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Influence of Efficacy Beliefs on the Learning Experiences of Children with Cancer in the Hospital Setting

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ABSTRACT

When a chronic medical condition, such as cancer, imposes limitations on a child's physical and/or cognitive abilities, the opportunities for the child to feel academically successful are reduced and thus these children are at risk of becoming underachievers and failures in their own eyes. These children miss out on experiences that normally lead to a development of self and a sense of control over their environment.

From a social cognitive perspective, learning and educational development are dependent on whether students perceive that they can control the factors which allow them to manage their learning conditions and situations. However, since the constraints of being hospitalized and health impaired affect such perceptions, there should be an improved understanding of how self-efficacy beliefs contribute to oncology students' learning in the hospital setting. Therefore, the objectives of this research were to examine, through a multiple case study approach, how self-efficacy beliefs influence oncology students' motivation to learn in the hospital setting, their ability to regulate and master academic activities, their affective response to their hospital learning experiences, and their personal adjustment under adverse conditions. Attention was also devoted to these students' acquisition and use of self-regulatory skills.

The cases presented in this study focus on the learning experiences of 5 hospitalized oncology students receiving educational services in one large Ontario children's hospital. The children ranged in age from 9 to 13 years. Data were collected using multiple qualitative methods over a 3 month period and were analyzed from a constructivist perspective.

Results indicated that, motivationally, hospital education was valued most when the children's goal of returning to the community school was proximal and thus the purpose of the instruction was evident. For those students with no immediate expectation of returning to the classroom, the hospital education program provided them with important social contacts. Academic efficacy beliefs were strongly linked to the way oncology students attributed their difficulties - either to a lack of effort or ability. In the absence of peer social comparative information, the oncology students depended heavily on their hospital teachers to be credible sources of learning and development information. These children also depended on their teachers and mothers to structure their learning experiences and could not be considered self-regulated learners. Ultimately, the greatest source of academic anxiety for the oncology students stemmed from their inability to control the effects of their illness on their physical and academic capabilities and the difficulties inherent in the instructional context.

Although this study focused on the theoretical and psychological aspects of learning and the child with cancer, the ability of a child to succeed is still partially dependent on the policies, practices, and scope of the educational program. Therefore, this thesis concludes by linking the theoretical findings with practical recommendations for the improvement of educational services offered to hospitalized oncology students.

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CHAPTER I

INTRODUCTION AND BACKGROUND

He's different now, in a better way. He's kinder to his sisters. He cares more about the other children that are around him that have cancer - that have different kinds of cancer. At first, he thought he was going to die. That was the first thing that came out of his mouth. (parent participant)

Am I going to die? What will happen to me? These are typical questions asked by patients at the time of a cancer diagnosis, since such a diagnosis usually means the beginning of a series of frightening events over which a person has very little control. The fear and perceived lack of control associated with the illness and treatment often produce feelings of helplessness and anxiety that can have profoundly negative effects on a person's overall well-being (Cunningham, Lockwood, & Cunningham, 1991). For a child, a cancer diagnosis also means coming to terms with an uncertain future, limited physical capabilities, social isolation, and the requirement for psychosocial adjustment. According to Mabe, Riley, and Treiber (1987), this psychosocial adjustment means promoting the continuation of normal growth and development, despite the illness and all its imposing limitations, including intellectual growth, social skills, and preparation for career and family. Treating a child with cancer means attempting to produce a completely cured child; one who is physically and mentally healthy and can interact at an age-appropriate level in society (Moffitt, 1985). In this regard, the importance of school is highlighted particularly because of its central role in a child's development and also because it represents an area over which a health impaired child can still command some control. In addition, by giving sick children opportunities to succeed in school, education and health care professionals assist them in coping with all aspects of their condition.

The concept of control has been extensively analyzed by various psychologists. However, Albert Bandura (1997) has demonstrated the importance of self-referent thought in psychosocial functioning- that is, a person's appraisal of his or her ability to manage a specific situation or a person's self-efficacy beliefs. Situated within the framework of social cognitive theory, the present study addresses aspects of hospital teaching and, in particular, the academic learning experiences of oncology students while in the hospital setting.

As a teacher who has worked with health impaired children, I came to this research with two main questions: (a) How can educators more adequately meet the educational requirements of hospitalized, chronically ill children? and (b) Why is hospital teaching a relatively neglected area in education research? Program evaluations, unfortunately, have limited usefulness in that they are only relevant to the specific boards or treatment facilities in which the programs are located. However, the study of the psychology of learning for these children has widespread applicability. Consequently, the purpose of this study was to determine, through a social cognitive and multiple case study approach, how oncology students' efficacy beliefs influence their motivation to learn, their ability to regulate and master academic activities, their learning satisfaction, and elements of personal adjustment under adverse conditions. Attention has been devoted to the students' acquisition and use of academic self-regulatory skills. Although this study focuses on the theoretical and psychological perspectives of learning and the child with cancer, the ability of a child to succeed is still partially dependent on the policies, practices, and scope of the educational program. Therefore, some program and policy

recommendations will be made so as to improve the organization, operation, and quality of the educational program provided, in one Ontario school board, to these students.

Accordingly, this thesis has been divided into chapters which address relevant issues. Chapter 1 contains a brief discussion of topics surrounding childhood cancer and the educational services currently available to oncology students. More specifically, it begins with a description of the home and hospital education programs and a justification for the classification of a cancer diagnosis as a chronic condition. Types and occurrences of Canadian childhood cancers are discussed and the characteristics of three types of cancer are provided. The effect of cancer on child development and on children's academic achievement is highlighted. The effects of hospitalization are also outlined as well as the barriers associated with providing education in the hospital setting. Finally, chronically ill children's control perceptions, as they relate to school, are explored.

Chapter 2 contains an explanation of the theoretical framework and accompanying theoretical model used to guide this study. The research is then situated in case study methodology and from a constructivist perspective as described in chapter 3. Chapter 4 contains specific details concerning the context in which the study took place. Following this context overview, the individual children's cases are presented in chapter 5. The thesis concludes at chapter 6 with a return to the research questions and a look at the limitations of the study and possible future research.

Hospital Education and Cancer as a Chronic Illness

The hospital education program is the responsibility of the boards of education and the care and/or treatment facility in which the program is located. The role of such a program is to provide educational services in the hospital for children who for medical reasons

cannot attend school. The intent of this program is to ensure that the student maintains academic progress so that the child's reintegration into school, whenever it may be feasible either on a full or part-time basis, may be facilitated. This is a valuable educational service because it attempts to overcome the obvious limitations of time, the student's physical condition, and the constraints imposed by isolation from the school environment. It also provides the student with educational continuity and an opportunity to exert influence and experience success.

Another board sponsored program which often overlaps with the hospital program is the home instruction program. The intent of this program is similar to the hospital program and is in place for children who are unable to attend school but do not require hospitalization. In these situations, children receive educational services in the home by board employed qualified teachers. This is another valuable program, particularly for students with cancer, as often these students, even if they are feeling well enough, cannot attend school because of immune deficiencies and susceptibility to infection. Although this program is not the focus of this study, elements of this program will be discussed since children receiving educational services in the hospital should have, and often do have, the additional educational support in the home.

Unfortunately, there is little research available in the area of hospital or home instruction and educational services for children with health impairments. The Canadian research available in this area of education is particularly limited. However, some American sources do explain the phenomenon of an increasing population of health impaired children and the demands these students have placed on the education system and on teachers. Although the United States has a different health care and educational

system which makes comparing the American experience to that of Canada problematic, these studies are still worthwhile exploring as they provide an understanding of how an education system is attempting to cope with the educational needs of chronically ill, or health impaired, students (Crossland, 1996).

According to Lynch, Lewis, and Murphy (1992, 1993), between mid-1960 and mid-1980, the number of children with a chronic illness or medical condition doubled. Currently, it is estimated that between 10 and 20 million American children and adolescents have some form of chronic condition or health impairment (Bunke & Schwanz, 1997). Many researchers attribute this increase to improvements in technology and medicine which have allowed children who would have previously died, to survive with medical assistance (Cunningham et al., 1991; Johnson, Lubker, & Fowler, 1988; Mabe et al. 1987; Ross, 1984). Through the advances of modern medicine, science, and technology many communicable diseases have been eradicated or controlled, and chronic illness has become the most prevalent disease form (Robinson, 1987). Similar progress in the treatment of childhood cancer has meant that what was once considered an acutely fatal disease is now considered a life threatening chronic illness (Mabe et al., 1987).

Chronic health conditions have been defined by Bunke and Schwanz (1997) as being any medical condition that

> (a) interferes with daily functioning for more than three months in a year,
> (b) causes hospitalization lasting more than one month in a year, or
> (c) is thought at the time of diagnosis to be likely to result in either of the preceding. (p. 1)

Daly-Rooney and Denny (1991) described chronically ill children as being those children with

> heart conditions, asthma, cystic fibrosis, cancer, diabetes, or sickle cell anemia. They are also the children with hemophilia, epilepsy, lead poisoning, tuberculosis, and now AIDS. There are also many other diseases from which children suffer which are less prevalent than these mentioned. (p. 2)

Ringo (1986) also described the diversity of students who could receive education in alternative settings. Students go on home or hospital instruction "for many reasons: illness or injury, complications of pregnancy or emotional disturbances" (p. 40). These students may receive this type of instruction for a few weeks or for the entire year. Therefore, these medical conditions may have a significant impact on these children's lives for long periods of time.

