 responses: 16 *describe* responses, and 2 *question* responses. The technical level was evident when students considered the best means to reach an unexamined end. In doing so, they showed everyday thinking and acting -- partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

Table 3

Reflective Thinking Levels and Behaviours in the First Discussion Group

Students	Technical Level		Practical Level		Critical Level			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1	4	0	4	1	0	2	1	12
ST2	3	1	6	0	4	3	0	17
ST3	5	0	3	1	1	4	2	16
ST4	1	0	5	2	2	0	0	10
ST5	0	1	5	0	1	1	1	9
ST6	1	0	4	0	2	1	1	9
ST7	2	0	1	0	4	1	2	10
Totals of reflective thinking levels	18		32		33			83
Totals of reflective thinking behaviours	16	2	28	4	14	12	7	83

Note. E- means evaluate in each of the reflective thinking behaviours in the critical level.

Describe responses were coded when there was evidence that students gathered information and made objective descriptions of experiences or incidents. In response to the question, "Do you reflect on the events of the day, on the children or on your performance?" ST3 described a science activity she had planned for a group of children, "I had said what we were going to do and they [the children] went along with it even though they knew how the experiment was going to work. They had done it before. I was really surprised. I didn't think that they would know what would happen" (May 1, 1998). In response to "When do you reflect?" ST4 described, "Like me with the two little boys yesterday. They weren't listening to what I said and they were laughing at me. At first I didn't know what to do. I went to [teacher's name] and told her what happened" (May 1, 1998). In response to the question, "Does reflecting on your work and your own performance lead to any change in the way you do things?" ST7's descriptive response was, "When I reflect on things I have a sense of whether I am doing things right by the children. You can tell if you watch them closely" (May 1, 1998).

There were 2 question responses identified in the first discussion group. Question responses were noted when students made statements to extract and select information, such as "What do I need to know?" ST5 responded to the question by the researcher, "Does reflecting on your work and your own performance lead to any change in the way you do things?" She questioned how change in herself would be received in her home community. She said, "Will the teachers back home even let us do things the way we are being taught and the way we can see how things work here? You have to be so careful

not to offend someone there" (May 1, 1998).

At the practical level of reflective thinking there were 32 responses: 28 *analyse* responses, and 4 *plan* responses. The practical level was evident when students considered not only the means, but also the goals and the assumptions upon which these were based, and demonstrated the ability to discuss and negotiate through language to improve the actual outcomes. They considered everyday experiences and incidents and formulated practical principles and limited insights into the effects of their teaching on children's experiences.

Analyse responses were evident at the practical level, when students identified components of a situation and considered how the elements were linked or interacted. The students recognized personal beliefs, emotions, or biases with regard to a situation. ST2 responded to, "What do you understand reflection or reflective thinking to be?" Her analytical response was, "To recall some sort of experience. To sort out the way you feel about that experience. If it was something negative it gives you a chance to think about it and you may see it differently" (May 1, 1998). In response to the same question, ST4 used analysis as she responded, "Reflection to me is looking back on something that has happened in the past. To think about things and talk about them with others to see if they see them the same way" (May 1, 1998). ST1 gave an analytical response to, "In what ways would reflective thinking help early childhood educators to develop their practice?" He said, "If you did something with the children you can reflect on it and know how to do it better the next time. You observe the children. You do it this way in one situation but

you have to be ready to do it differently next time" (May 1, 1998).

When students were asked, "When do you reflect?" ST2 reflected with an analyse response, "On more important things I stop and think and look at a situation and get a sense of how people are feeling. If someone is upset I feel almost compelled to help them - especially the children" (May 1, 1998). ST7 responded, "Sometimes I have to stop and reflect at the moment because the situation requires it. If things are not going right especially with the children, you can't wait until afterwards to change it" (May 1, 1998).

Plan responses were evident when students elaborated on intermediate constructions to explore different sequences of possibilities, recognized by conditional constructions like, "if X then Y and if Z..." Students often used these constructions when identifying planning as a means of exploring possible ways to approach situations. There were 4 plan responses evident in the first discussion group. ST1 planned when he reflected on the question, "Does reflecting on your work, and your own performance lead to any change in the way you do things?" He said, "They [the teachers at the day care] don't like it when you do finger painting. They don't like the sandbox and water table out at the same time. The children here can use any of the materials most of the day and are not restricted from certain areas. I see the difference for the children. I think it is going to be hard going back to our day care. I will need to bring up my ideas during planning sessions" (May 1, 1998). ST4 planned in response to the same question when she said, "It's almost like a checklist – you go over everything in your mind ahead of time and then afterwards. You think about yourself and about the children and what it was like for

them. You can think about how you would you do things differently next time" (May 1, 1998).

At the critical level of reflective thinking there were 33 responses: 14 *evaluate-review* responses, 12 *evaluate-reconsider* responses, and 7 *evaluate-decide* responses. The critical level occurred when students examined the issues of ethics, morals, and justice in education. They identified personal action within wider socio-historical and politico-cultural contexts. The students made judgements about professional practice and whether or not it is equitable, just, and respectful of other persons. The critical level involved students in reflecting on the way they reflected and developing theoretical underpinnings and critical insights about their experiences and those of the children. Evaluate-review was evident in the data 14 times during the first discussion group. Students showed evaluate-review responses when they could give the good points and the bad ones; could appraise situations; give opinions regarding a value, or the advantages and disadvantages of practices. ST7 evaluate-reviewed in response to the question, "What is your current understanding of what is meant by reflection?" She said, "Thinking back about experiences that you have had helps you to think about how you should act towards children. It makes you realize the effect you have on children's self-esteem" (May 1, 1998). ST5 evaluate-reviewed in response to the question, "Do you reflect on the events of the day, on the children, or on your performance?" She said, "In the evening I start by reflecting on events of the day, then I think about the children and what I learned from them and the way the staff interact with them, then I review what I did, how I did it and

how I felt about it. I consider the importance of my actions" (May 1, 1998). ST6 responded to the same question, by saying, "I do an overview sort of. A little later on you think about it after you have done a total analysis of everything. You have to think about what you did, what the children did, and how the whole thing worked. You have to think about which ways will have the best outcome overall" (May 1, 1998).

There were 12 instances when students reflected at the critical level of evaluate-reconsider. Students showed evaluate-reconsider responses when they reviewed a situation and modified their practice or the plan if new information or an element of the situation were not previously considered. ST3 showed evaluate-reconsider in response to the question, "What is your current understanding of what is meant by reflection?" ST3 said, "If you do something with the children and they enjoyed it, then you learn something about them and you also learn something about yourself and whether you are meeting the children's needs. If it doesn't work out then you have to think about why, get more information and do it better next time" (May 1, 1998). In response to "Does reflecting on your work and your own performance lead to any change in the way you do things?" ST5 said, "Reflection most definitely leads to change. I think about the way I was with my own children and with [child's name]. They had to do as they were told or else! Now I know how wrong my ways were. [Now] I go over to her and show her how to do things, she understands and I feel so much better about it" (May 1, 1998).

There were 7 instances when students responded to questions at the critical level of evaluate-decide. Evaluate-decide responses were evident when students made explicit

or implicit judgements on their performance, identified by key words like, "no," "yes," "fine," and so on. The decision may take a person back to reconsideration and sometimes review, or may result in a new action. When asked , "Does reflecting on your work and your own performance lead to any change in the way you do things?" ST3 said, "I think about how differently things are done in the day care at home. Everything is structured and the kids are expected to do certain things at certain times. Here, the children can use whatever materials they want and I know now when I go back home how things can work differently -- like the way we have been taught in our courses" (May 1, 1998). In response to the same question, ST7 stated, "When I was growing up things were hard in my family; I was never treated with respect, so I didn't learn the value of children from positive things in my life -- I learned what not to do to children" (May 1, 1998).

4.1.2 Second discussion group.

The second discussion group took place during week 6 of the study. This time, the researcher involved students in dialogue about standards of practice (Appendix A) and how the learning outcomes of the diploma program relate to the standards of high quality early childhood experiences for children. The researcher presented introductory information on each of the standards of practice, and students reflected on their own practices in relation to the standards during the discussion group. They reflected on their own experiences in a spontaneous, free-flow manner, while the researcher guided the discussion. The standards of practice were based on the eight general learning outcomes of the early childhood education diploma program. Table 4 represents the incidences of

Table 4

Reflective Thinking Levels and Behaviours in the Second Discussion Group

Students	Technical Level		Practical Level		Critical Level			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1	6	1	3	3	2	0	2	17
ST2	5	0	8	2	2	5	2	24
ST3	-	-	-	-	-	-	-	-
ST4	1	0	4	1	3	1	0	10
ST5	3	0	4	0	0	1	0	8
ST6	1	0	2	2	0	0	2	7
ST7	3	0	2	3	3	2	3	16
Totals of reflective thinking levels	20		34		28			82
Totals of reflective thinking behaviours	19	1	23	11	10	9	9	82

Note. ST3 was unable to attend this session.

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

reflective thinking by each student during the second discussion group. The data were organized by reflective thinking levels and behaviours.

There were a total of 82 responses of reflective thinking documented during the second discussion group. The results of the data analysis are supported by evidence from the students' contributions to the second discussion group.

At the technical level of reflective thinking there were 20 responses: 19 *describe* responses, and 1 *question* response. The technical level was evident when students considered the best means to reach an unexamined end. In doing so, they showed everyday thinking and acting -- partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

Describe responses were coded when there was evidence that students gathered information and made objective descriptions of experiences or incidents. There were 19 describe responses in the second discussion group. In relation to the fourth practice, "Provide developmentally appropriate activities," ST1 described, "I read the children books at the day care and certain words that I am saying, they point to the picture, so they are learning. Sometimes it is unreal how they know which word goes with each picture" (June 10, 1998). ST5 described, "The children I work with like to make their own books and draw their own pictures. They ask me to write the words beside the pictures for them" (June 10, 1998).

Reflecting on the fifth practice, "Guide children's behaviour," ST5 described, "One day when the child got upset in the car on the way to the playground, I turned on the

music and it distracted her and when she calmed down, she was happy to go in the car" (June 10, 1998). In response to the sixth practice discussed, "Interact with families," ST1 described, "I was going to do an observation of my target child at his home, so I called first. His mother said that he was having a rough day and gave me a choice about whether I wanted to come on that day. She felt comfortable telling me that" (June 10, 1998).

There was 1 question response evident in the second discussion group. It was noted when the student made a statement to extract and select information, such as "What do I need to know?" ST1 questioned how he would respond in relation to practice six, "Interact with families," when he reflected, "I wouldn't want to hear anything negative if the child was my son. How would I ask the parent if they had any idea of what might have set him off" (June 10, 1998)?

At the practical level of reflective thinking there were 34 responses: 23 *analyse* responses, and 11 *plan* responses. The practical level was evident when students considered not only the means, but also the goals and the assumptions upon which these were based, and demonstrated the ability to discuss and negotiate through language to improve the actual outcomes. They considered everyday experiences and incidents and formulated practical principles and limited insights into the effects of their teaching on children's experiences.

There were 23 analyse responses noted in the second discussion group. Analyse responses were evident at the practical level, when students identified components of a situation and considered how the elements were linked or interacted. They recognized

personal beliefs, emotions, or biases with regard to a situation. ST2 reflected using analysis on the third practice which is "Provide a safe and healthy environment," She said, "I would be careful to observe children that I suspect may be abused. I would watch for a change in their behaviour. I would also need to consider if something has happened at home - a change in behaviour could also be caused by a death in the family. I would record any changes and discuss them with my supervisor" (June 10, 1998). ST5 analysed as she reflected on her role, "I think of my role as providing protection for the children. They should be able to walk around the playroom freely and they should be able to work in the environment safely. I am also concerned with personal hygiene and food preparation. It is very important to follow strict sanitation rules" (June 10, 1998). ST6 also responded analytically to the same practice, "I sit and eat with the children and encourage them to try new foods and to use their manners when eating. I am a role model for the children and feel that there should be a home-like atmosphere at meal times" (June 10, 1998).

ST4 reflected on the fourth practice, "Provide developmentally appropriate activities." She analysed, "The activities should be age-appropriate. It is important they know they can express their own thoughts. They like to tell their own stories and like to make them up too. These are their own experiences" (June 10, 1998). ST7 analysed, "Dramatic play promotes a lot of language. I put out some props and they make up their own play. Sometimes they act like a mother or father or baby, just like they have seen at home. I learn a lot about the children while they play like this" (June 10, 1998).

Reflecting on the fifth practice, "Guide children's behaviour," ST1's analytical response was, "I always get down at the children's eye level so they can see me and I can get a better understanding of how they feel and they don't have to look up at me like the authority" (June 10, 1998). ST4 analysed her interactions with the children, "I get one child to express to another how it makes them feel when they hurt each other. They need to know how to help each other and how to solve their own problems. I get them to talk about it with each other and to tell me how it makes them feel" (June 10, 1998).

There were 11 plan responses evident in the second discussion group. Instances of plan responses were evident when students elaborated on intermediate constructions to explore different sequences of possibilities, recognized by conditional constructions like, "if X then Y and if Z..." Students often used these constructions when identifying planning as a means of exploring possible ways to approach situations. In relation to the first practice, "Apply theories of child development to understanding children" ST1's planning was conveyed when he said, "I think about all the different areas of development, such as cognitive, physical, emotional, social and language when I plan the program for the children" (June 10, 1998). ST6 reflected, "I have become more aware of different abilities and skills for each age group. If there is a majority of a certain age group you plan activities for them, but have to consider the others as well. For instance you can expand into more complex things like environmental issues with older children" (June 10, 1998). ST8 contributed, "I observe the children and become familiar with their stages of development, then I plan activities for them" (June 10, 1998).

ST1 responded to the second practice, "Develop the children's environment to promote development and learning," by planning. He said, "When I set up the learning environment, I select materials for the children and a space for the activity that I have planned. I have to have things at the children's eye level - like pictures, so that they can see them and relate to them" (June 10, 1998). In relation to the sixth practice, "Interact with families," ST4 took a planning approach as she said, "I would need to talk to the parent who says they don't want their child to sleep during the day, if I can see that he gets tired. I would explain that he needs his rest because of all the activity that he has from the time that he arrives, but that I would not let him sleep a long time, just enough to be rested" (June 10, 1998).

At the critical level of reflective thinking there were 28 responses: 10 *evaluate-review* responses, 9 *evaluate-reconsider* responses, and 9 *evaluate-decide* responses. The critical level occurred when students examined the issues of ethics, morals, and justice in education. They identified personal action within wider socio-historical and politico-cultural contexts. The students made judgements about professional practice and whether or not it is equitable, just, and respectful of other persons. The critical level involved students in reflecting on the way they reflected and developing theoretical underpinnings and critical insights about their experiences and those of the children.

Evaluate-review was evident in the data 10 times during the second discussion group. Students showed evaluate-review responses when they could give the good points and the bad ones; could appraise situations; give opinions regarding a value, or the

advantages and disadvantages of practices. In relation to the second practice, "Develop the children's environment," ST1 evaluate-reviewed his practice and responded, "When materials are kept up high on a shelf, children can't make their own choices about what they want to do. I think about them being able to reach them and not always having to ask for them. I want to instill independence. I used to think I would be in more control if the materials were up out of the children's reach" (June 10, 1998). In response to the third practice, "Provide a safe and healthy environment," ST3's evaluate-review response was, "Staff need to meet and discuss what they agree on to be safe or not. I noticed one staff would let the children play with sticks and run in the lower playground and then the next staff took away the sticks and told the children they couldn't run. Children can't learn what is expected or be safe if there are two sets of rules" (June 10, 1998). ST7 reflected on the fifth practice, "Guide children's behaviour," when she evaluate-reviewed, "A child needs to know they can trust you - like the little one who came to live with me. She didn't know at first that I would be there for her anytime she needed me, because her parents weren't. Now that she trusts me, she listens to what I say. I constantly try to see the world through the child's eyes" (June 10, 1998). ST2 evaluate-reviewed her practice in reflection of the sixth practice, "Interact with families," when she said, "There is the issue of standards and family values. You need to understand they can be different - a child will react differently in different situations. Families may do things differently than I would. I respect other families' values as well as my own" (June 10, 1998).

The eighth practice is "Conduct oneself professionally." Students would have

completed one course on professionalism by the end of their first year of study. ST4 evaluate-reviewed as she reflected, "Being professional might be that someone was cold or not concerned with the feelings of others which is not suitable for working with children. I feel that a teacher can have professional interests but must have the personal qualities of caring about children" (June 10, 1998).

Evaluate-reconsider was evident in 9 responses. Students showed evaluate-reconsider responses when they reviewed a situation and modified their practice or the plan if new information or an element of the situation were not previously considered. ST2 reflected using evaluate-reconsider when she responded to the first practice, "Apply theories of child development to understanding children." She stated,

> Knowledge of child development makes me think about what is age appropriate for the child. It makes you more aware if you are doing something with a two-year old [for instance] that they are not ready for. I think about how they would use materials. If they are getting frustrated or losing interest I know I need to make adjustments to suit their development. I didn't know the importance of this before I learned it. (June 10, 1998)

ST4 evaluate-reconsidered as she reflected on child development, "As I get to know more about child development it helps me to understand how to encourage each child in their own way. There is a big difference in development in the children at the school and those at the day care. I now see how important the younger ages are in preparing the children to go to school" (June 10, 1998). In response to the second

practice, "Develop the children's environment," ST2 evaluate-reconsidered, "I put myself in the children's shoes to really get a feel for the environment. I remember when you had us get down to the children's height and look around the room. If I can't see because of tables and chairs and shelves, then I can't choose what to do. Children should be able to see the learning areas when they enter a room" (June 10, 1998).

Reflecting on the eighth practice, "Conduct oneself professionally," ST2 evaluate-reconsidered, "I have learned that you have to respect confidentiality of the people you work with. I didn't realize how important this was until I worked in outreach (family support program) and went into people's homes" (June 10, 1998).

Evaluate-decide was evident 9 times in the second discussion group. Evaluate-decide responses were evident when students made explicit or implicit judgement on their performance, identified by key words like, "no," "yes," "fine," and so on. The decision may take a person back to reconsideration and sometimes review, or may result in a new action. When reflecting on the sixth practice, "Interact with families," ST6 evaluate-decided, "When I speak to parents I don't judge them. I encourage them to talk about their child and I tell them information about their child's day with me" (June 10, 1998). In response to the seventh practice, "Perform administrative tasks," ST7's evaluate-decide response was, "I want to make sure that the centre is keeping the standards and meeting the regulations" (June 10, 1998). ST6 responded to the eighth practice, "Conduct oneself professionally," using evaluate-decide when she reflected, "You have to respect people's privacy and when you work with families you may know them or even be related to them,

like everyone here is, but you have to remember that you are professional" (June 10, 1998). ST7 evaluate-decided, "It is my responsibility to give a child a good feeling about themselves. I let them know that I am there for them. A child is a child no matter where they are" (June 10, 1998).

4.1.3 Third discussion group.

The third discussion group took place during week 12 in the students' community. Its purpose was to involve the study group in discussion about values, beliefs, and ethics. A case study was presented to the group, and using a recognized code of ethics for early childhood education to guide the discussion, participants identified and analysed an ethical dilemma in order to work towards a resolution. Two further case studies derived from the group's own work experiences and the same process was followed in analysing each of the cases. Evidence of the students' reflective thinking about the ethical implications of their actions, and evidence of critical reflection was collected. Table 5 represents the incidences of reflective thinking by each student during the third discussion group. The data were organized by reflective thinking levels and behaviours.

There were a total of 43 reflective thinking responses documented in the third discussion group. The results of the data analysis are supported by evidence from the students' contributions to the discussion.

At the technical level of reflective thinking there were 3 responses: 1 *describe* response, and 2 *question* responses. The technical level was evident when students considered the best means to reach an unexamined end. In doing so, they showed

Table 5

Reflective Thinking Levels and Behaviours in the Third Discussion Group

Students	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1	1	0	1	2	0	0	2	6
ST2	0	1	2	4	0	2	1	10
ST3	0	1	0	2	0	0	1	4
ST4	0	0	1	2	1	0	2	6
ST5	0	0	0	2	1	1	1	5
ST6	0	0	1	1	0	0	1	3
ST7	0	0	0	3	0	1	5	9
Totals of reflective thinking levels	3		21		19			43
Totals of reflective thinking behaviours	1	2	5	16	2	4	13	43

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

everyday thinking and acting -- partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

Describe responses were coded when there was evidence that students gathered information and made objective descriptions of experiences or incidents. The 1 describe response was documented when ST1 described what he felt was the ethical responsibility to the group of children, "One child can disrupt the whole playroom sometimes. Everybody needs to be enjoying themselves" (July 12, 1998).

The 2 question responses were noted when students made a statement to extract and select information, such as "What do I need to know?" ST2 questioned the values conflict between the staff and the parents, "Should I, as a staff, pursue action on this situation even when parents consider there is no problem" (July 12, 1998)? ST3 questioned the source of additional information, "Staff should keep written observations and bring the parents in [to the centre] to show them. Couldn't you bring in the other parents too? What if their children are also afraid [of the aggressive behaviour]" (July 12, 1998)?

At the practical level of reflective thinking there were 21 responses: 5 *analyse* responses, and 16 *plan* responses. The practical level was evident when students considered not only the means, but also the goals and the assumptions upon which these were based, and demonstrated the ability to discuss and negotiate through language to improve the actual outcomes. They considered everyday experiences and incidents and formulated practical principles and limited insights into the effects of their teaching on

children's experiences.

There were 5 analyse responses noted during the third discussion group. Analyse responses were evident at the practical level, when students identified components of a situation and considered how the elements were linked or interacted. They recognized personal beliefs, emotions, or biases with regard to a situation. ST1's analytical response to the values conflict that existed in the first case was, "The child's needs and parent's perspectives are in conflict" (July 12, 1998). ST2 reflected, "The teacher's expectations are in conflict with the parent's perspectives" (July 12, 1998). ST4's analysis of the case, "One child's needs are in conflict with the needs of the group of children" (July 12, 1998).

In the third discussion group, there were 16 plan responses. Evidence of plan responses were evident when students elaborated on intermediate constructions to explore different sequences of possibilities, recognized by conditional constructions like, "if X then Y and if Z..." Students often used these constructions when identifying planning as a means of exploring possible ways to approach situations. ST2's plan response to the discussion on the ethical responsibility that the teacher has in relation to the group of children was, "The ethical responsibility I have to the group of children requires observing and planning to allow for one staff to work closely with the one child and prevent instances of aggression with the other children" (July 12, 1998). ST4 planned ways for the parents to get additional information, "I would ask the parents to visit the centre and observe their child through the two-way mirror so that they can see for themselves how his behaviour is different" (July 12, 1998). ST7 stated, "I would need to plan ways to

help the child to feel like part of the group. He could feel alienated which would affect the way he acts" (July 12, 1998).

At the critical level of reflective thinking there were 19 responses: 2 *evaluate-review* responses, 4 *evaluate-reconsider* responses, and 13 *evaluate-decide* responses. The critical level occurred when students examined the issues of ethics, morals, and justice in education. They identified personal action within wider socio-historical and politico-cultural contexts. The students made judgements about professional practice and whether or not it is equitable, just, and respectful of other persons. The critical level involved students in reflecting on the way they reflected and developing theoretical underpinnings and critical insights about their experiences and those of the children.

Evaluate-review was evident in the data twice during the third discussion group. Students showed evaluate-review responses when they could give the good points and the bad ones; could appraise situations; give opinions regarding a value, or the advantages and disadvantages of practices. ST4 evaluate-reviewed her own practice in relation to the ethical responsibilities towards the child, "I have to talk to the child and see how he feels. He needs a relationship he can trust. There has got to be something that is making him feel that way. The teacher must use developmentally appropriate practices with him. Communication with him is needed to get a better understanding" (July 12, 1998).

There were 4 instances when students reflected at the critical level of evaluate-reconsider in the third discussion group. Students showed evaluate-reconsider responses when they reviewed a situation and modified their practice or the plan if new information

or an element of the situation were not previously considered. ST2 reflected on a means of seeking additional information which might improve her practice, "A social worker who works with children in their home could work with the outreach day care staff and maybe open up communication about the chid's behaviour" (July 12, 1998).

The 13 instances of the critical level of evaluate-decide indicated that the students had some definite ideas about their roles and responsibilities in relation to the topic of ethical practice. Evaluate-decide responses were evident when students made explicit or implicit judgement on their performance, identified by key words like, "no," "yes," "fine," and so on. The decision may take a person back to reconsideration and sometimes review, or may result in a new action. In relation to the ethical responsibility to the family, ST1 said, "Confidentiality is my responsibility. I keep all information about the situation confidential" (July 12, 1998). ST7 said, "Supporting parents in understanding their child's behaviour from a developmental point of view is my responsibility. Parents need some advice on how to help their child. I can give them that" (July 12, 1998). Ethical responsibility toward the child prompted ST4 to say, "I don't blame the child. He needs to be treated with respect too. It is my role to get him help. It isn't easy for him. You can let him know that you can feel his pain and that you are there to help him" (July 12, 1998). ST 7 added, "It is my responsibility to develop a relationship with the child; to make him feel that he is important. I think about the child's self-esteem" (July 12, 1998).

In relation to the ethical responsibility to community and society, ST1 evaluate-decided, "He needs to feel positive and good about himself before he will act differently.

He needs to develop social skills in order to get along now and when he grows up" (July 12, 1998). ST7 offered, "I am responsible to promote the health and safety of all children. The day care must be seen as a safe place for children. He needs to learn problem-solving skills so when he gets older he can deal with situations with co-operation and self-control" (July 12, 1998).