Although, as stated earlier, there is limited Canadian research in the area of home and hospital teaching, we can obtain a sense of the number and types of children in Canada who may benefit from these programs by exploring the occurrence rates and characteristics of the different chronic conditions. For this study, the occurrence and mortality rates associated with childhood cancer are of particular interest and will be further explored.

Childhood Cancer: Occurrences and Types

According to the National Cancer Institute (1999), the number of new cases of cancer between 1990 and 1994 and the number of deaths due to cancer between 1992 and 1996 for Canadian children aged 0-14 years, are provided in Table 1. For these periods, an average of 879 children were diagnosed each year with some form of cancer and 176 deaths resulted from the disease. The Childhood Cancer Foundation and Health Canada (1996), however, suggested that the number of diagnoses each year is currently even higher and indicate that when children and teenagers are considered, approximately 1300

to 1400 are diagnosed with some form of cancer each year and that approximately 10,000 Canadian children already live with a form of cancer and its long term effects [Childhood Cancer Foundation brochure]. All three Canadian sources indicated a declining trend in the number of deaths due to childhood cancer, but an increase in the number of occurrences (see Figure 1). Although each form of cancer has a different survival rate, Ross (1984) suggested that a cure, meaning no reoccurrence of cancer cells for five years, is a realistic goal for 60% of childhood cancer patients.

There are many types of childhood cancers. The three types of cancer that influence the children in this study include acute lymphoblastic leukemia (ALL), neuroblastoma, and osteosarcoma. A brief description of what cancer is and more detailed descriptions concerning these three specific forms of cancer will be provided in the following sections.

Characteristics of Cancer

Cancer is defined as "a large group of diseases characterized by uncontrolled growth and spread of abnormal cells in the human body" (Unsworth & Howard, 1994, p. 71). Under normal conditions, cells usually function and reproduce with highly regulated accuracy. However, if cancer is left unchecked, it can be fatal due to its spread into surrounding healthy tissues and organs, or metastasize, spreading by way of the bloodstream or lymph channels [Children's Hospital of Eastern Ontario Interlink brochure]. In its beginning stages, cancer cells tend to grow in their original or primary site and this is when the disease is most treatable. But even in more advanced states, many cancers are now being arrested and cured, especially in children [Children's Hospital of Eastern Ontario Interlink brochure].

Table 1

New Canadian Cancer Cases and Deaths: Children Aged 0-14 Years

CANCER IN CHILDREN AGED 0-14 YEARS

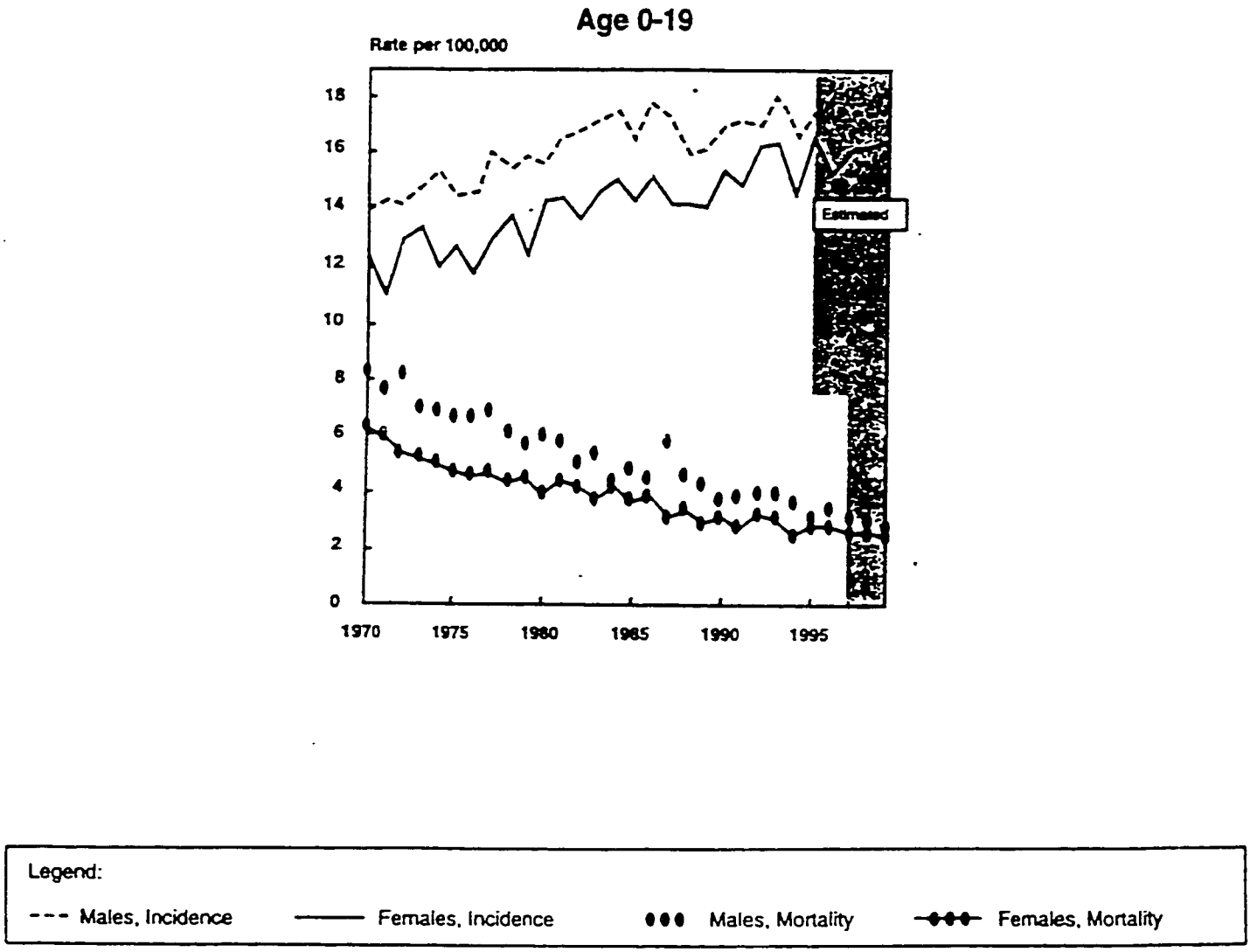
Table 14
New Cases and Age-Standardized Incidence Rates (1990-1994) and Deaths and Age-Standardized Mortality Rates (1992-1996) by Histologic Cell Type of Cancer for Children Aged 0-14 Years, Canada

Diagnostic Group[2]	New cases (1990-1994)[1]		ASIR per 1,000,000	Deaths (1992-1996)		ASMR per 1,000,000	Deaths/ Cases
	Number	%	per year	Number	%	per year	Ratio
Leukemia	**1,383**	**31.5**	**46.96**	**274**	**31.1**	**9.19**	**0.20**
Lymphoid	1,121	25.5	38.04	122	13.8	4.08	0.11
Acute non-lymphocytic	174	4.0	5.93	70	7.9	2.34	0.40
Lymphoma	**476**	**10.8**	**16.08**	**48**	**5.4**	**1.61**	**0.10**
Hodgkin's disease	190	4.3	6.43	3	0.3	0.10	0.02
Non-Hodgkin's lymphoma	152	3.5	5.14	14	1.6	0.47	0.09
All other lymphomas	134	3.0	4.52	31	3.5	1.04	0.23
Brain and Spinal	**844**	**19.2**	**28.70**	**252**	**28.6**	**8.47**	**0.30**
Ependymoma	78	1.8	2.65	30	3.4	1.01	0.38
Astrocytoma	438	10.0	14.90	56	6.4	1.88	0.13
Primitive neuroectodermal	175	4.0	5.93	56	6.4	1.88	0.32
Sympathetic Nervous System	**366**	**8.3**	**12.58**	**108**	**12.3**	**3.64**	**0.30**
Neuroblastoma	353	8.0	12.13	108	12.3	3.64	0.31
Retinoblastoma	**107**	**2.4**	**3.65**	**0**	**0.0**	**0.00**	**0.00**
Renal Tumours	**266**	**6.1**	**9.06**	**26**	**3.0**	**0.87**	**0.10**
Wilm's tumour	247	5.6	8.41	23	2.6	0.77	0.09
Hepatic Tumours	**64**	**1.5**	**2.17**	**18**	**2.0**	**0.61**	**0.28**
Bone	**203**	**4.6**	**6.92**	**52**	**5.9**	**1.73**	**0.26**
Osteosarcoma	105	2.4	3.58	28	3.2	0.93	0.27
Ewing's sarcoma	74	1.7	2.52	19	2.2	0.63	0.26
Soft Tissue	**278**	**6.3**	**9.45**	**77**	**8.7**	**2.60**	**0.28**
Rhabdomyosarcoma	148	3.4	5.02	47	5.3	1.58	0.32
Fibrosarcoma	47	1.1	1.61	7	0.8	0.23	0.15
Germ Cell	**149**	**3.4**	**5.10**	**3**	**0.3**	**0.10**	**0.02**
Gonadal germ cell tumours	68	1.5	2.32	1	0.1	0.03	0.01
Carcinoma	**172**	**3.9**	**5.88**	**12**	**1.4**	**0.40**	**0.07**
Thyroid	54	1.2	1.85	0	0.0	0.00	0.00
Melanoma	39	0.9	1.33	4	0.5	0.13	0.10
Other cancers	**87**	**2.0**	**2.99**	**11**	**1.2**	**0.37**	**0.13**
Total (5 years)	**4,395**	**100.0**	**149.55**	**881**	**100.0**	**29.58**	**0.20**
Average per year	**879**			**176**			

Source: National Cancer Institute (1999). Canadian Cancer Statistics 1999, Toronto, ON, Canada.