4.1.4 Summary of discussion groups.

In weeks 1, 6 and 12 of the study, students participated in planned discussion groups. For each discussion group, the researcher introduced the topic and guided the discussion. The researcher encouraged students to reflect and to respond in a free-flow format from their own experience rather than be hampered by trying to provide a correct answer. The topics for each of the three discussion groups were chosen so that students would have increasing opportunity to reflect on their own practices and at more critical levels. The first discussion group which introduced reflective thinking, resulted in 83 responses of reflective thinking: 18 at the technical level, 32 at the practical level, and 33 at the critical level. At the technical level there were 16 describe responses and 2 question responses. At the practical level there were 28 analyse responses and 4 plan responses. At the critical level there were 14 evaluate-review responses, 12 evaluate-reconsider responses, and 7 evaluate-decide responses.

The second discussion group, which focussed on standards of practice, resulted in 82 responses of reflective thinking: 20 at the technical level, 34 at the practical level, and 28 at the critical level. At the technical level there were 19 describe responses and 1

question response. At the practical level there were 23 analyse responses and 11 plan responses. At the critical level there were 10 evaluate-review responses, 9 evaluate-reconsider responses, and 9 evaluate-decide responses.

The third discussion group which focussed on ethical practice, resulted in a total of 43 responses: 3 at the technical level, 21 at the practical level, and 19 at the critical level. At the technical level there were 1 describe response and 2 question responses. At the practical level there were 5 analyse responses and 16 plan responses. At the critical level there were 2 evaluate-review responses, 4 evaluate-reconsider responses, and 13 evaluate-decide responses. Overall, the discussion groups provided many instances of reflective thinking levels and behaviours amongst the students in the study group.

4.2 Guided journal writing

Students were introduced to guided journal writing in week 2 of the study while they were involved in the first practicum institute at the college demonstration child care centre. Students were asked to submit 3 guided journal writing entries in week 2, and 3 in week 3. At the end of week 3 students completed the practicum institute and returned to their own community. In weeks 4 and 5, while the students worked at the child care centre in their community, they were asked to submit 2 guided journal writing entries, 1 each week. Over the 5 weeks of 7 to 11, students were asked to submit 4 guided journal writing entries as they reflected on their work at the child care centre in their community. In total there were an expected 84 individual guided journal writing entries, 12 from each of the 7 students. Written guidelines (Appendix B) were provided to assist students in

using reflective thinking behaviours during their journal writing. They were coached by the researcher through written feedback to think about: describing experiences that caused them to reflect; questioning situations that arose for them in their interactions with the children and the families with whom they worked; analysing dilemmas; planning to address situations; evaluating, reviewing or reconsidering their actions in order to arrive at appropriate decisions; and applying course work and theoretical knowledge to their daily practices.

Table 6 represents the incidences of reflective thinking by each student from the guided journal writing entries. The data were organized by reflective thinking levels and behaviours from their guided journal writing entries.

The researcher identified 142 reflective thinking responses in the guided journal writing. The results of the data analysis are supported by evidence from the students' journals. There were a total of 76 guided journal writing entries received out of an expected 84 submissions. Two students in the group submitted 8 guided journal writing entries while the rest submitted 12 each.

At the technical level of reflective thinking there were 48 responses: 42 *describe* responses, and 6 *question* responses. The technical level was evident when students considered the best means to reach an unexamined end. In doing so, they showed everyday thinking and acting -- partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

Describe responses were coded when there was evidence that students gathered

Table 6

Reflective Thinking Levels and Behaviours in Guided Journal Writing

Students	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1	8	2	7	0	2	3	0	22
ST2	3	0	5	1	2	0	2	13
ST3	9	0	5	0	0	0	0	14
ST4	9	0	10	1	2	2	2	26
ST5	6	2	11	1	5	2	1	28
ST6	1	0	4	0	1	2	0	8
ST7	6	2	10	1	7	2	3	31
Totals in reflective thinking levels.	48		56		38			142
Totals in reflective thinking behaviours	42	6	52	4	19	11	8	142

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

information and made objective descriptions of experiences or incidents. There were 42 describe responses documented in the guided journal writing. ST3 described the events of her day, "The kids went on the bikes first for a while, then someone brought out the farm kit and we played with that all day, then someone brought out the washer and dryer and place settings. The kids had a ball and so did I with all the toys" (May 7, 1998). She described another experience, "I went over to the water table and played with the kids there. One girl didn't want to share the toys with the other kids so I had to tell her that maybe it would be a good idea for her to share but she said that she didn't want to so she took the water toy and left" (May 7, 1998).

ST6 described as she reflected on an instance involving the need to guide a child's behaviour,

> In the morning I watched when a teacher removed a child from the playdough table because she was throwing playdough. First she told the child not to throw the playdough because it goes on the floor and then they can't use it. When the child continued to throw the playdough I stated that she shouldn't throw playdough. Then when she didn't stop I told one of the teachers and the teacher then said that she was sorry but she had to remove the child from the table because she was throwing playdough. (May 11, 1998)

ST1's description of an experience with a child was,

> When [child's name] was playing with the lego and [another child's name] came and took it away, [child's name] became sad. So I, at his eye level asked, 'What's

wrong?' He tells me he wanted his lego back, so I asked [the other child's name] to come over. Then I explained to him that it was not nice to take something away from another child without asking because the child's feelings will get hurt. I told him that if he wants something that another person has, he has to ask for it first, then the other child has a choice to give it or not. (May 6, 1998)

The guided journal writing contained 6 question responses. Question responses were noted when students made a statement to extract and select information, such as "What do I need to know?" ST5 wrote, "While observing the full day group today one of the little girls started dancing and all of a sudden she pulled her pants down half way. The teacher said something quietly to her and she pulled them up again and went on playing with her friends. I wonder why she would do this? I will ask the teacher when I get a chance. I don't think I know how I would have handled this" (May 12, 1998). ST7 likewise questioned a situation she didn't know how to handle, "Today there were children playing in the pit, and for some reason one child hit another child in the chest with his hand; that child began to cry. I was not sure of what I was supposed to do. I told the teacher what I saw. What way should I deal with such incidents" (May 6, 1998)? Having received feedback on her guided journal writing, the next day ST7 wrote, "Today when I was not sure about something that arose I went to the teacher and asked her what I could do about the situation. She gave me advice on what I could try, [and] if it did not work, she would deal with it, and told me I could let her know if I want her to do this" (May 7, 1998).

At the practical level of reflective thinking there were 56 responses: 52 *analyse* responses, and 4 *plan* responses. The practical level was evident when students considered not only the means, but also the goals and the assumptions upon which these were based, and demonstrated the ability to discuss and negotiate through language to improve the actual outcomes. They considered everyday experiences and incidents and formulated practical principles and limited insights into the effects of their teaching on children's experiences.

Analyse responses were evident at the practical level, when students identified components of a situation and considered how the elements were linked or interacted. They recognized personal beliefs, emotions, or biases with regard to a situation. There were 52 analyse responses in the guided journal writing. ST4 analysed the way she felt when she was first at the children's centre, "I enjoy working at the centre. There is never a dull moment with so many children. I find the staff friendly and helpful. I am beginning to get to know everyone. I don't feel comfortable in the staff room. I feel like I am treading on forbidden grounds. Seems like there is nothing in common with me, while in the students' room we are all alike" (May 6, 1998). ST5 was reflective about settling in as well, "I thought today went really well. I was more relaxed than I was the first couple of days. When I first entered the centre I said to myself 'I don't belong here' and I felt so out of place. There were so many children and it was so overwhelming" (May 6, 1998). ST5 also analysed a situation:

When I am not sure of something I usually ask one of the caregivers and they make suggestions or give me a little advice on a particular child. For me, working with [teacher's names] and all the other staff members is an eye opener. They are all so kind and friendly that they make me feel like I am important and not just another student. (May 6, 1998)

ST7 analysed the way she felt about the way that staff at the centre guided children's behaviour:

There were a few incidents I observed today. There were a few disagreements where the teacher stepped in and assisted the children in solving the problem. She handled all of this very well and also looked and remained calm. The teacher showed how she cared for each child's feelings and explained to the child to let the other know how he felt. By observing how the teacher dealt with such incidents gave me a good feeling about the children's centre and all the staff. (May 6, 1998)

ST6 analysed as she reflected on a situation, "I felt that I knew the children more and was able to extend their play. I did not want to be intruding so I asked if I could join. I don't know if that was right because I felt about what would I do if they would say no" (May 7, 1998). ST1 analysed his actions, "By using the problem-solving technique it helps diffuse or solve a problem. It works. It is better to see it in action than it is to just read about it. The problem-solving technique makes more sense to me now when it is being used by me or others" (May 6, 1998).

ST2 analysed her descriptions of experiences with children as she reflected on

them in the following passage:

> Today was interesting. I interacted with the children as much as possible and observed the teacher as much as possible. I like the way the teachers redirect the children when they are behaving in a way that is not acceptable. They don't just tell them that what they are doing is not nice, they tell them why. They let them know that what they are doing is hurting the other person. (May 7, 1998)

ST3 wrote her analysis of a challenging situation, "When I went on the floor I tried to conduct my planned activity but it didn't go very well. I was a little upset about this and for about 20 minutes I didn't want to interact with the kids because I was so mad. All I needed was a little time to calm down and then I was fine" (May 11, 1998).

There were 4 plan responses in the guided journal writing. Plan responses were evident when students elaborated on intermediate constructions to explore different sequences of possibilities, recognized by conditional constructions like, "if X then Y and if Z..." Students often used these constructions when identifying planning as a means of exploring possible ways to approach situations. ST5 planned as she reflected on preparing an activity,

> [Student's name] and I have to do another activity with the children. We have planned to do planting flowers with the children, which I wasn't sure if they would enjoy or not. The first thing we are going to do is to talk to the children about how to plant flowers. The second and most important thing to talk about is safety because we are going to be out on the parking lot, so they will have to stay close

to us. When we go outside the children will choose where they want to make the hole to plant their flower in, and then they will choose the flower, plant it and water it. While we are planting we will talk about how the plant is going to grow and why it needs water. (May 14, 1998)

Likewise, ST2 thought through the activity that she would be implementing the following day. ST2 planned, "Tomorrow we are going to do body tracing, so I have prepared all of the materials that I have listed on my activity planning sheet. I have asked [teacher's name] what I should do to get the kids to do the activity and I know what my role will be once they get started" (May 13, 1998).

At the critical level of reflective thinking there were 38 responses: 19 *evaluate-review* responses, 11 *evaluate-reconsider* responses, and 8 *evaluate-decide* responses. The critical level occurred when students examined the issues of ethics, morals, and justice in education. They identified personal action within wider socio-historical and politico-cultural contexts. The students made judgements about professional practice and whether or not it is equitable, just, and respectful of other persons. The critical level involved students in reflecting on the way they reflected and developing theoretical underpinnings and critical insights about their experiences and those of the children.

There were 19 evaluate-review responses in the guided journal writing. ST5 evaluate-reviewed her feelings about the level of structure in the child care centre in the community,

I mentioned to one of the caregivers about the children's disinterest in the water

table and she told me that she feels that the day care is too structured for her...I told her about the day care at the college where the activities were put out all day and the children are allowed to come and go to each play area as often as they wish. There was no time limit on these activities. She said that is how our day care should run too. It was nice to know that someone in the day care feels the same way as I do about how it is structured. (June 29, 1998)

ST7 used her guided journal writing to evaluate-review as she reflected on various experiences. She wrote,

> Based on my experience with children I agree with the way the staff deal with situations with children. It makes every child feel important and this gives me a good feeling. I would hope that I would deal with children the same way, at least I try to most of the time. I have learned so much in this course. I think that I am good to all children because the children come to me a lot for comfort and I do my best for them. The centre [at the college] is different because there are so many children and they all get along so well, because of how the staff deal with them, but at home where there are children from different families, some families take sides. This makes it difficult for the children to sort out their own feelings for themselves and amongst each other. (May 8, 1998)

Evaluate-reconsider was used 11 times in the students' guided journal writing. Students showed evaluate-reconsider responses when they reviewed a situation and modified their practice or the plan if new information or an element of the situation were

not previously considered. ST1 reflected at the critical level of evaluate-reconsider as he reflected in his guided journal writing about a situation where a young child was becoming very attached to him in a dependent way. ST1 wrote,

> Today I did what we discussed yesterday. When the child started to become attached and clinging to me, I got him interested in something to play with and I gradually moved away. He stayed at the activity for a little while, then began looking for me again. He stayed with me for a little while because I did not want him to think I didn't want him around me. Through the morning I may have redirected the child on several occasions. Eventually he stayed with the children but kept eye contact with me. (May 12, 1998)

ST5 evaluated-reconsidered as she reflected on her work with a child with special needs,

> I work with a child with special needs every day from 1:30-3:30. We'll do our ABCs and her numbers. We also use picture cards with her. When I'm doing this with her I wonder if I'm doing more harm than good. I was told that she is in her play stage of her development. This course has helped me to deal with her disability and understand how she must feel too. I'm sure she must feel frustrated too at times because of her lack of communication with others. I feel that if she had more opportunities to play with other children and with materials that she would develop her language. I have worked with students in the past with disabilities and made a difference in their lives, so I hope I can do the same for her.