Figure 1

Incidence and Mortality Rate in Canada



Source: National Cancer Institute (1999). Canadian Cancer Statistics 1999, Toronto, ON, Canada.

Acute lymphoblastic leukemia

Childhood leukemia is one of the best known, most studied, and most feared diseases (Findeisen & Barber, 1997) as it accounts for slightly more than one-quarter of all malignancies in Canadian children (Health Canada, 1996). Although there are different types, leukemia usually originates in the bone marrow from cells that are intended to become white blood cells (Health Canada, 1996). Leukemia cells block out normal blood forming cells and spread through the body by way of the bloodstream. Children with leukemia, therefore, do not have sufficient healthy red blood cells to carry oxygen through the body, resulting in a condition called anemia (Findeisen & Barber, 1997). Fatigue, pallor, fever, bruising or bleeding, and pain in the bones or joints are common symptoms of this condition and thus of childhood leukemia (Health Canada, 1996).

The major distinctions in the types of leukemia are whether it is considered to be *acute* or *chronic*, indicating how quickly the disease develops and whether it is *lymphoblastic* or *non-lymphoblastic*, indicating the types of blood cells that are affected. Since one of the children involved in this study has a diagnosis of acute lymphoblastic leukemia (ALL), and since this form of leukemia is the most common found in children below the age of 14, characteristics and treatment of ALL will be briefly described.

ALL accounts for three-quarters of the leukemia found in children but is now considered one of the most curable forms of cancer (Findeisen & Barber, 1997; Health Canada, 1996). It usually begins in the lymphoblasts, or immature lymphocytes or white blood cells, and seems to be related to either "a disorder in the initial development of the immune system or an unusual immune response to an unknown infectious agent"

(Health Canada, 1996, p. 62). Prior to the 1970s, the 5 year survival rate for children and teenagers was only 1% (Findeisen & Barber, 1997). Now, with changes in treatment, the 5 year survival rate has increased to 74 or 75% (Findeisen & Barber, 1997; Health Canada, 1996, see Table 2). In addition, 95% of children with ALL are now expected to experience initial remission after the first month of treatment (Health Canada, 1996).

Findeisen and Barber (1997) described ALL treatment regimes as consisting of three phases: remission induction, central nervous system prophylaxis, and maintenance treatment. Each phase of the treatment regime requires that the child spend a significant amount of time at the hospital either through prolonged stays or through frequent and regular out-patient visits usually on a weekly basis. During the first phase, children receive intensive chemotherapy and drug treatment with the goal of eliminating all detectable leukemia cells. Since the central nervous system is a probable site for relapse, the second phase of treatment focuses on arresting abnormal cell growth in the central nervous system either by administering chemotherapy directly to the spinal chord, by way of a lumbar puncture, or through radiation treatment to the spinal column or brain. Finally, the maintenance treatment phase requires that low doses of drugs and chemotherapy be given over a longer period of time. Depending on the treatment protocol, this phase can last up to four years (Findeisen & Barber, 1997). Since the possibility of relapse for all types of cancer is unlikely after 5 years of complete remission, patients in this situation may be considered cured (Findeisen & Barber, 1997).

Although all cancer treatment is intended to destroy abnormal cancer cells, it also causes damage to healthy cells and tissues. When healthy cells are affected, the patient's

Table 2

Cancer Survival Rates

One, Three, and Five Year Actuarial Survival Rates (%) by Cancer Type for Canadian Children and Teenagers Diagnosed between 1985 and 1988 and Followed to December 31, 1991

Cancer	Number of Cases	Survival Rate (%) One year	Three year	Five year
Leukemia	1219	87	73	66
Acute Lymphoblastic	927	92	81	74
Acute Non-Lymphoblastic	183	65	43	39
Other	109	78	51	46
Lymphoma and Other Reticuloendothelial	741	91	84	80
Hodgkins	422	99	94	90
Non-Hodgkins	285	80	71	68
Other	34	79	68	63
Central Nervous System	712	80	67	61
Sympathetic Nervous System	238	78	64	60
Retinoblastoma	72	100	96	96
Kidney	205	98	91	91
Liver	50	64	52	48
Bone	246	87	68	61
Soft Tissue	293	90	75	69
Germ Cell and Other Gonadal	249	94	84	81
Epithelial	346	94	89	86
Other	38	87	76	76
ALL CANCERS	4409	88	76	71

Source: Health Canada. (1996). This battle which I must fight: Cancer in Canada's children and teenagers. Ottawa, ON: Minister of National Health and Welfare.

resistance to infection is lowered. Consequently, the patient may experience fatigue and may bruise and bleed easily. Other common side effects of chemotherapy given for any type of cancer treatment include hair loss, nausea, vomiting, loss of appetite, weight fluctuation, and mouth sores. For some young children who receive radiation treatment to the brain, learning problems may appear as an additional side effect (Findeisen & Barber, 1997). Research findings focusing on the effects of chemotherapy on the central nervous system, suggest that it too may adversely affect intellectual functioning and may have an acute and/or long term impact on a child's school performance (Armstrong & Horn, 1995; Moffitt, 1985). However, it seems that the effects on learning are most prevalent in young children who are given cancer treatment as preschoolers or in those children who are given particularly high doses of radiation or drug therapy (Health Canada, 1996). Unfortunately, since intense radiation treatment is frequently used to combat ALL, it has been found that one-half to two-thirds of children who survive ALL will eventually require some special academic help during their school years (Bartel & Thurman, 1992).

Neuroblastoma

According to Gao et al. (1997), in Canada, neuroblastoma is the third most common form of childhood cancer, accounting for 7% of all new cases and 11% of the deaths. However, most diagnosis of neuroblastoma occur in children younger than 5 years of age and is particularly prevalent in children less than 1 year old (Gao et al., 1997; Health Canada, 1996).

Unlike ALL, which is related to the production of white blood cells, neuroblastoma is described by Health Canada (1996) as being "a malignant tumour [arising] in the nerve

cells of the sympathetic nervous system," or in the nerve cells controlling such things as blood pressure and other internal bodily functions (p. 110). This form of cancer is most often found in the embryonic neuronal cells of the neck, chest, abdomen or pelvis and is usually present at the time of birth but may not produce symptoms until later (Health Canada, 1996).

Children may experience symptoms and discomfort because of tumour growth in its primary site or because of problems related to the tumour spreading. If the tumour remains in its original site, it may be successfully surgically removed. However, "more than 70 percent of children with neuroblastoma who are over the age of one year at the time of diagnosis have advanced disease with distant spread" (Health Canada, 1996, p. 71). Metastasized neuroblastoma, therefore, requires an aggressive and prolonged combined treatment of surgery, chemotherapy, and possibly radiation treatment to the affected areas. Again, this treatment regime means frequent and lengthy hospital stays. The 5 year survival rate for Canadian children with cancer of the sympathetic nervous system between 1985 and 1988, according to Health Canada (1996), was 60% (see Table 2).

Osteosarcoma

Sarcoma refers to a malignant, or an invading, tumour that originates in the muscles, bones, nerves, fat, blood vessels, or connective tissue in the body. Osteosarcoma, therefore, specifies a tumour arising primarily in the bone. These types of tumours represent 12% of the malignancies in Canadian children and tend to occur slightly more frequently in boys than in girls (Health Canada, 1996). The first symptoms of a bone tumour are usually pain or the appearance of a lump in the limb or joints and possibly

even a fracture due to the weakening of the bones. Treatment for this type of cancer depends on the location of the tumour and the extent of the spreading. Similar to other forms of cancer, surgery and chemotherapy with or without radiation treatment is often used. In certain cases, amputation of a portion of the limb or the entire limb may be the only method to achieving complete removal of the sarcoma. With an amputation or limb replacement, there are additional side effects other than those associated with cancer therapy and hospitalization alone. For example, the patient will have decreased mobility and will have to also adjust to the use of a prosthetic limb or a limb implant. Yaw (1999) suggested that the major problem associated with this procedure is the unusual appearance of the prosthesis, and the resulting psychological problems with patient acceptance. However, Yaw believed that with careful patient selection and family education, the satisfaction level with a prosthetic limb can be quite good. Similar to neuroblastoma, the five year survival rate for children with osteosarcoma between 1985 and 1988 was approximately 60% (Health Canada, 1996, see Table 2).