(June 7, 1998)

ST6 reflected at the critical level of evaluate-reconsider about her interaction with children, "When I was helping the children put on their coats I wanted to zip their coats when they asked. Then I would think about what was said about not doing things for them that they can do themselves. Then I would make sure I let them try and encourage them. They feel good about themselves when they accomplish something" (May 6, 1998).

There were 8 instances of evaluate-decide. Evaluate-decide responses were evident when students made explicit or implicit judgement on their performance, identified by key words like, "no," "yes," "fine," and so on. The decision may take a person back to reconsideration and sometimes review, or may result in a new action. ST2 reflected on the implications of her actions or conduct in her journal, "I did realize one thing and that is I know that what ever we do or how ever we react to children, they are affected in some way by it" (June 5, 1998). ST5 felt certain of her practice when giving advice to a co-worker. She wrote, "[Teacher's name] was working at the day care at the same time and she told me that she can't get her [the child with special needs] to listen to her at all. I told her that she has to be very stern with her. I make sure that she is looking straight at me when I am talking to her. It helps her learn listening skills. I never have any trouble with her, myself" (June 22, 1998). ST7 who has a lot of experience working with children in many differing circumstances wrote,

> One time this child was upset when it was time for her to leave with her parents. I sat and took the child onto my lap and wiped away her tears and comforted her for

a while until she felt better. I spoke to the parent and asked him to give her a little time to calm down and make up her mind about leaving because if she was forced this could make things more difficult for both of them. Since I have been taking this course I understand the children's needs better. This helps me to help children feel good as well as children learn to trust me more. This gives me a good relationship with children and the parents. I am able to make decisions with more confidence about myself. (May 22, 1998)

4.2.1 Summary of guided journal writing.

Out of a potential of 84 submissions, 76 guided journal writing entries were received and analysed in the study. Two students in the group submitted 8 guided journal writing entries while the rest submitted 12 each. The researcher noted 142 responses of reflective thinking in the guided journal writing. Students showed evidence of all reflective thinking levels and behaviours. When reflective thinking levels were analysed, the technical level was identified 48 times, of which there were 42 describe responses and 6 question responses. The practical level was evident 38 times, of which there were 52 analyse responses and 4 plan responses. The critical level was evident 56 times of which there were 19 evaluate-review responses, 11 evaluate-reconsider responses, and 8 evaluate-decide responses.

Some students made lengthy journal entries, writing as they explored the process of reflective thinking. Some students described an experience, then analysed the description, and then evaluated and reviewed their practice or the situation. Other

students were brief and concise in their guided journal writing and wrote the result of their reflective thinking as opposed to the process.

In conclusion, guided journal writing showed evidence of reflective thinking amongst early childhood education students at the end of their first year of study in a two-year post-secondary diploma program.

4.3 Discussions of observations of practice

The discussions of observations of practice took place in week 3 and week 12 of the study. Week 3 was the final week of the three-week practicum institute at the college demonstration child care centre, and week 12 was the final week of the last semester of the first year of the two-year diploma program.

The first set of discussions was focussed on the observation form, "General Evaluation of Practice" (Appendix D) based on observations of the students' practice during the three-week practicum institute. The second set of discussions was focussed on the observation form, "Conduct Oneself Professionally" (Appendix D) related to course work and observations of the students' practice at the child care centre in the students' community. The observation forms were designed for use by the student for self-evaluation, and by the researcher for observation. The format included a rating scale and a place for descriptive observation notes. It helped students to think about and reflect on the application and synthesis of course work into practice. The student and the researcher discussed one-on-one, each of their findings, and used this discussion to help the student to set goals for further improvement of their practice.

4.3.1 First set of discussions of observations of practice.

During the first practicum institute which took place in the last semester of the first year of the two-year diploma program, the researcher observed students' practice while they were involved in the children's program at the college demonstration child care centre. The researcher and staff of the centre gave feedback to students on an on-going basis during the three-week institute, in order to heighten their awareness of their practice and to support them in strengthening it. The first set of discussions of observations of practice took place in week 3 of the study which was also the third week of the institute. The focus of the first set of discussions was the form, "General Evaluation of Practice" (Appendix D) which contains practice descriptors from the eight learning outcomes of the diploma program. Students were provided the form in week 1 of the study so that they could evaluate their own practices based on the same criteria. At the end of the practicum, the researcher and students discussed their observations and self-evaluation, for a total of 7 researcher-student individual discussions.

Table 7 represents the incidences of reflective thinking by each student for the first set of discussions of observations of practice. The data were organized by reflective thinking levels and behaviours.

There were a total of 120 reflective thinking responses in the first set of discussions of observations of practice. The results of the data analysis are supported by

Table 7

Reflective Thinking Levels and Behaviours in the First Set of Discussions of Observations of Practice

Students	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1	5	0	6	1	1	0	1	14
ST2	3	0	5	1	2	1	2	14
ST3	6	0	3	0	1	0	0	10
ST4	8	1	6	4	4	1	4	28
ST5	4	0	5	0	3	0	2	14
ST6	5	0	4	1	2	0	5	17
ST7	10	0	5	1	4	1	2	23
Totals of reflective thinking levels.	42		42		36			120
Totals of reflective thinking behaviours	41	1	34	8	17	3	16	120

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

evidence from the students' audio taped discussions, students' notes, and researcher's notes.

At the technical level of reflective thinking there were 42 responses: 41 *describe* responses, and 1 *question* response. The technical level was evident when students considered the best means to reach an unexamined end. In doing so, they showed everyday thinking and acting -- partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

Describe responses were coded when there was evidence that students gathered information and made objective descriptions of experiences or incidents. There were 41 describe responses during the first set of discussions of observations of practice. ST7 reflected on the way she interacted with other adults while with the children, and described, "On the floor I only talk to the other students or the staff if it is related to the program. I find if you take your attention away something could happen just like that. Also I don't talk about the children in front of the others" (May 15, 1998). Also, with the children, she described her role, "I saw myself as a role model for the children, washing hands before and after snack and lunch and cooking activities. It is part of their routine and they do it as soon as they are asked. I noticed the teachers disinfecting the table tops so I helped with that too" (May 15, 1998). ST4 reflected on the activity she had carried out, and described the situation,

> I assisted the teachers in putting out the activities. [Student's name] and I prepared our [culture] activities. It was fun. [Teacher's name] said our activity went well. I

was so nervous. Did you see my dress? The children liked the drum too. I like to sit with a child and read a story. Whenever a child asks me to read I like to do that. They ask questions and we talk. They learn a lot of language in all the activities. I ask them questions too and they tell me stories too. (May 15, 1998)

There was 1 question response which was noted when the student made a statement to extract and select information, such as "What do I need to know?" ST4 questioned, "The other day two boys wouldn't listen to me. They laughed and took off. What should I have done? I asked a teacher and she said to stop them from running and talk to them so they listen to me. Is this the best way to deal with this" (May 15, 1998)?

At the practical level of reflective thinking there were 42 responses: 34 *analyse* responses, and 8 *plan* responses. The practical level was evident when students considered not only the means, but also the goals and the assumptions upon which these were based, and demonstrated the ability to discuss and negotiate through language to improve the actual outcomes. They considered everyday experiences and incidents and formulated practical principles and limited insights into the effects of their teaching on children's experiences.

Analyse responses were evident at the practical level, when students identified components of a situation and considered how the elements were linked or interacted. They recognized personal beliefs, emotions, or biases with regard to a situation. There were 34 analyse responses. ST1's analysis of his role as he interacted with the children was,

When a child is sad I notice it and I will say, 'you look sad, is there something wrong?' Maybe if he knows I understand he will talk to me. I am very positive and sensitive to the children. They are comfortable with me. I am gentle and calm. I don't always feel calm but I think outwardly I look calm. When there are limits to set, I watch the teachers and try to follow what they do. I know it is important to be consistent, so sometimes I will ask for advice before I do something. (May 15, 1998)

ST2 analysed her interactions with the children during snack time, "I am very aware of the need to include children in problem-solving. I had a few times that I had to help them and they were pretty good at co-operating. I always get down to their eye level and would speak to them calmly and quietly" (May 15, 1998).

ST5 analysed as she reflected on her practice during the practicum institute, "I evaluated my own performance the way I saw it. I am not ready to handle things without supervision yet. I am unsure about myself in the group. But I have gained a lot of confidence overall. I never would have come to [location] before. I have never been away from home before" (May 15, 1998).

Plan responses were evident when students elaborated on intermediate constructions to explore different sequences of possibilities, recognized by conditional constructions like, "if X then Y and if Z..." Students often used these constructions when identifying planning as a means of exploring possible ways to approach situations. There were 8 plan responses evident during the first set of discussions. ST2 reflected on the

process she was using to plan for the children's program,

> I use my observations in the planning of activities. I listened during the planning meeting and heard how the teachers discuss their observations of the children's interests and development and think about how they can make the program interesting for them. I have been using my observations during the course to focus on the children. That is how [student's name] and I decided to do body tracing and music activities. (May 15, 1998)

ST4 similarly reflected with a plan response, "When I think about the children's development, I plan ideas for the program. I see how the teachers plan based on what they have observed of the children's development and interests. I think ahead to what will best help the children and what will be the consequences of my ideas. I am getting used to planning for the younger children now as I become more familiar with their stages" (May 15, 1998). ST1 also reflected on preparing activities by using planning when she said,

> When I planned my music activity, I observed the way the teachers work with the children, and what the children's interests are, then I planned on how I would do mine. I observed the children closely and then compared my observations with my partner, then we planned together using her ideas and mine. I have 11 years of experience working with children with special needs and I need to observe them to understand them. (May 15, 1998)

At the critical level of reflective thinking there were 36 responses: 17 *evaluate-review* responses, 3 *evaluate-reconsider* responses, and 16 *evaluate-decide* responses. The

critical level occurred when students examined the issues of ethics, morals, and justice in education. They identified personal action within wider socio-historical and politico-cultural contexts. The students made judgements about professional practice and whether or not it is equitable, just, and respectful of other persons. The critical level involved students in reflecting on the way they reflected and developing theoretical underpinnings and critical insights about their experiences and those of the children.

Evaluate-review was evident in the data 17 times during the first set of discussions of observations of practice. Students showed evaluate-review responses when they could give the good points and the bad ones; could appraise situations; give opinions regarding a value, or the advantages and disadvantages of practices. ST5 evaluate-reviewed as she reflected on her professional conduct,

> I keep all my observational records confidential. I have assured my target child's parents that this information is only read by me and my instructor and by them if they want to read it. I know from working at the school the importance of keeping records confidential. I dress appropriately for work. I am very aware that this is important in order to be able to participate in the activities with the children. I don't swear and know the importance of speaking cordially and communicating properly with people at work. (May 15, 1998)

ST2 evaluate-reviewed her role working as a team member when she said,

> From my past experience I was aware it is important that the staff work as a team. We did that at home in the family resource centre. Here I can see how well the

staff do this. I know that if we don't work together this way, the program for the children will not be as effective. [Student's name] and I made our plans and then took them to the planning meetings to see how they would fit with the rest of the program ideas. (May 15, 1998)

There were 3 instances of evaluate-reconsider during the first set of discussions. Students showed evaluate-reconsider responses when they reviewed a situation and modified their practice or the plan if new information or an element of the situation were not previously considered. ST2 evaluate-reconsidered how her new learning has affected her choice of employment, "I have evaluated myself in the areas that I felt comfortable. I have learned so much since being here and really wish that I could work in the day care at home. I enjoy home-care outreach but I really like working in a centre. I am thinking about asking [director's name] if they will consider me for the day care. I feel that is where my strengths are" (May 15, 1998).