Health Impairments and Child Development

Once cancer has been detected, the physical effects that result from the appearance of cancer and the necessary treatment represent only one of the ways in which children are affected by their condition. Unfortunately, health impairments often interfere with all aspects of normal child development. Perrin and Gerrity (1984) effectively illustrated how the development of children with a health impairment may be understood best within the context of the cognitive, social, and emotional development in all children. It is for this reason that their study will be described in some length in this section of the thesis.

Perrin and Gerrity (1984) suggested that the process of development depends on children's interactions with their environment. As a result of children interacting with and influencing their environment, the environment changes and, in turn, the environmental changes affect the children. Environments, according to Zimmerman (1995b), are "assumed to be just as sensitive to people as the reverse, and both are in constant change - in part as a result of the influence of the other and in part because of additional forces" (p. 369). The mechanisms by which children's chronic illness may modify their development can be viewed in the same manner: the illness affects the children's interactions with the environment in which they live and aspects of that environment are altered as a result of the illness. Therefore, the implications for a long-term health impairment on a child's social, emotional, and cognitive development may be considerable. Pless and Roghmann (1971) concluded that up to 30% of children with chronic health conditions will be expected to experience developmental difficulties secondary to their illness.

Perrin and Gerrity (1984) suggested that the presence of a chronic illness may interfere in several ways with normal child developmental processes. For example, children with chronic illnesses worry about being different from their peers and how this affects their relationships within peer groups. Sympathetic adults often try to protect these children, but rarely is this protection helpful. Also, when an illness imposes limitations on a child's physical abilities, there are fewer opportunities for the child to feel successful. Therefore, these children are at risk of becoming underachievers and failures in their own eyes. They also miss out on experiences that normally lead to the

development of positive self-esteem and a sense of control over their environment and desired outcomes.

Developing the capability to produce desired outcomes provides incentives for the emergence and exercise of personal control. Children with medical conditions may not understand the causes of their illness, and this lack of understanding may produce persistent sources of uneasiness and a sense of powerlessness (Perrin & Gerrity, 1984). The "inability to exert influence over things that adversely affect one's life breeds apprehension, apathy, or despair" (Bandura, 1995, p.1). These feelings of anxiety may be particularly prevalent in cancer patients as it is not yet possible to describe completely and accurately what causes cancer. At best, physicians are sometimes able to identify risk factors, or characteristics about the individual or environment that are associated with a greater occurrence of the disease than is expected by chance (Health Canada, 1996).

Zimmerman (1995b) suggested that cognition is inextricably linked to the context and cannot be understood apart from it. Therefore, at the heart of normal child development is the interactive context of the learning experience. Once children are able to plan and adjust their personal, behavioral, and environmental functioning in response to their changing conditions, they will have developed self-regulatory competence. Zimmerman (1995a) believed that social learning experiences can lead to the development of self-regulatory competence and, in turn, self-regulatory development can affect the learner's choice and response to a variety of changing social and personal experiences.

If we accept Zimmerman's position that cognitive development is dependent on contextual factors, then the questions which need to be further explored for the purposes of this study are (a) How do chronic conditions affect children's learning and academic

achievement? and, subsequently, (b) What are the effects of hospitalization on children and on their learning? These questions will be discussed in the forthcoming sections of this thesis.

Academically at Risk Children

As mentioned earlier, recent research findings have indicated that learning difficulties may result from cancer treatment in young children 2 to 5 years after diagnosis (Armstrong & Horn, 1995; Findeisen & Barber, 1997; Moffitt, 1987). However, despite this possible effect of treatment, Sexson and Madan-Swain (1993) suggested that children or adolescents with any form of chronic illness often experience academic difficulties and fail to achieve their potential in comparison with their healthy peers. Absence from school has typically been used as a measure to assess the academic functioning of children with chronic illness. Due to the sporadic nature of some health impairments, prolonged absence or multiple, brief absences from school (when the responsibility of the education of these children is assumed by a hospital teacher) may result in a discontinuity in the educational program and uncompleted schoolwork. Therefore, "educational deficits are most likely to be manifested in school subjects that build on previous knowledge" (p. 118). Schunk (1985) suggested that students who do not possess intellectual deficits but perform below their measured abilities may experience repeated difficulties resulting in academic deficiencies which, in turn, interfere with general self-functioning and a student's sense of efficacy for coping with cognitive demands.

Sirvis (1988) also stated that medical concerns are major factors affecting learning for physically and health impaired students: "Fatigue, limited vitality, short attention span, and limited mobility are just some of the characteristics that can accompany technological

and medical dependence" (p. 42). Previous levels of activity and educational goals may also seem unattainable for students who are diagnosed with a chronic condition (Sexson & Madan-Swain, 1993). However, despite these perceived or realistic limitations, Moffitt (1987) warned teachers and parents not to underestimate a child's potential or to lower their expectations for achievement. Chronically ill children will interpret these feelings as a lack of faith in their future and may respond with feelings of helplessness, discouragement, and sometimes anger. Personnel in the home, the hospital, and the school must work together to maximize the child's normal growth and development. Moffitt (1987) believed that any weak link will jeopardize the efforts of the other members.

With the loss of the ability to participate in certain activities, academic competence can sometimes mean a great deal more for the child, as it represents the one area that they feel they can still control and have some success (Isaacs & McElroy, 1980). The desire for control over life circumstances is important because it permeates almost everything people do since the ability to affect outcomes makes the outcomes predictable and predictability is reassuring (Bandura, 1995).

Effects of Hospitalization

A child with cancer will be required to spend some time in the hospital. Kleinberg (1982) stated that "hospitalization usually occurs at times of increased stress: a dreaded diagnosis is being verified, a child has sustained a severe attack or injury, or the symptoms of cancer have [appeared]" (p. 58). The pain and discomfort that accompanies the condition and/or treatment may leave the child feeling vulnerable. Hospitalization requires that children be separated from members of their family for prolonged periods of

time and places children in unfamiliar surroundings. Hospitalization for the child with cancer may also occur unexpectedly as the slightest change in a child's blood counts or the occurrence of fever will necessitate that the child be hospitalized and monitored. Hospital procedures and cancer treatments are disruptive, painful, and intrusive, and varying expectations are placed on the child to cooperate. In children, this experience may result in feelings of fear, anxiety, and a lack of control over their lives, bodies, and even daily routines.

Teachers in the hospital should be sensitive to the realization that they are in a non-educational setting and that the medical or rehabilitative treatments necessarily take precedence over educational programming. But, at the same time, it should be recognized that the achievement of educational goals must be an important objective (Unsworth & Howard, 1994). Instruction may have to be given at a bedside or at the side of a whirlpool tub, or in a hospital ward. Teachers will need to adjust to the child's schedule and needs since issues such as energy levels play an important role in scheduling (Kleinberg, 1982). Because the importance of educational continuity may not be recognized by hospital staff or community school personnel, the hospital teacher must foster cooperative relationships with the relevant medical professionals involved in each child's case. By engaging in cooperative work relationships, some of the barriers associated with providing education in alternative settings may be overcome.

Barriers to Providing Quality Educational Services

Historically, according to Lynch et al. (1992), American educational services were developed to suit the needs of children with specific communicable diseases such as polio and tuberculosis. This curriculum was typically offered in special schools to segregate

the students from their peers. However, as the number of occurrences of these diseases was reduced, the schools' responsibilities became more widespread. Schools then had to accommodate any health impairment that interfered with the child's education. Because of this responsibility and the school boards' allocation of funds, there was, at the time of the study, considerable variability in the types of educational services, their delivery, and their administration.

In their study, Lynch et al. (1992) attempted to identify the schools' and families' perceptions of the needs of children with chronic illnesses so as to suggest possible ways to ameliorate the academic services provided to this particular group of students. Their findings illustrated that many of the chronically ill children were not receiving a modified curriculum, or an Individualized Education Program (IEP). However, those IEPs that had been developed were not always suited to the child's needs. Armstrong and Horn (1995), Lehr (1990), and Quinn (1987) suggested that all children with cancer or other special health care needs, despite their learning capabilities, require unique educational plans, particularly as childhood cancer and its treatment can present multiple school-related problems. Some of these problems may be of short duration whereas others may be long-term difficulties requiring on-going assessment, monitoring, and intervention. Education plans therefore should include the following: methods for assuring communication between and among family, school personnel, and medical providers, provisions for transition from hospital to home to school, identification of resources for technical assistance, health care and emergency plans, and provision of training and monitoring of education personnel.

The barriers that Lynch et al. (1992) found to providing appropriate IEPs to chronically ill children as identified by school districts included a lack of funding, a lack of public and staff awareness and training, inadequate services, not enough teachers for students, children falling behind in their work, children's absences, uncooperative parents, and disorganization within the system. Parents identified the teacher's lack of understanding and misinformation about the illness and the child's needs as being the primary barrier to the service. Since there is a limited amount of research available on chronic illness and learning, it appears that it is the responsibility of the educator to know how to provide educational curricula with minimal training or knowledge of the cognitive, motivational, and affective processes of health impaired students in specialized settings. Cancer and its treatment can be particularly complex, and the difficulties children experience as a result will vary depending on the child, the cancer type, and the treatment requirements. If educators are uninformed and cannot respond effectively in conversations about the student's condition and school needs, the teacher's discomfort as well as education problems are likely to be significant (Chesler & Barbarin, 1986).