ST4 evaluate- reconsidered the way she speaks with children during her interactions,

I always think about the way I say things to children. At first I wasn't realizing the difference; now I see the difference when I ask open-ended questions. They are ready to tell me something then. If I volunteer an answer sometimes they will tell me their own thought. It wasn't until I learned in the course on guiding behaviour that the way I speak to them makes such a difference to how we will relate to one another. (May 15, 1998)

Evaluate-decide, also at the critical level of reflective thinking, was evident 16 times during the first set of discussions. Evaluate-decide responses were evident when students made explicit or implicit judgement on their performance, identified by key words like, "no," "yes," "fine," and so on. The decision may take a person back to reconsideration and sometimes review, or may result in a new action. ST6 used evaluate-decide in several instances as she reflected on her role as an early childhood educator. In one instance she reflected, "I know I have to be a good role model for the children. I can't act one way and expect differently from them. I evaluated myself and feel that I know what my role is" (May 15, 1998). ST7 evaluate-decided about her role, when she said,

> I practice confidentiality and am so aware of this. With the families I work with, and in our community everyone knows everyone else's business. I keep all matters and records confidential. I don't discuss anything private about a family with anyone. I have no trouble making decisions about these things; I weigh all the information and don't need someone else to make a decision for me. (May 15, 1998)

4.3.2 Second set of discussions of observations of practice.

The researcher conducted the second set of discussions of observations of practice in week 12 at the child care centre in the students' community. The second set of discussions were based on observations taken during weeks 6 and 12, five days per week while students worked with the children at the child care centre in their community. The focus of the second set of discussions was the observation form, "Conduct Oneself

Professionally"(Appendix D). Students were provided the observation form in week 6 of the study so that they could evaluate their own practices based on the same criteria. At the end of the practicum, the researcher and students discussed the observations and the students' self-evaluation, for a total of 7 researcher-student individual discussions.

Table 8 represents the incidences of reflective thinking by each student during the second set of discussions of observations of practice. The data were organized by reflective thinking levels and behaviours.

The data show that students engaged in reflective thinking 152 times throughout the second set of discussions of observations of practice. The results of the data analysis are supported by evidence from the students' audio taped discussions, notes from the self-evaluation of their performance, and the researcher's notes.

At the technical level of reflective thinking there were 39 responses: 37 *describe* responses, and 2 *question* responses. The technical level was evident when students considered the best means to reach an unexamined end. In doing so, they showed everyday thinking and acting -- partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

Describe responses were coded when there was evidence that students gathered information and made objective descriptions of experiences or incidents. There were 37 describe responses in the second set of discussions. ST1 described as he reflected on his personal characteristics:

I am a very outgoing person. I like to be involved in vigorous activity. When I

Table 8

Reflective Thinking Levels and Behaviours in the Second Set of Discussions of Observations of Practice

Students	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1	9	0	6	1	1	2	3	22
ST2	4	1	8	3	6	3	6	31
ST3	4	1	6	0	1	1	1	14
ST4	1	0	4	2	2	2	3	14
ST5	8	0	8	1	3	2	3	25
ST6	5	0	8	1	2	2	4	22
ST7	6	0	6	2	2	2	6	24
Totals of reflective thinking levels	39		56		57			152
Totals of reflective thinking behaviours	37	2	46	10	17	14	26	152

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

observed my target child the day he went outside to play at the playground, it was better than any other day I observed him when he was indoors at the centre. For the two weeks that I was working at the day care and the kids were playing outdoors, I could really see their stages of gross motor development. (July14, 1998)

ST5 also reflected on how her personal characteristics affect her professional behaviour, "I am a quiet person. I am more introverted and keep to myself. I like my life to have predictability and order...I guess I would be calm in a situation, rather than yelling or screaming at a child, I would listen to what they have to say" (July 14, 1998).

ST7 described her role as an early childhood educator, "The children will see activities that are hands-on and they will do what they are interested in. I would be there to see how they are developing and learning. When two children are in conflict I redirect them or help them solve the problem" (July 14, 1998). ST6 also reflected on her role when she described, "I provide comfort and security to children and reassure them that things are okay [with] the way they feel. I let them know it is okay to express their emotions" (July 14, 1998).

There were 2 question responses, which were noted when students made a statement to extract and select information, such as "What do I need to know?" ST2 questions as she tries to understand a child's behaviour, "I try to find an explanation for people's behaviour especially children. I ask, what could be wrong? Why is this child like this? I try to find the answers in order to help them" (July 14, 1998). ST3 questioned a

child's behaviour and was seeking information, "The child has such fun at the day care yet he doesn't want to separate from his mother. He clings to her leg. I don't understand. Why does he do that? First he is having fun, then he starts acting like that. Why? Is it for show or something? I can understand when a child is just starting day care and misses his mother" (July 14, 1998).

At the practical level of reflective thinking there were 56 responses: 46 *analyse* responses, and 10 *plan* responses. The practical level was evident when students considered not only the means, but also the goals and the assumptions upon which these were based, and demonstrated the ability to discuss and negotiate through language to improve the actual outcomes. They considered everyday experiences and incidents and formulated practical principles and limited insights into the effects of their teaching on children's experiences.

Analyse responses were evident at the practical level, when students identified components of a situation and considered how the elements were linked or interacted. They recognized personal beliefs, emotions, or biases with regard to a situation. There were 46 analyse responses in the second set of discussions. ST2 reflected by analysing her group management skills when she said,

> I really do prefer working with a small group compared to a large group where there would be more things to come up with to keep them interested, but if you had a smaller group I could work more effectively, right now at least. Right now it would be challenging to manage a large group. I'm sure as I get more confidence

and more experience I'll get more comfortable in that role. (July 14, 1998)

ST6 analysed her personal characteristics in the discussion,

> I look at how I am and how I am feeling. I know how I feel and try to stay in touch with my feelings. When a child expresses emotions such as anger or fear, I try to help, although I am nervous. I get kind of scared. I don't want to do something wrong, but I do try to help. I sympathize, I hold them and understand what they are feeling. I try to talk to them. I try to build trust with children by giving them space when they need it, depending on their culture, approaching them slowly, not being too invasive. (July 14, 1998)

ST7 said when analysing her role, "The way you talk to a child will communicate whether they can feel safe and secure with you. You observe them and watch for their reactions in different situations. You observe them and get a sense of their feelings. You can tell how a child is feeling by the way he acts and things he says. If I sense he is sad I will comfort him" (July 14, 1998).

There were 10 plan responses during the second set of discussions of observations of practice. Plan responses were evident when students elaborated on intermediate constructions to explore different sequences of possibilities, recognized by conditional constructions like, "if X then Y and if Z..." Students often used these constructions when identifying planning as a means of exploring possible ways to approach situations. ST2 gave a planned response as she described what her role would be in the program,

> I would set up the environment so that the children are free to move to different

centres and the activities would be at their eye level. I wouldn't put things up high so that they can't reach it. I would put everything at their fingertips so that they can use the materials freely. I would try to make their environment safe so that they won't get hurt moving about. I would provide them with all different materials for the different areas of development like music, dramatic play, blocks and painting. Each child must be able to use the materials at their own level of development for example, cognitively, physically, etc. I will observe the children, making myself available for the children but not invading their space. I would be looking at them, smiling, reassuring them that I was there and I was happy. When two children are in conflict I am a facilitator to assist the children in solving their problem. (July 12, 1998)

ST4 reflected as she planned, "I plan hands-on materials; art materials to make what they want with; other equipment to help them develop in all areas. The curriculum must be suitable for all ages of children and each area of development must be planned with development in mind for example, fine motor activity, large motor, creative, cognitive, etc. I would consider their age and see what they are ready for" (July 14, 1998).

At the critical level of reflective thinking there were 57 responses: 17 *evaluate-review* responses, 14 *evaluate-reconsider* responses, and 26 *evaluate-decide* responses. The critical level occurred when students examined the issues of ethics, morals, and justice in education. They identified personal action within wider socio-historical and politico-cultural contexts. The students made judgements about professional practice and whether

or not it is equitable, just, and respectful of other persons. The critical level involved students in reflecting on the way they reflected and developing theoretical underpinnings and critical insights about their experiences and those of the children.

Evaluate-review was evident in the data 17 times during the second set of discussions. Students showed evaluate-review responses when they could give the good points and the bad ones; could appraise situations; give opinions regarding a value, or the advantages and disadvantages of practices. As ST2 reflected on ways that her personal values impact on her professional behaviour when she said,

> I feel, and I guess from being told, that I am a very nurturing, and caring and giving person. I would observe the children's reactions to my behaviour; and the things that I do with them. If they are interested, I must be doing something right. When I am at the day care, it would be nice if the other teachers who have more experience told me if they saw me doing something that I could do better or say differently. I would certainly like to hear that. This way I would know not to do it or say it the next time. Obviously there is a certain way that you talk to children, and a certain way that you respond to their actions and behaviours and if I'm not responding right, I am not going to get what I am looking for, and that the child expects. (July 14, 1998)

In another part of the discussion relating to practising professional values, ST7 said,

> For me the past 4 or 5 years since I entered the workforce, I didn't realize how different children were. I thought they were all like mine. Only since I have been

working with social services, working with families who were very different from mine, with different values, different ways of rearing their children and at first I found it really uncomfortable. Now I know that every family is different with values and beliefs of their own and I have learned to accept them and show respect for who they are. It is easy to judge them, but when you work with the children , you really have to know that family. (July 14, 1998)

ST1 evaluate-reviewed about a personal characteristic, "I love getting feedback. I call you when I want feedback on my work. I review it and say it looks okay to me but I would like to have another opinion. So I usually call you or I call somebody. I call you for feedback and I tell you the way I would do it, and I listen to what you say. Sometimes I don't change it. I just do it the way I was going to. That is why I asked for feedback; if I am off, then I'll go back and change it; but if your ideas are different than mine, I may leave it" (July 14, 1998).

There were 14 instances when students reflected at the critical level of evaluate-reconsider. Students showed evaluate-reconsider behaviour when they reviewed a situation and modified their practice or the plan if new information or an element of the situation were not previously considered.

ST4 evaluate-reconsidered as she reflected on her practice,

I have gained an understanding of how a child feels. I know through my course work that there is an explanation for why a child behaves the way he does. He isn't trying to torment someone; he is trying to express his feelings about something. I

am much more aware of the different stages and areas of development. I wouldn't have known that before. I use this knowledge when I plan activities for the program. I understand the children in kindergarten are at a different stage of development than at the preschool. (July 14, 1998)

ST4 worked hard reconsidering her practice as her experience was in a classroom setting in the primary grades of the school in the community. The knowledge that she gained through her course work helped her to reconsider her practice and become developmentally appropriate for preschool-age children. ST7 evaluate-reconsidered when she reflected on practising professional values,

> I know now that in children the first few years are so important to their future. I wish I had known this when I got married. I understand now why a child acts the way he does. So much is from his family - his father. I feel totally different now that I know what causes certain behaviour and that they [the children] can learn differently. I can understand and explain this now about children. I have always felt childhood was special because children are special and should be treated that way. Now that I know child development I see children's behaviour in a different way. They learn through their experiences and develop in all areas of development. I really observe this in children. (July 14, 1998)

There were 26 instances when students responded at the critical level of evaluate-decide as it relates to conducting oneself professionally. Evaluate-decide responses were evident when students made explicit or implicit judgement on their performance, identified

by key words like, "no," "yes," "fine," and so on. The decision may take a person back to reconsideration and sometimes review, or may result in a new action. ST7 reflected on her personal values about children and how these values affect her professional behaviour, "Children are our future. The way that you teach them will determine if they will grow up with positive results. It affects the child's long term development - how they are cared for and taught when they are young" (July 14, 1998). ST4 felt similarly as she evaluate-decided about her personal values and professional behaviour, "I feel children are very important to all of us. They are young, need nurturing and that is our responsibility to ensure they get it" (July 14, 1998). ST6 stated her values for children as she evaluate-decided, "Children are a gift. You don't own them. You have to let them grow" (July 14, 1998). ST7 felt strongly about the same topic as she evaluate-decided,

> I feel children are very important and I value them greatly. I think that you need to take what they say seriously. I find some people just are not listening to children. They are telling you something in one form. I think listening to children is very important, and showing them that you are listening and that you care about what they are saying. They are not just little children, they are persons just like you and I are, they're just small. (July 14, 1998)

These strong moral values about children and the responsibility that early childhood educators have toward children demonstrate a critical level of reflective thinking.

ST1 reflected on culture as he evaluate-decided, "We are all influenced by culture. We are native [culture] and there are non-natives and it doesn't interfere with who we are.

You know what I am like and I know what you're like. We are from different cultures but we still have the same interests and enjoy the same stuff. Like, you know our culture loves to fish. I asked if you like fish, then I could give you one as a gift" (July 14, 1998).

4.3.3 Summary of discussions of observations of practice.

There were a total of 14 researcher-student individual discussions of observations of practice during the study, 2 with each of the 7 students in the study group. During the first set of discussions of observations of practice, reflective thinking was evident 120 times. There was evidence from each of the students in the study group as the discussion focussed on the observations and self-evaluation based on the observation form "General Evaluation of Practice" at the end of a three-week practicum institute. There were 42 instances of the technical level, of which there were 41 describe responses and 1 question response. At the practical level there were 42 instances of reflective thinking, of which there were 34 analyse responses and 8 plan responses. At the critical level there were 36 instances of reflective thinking, of which there were 17 evaluate-review responses, 3 evaluate-reconsider responses, and 16 evaluate-decide responses.

Overall, reflective thinking was evident in all seven reflective thinking behaviours and three levels of reflective thinking for each of the students in the first set of discussions of observations of practice.

During the second set of discussions of observations of practice, there were 152 instances of reflective thinking behaviour. This set of discussions was focussed on the observation form and self-evaluation for, "Conduct Oneself Professionally." Course work

for this topic had been completed by students prior to the observation of practice. The observations took place in week 6 and week 12 at the child care centre in the students' community. All three levels of reflective thinking were evident in the second set of discussions of observations of practice. At the technical level there were 39 instances of reflective thinking, of which there were 37 describe responses and 2 question responses. At the practical level there were 56 instances, of which there were 46 analyse and 10 plan responses. At the critical level there were 57 instances of which there were 17 evaluate-review responses, 14 evaluate-reconsider responses, and 26 evaluate-decide responses.

Overall, during the second discussions of observations of practice evidence of reflective thinking was documented for each of the 7 students in the study group at all reflective thinking levels and across five out of the seven reflective thinking behaviours. The researcher, therefore, determined that there was evidence of reflective thinking throughout the discussions of observations of practice.

Chapter 5

Summary, Conclusions and Recommendations

The provincial college in Newfoundland and Labrador offers as one of its programs the Diploma of Applied Arts in Early Childhood Education. The diploma program is offered on-site to full-time students for five semesters which are delivered over a two-year span. This program is also offered through distance education to interested individuals who are currently employed in early childhood settings. Graduates of the diploma program are expected to demonstrate knowledge of theories and practices necessary to plan and implement curriculum for individual children and groups in early childhood settings. The literature shows that the adults who are responsible for the children's care and education are the most important determinant of the quality of children's experiences. It further shows that reflection is a skill which assists individuals to examine the ideas, beliefs and values which underlie their practices and a strategy to improve practices. The significance of this study, therefore, was to focus on reflective thinking during educator preparation. In the delivery of the diploma through distance education, the faculty have realized the importance of incorporating reflective thinking as a means of internalizing theory, reflecting on practice, and learning meaningful ways to improve and change practice.

Reflective thinking in the preparation of teachers of young children can be an effective way to assist students in examining and improving their practices, and can facilitate individual teachers in becoming reflective practitioners. The purpose of this study was to determine if early childhood education students showed evidence of reflective

thinking at the end of their first year of study in the two-year diploma program. Determining whether there is evidence of reflective thinking at the end of the first year of study may provide information to faculty teaching in this program, so that they may find ways to instill reflective thinking during the second year of the program.

This qualitative case study examined the reflective thinking levels and behaviours of the 7 early childhood education students who comprised the study group. It was designed to allow the researcher to become immersed in the research setting, to use a conceptual framework for reflective thinking, and to seek an understanding of it through the experiences of students. The small nested sample provided the researcher an opportunity for in-depth study of the one single focus of reflective thinking by examining it in a variety of ways. During the study, the researcher collected data as students were engaged in discussion groups, guided journal writing, and discussions of observations of practice. The study took place over a three-month time frame. It was started during the last semester of the first year of the diploma program during a three-week practicum institute at the college demonstration child care centre. This enabled the study group members to be assembled together for the researcher to introduce the study and to hold the first discussion group. The first set of discussions of observations of practice took place during this initial part of the study and were based on the observations of the researcher and the students' self-evaluation. Students were expected to keep journals during the practicum. The researcher provided guidelines for journal-writing and as part of the study, required students to begin

guided journal writing during the institute, and continue after returning to their home community.

Following the practicum institute, students returned to their home community and resumed their work at the child care centre. In week 6 of the study, the researcher visited the community, recorded observations of the students' practices at the child care centre, and held the second discussion group. In week 12, the researcher visited the community, observed the students in the centre, and held the third discussion group. At this same time, the researcher held the second set of discussions of observations of practice with each student. By the end of the three-month study period students had participated in 3 discussion groups, submitted 12 individual guided journal writing entries, and discussed 2 sets of observations of practice.

The following are the findings and conclusions from the study.

5.1 Findings and conclusions

The major finding is that students at the end of their first year of a two-year diploma program in early childhood education engage in reflective thinking. Chapter 4 provides the results of the analysis of the data and evidence to support the conclusions from each of the data collection methods.

5.1.1. Discussion groups.

Discussion groups are an effective way to identify and encourage reflective thinking amongst students in early childhood education. In this study, reflective thinking levels and behaviours are evident in all three discussion groups.

1. The first discussion group resulted in 83 reflective thinking responses: 18 at the technical level of which there were 16 describe and 2 question; 32 at the practical level of which there were 28 analyse and 4 plan; and 33 at the critical level of which there were 14 evaluate-review, 12 evaluate-reconsider, and 7 evaluate-decide.
2. The second discussion group resulted in 82 reflective thinking responses: 20 at the technical level of which there were 19 describe and 1 question; 34 at the practical level of which there were 23 analyse and 11 plan; and 28 at the critical level of which there were 10 evaluate-review, 9 evaluate-reconsider, and 9 evaluate-decide.
3. The third discussion group resulted in 43 reflective thinking responses: 3 at the technical level of which there were 1 describe and 2 question; 21 at the practical level of which there were 5 analyse and 16 plan; 19 at the critical level of which there were 2 evaluate-review, 4 evaluate-reconsider, and 13 evaluate-decide.

Students at the end of the first year of a two-year diploma program in early childhood education are expected to reflect at the technical level and practical levels. However, this study shows that students demonstrate at the critical level of reflective thinking when they reflected on and evaluated their role as early childhood educators when faced with an ethical dilemma or having to consider ethical practice. The topic of values and ethics in the third discussion group likely encouraged students to reflect at the practical and critical levels.

Based on this study, the researcher concludes that:

1. Discussion groups are an effective way to identify and encourage reflective thinking

amongst students in early childhood education.

2. Topics for discussion must be relevant to the learning outcomes of the diploma program in order for students to reflect on their practice.
3. Discussion needs to be guided and extended by questions, subquestions and prompts.
4. An interactive discussion encourages spontaneous participation by students.
5. Assurance by the facilitator that there are no right or wrong answers to questions increases the likelihood of student participation.
6. Topics that encourage critical levels of reflective thinking relate to moral, ethical, and social implications of the students' role and practices.
7. Positive acknowledgment of students' responses during discussion groups by the facilitator increases a feeling of trust and encourages further participation.
8. Discussion groups as a source for data collection are a valid and reliable format for documenting descriptive evidence of reflective thinking.

5.1.2 Guided journal writing.

Guided journal writing is an effective way to identify and encourage reflective thinking amongst students in early childhood education. In this study, reflective thinking behaviours and levels are evident in guided journal writing submissions.

The researcher identified 142 reflective thinking responses in the guided journal writing submissions: 48 at the technical level of which there were 42 describe and 6 question; 56 at the practical level of which there were 52 analyse and 4 plan; 38 a t the

critical level of which there were 19 evaluate-review, 11 evaluate-reconsider, and 8 evaluate-decide.

Guided journal writing as a medium for reflection seemed to suit the 7 students involved in the study group. Some made lengthy journal entries and wrote as they explored the process of reflective thinking. In some cases students described an experience, then analysed the description, and then evaluated-reviewed their practice or the situation. Other students were brief and concise and wrote the result of their reflective thinking rather than the process. The guidelines assisted students in getting started. Some said they would not have known what to write about or how to write about their thinking unless they had the guidelines. The researcher used comments and posed questions in the feedback to the students using language from the same guidelines. Since students were familiar with the guidelines, they would often keep a dialogue going with the faculty from one entry to another. Students looked forward to getting their guided journal writing back and said the comments helped them to reflect even further on their practices.

Based on this study, the researcher concludes that:

1. Guided journal writing is an effective way to identify and encourage reflective thinking amongst students in early childhood education.
2. Guidelines should be designed to encourage students to use a variety of reflective thinking levels and behaviours.
3. Written feedback by faculty which relates to the guidelines encourages students to learn the reflective thinking skills and strategies.

4. On-going dialogue between students and faculty extends reflective thinking in guided journal writing.

5. Students record their reflective thinking in varying forms - some write in an exploratory form and some in a concise form.

6. Evaluation of journals must focus on ensuring the student that reflective thinking is evident rather than a grade or mark on content.

7. Guided journal writing as a source for data collection is a valid and reliable format for documenting descriptive evidence of reflective thinking.

5.1.3 Discussions of observations of practice

Discussions of observations of practice between faculty and students are an effective way to identify and encourage reflective thinking amongst students in early childhood education. In this study, reflective thinking behaviours and levels are evident in both sets of discussions of observations of practice.

1. In the first set of discussions the researcher identified 120 reflective thinking responses: 42 at the technical level of which there were 41 describe and 1 question; 42 at the practical level of which there were 34 analyse and 8 plan; 36 at the critical level of which there were17 evaluate-review, 3 evaluate-reconsider, and 16 evaluate-decide.

2. In the second set of discussions the researcher identified 152 reflective thinking responses: 39 at the technical level of which there were 37 describe and 2 question; 56 at the practical level of which there were 46 analyse and 10 plan; and 57 at the

critical level of which there were 17 evaluate-review, 14 evaluate-reconsider, and 26 evaluate-decide.

Students' practice at the end of the first year of a two-year diploma is expected to demonstrate integrated theory from the first year of course work in child development, curriculum development, safety and wellness, family theory, interpersonal communication, and professionalism. The students' ability to reflect on their practices strengthened the integration of theory into practice. The individual discussions focus the students' reflection on their practice and faculty can encourage them to reflect at varying levels.

Based on this study, the researcher concludes that:

1. Discussions of observations of practice between faculty and students are an effective way to identify and encourage reflective thinking amongst students.
2. Students should self-evaluate their practice according to the same criteria for practice for which they are being observed.
3. One-on-one discussion opportunities must be linked to evaluation of the students' practice.
4. Discussions of observations encourage students to articulate their understanding of theory and how they are integrating this knowledge into their practice.
5. The researcher must coach students during discussions of observations of practice and encourage reflection on their practice.
6. Discussions of observations of practice as a source of data collection is a valid and reliable format for documenting descriptive evidence of reflective thinking.

5.2 Recommendations

Based on the data analysis and the findings of this study, the researcher recommends further study in reflective thinking as follows:

1. Effectiveness of dialogue journals. When faculty and students maintain ongoing dialogue in guided journal writing, a study of the language used by faculty could indicate its effectiveness in encouraging reflective thinking responses of students.
2. Comparison of verbal and written strategies to encourage reflective thinking. An extension of this study could be a comparative analysis study of students' reflective thinking responses as they engage in verbal strategies, such as individual discussions, and written strategies such as journals.
3. Comparison of students' reflective thinking upon entry into the program, at the end of year one and the end of year two. Analysis of students' reflective thinking upon entry into the early childhood education program would give the researcher a baseline from which reflective thinking could be compared at the end of the first year of the program, following their participation in interventions that were designed to encourage reflective thinking. A third comparison could take place at the end of the program following interventions during the second year of the program.
4. Comparative-analysis of each student's reflective thinking levels and behaviours. An in-depth study of each student's reflective thinking before and after they participated in specific interventions designed to encourage reflective thinking

would inform the researcher of ways to further instill the skills and strategies used by individuals.

5. Comparison of the various strategies that can be used by faculty to encourage reflective thinking. An extension of this study would be to standardize the data collection methods in order to do a comparative analysis of the effectiveness of one method compared to another.

6. Further study into the reflective thinking levels and behaviours. The levels and behaviours could be used in a second study to determine if the same equating of the two types of reflective thinking exists. Limitations may also be determined in such a study.

7. Comparison of the effectiveness of using electronic technology for discussion groups, guided journal writing, and one-on-one discussions of observations of practice with traditional or "live" methods as used in this study.

8. Examination of the growth patterns of individuals who engage in reflective thinking. This study would inform faculty and individuals about the changes that may occur as a result of becoming reflective, how individual confidences could be strengthened, and the personal and professional growth that could be evident from these reinforced confidences.

Based on the findings of this study, the researcher recommends to faculty teaching early childhood education in a two-year diploma program:

1. Commitment to the implementation of strategies specifically designed to support

students in the acquisition of the skills of reflective thinking.

2. Each course in the program be examined to determine where reflective thinking could be used to enhance students' learning.
3. Practicum be designed to engage students in discussion groups with peers, guided journal writing, and individual discussion of observations of practice in order to identify and encourage reflective thinking.
4. Faculty be knowledgeable of effective ways to identify and enhance reflective thinking in students.
5. A course be developed within the diploma program which would focus on the skills and strategies identified in this study as a basis for reflective thinking.
6. Reflective thinking be identified in the learning outcomes for students and become specific components of courses and practicum.
7. Early childhood educators who supervise students in practicum be knowledgeable of effective ways to identify and enhance reflective thinking in students.
8. A course in reflective thinking be developed as a post-diploma professional development opportunity for early childhood educators.
9. Specific faculty preparation in the use of electronic technological methods for discussion groups, guided journal writing, and one-on-one discussions of observations of practice.