Perceptions of Control and Chronically Ill Children

According to Baken (1978), successful student learning is dependent, at least in part, on whether individuals perceive that they can control the contingency between behaviour and reward. Since the restraints of being health impaired affect such perceptions, Baken (1978) compared three groups of children (emotionally disturbed, physically disabled, and health impaired) receiving educational services at home with respect to locus of control beliefs. Although self-efficacy beliefs and locus of control perceptions are not synonymous, the influence of control beliefs on successful learning is common to both.

Baken believed that if a student attributed the locus of control internally, there was a better chance for that student to experience successful learning. The 81 participants involved in the study completed the Children's Internal-External Control Scale of Reinforcement. The differences in the mean scores earned on the scale by the children with different medical classifications were not significant. However, after a factor analysis, the children in the emotionally disturbed group tended to rate higher in the direction of external locus of control. Baken attributed the lack of statistically significant findings to a small sample size. However, despite the lack of statistical significance, Baken believed that the provisions for more meaningful educational services could be achieved if teachers used the child's locus of control perceptions to the child's advantage. By examining the students' perceptions of control, whether it be through an examination of locus of control or through the narrower construct of self-efficacy beliefs, teachers could be provided with a potential direction for remediation by "restructuring the [educational] experience in such a way as to enhance" educational progress (p. 209).

Conclusion

Like all children, an ill child has needs, concerns, and rights, many of which can be met through school or educational programs. Unfortunately, in Canada and, more generally, in the research literature, relatively little attention has been devoted to the requirements of these children and to this area of education. Through the school experience, chronically ill children have the opportunity to learn, to socialize, to develop increased independence and control over their environments, and to experience success. Davis (1989) suggested that depriving a child of the chance to meet these needs may cause increased stress and anxiety. Therefore, it is not only important to continue

schooling while the sick child is in the home or hospital, but also to continue to explore how the learning experiences can be improved and enriched. Further research into the area of chronic illness and education will also better prepare educators for the demands this growing group of students will place on the education system. Home and hospital schooling has been linked to increased social opportunities, an enhancement of the child's dignity, and a normalization of the child's life-style. Without the opportunity to influence their environment, ill children are left with a poor sense of self-esteem and fear with respect to their prognosis and situation (Davis, 1989). As one parent participant stated, "Going to school is the job of a child in order to prepare for their future. If you take away school, [or the opportunity for school] you are telling the child that they have no future"(personal correspondence, October 5, 1999).

CHAPTER 2

THEORETICAL FRAMEWORK

The theoretical framework used to guide this study is based on Albert Bandura's self-efficacy construct embedded in social cognitive theory and Barry Zimmerman's approach to self-regulation and self-regulated learning. A theoretical model has been developed for this study and is provided in Figure 2. A description of the model and the constructs of the theory used will be described in the following sections. In addition, some criticisms surrounding self-efficacy beliefs and a justification for the selection of this theory will also be discussed.

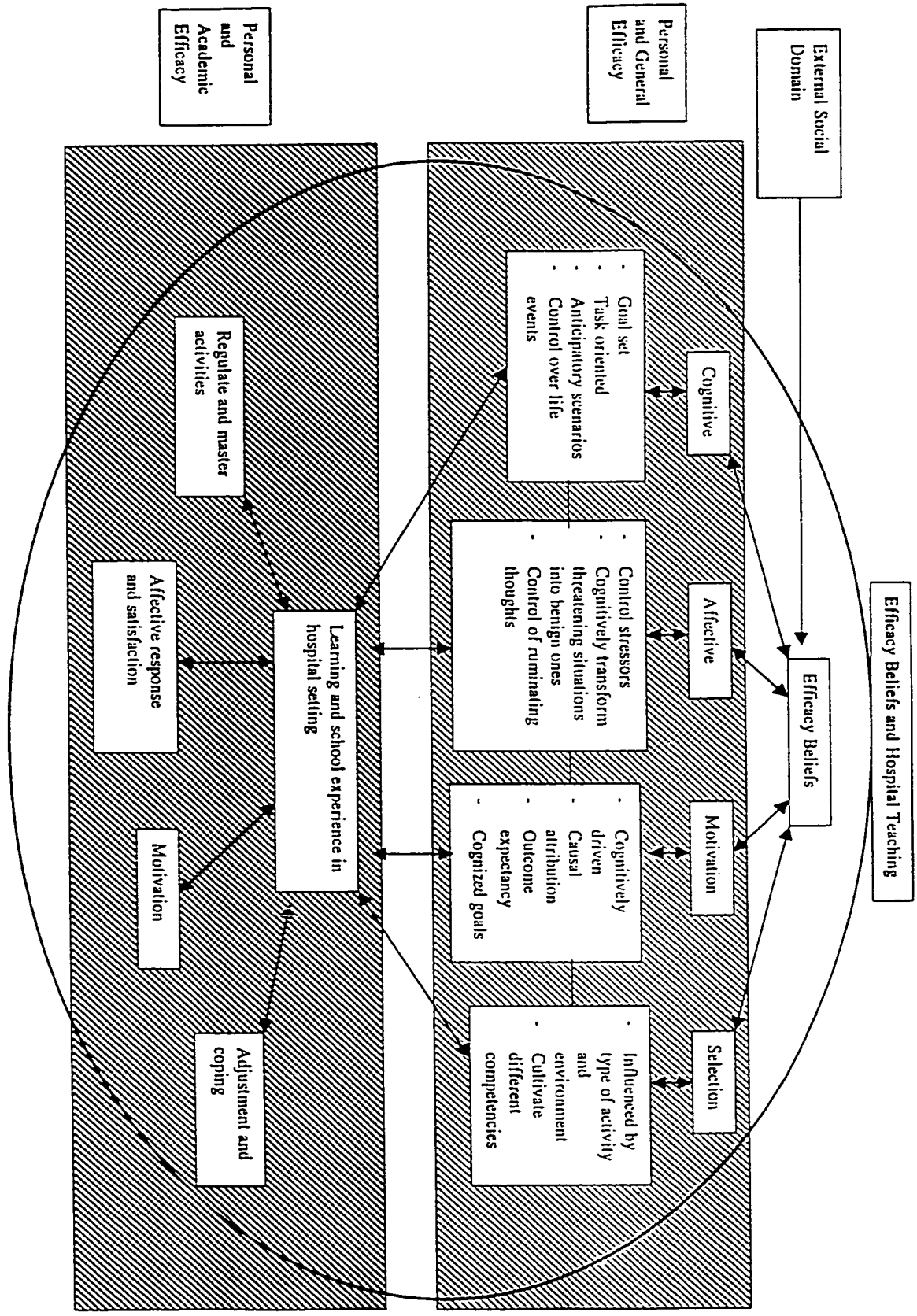
Self-Efficacy Beliefs

According to Bandura (1995), the issue of control is central in human lives and is especially important for those individuals who feel powerless to exert influence over the events in their lives. In the context of stressful life situations, "general beliefs of efficacy may serve as a personal resource or vulnerability factor" (Jerusalem & Mittag, 1995, p. 178). It is through these mechanisms of self-agency that changes within the individual and the individual's environment can be realized. Among the control mechanisms people use, none is more critical than people's efficacy beliefs (Bandura, 1995). Because of the importance of perceived self-efficacy, it is the first construct on the model provided.

Perceived self-efficacy "refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995, p. 2). The constructs located inside the circle in the model represent efficacy beliefs at the personal level; constructs outside the circle represent aspects of the external, social

Figure 2

Theoretical Model



domain which may affect the individual. The personal efficacy constructs will be explained first.

Personal Efficacy Beliefs

Bandura (1995) suggested that personal efficacy beliefs significantly influence how people think, feel, motivate themselves, and act. Therefore, efficacy beliefs regulate human functioning through cognitive, motivational, affective, and selection processes. These efficacy regulated processes are shown on the model to be directly affected by perceived self-efficacy beliefs. Because these processes operate in concert, rather than in isolation, in the on-going regulation of human functioning, the four constructs on the model are linked. Since the effects of efficacy beliefs on the different processes can have a variety of forms, a brief description of each of the processes (cognitive, motivational, affective, and selection) will be provided in the following paragraphs.

Cognitive processes.

Self-efficacy has been shown to affect thought patterns (Bandura, 1993). Because much of human behaviour is regulated by forethought and cognized goals, goal setting is directly influenced by individuals' self-appraisal of their capabilities. According to Bandura (1993), the stronger an individual's perceived self-efficacy, the higher the goals that person will set and the firmer the commitment will be to those goals. Since a course of action is initially shaped in thought, people's self-efficacy beliefs will (a) influence the type of anticipatory scenario that individuals construct and rehearse, (b) allow individuals to remain task oriented in the face of situational demands, and (c) enable individuals to problem-solve and predict ways in which they can control the events in their lives. These effects are a result of a self-appraisal of perceived cognitive abilities. People with a high

sense of efficacy will visualize successful scenarios and those who doubt their efficacy will visualize failure scenarios and dwell on ruminating thoughts.