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Appendices

Appendix A

Discussion Groups

Discussion Groups

First Discussion Group

The first discussion group allowed for an introduction to the study and an opportunity to outline its purpose, the activities in which students would be participating and the time frame of the study. The discussion was then focussed on the meaning of reflective thinking and how it can assist early childhood educators to think about and improve their practice.

The following questions were presented and participants were asked to respond in a free-flow manner. Probes were introduced as needed to guide or direct the discussion. Participants were informed about all recording methods being used and confidentiality of the data.

1. What is your current understanding of what is meant by "reflection" for early childhood educators?

(prompts)
- self-evaluation
- a learning experience
- thinking about some past activity
- comparing achievements against particular goals
- a tool to help you develop in your career

2. In what ways would reflective thinking help early childhood educators to develop their practices; the ways they work with children, families and each other?

- to think about what they do and why

- to discuss with co-workers questions that arise from their interactions with the children and the families
- to seek information and other forms of input which helps to bring greater insight into their role
- to explore personal and professional values, ethics, and beliefs

3. When do you reflect on what you do?
    - as it is happening
    - as the day progresses, staff meetings
    - in the evening, weekends
    - every couple of weeks or over the months
4. Do you reflect on the events of the day, on the children, on your performance?
5. Do you record your thoughts or share them with anyone?
6. Does reflecting on your work and your own performance lead to any change in the way you do things?

Second Discussion Group

The second discussion group (week 6) involved the students in dialogue about standards of practice (Appendix A) and how the learning outcomes of the diploma program were designed to reflect the standards which relate to high quality early childhood experiences for children. The researcher presented introductory information on each of the standards of practice, and students reflected on their own practices in relation to the standards during the discussion group. They reviewed accounts of their own experiences in a spontaneous, "free-flow" manner, while the researcher guided the discussion. The standards of practice were based on the eight general learning outcomes of the provincial college's early childhood education diploma program.

1. Apply theories of child development to understanding children. Early childhood educators use their knowledge of child development and their relationships with children and families to understand children as individuals and to plan in response to their unique needs and potentials.

How do early childhood educators learn to understand the individual needs of children?

How do you know if you are supporting children's development?

Where do you seek information about children's development when something arises that you have not dealt with before?

How do you decide on ways to enhance the developmental needs of children in the program?

Do you experience ethical dilemmas about the child-rearing practices of parents and your knowledge of child development? What do you do about it?

2. Develop the children's environment to promote child development and learning. Early childhood educators promote children's physical, emotional, linguistic, creative, intellectual, social, and cognitive development by organizing the environment in ways that best facilitate the development and learning of young children.

Why do developmentally appropriate programs adopt a child-centred approach to curriculum development?

What is the role of the early childhood educator in a child-centred environment?

What obligation do you have to provide a program which supports each area of the children's development? How do you fulfil this obligation?

Effective program planning involves a team approach. Why is this an effective approach?

3. Provide for children's health, safety and wellness. Early childhood educators will ensure the physical and psychological safety of children through preventive and promotional strategies in the overall environment including fire and life safety measures, health practices, and nutritional practices. The natural rhythms of the children with respect to rest, activity, exploration, individual and group times will be respected.

What is your role in ensuring the health and well-being of all children in a child care setting?

How do you prepare yourself for this role?

What do children need to learn from their experiences?

4. Provide developmentally appropriate activities. Early childhood educators use a variety of methods and materials to promote individual development, meaningful learning and social co-operation. Based on knowledge of subject areas and how young children learn, early childhood educators design and implement developmentally appropriate learning experiences within and across disciplines including arts, social studies, math and science. Language, thought, and the child's natural need for movement will be facilitated across the curriculum.

What types of activities do you hold meaningful for children?

What is the value of creative activities for children's overall development?

How do you determine whether you are being effective in supporting the development of children through program activities?

What experiences do you provide for children to act upon their environment? Why?

What methods do you use to assess the children's development and the curriculum? Why is this important?

5. Guide children's behaviour. Early childhood educators enhance social development and understand that the development of social skills are key to successful learning and working in groups. Beginning with the child's own self-esteem, early childhood educators guide children towards acquiring self-control. This includes supporting young children's emotional development and self-respect as a foundation for respecting others.

What does enhancing a child's self-esteem mean to you?

In what ways do adult interactions with children affect their self-esteem?

How do communication strategies affect the relationship between early childhood educators and children?

What does guiding children's behaviour mean to you?

How are guidance and discipline similar and different?

What problem-solving strategies are effective in resolving conflicts amongst young children?

6. Interact with families. Early childhood educators work with and through parents and families to support children's learning and development. They communicate effectively towards establishing partnerships with families to develop a co-operative approach between home and child care. All parties work in the best interests of the child.

How is this role fostered?

What personal biases, cultural differences do you experience?

What child-rearing practices give rise to ethical dilemmas?

What is your role in responding to the diverse needs, values, and cultures of families whose children are in your care?

7. Perform administrative tasks. Early childhood educators maintain high standards of quality child care through a commitment to its components. All regulatory and record-keeping procedures ensure the smooth operation of the child care setting as a community service. Effective written and oral communication is required to maintain the appropriate level of administration internally and externally.

What are the considerations for ensuring high quality child care services?

How does administration support ensure the delivery of high quality services?

What is your role in performing administrative duties?

8. Conduct Oneself Professionally. Early childhood educators work with colleagues to improve programs and practices for young children and their families. Educators regularly analyse, evaluate and strengthen the quality and effectiveness of their work through reflective practices which increase their awareness of personal and professional goals and opportunities.

How do you articulate your role as an early childhood educator?

What principles do you recognize as important in the delivery of high quality child care services?

In what ways do you reflect on your interactions with children?

In what ways do you reflect on yourself personally and professionally?

What role does self-evaluation play in developing your practices?

Third Discussion Group

During the third discussion group the researcher engaged students in discussion about ethics and introduced the application of a code of ethics to dilemmas which arise in early childhood education. A case study was presented to the group, and using a recognized code of ethics for early childhood education to guide the discussion, participants identified and analysed an ethical dilemma in order to work towards a resolution. Two further case studies derived from the group's own work experiences and the same process was followed in analysing the cases.

Case: Mark is a large and extremely active four-year-old who often frightens and hurts other children. You have discussed this with his parents who feel that his behaviour is typical for four-year- olds and do not want to seek counselling. Parents of other children are starting to complain because their children say they do not want to go to day care because they are afraid of Mark. Co-workers also say that it is difficult to meet Mark's needs and the needs of the other children..

1. What are the values that come into conflict for the early childhood educator that might be different than those of the parent?

   Are these personal values? Describe them.

   Are these professional values? Describe them.

2. Where might additional information be obtained to help resolve this conflict?

   What is your role in documenting additional information?

   What is your role in seeking outside information?

What are your questions?

How will you access available resources?

3. What are the ethical responsibilities to the child?

What are the individual needs of the child?

How are the individual needs of one child balanced with the group interactions?

How do you interpret observational data to help you to understand and plan for the diversity of children's learning skills and strategies?

4. What are the ethical responsibilities to the family?

What are ways to include the cultural and child-rearing beliefs of families into child care programs?

How do you think about your role when carrying out this responsibility?

What do you incorporate into your practices?

5. What are the ethical responsibilities to the community and to society?

What is your role in supporting this child's development so that he can function in school and with other children?

If the suggestion arises that this child can no longer attend the child care program, part of the decision requires considering where the child will go. Would there be another centre that can offer as high quality programming and individual attention to better meet this child's needs? What message is suggested if this is not part of the solution?

6. What are the ethical responsibilities to co-workers/colleagues?

In your role as an early childhood educator can you and your co-workers draw

from any resources to help resolve this dilemma?

How could the staff plan together to help resolve this dilemma?

In what ways can staff support one other to strengthen its ability to meet the needs of all the children?

The group was then asked to bring forward their own examples of ethical dilemmas and the same set of questions guided the analysis and discussion.

Students then engaged in an interactive discussion about using a code of ethics and whether or not it is a helpful tool in guiding reflective thinking about the daily practices of early childhood educators.

Appendix B

Guided Journal Writing

Guided Journal Writing

(Hand out to Students)

Journal writing is an opportunity to describe your personal experiences and reflect upon your work. The following guidelines will assist in your journal writing. Journals are to be submitted three times during week 2 and week 3 of the practicum institute. When you return to the child care centre in your community, journal entries should be submitted once a week until you have submitted a total of 12 guided journal writing entries (including the 6 you submitted during weeks 2 and 3). Faculty will provide written feedback on all journals. This will include posing questions and making comments to further your reflective thinking.

Describe experiences that caused you to reflect or think about afterwards.

Identify the questions that arise for you in your interactions with the children and the families with whom you work. What do you think would help you to resolve some of these questions?

Analyse your experiences - how did they make you feel?

Plan ways that you would go about making a difference to the situation.

Consider the personal values, ethics or beliefs that conflict with professional practices.

Evaluate the degree to which course work and theoretical knowledge assist you in your daily practices.

Describe any practices which you have reviewed, reconsidered, or made decisions about.

Add any other reflections you want to share.

Appendix C

Reflective Thinking Levels

and

Reflective Thinking Behaviours

Reflective Thinking Levels

The three levels of reflective thinking as described by Van Manen (1977, 1991) are as follows:

The technical level: The teacher considers the best means to reach an unexamined end. It involves the everyday thinking and acting - partly routine, partly composed of intuitive thought and partly reflective of the immediate circumstances and how to improve them.

The practical level: The teacher considers not only the means, but also the goals and the assumptions upon which these are based, and demonstrates the ability to discuss and negotiate through language to improve the actual outcomes. They consider everyday experiences and incidents and can formulate practical principles and limited insights into the effects of their teaching on children's experiences.

The critical level: Critical reflection builds on the first two levels and occurs when teachers examine the issues of ethics, morals, and justice in education and open up a discourse about the role of schools in a democratic society. It locates any analysis of personal action within wider socio-historical and politico-cultural contexts. One makes judgement about professional practice and whether or not it is equitable, just, and respectful of other persons. The critical level involves reflecting on the way one reflects and developing

theoretical underpinnings and critical insights about our experiences and those of the children we teach.

Reflective Thinking Behaviours

In order to determine how much reflective thinking occurred during participation in each of the data collection methods, the following reflective thinking behaviours were identified in the different sources of data:

Code	Behaviour	Definition
D	Describe	Gather information and objective description of an experience or incident.
Q	Question	"What do I need to know?" A statement made to extract and select information.
A	Analyse	Identify components of a situation. Consider how the elements are linked or interact. Recognize personal beliefs, emotions, or biases with regard to a situation.
P	Plan	Elaborate on intermediate constructions to explore different sequences of possibilities, easily recognized by conditional constructions like, "if X then Y and if Z..."
E-Rev	Evaluate-Review	Give the good points and the bad ones; appraise; give an opinion regarding the value of; explore the advantages and disadvantages of...
E-Rec	Evaluate-Reconsider	Review the situation and modify

		the plan if new information or an element of the situation was not previously considered.
E-Dec	Evaluate-Decide	Explicit or implicit judgement on performance, easily identified by key words like "no," "yes," "fine," and so on. The decision may take back to reconsideration and sometimes review, or may result in a new action. (Ferguson et al., 1998)

Appendix D

Observation of Practice Forms

Observation of Practice Form

This form was used as a self-evaluation and was to be completed by the student prior to the discussion of observations with faculty. Following the observation period, faculty and students met to discuss the assessments made by both parties. Ratings are described below and written comments are encouraged.

Student's name:_____

Date of Evaluation:_____

Setting/Context:_____

Observer:_____

General Evaluation of Practice

A. Develop the children's environment

Provides a variety of age-appropriate activities and materials that are concrete, real and relevant to young children.

Offers a variety of experiences to support all developmental areas.

Uses open-ended questions to stimulate children's thinking.

Able to adjust role and level of intervention with children appropriately.

Converses minimally with other adults and in an appropriate manner.

Encourages children to participate in activities and with materials.

Arranges playroom with clear and open pathways and clearly defined learning centres.

Arranges outdoor play space with clearly defined activity areas.

Follows daily schedule showing flexibility to meet the needs of the children.

Uses appropriate cues to signal transition times allowing for children to complete or set aside work for completion.

Uses child observational data as a basis for planning the program.

Plans in consideration of children's developmental goals, interests, needs.

Plans for individuals and the group within the context of themes, special events, culture and environment.

Integrates curriculum areas - creativity, thought, language, music across all subject areas.

B. Provide for children's wellness and safety

B.1. Ensures safety of children indoors and outdoors.

Ensures indoor environment is free from safety hazards - checks toys, materials, equipment.

Ensures outdoor environment is free from safety hazards - checks toys, materials, equipment, surfaces, fencing, locks, etc.

Follows safety and emergency procedures for outings.

Maximizes view of outdoor playground.

Maintains peripheral vision of children in the playroom.