People's ability in a domain area and their subsequent feelings of efficacy are not fixed attributes. Ability is a "generative capability in which cognitive, social, motivational, and behavioral skills must be organized to serve numerous purposes" (Bandura, 1993, p. 118). Ability involves the skill of managing aversive emotional reactions that can impair the quality of thinking and action.

Motivational processes.

Beliefs of self-efficacy play a key role in people's self-regulation of motivation (Bandura, 1993). As mentioned earlier, people motivate themselves cognitively by planning their actions anticipatorily through the exercise of forethought. They form beliefs about their conception of ability, what they can do, the perceived importance and appeal of the task at hand, and, subsequently, anticipate likely outcomes. According to Bandura (1993), self-efficacy beliefs affect motivation through casual attribution, outcome expectancies, and cognized goals.

Affective processes.

The way individuals feel, including their likes or dislikes and coping capabilities are influenced by self-efficacy beliefs. These beliefs will determine their level of motivation and how much stress and feelings of depression they will experience in a difficult situation. Individuals with strong efficacy beliefs will be able to control the stressors in their lives, cognitively transform threatening situations into benign ones, and exercise control over ruminating thoughts (Bandura, 1995). It is not "the sheer frequency of

disturbing thoughts but the perceived inability to turn them off that is the major source of distress" (Bandura, 1993, p. 133).

Selection processes.

In addition to personal resources, environmental constraints are also considerations in the adaptation, adjustment, and coping process in either adverse or normal conditions. Although some constraints are outside of human control, people "are partly the product of their environment... [and] beliefs of personal efficacy can shape the courses people's lives take by influencing the types of activities and environments they choose to get into" (Bandura, 1995, p. 10). Bandura (1995) suggested that people avoid situations which they deem to be too taxing for their abilities and readily undertake those activities they judge themselves to be capable of managing. By the choices people make they develop different competencies, interests, and social networks that determine life direction and influence their sense of self.

Educational Development and Self-Regulation

Zimmerman (1995a) built on Bandura's work and suggested that there is a causal or mediational role of perceived self-efficacy on children's educational development seen through processes of self-regulation and self-regulated learning. This conceptual focus is rooted in Bandura's social cognitive theory, which describes human functioning in terms of reciprocal interactions among behaviours, environmental factors, cognitions, and personal variables. These aspects of human functioning have a bi-directional influence on each other (Grusec, 1992). Expectations, self-perceptions, and goals influence behaviour with the result of that behaviour affecting cognition and the individual's choice

of environment. Similarly, the environment can cognitively and behaviourally affect the person and the person, in turn, evokes different reactions from the environment (Grusec, 1992).

Traditionally, student achievement has been assessed on the student's natural ability, the quality of teaching, schools, and home environment (Zimmerman, 1986). Self-regulation approach in contrast, focuses attention on how students' efficacy beliefs allow them to personally activate, alter, and sustain their learning practices and strategies in specific contexts since no environment alone can guarantee learning or educational development (Zimmerman, 1986). The degree to which students perceive themselves to be efficacious participants in the learning process will positively contribute to their level of success. Perceived academic self-efficacy is "defined as personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances" (Zimmerman, 1995a, p. 203). Zimmerman and Martinez-Pons (1990) stated, "students' selection and use of strategies [in learning situations] depends directly on their perceptions of their academic efficacy and reciprocally on [the feedback they receive]" (p. 51). Therefore, the four efficacy regulated processes contribute to students' perception of themselves as learners and, on the model, are shown to have an effect on learning and the school experience.

Self-efficacious learners should be able to select, structure, and alter their environments so that optimal learning may take place. Metacognitively, they should be able to plan, organize, self-instruct, self-monitor, and self-evaluate at various stages in the learning process. Motivationally, self-efficacious learners should perceive themselves as autonomous and competent, and behaviourally they should be able make their

environment conducive for learning. Zimmerman and Martinez-Pons (1990) identified 14 categories of self-regulated learning strategies used by students. These strategies include: organizing and transforming, rehearsing and memorizing, goal setting and planning, self-evaluating, self-consequating, information seeking, record keeping, self-monitoring, environment structuring, seeking social assistance, and reviewing academic materials. According to Zimmerman (1986), self-regulated learners "become aware of functional relationships between their patterns of thought and action (often termed strategies) and social and environmental outcomes" (p. 308). Effective use of self-regulatory strategies is therefore theorized to enhance perceptions of control, autonomy, and competence and these positive perceptions are believed to contribute to the motivational and affective basis for learning.

More specifically, Zimmerman, Bonner, and Kovach (1996) defined academic self-regulation as "self-generated thoughts, feelings, and actions intended to attain specific educational goals, such as analyzing a reading assignment, preparing to take a test, or writing a paper" (p. 2). Academic efficacy beliefs and self-regulatory practices may thus affect oncology students' motivation and persistence to learn and to succeed, how they feel about learning and their level of satisfaction with the hospital school experience, their ability to regulate their learning and master activities, and their degree of adjustment through the achievement of positive developmental outcomes in the face of adversity. The outcome(s) of the model's final constructs contribute, either positively or negatively, to the student's overall learning experience and to his or her more general self-efficacy beliefs. The cyclic nature of efficacy beliefs is indicated on the model with bi-directional arrows that connect the model's final constructs back to self-efficacy beliefs.

Adjustment under Adverse Conditions

Before going on to discuss aspects of the external, social domain that affect personal efficacy beliefs, it may be beneficial to explore further the concept of adjustment in adverse conditions as it relates to social cognitive theory. Studies in the area of self-efficacy and childhood adversity have shown that many children surmount enormous hardships, such as chronic poverty, divorce, physical abuse, and family discord, and develop into efficacious, caring, and productive adults (Bandura, 1997). These studies also provide some insight into the determinants of coping and adjustment. According to Bandura (1997), elements of resilience that lead to effective coping and adjustment in the face of adversity are reflected in the attainment of positive developmental outcomes such as social competence, academic achievement, a favorable sense of self, absence from psychosocial pathology, and the eventual fulfillment of essential roles in adult life.

Sources of successful adjustment in children, as identified in the research literature, have primarily focused on social influences. For example, a stable social bond with a competent and caring adult, and/or parent, as well as social connectedness outside of the family are considered crucial factors in the management of risk and adversity. Cancer research also stresses the role of family functioning and social support, peer acceptance and support, absences of depressive symptoms, and recognizes the importance of school reintegration and achievement as being indicators of adjustment (Hockenberry-Eaton, Manteuffel & Bottomley, 1997).

While these elements of childhood adjustment are similar to Bandura's conception of positive developmental outcomes, Bandura (1997) also suggested that a sense of personal control over one's life circumstances can be another key factor in childhood coping.

Childhood control beliefs and behaviours will allow children to manage life situations, decrease the level of subsequent distress, and encourage a high enlistment of social supports resulting in successful adaptation. Bandura (1997) believed that intellectual competencies and control beliefs are essential tools for managing the demands of everyday life, and are also uniformly strong predictors of successful adaptation and development.

Studies which have focused specifically on chronic illness in adulthood as a source of adversity also conclude that perceived capability to exercise control, whether illusory or real but unexercised, decrease emotional distress over aversive events. Thus, beliefs in one's personal efficacy can produce benefits. Bandura (1997) identified positive cognitive reappraisals, focusing on the aspects of one's life that are personally controllable, as being able to raise perceived efficacy. This heightened sense of efficacy then activates processes that can extend beyond the scope of coping strategies. For oncology students, hospital schooling has the potential to provide these children with personally controllable experiences which allow them to be successful in all aspects of the, above mentioned, developmental outcomes. These successes may then positively contribute to the students' academic and more general self-efficacy beliefs and hence, their overall well-being.

External Social Domain

Although this model has, so far, focused on individual efficacy, people do not live in isolation nor can they entirely manage major aspects of their lives on their own. Bandura (1997) explained that many of the challenges of life center on problems that require people to work together in order to change their lives for the better. The strength of

families, communities, organizations, social institutions, and even nations lies partly in people's trust and beliefs that they can solve the problems they face and improve their lives through unified effort (Bandura, 1997). In the case of students with chronic health conditions, it would seem that the students' hospital teachers, siblings, and parents play critical roles in assisting the children. These people are recipients of the children's trust, and therefore have a responsibility to work together to encourage the children with their educational development.

The role of the parents and teachers is particularly important because research suggests that self-regulation is "not an idiosyncratic product of a child's own discovery experiences, but rather, it is a culturally transmitted method for optimizing and controlling learning events" (Zimmerman, 1986, p. 311). The degree to which parents and, particularly, teachers can effectively communicate and model self-regulatory strategies may affect the children and their learning.

Furthermore, the extent to which chronically ill children can academically excel and the extent to which hospital teachers can assist with the children's academic development, is dependent on whether the educational program promotes policies and practices which allow for successful learning to take place. Therefore, in addition to the role of the families and teachers, the education program could potentially have a significant influence on the efficacy beliefs of chronically ill children and on their learning, motivation, affective responses, and personal adjustment. This influence is indicated on the model by an arrow connecting the external social domain to the personal and general efficacy beliefs of the child.

Criticisms and Relevance of Self-Efficacy Beliefs

Self-efficacy, as mentioned earlier, refers to beliefs concerning one's capabilities to learn or to perform behaviours at designated levels. The self-efficacy construct has been applied in educational settings with different grade levels, content domains, and student ability levels. However, despite this interest in self-efficacy beliefs, there still exists some confusion over issues such as when and how individuals judge self-efficacy, whether self-efficacy beliefs operate uniformly across domains, and what are acceptable ways to assess or measure self-efficacy (Schunk, 1996).

The potential confusion surrounding the assessment of self-efficacy beliefs is addressed in this study through the use of case study methodology. The case studies produced multiple measures over a period of time rather than a single measure of self-efficacy. These case studies also focused on obtaining a description of the phenomenon being observed within several academic domains and therefore do not assume that efficacy beliefs operate uniformly across the domains. In addition, since this research addresses perceived efficacy beliefs, the participants' actions and narratives adequately inform this study.

Because of the reciprocal nature of human motivation and behavior, the issue of whether feeling good about oneself is primarily responsible for increased efficacy or whether successful performance is largely responsible for stronger feelings of self-worth needs to be further clarified. According to Pajares (1996), this "chicken-or-egg question has been an important focus of many self-concept studies, and its implications are equally relevant to self-efficacy research" (p. 566). Although Pajares admitted that this issue is unlikely to be completely resolved, he believed that there is a need to "develop better

understandings of the conditions under which self-efficacy beliefs operate...through their influence on choice, effort, and persistence in [every day] human functioning" (p. 566). Zimmerman and Martinez-Pons (1986) also suggested that although extensive research has been done in laboratory situations, few studies have attempted to measure self-efficacy beliefs as they operate in naturalistic settings.

The present study makes a contribution to the theory by exploring, in a unique and naturalistic setting, the conditions under which efficacy beliefs influence choice, effort, and persistence with children who have restraints in their lives impeding their ability to control their learning conditions. This study addresses how cognitive, motivational, affective, and selection processes influence and contribute to student satisfaction, educational development, learning motivation, and childhood coping and adjustment.

Pajares (1996) also suggested that more information is required regarding how students at developmentally different ages, academic levels, or grades use the diverse source of efficacy information in developing self-efficacy beliefs. Because children judge their capabilities partly by comparing their performances with those of others, future studies should explore further the influence of other children on self-efficacy beliefs as well as the social comparative information that students find most helpful in developing those beliefs (Pajares, 1996; Schunk, Hanson, & Cox, 1987).

As previously discussed, children's development is highly dependent on children's interactions with their social environment. This study recognizes the importance of this interaction in children's lives and explores how and whether children, who have limited social interaction and are isolated from peers, experience educational development. It

also addresses the importance of siblings in a sick child's life and the influence of other children, or lack thereof, on efficacy beliefs.

Despite these criticisms, social cognitive theory and the construct of self-efficacy do provide an effective framework for this study. The efficacy beliefs with which people approach and manage difficult tasks and life situations determine whether they make good or poor use of their capabilities (Bandura, 1997). The extent to which these efficacy beliefs allow chronically ill children to develop in an educational sphere within a hospital setting will be further discussed in the forthcoming chapters.

Purpose of the Study

The purpose of this study is to determine how self-efficacy beliefs influence the learning experiences of oncology students in the hospital setting. More specifically, the research questions are as follows:

a) How do perceived self-efficacy beliefs influence oncology students' motivation to learn in the hospital setting?

b) How do perceived self-efficacy beliefs influence oncology students' ability to regulate their learning and master academic activities?

c) How do perceived self-efficacy beliefs influence oncology students' level of satisfaction and affective response to their learning experiences?

d) How can perceived self-efficacy beliefs indicate personal adjustment for oncology students under adverse conditions?

Conclusion

Since learning is dependent on whether students perceive that they can control the factors which allow for them to manage their learning conditions and since the constraints

of being hospitalized and chronically ill affect such perceptions, there should be a better understanding of how self-efficacy beliefs influence educational development. Thus, by exploring this research area, this study will not only build on the existing research in the field of social cognitive theory, but will also raise awareness regarding this neglected area of education. Consequently, changes may be made to improve the quality of education provided to these children.

CHAPTER 3

METHODOLOGY

To understand the extent to which perceived self-efficacy beliefs influence the educational development of students with cancer in the hospital setting, I had to familiarize myself with the hospital as a learning environment. I also had to develop a relationship with the teachers, parents, and children involved in the study so that I could better understand the effect of the environment and their physical condition on their self-efficacy beliefs and learning. This meant that I had to become a member of the hospital environment. In order to do that effectively, my study had to focus on the experiences, or cases, of only 5 children. It is stated that the "main concern of case studies versus surveys or experimental research is 'interpretation in context'" (Merriam, 1988, p. 21). Case studies are also "particularistic in that they focus on a specific situation or phenomenon; they are descriptive; and they are heuristic- that is, they offer insights into the phenomenon under study" (Merriam, 1988, p. 21). The data for this research were therefore collected using a descriptive, multiple case study approach within a single research site.

The philosophical assumptions underlying this case study are qualitative rather than quantitative in nature with an emphasis on describing and interpreting the phenomenon within the context. This inquiry was also guided by a constructivist paradigm which will be discussed in more detail in the next section of this thesis. However, one of the epistemological assumptions of the constructivist paradigm is that "findings are literally created as the investigation proceeds," this study was constructed with enough design

flexibility to incorporate emergent research patterns, but was also guided by a theoretical framework as previously discussed (Guba & Lincoln, 1994, p. 111).

Historically, case study methodology has its roots in the field of sociology (Tellis, 1997). However, because this study is based on social cognitive theory and social psychology, this case study has an educational psychology orientation. This means that the case study employed concepts and theories from psychology theory and focused specifically on the individuals involved. Merriam (1998) suggested that "in education a case study of an individual, program, event, or process might well be informed by a psychological concept" (p. 37).

Constructivist Paradigm

Guba and Lincoln (1994) suggested that a paradigm can be seen as a set of basic beliefs that represent a world view for the holder and indicate the individual's place in it. These beliefs are basic and must be accepted on faith since there is no way to establish their truthfulness. Guba and Lincoln (1994) further suggested that inquiry paradigms define for researchers, the parameters of legitimate inquiry based on three question types: (a) ontological, (b) epistemological, and (c) methodological. That is: (a) What is the form of reality and what can be known about it? (b) What is the nature of the relationship between the inquirer and what can be known? and (c) How can the inquirer go about investigating what can be uncovered?

Within the constructivist paradigm, reality is a result of perspective. Schwandt (1994) stated that knowledge and truth, or reality, are created not discovered and that in some ways anyone who believes that the mind is active and continually creating knowledge, not passive, is a constructivist. Ontologically, therefore, constructivism means that reality, or

knowledge, is constructed or made and is not a series of objective facts to be discovered or found (Schwandt, 1994). Constructions are plastic as they can change as the individual becomes more or less informed and are subsequently dependent on their form and content on the individual or group of individuals holding that view of reality (Guba & Lincoln, 1994).

Epistemologically, as mentioned earlier, the assumption is that the investigator and the inquiry are inextricably linked so that the findings are literally created as part of the process of the investigation (Guba & Lincon, 1994). The investigator must act as a "passionate participant," according to Guba and Lincoln (1994), actively engaged in a transactional and subjective relationship with the participants so as to facilitate the development of a new construction. This new construction represents an attempt to make sense of the research experience, based on the investigator's construction as well as the constructions of the participants. Participant subjective values and feelings are essential in creating inquiry outcomes and with such an emphasis, the role of research ethics is even greater.

Given the personal nature of social constructions, the methodology used must allow for interaction between and among the investigator and participants (Guba & Lincoln, 1994). This means that constructions must be interpreted using hermeneutical techniques emphasizing description and explanation and are elicited and developed through dialectic and discursive practices stressing the role of the participants' narratives. The cognitive endeavour, as a result of this inquiry process, is to formulate a new understanding that will facilitate further inquiry.

With all aspects of the constructivist paradigm in mind, the use of case study methodology for this research seemed appropriate. A case study may be characterized by the following: the data are qualitative, the data are not manipulated, case studies focus on single cases, ambiguity in the observation and report is tolerated, multiple perspectives are solicited, holism advocated, humanism encouraged, and common or non-technical language is used (Kenny & Grotelueschen, 1984). Case studies are also considered to be the preferred research strategy used to examine a phenomenon in its real-life context when the boundaries between the phenomenon and context are not clearly evident (Merriam, 1985). Multiple descriptive case studies, with a constructivist perspective, therefore, adequately direct this preliminary study of the influence of efficacy beliefs on learning and Canadian children with cancer in the hospital setting.