Maintains close supervision of activities or equipment that may pose a hazard.

Is aware of emergency procedures, fire exits, location of register of attendance.

B.2. Ensures wellness of children.

Ensures psychological and physical protection.

Refers families to community resources for support services.

Practices universal precautions.

Washes own hands often and ensures that children do the same.

Cleanses and disinfects tabletops, toys equipment regularly.

Recognizes symptoms of illness in children and cares for child appropriately.

Stays home when ill to prevent the spread of infection.

Is aware of policies regarding the administration and storage of medication.

Practices and encourages good dental health practices with children.

Practices appropriate toileting/diaper changing routine.

Accommodates children's allergies and special dietary considerations in all planning for nutrition and activities.

Provides nutritious meals and snacks.

Uses proper hygiene practices when preparing food.

Prepares, serves, and stores food appropriately to avoid spoilage, contamination, and maintains nutritional value.

Cleans and disinfects food preparation areas and equipment regularly.

Creates a pleasant mealtime atmosphere with children.

Involves children whenever possible in the preparation and serving of meals and snacks.

Provides activities which promote nutritional awareness.

C. Provide developmentally appropriate activities

Provides a language-rich environment - learning centres, materials, books, writing table, etc. Is aware of emerging literacy in young children.

Selects and provides quality children's literature.

Reads stories with children, tells stories, encourages children to read stories or tell stories.

Makes books with children - records children's dictated stories.

Provides and uses puppets, flannel boards, etc. to extend language experiences.

Recognizes and uses opportunities to provide and extend children's language experiences in other curriculum areas.

Is aware of the value of fostering creativity and thinking in children.

Develops an environment that encourages creativity.

Art activities are open-ended, child-initiated.

Offers a variety of creative experiences: painting, scribbling, drawing, gluing, clay, playdough, stitchery, etc.

Considers art within contexts and materials that are experimental and exploratory.

Provides music and movement materials and activities that incorporate rhythm, beat and creativity.

Sings with children and encourages them to participate in a variety of songs.

Provides a listening centre with a variety of media.

Provides a variety of music for children: classical, children's entertainment, jazz, folk, etc.

Plans physical activities for children indoors and outdoors.

Encourages creative movement.

Plans activities which promote discovery of math and science concepts.

Uses concrete, manipulative materials to promote the concepts of number, measurement,

etc. Is aware of emerging numeracy.

Makes math and science activities relevant to the real world.

D. Guide children's behaviour

Helps children feel competent: provides opportunities for success; comments on positive attempts, etc.

Supports the child's developing self-esteem.

Helps children feel a sense of control over their environment: provides opportunities for choice and autonomy, avoids comparison and competition, etc.

Accepts and acknowledges each child's strengths and needs.

Treats the child and the family with respect.

Interprets and reflects child's feelings and helps children resolve conflicts.

Uses positive communication, verbal language and body language; avoids value judgements.

Uses a calm voice and gentle looks; does not shout at or to children across the room.

Speaks to children at their eye level.

Reinforces positive behaviour.

Helps children learn the skill of putting things away.

Makes use of flexible, reasonable, and consistent limits as opposed to rigid rules. States these limits only when necessary.

Uses: natural and logical consequences to teach children cause and effect; problem-solving; redirection; and self-control.

Uses indirect strategies effectively: room arrangement, routines, transitions, etc.

E. Interact with families

Actively involves families of the children in a variety of ways.

Participates in parent and child orientation and the transition from home to the centre.

Provides activities and an environment which supports the concept of family.

Develops a positive relationship with parents.

Respects diversity in family structure, means, culture, and language.

Promotes diversity and cultural sensitivity.

Communicates with parents: at arrival and departure times; through written notes; by preparing parent bulletin boards; assisting in newsletters.

Supports the special needs of families including: children with special needs; parenting practices; those experiencing crises within the family, as only a few examples.

F. Perform administrative tasks

Works as member of the Early Childhood Education team.

Uses appropriate and constructive methods to resolve conflicts with co-workers.

Actively participates in planning meetings, staff meetings, parent meetings, etc.

Submits a short article to the parent newsletter.

Keeps ongoing observation profiles on designated children.

Involves child care centre as part of community and social services.

Follows written policies and procedures of the centre.

Aware of appropriate adult-child ratio and group size.

G. Conduct oneself professionally

Actively participates in professional development activities.

Practices confidentiality.

Dresses appropriately for work with young children.

Conducts self professionally in manner and communication.

Able to articulate a philosophy of quality early childhood education services.

Is responsible and dependable.

Shows independence in decision-making.

Provides a responsible and appropriate role-model for children, parents, staff, and community.

Reflects on own performance by reviewing past experiences and uses description, analysis, planning, evaluation, reconsideration, and decision-making to improve on one's practice.

Additional comments

_____	_____
Date	Signature of Faculty
_____	_____
Date	Signature of Student

Ratings: 3 - practices with initiative, adaptability or can lead others in practice.

2 - practices satisfactorily with confidence and does not need supervision.

1 - practice needs support and supervision

Observation of Practice Form

This form was used as a self-assessment and was completed by the student prior to discussion with faculty. Ratings are described below and written comments are encouraged.

Student's name:_____

Date of Evaluation:_____

Setting/Context:_____

Observer:_____

Learning Outcome: Conduct Oneself Professionally

A. Identify personal values and how they affect professional behaviour.

- Aware of personal characteristics that enhance teaching practices.

How would you describe yourself:

Exuberant or calm?

Prefers vigorous activity or more sedentary activity?

Prefers novelty and change or predictability and order?

Prefers large groups or gatherings or small intimate gatherings?

Prefers quiet solitude or the excitement of a group?

Prefers a challenging task or one which is easily mastered?

How do you think these characteristics affect your teaching practices?

- Aware of your capacity for nurturing others.

Do you have self-knowledge, capacity for caring, compassion and nurturing others:

How do you know you are being objective when you observe yourself?

What makes you aware of the areas that you would like to make changes?

When children express emotions - e.g. anger, joy, fear - how do you react to them?

In what ways do you build trust into your relationships with children?

Can you accept constructive feedback easily, or do you find it difficult to deal with?

- Awareness of personal values and how they affect professional values.

What personal values about children do you hold that affect your reasons for working with children?

B. Define the role of an early childhood educator.

- Aware of role as an early childhood educator.

Describe your role:

Providing a sense of psychological comfort and security?

Organizing and maintaining a learning environment for children?

Offering a developmentally appropriate curriculum?

Interacting with children?

Interacting with adults?

C. Analyse your own stage of professional growth.

- Aware of own stage of professional growth (Katz, 1972).

Analyse which stage you feel you are in and why?

Survival?

Consolidation?

Renewal?

Maturity?

D. Practice professional values.

- Aware of the core values of being a professional early childhood educator.

Describe yourself in relation to each of the core values:

Appreciates childhood as a unique and valuable stage of the human life cycle.

Bases your work on knowledge of child development.

Appreciates and supports the close ties between child and family.

Recognizes that children are best understood in the context of family, culture, and society.

Respects the dignity, worth, and uniqueness of each individual (child, family and colleague).

Helps children and adults achieve their full potential in the context of relationships that are based on trust, respect, and positive regard.

Additional comments

Date	Signature of Faculty
Date	Signature of Student

Ratings: 3 - practices with initiative, adaptability or can lead others in practice.

2 - practices satisfactorily with confidence and does not need supervision.

1 - practice needs support and supervision.

Appendix E

Matrices for Organizing Data

Matrix for organizing data

Reflective Thinking Levels and Behaviours in Discussion Groups

Student	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1								
ST2								
ST3								
ST4								
ST5								
ST6								
ST7								
Totals of reflective thinking levels								
Totals of reflective thinking behaviours								

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

Reflective Thinking Levels and Behaviours in Guided Journal Writing

Students	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
ST1								
ST2								
ST3								
ST4								
ST5								
ST6								
ST7								
Totals of reflective thinking levels								
Totals of reflective thinking behaviours								

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

Reflective Thinking Levels and Behaviours in Discussions of Observations of Practice

Students	Technical		Practical		Critical			Totals
	Describe	Question	Analyse	Plan	E-Review	E-Reconsider	E-Decide	
Student 1								
Student 2								
Student 3								
Student 4								
Student 5								
Student 6								
Student 7								
Totals of reflective thinking levels								
Totals of reflective thinking behaviours								

Note. E- means evaluate for each of the reflective thinking behaviours in the critical level.

Appendix F

Letter of Consent

(Letter of Consent)

P.O. Box 91

Seal Cove, C.B.

NF. AOA 3TO

(Date)

Dear Participant;

I am a graduate student in the Faculty of Education at Memorial University of Newfoundland. I am conducting a research study as a requirement of a Masters level thesis, and am inviting you to participate. As a participant in the study, I will need your written permission to collect data that is part of the findings of the research.

Specifically, you will be participating in various activities that will provide the opportunity to document evidence of reflective thinking while you study in the two-year Early Childhood Education (ECE) diploma program. The literature indicates that this is a valuable skill which can assist educators of young children in improving their practice. Your participation in the study will be a major contribution to the delivery of the ECE program and will require a considerable amount of work.

The study will take place for a three-month period from April through July 1998. Involvement in the study will include:

- three group discussions which will be held at a mutually agreeable time;
- completion of a self-assessment instrument during the first and the third month of the

study period;

- 12 submissions of guided journal writing; and

- discussions of observations of practice which will take place during practicum and at the child care centre in your community.

All information gathered in this study is strictly confidential and at no time will individuals be identified. Information gathering will include tape recorded sessions. All taped recordings will be kept secure and disposed of following the final acceptance of the thesis report. Participation is voluntary and you may withdraw at any time. This study has received the approval of the Faculty of Education's Ethics Review Committee. The results of my research will be made available to you upon request.

If you are in agreement to participating in this study please sign below and return one copy of this letter to me. The other is for your records. If you have any questions or concerns please do not hesitate to contact me at home at 709-744-2291. Anyone calling long distance can make a collect call. If at any time you wish to speak with a resource person not associated with the study, please contact Dr. Linda Philips, Associate Dean, Graduate Programs and Research. Co-supervisors of this thesis are Dr. Elizabeth Strong and Dr. Alice Collins.

I would appreciate it if you would please return this sheet to me by _____.

Thank you for your consideration of this request.

Yours sincerely,

Joanne Morris

I _____ hereby consent to participate in the study on reflective thinking in early childhood education being undertaken by_____. I understand that participation in this study is entirely voluntary and that I can withdraw at any time and I also have the right to choose an alternate final project for graduation. All information is strictly confidential and no individual will be identified.

_____ _____

Date Signature

Appendix G

Letter of Permission

to the College of the North Atlantic

(Letter of Permission)

P.O. Box 91

Seal Cove, C.B.

NF AOA 3TO

Dr. R. Sparkes,

President

College of the North Atlantic

Provincial Headquarters

P.O. Box 5400

Stephenville, NF

A2N 2Z6

(Date)

Dear Dr. Sparkes;

I have been a faculty member of the college for over six years, teaching in the Diploma of Applied Arts in Early Childhood Education program offered at Prince Philip Drive Campus, District 7. I work under the management of Ms. Gail Gosse, Associate District Administrator and Mr. Colin Forward, District Administrator.

As a graduate student in the Faculty of Education at Memorial University of Newfoundland, I am conducting a research study as a requirement of a Masters level thesis in Curriculum and Instruction. I am requesting your permission to conduct this study

involving seven students who are currently studying in the diploma program which is offered through distance delivery. Please see the accompanying copy of the letter proposed to send to students.

All information gathered in this study is strictly confidential and at no time will individuals be identified. I am interested in knowing whether students are developing reflective thinking during various components of the diploma program. Literature indicates that the skill of reflective thinking can help students to improve their practices working with young children. This study has received the approval of the Faculty of Education's Ethics Review Committee. The results of my research will be made available to you upon request.

If you are in agreement with this study being conducted, please sign below and return one copy of this letter to me. The other is for your records. If you have any questions or concerns, please do not hesitate to contact me at home at 709-744-2291 or if it is more convenient at work at 709-758-7543. If at any time you wish to speak with a resource person not associated with the study, please contact Dr. Linda Philips, Associate Dean, Graduate Programs and Research. Co-supervisors of this thesis are Dr. Elizabeth Strong and Dr. Alice Collins.

I would appreciate it if you would return this permission to me by_____.

Thank you for your consideration of this request.

Yours sincerely,

Joanne Morris

c.c. Mr. Colin Forward, District Administrator, District 7

Ms. Gail Gosse, Associate District Administrator, District 7

I _____hereby give my permission to Ms. Joanne Morris to conduct a research study on reflective thinking with students in the Diploma of Applied Arts in Early Childhood Education program delivered from Prince Philip Drive, District 7 of the College of the North Atlantic. The study will take place from April through July 1998. All information is strictly confidential and no individual will be identified.

_____ _____

Date Signature