Participants and Setting

The participants and setting involved in this study were determined by the phenomenon of interest. Because of this study's emphasis on the learning experiences of children with cancer, this multiple case study focused on the hospital school experiences of 5 children with cancer, or oncology students, located in one large, Ontario children's hospital over a 3 month period. The scope of this study was therefore strictly limited to an examination of the learning experiences of the oncology students and to those people directly involved with the children's hospital education. Thus, in addition to the 5 children, the study included 3 hospital teachers (two teachers taught two students each), 1 home instruction teacher, and the 5 students' mothers. A total of 14 participants were involved in this study. Because it is impossible to control the number of children with

cancer at any one given time the use of case study methodology and a smaller sample size was more appropriate and feasible.

Participant sampling for this research was to be nonprobalistic, or purposeful sampling with an emphasis on first identifying appropriate student participants and then including the student's parent(s) and hospital teacher. The logic for purposeful sampling was to select "information-rich" cases for the study which were criterion based (Patton, 1990). By conducting purposeful sampling, the intent was to reduce the likelihood of having a selection effect as it was anticipated that not all possible student participants would meet the criteria of the study. The initial sampling criteria for students to be considered for the research were that (a) they not have a diagnosed cognitive impairment due to their health condition or treatment, (b) they all have a cancer diagnosis, (c) they are all in the hospital setting frequently and often for prolonged periods of time, and (d) they are all receiving educational services in the hospital environment either as their sole source of education or as a supplement to a school or home program. It was also believed to be preferable that the children be 11 to 14 years of age, or grade 6 to 8, as these children would be old enough to provide detailed information during the data collection, but still at the elementary school level.

Unfortunately, at the time of the study, there were only 5 children, 2 girls and 3 boys, who met most of the criteria and were either within the preferred age and grade range or were close to being in the preferred range. These children included 1 girl, age 9, grade 3, acute lymphoblastic leukemia; 1 girl, age 13, grade 9, oseteosarcoma; 2 boys, ages 9 and 11, grades 4 and 6 respectively, neuroblastoma; and 1 boy, age 11, grade 6, osteosarcoma. All 5 students, the students' hospital teachers, and the students' mothers were approached

about being involved in the study. The students were all Caucasian, Canadian born, English as a first language, and from two parent families. The students' mothers, as opposed to the students' fathers, were asked to participate simply because the mothers were most actively involved in the students' educational program while in the hospital setting. During the sampling process, I also became aware that one of the students had a board supplied home instruction teacher who was involved in his educational studies. This home teacher was also asked to participate in the research. Participant characteristics, including their assigned fictitious names, can be found in Table 3.

Access and Consent

Since it is "foolish for the researcher to put too much work into a study that must be conducted in one particular setting unless he or she can be assured that access will not be denied", the negotiation of entry process for this research began immediately following the approval of the research proposal at the university level (Morse, 1994, p. 222). Early negotiations included obtaining ethics approval from the university and approaching the principal responsible for the hospital education program in the study location. During this initial meeting with the principal, I presented the research proposal for her consideration and attempted to discover whether the research would be welcome before approaching the board of education for formal approval. The principal was receptive to the research and asked that I contact the program supervisor, at the hospital, to determine if he would support such an effort and would be willing to endorse the teachers' involvement. My first scheduled meeting with the program supervisor proved to be unproductive. When I arrived at the hospital, I learned that he was ill that day, and I was forced to discuss the study with the teachers present. I believe that my visit unnerved the

Table 3

Participants

Participant Type	Pseudonyms	Gender M/F	Age in years	Grade	Diagnosis	Relationship
Student	Steven Smith	M	9	4	Neuroblastoma	N/A
Student	Alex Walters	M	11	6	Neuroblastoma	N/A
Student	David Wilson	M	11	6	Osteosarcoma	N/A
Student	Amanda Johnston	F	9	3	Acute Lymphoblastic Leukemia	N/A
Student	Jill Perron	F	13	9	Osteosarcoma	N/A
Home Teacher	Evelyn Richards	F	N/A	N/A	N/A	Home teacher for Steven
Hospital Teacher	Julie Simms	F	N/A	N/A	N/A	Hospital teacher for Alex & Amanda
Hospital Teacher	Cathy Adams	F	N/A	N/A	N/A	Hospital teacher for Steven
Hospital Teacher	Cheryl Jones	F	N/A	N/A	N/A	Hospital teacher for Jill & David
Parent	Mrs. Smith	F	N/A	N/A	N/A	Mother of Steven
Parent	Mrs. Walters	F	N/A	N/A	N/A	Mother of Alex
Parent	Mrs. McDonald	F	N/A	N/A	N/A	Mother of David (married to David's step-father)
Parent	Mrs. Johnston	F	N/A	N/A	N/A	Mother of Amanda
Parent	Mrs. Perron	F	N/A	N/A	N/A	Mother of Jill

teachers since they were unprepared for me, and I was unprepared to meet them. My beliefs were confirmed during my second scheduled meeting with the program supervisor, at which time, he communicated to me the sentiments of the 3 teachers who work specifically with oncology students. According to these teachers, (a) the study would be too burdensome for them given their current work load, (b) they did not see the value of the study, and (c) they were reluctant to introduce me to the children and subject them to a research study given their health conditions. It was suggested by the program supervisor, at this meeting, that perhaps the teachers may change their position if they were provided with more information about the study in the form of a professional workshop. Therefore, a workshop, or seminar, was prepared and delivered to not only the 3 teachers involved with oncology patients, but to all the hospital teachers with the principal and program supervisor in attendance. Following this workshop, initial support from the 3 critical teachers was obtained.

Having garnered initial support from the principal, the program supervisor, and the three teachers most likely to participate in the study, I submitted the research proposal, for an ethical review, to the newly amalgamated school board in one Ontario city. After several weeks, I was notified that the amalgamated school board had approved the study, but that the hospital education program was still the responsibility of the Catholic school board and therefore, I would have to obtain further approval from this particular board. My research proposal was then submitted to the Catholic school board and was approved.

Before entering the hospital setting, I also had to obtain ethical approval from the Research and Ethics Committee at the hospital. The first step in this process was to submit my proposal to the Head of Pediatrics at the hospital, since any study involving

patients had to be reviewed for aspects of the research which may be detrimental to the health of the children involved. Obtaining approval from this physician was quite difficult since he was extremely busy. However, on the day that the proposal was to be submitted to the larger, hospital Research and Ethics Committee, I went to the physician's office and with the cooperation of his secretary was able to secure his approval in time to meet the hospital's research proposal submission deadline.

The proposal was then reviewed by the hospital Research and Ethics Committee that consisted of five physicians from various areas of specialization and one independent member. As a part of the review process, I was required to meet the Committee members, as a group, give a brief presentation about the study, and answer any of the Committee members' questions. With a few suggestions for changes in the proposal, I was given permission to proceed with my study.

After obtaining approval from the hospital, I contacted the school board once again to inquire as to when I might start to recruit student participants. A member from the school board's Ethics Committee informed me, at that time, that the principal who had given me initial permission to work with the students had since accepted another job and a new principal had been assigned. It was also brought to my attention that the program supervisor I had met had been promoted into an off-site vice principal position and that one of the teachers on staff was now the new program supervisor. A meeting was therefore scheduled with both the new principal and program supervisor to inform them of my study. Fortunately, they were both aware of my earlier efforts and of the verbal commitment of the previous principal. Hence, they supported the commencement of the study. During the meeting with the program supervisor, I inquired as to the number of

children currently in the hospital who would meet the sampling criteria. It was determined that there were 6 children who may be appropriate participants, but one child was eventually eliminated from the list of potential participants because it was suspected by the teachers that he had a developing cognitive impairment as a result of treatment.

After obtaining all necessary approvals, I met again with the 3 hospital teachers. At this time, I reiterated to them what their involvement in the study would require, how I anticipated proceeding, answered any of their remaining questions, and obtained their signed consent. Because the teachers expressed concern about the observation and interview portions of the research design, as it related to them, I reassured them that at the end of any observation sessions I would be willing to discuss the observations with them. I also reassured them that they would have the opportunity to read and make changes to their interview transcripts. In addition, I sought their advice as to the best method of approaching the parents of the 5 children previously identified as potential participants and inquired as to how I should go about obtaining their consent. The teachers expressed to me that they wanted to first approach the parents and explain the study and if the parents responded favourably then a meeting with the parents, the children, and myself would be arranged. Although I was somewhat reluctant to leave this responsibility to these teachers, who had previously not supported the research initiative, I too believed that the parents would be more receptive to the study if they were first approached by someone they knew and trusted.

All 5 mothers responded favourably to their involvement and to the involvement of their child in the study. Although during the course of the data collection I had the opportunity to meet two of the student participants' fathers, it quickly became evident

that the mothers were the primary care givers to these children while in the hospital and were also the parent most involved in matters concerning their child's education and schooling. After meeting and discussing the proposed study, in more detail, with each mother and child, signed consent was obtained from all 5 mothers and from 3 of the 5 children. The other 2 children simply gave their verbal consent to participate in the presence of their mothers. The intent in obtaining signed consent from the students, was to present them with an another opportunity to have some control in determining what will happen with them. However, I believe that all 5 children agreed to participate primarily because of their mothers' support for the research and because of parental encouragement. A follow-up letter was mailed, or hand delivered, to every child and mother to express my thanks for their agreement to participate and my enthusiasm to begin working with them (see Appendix A).

Signed consent was also obtained from a home instruction teacher who was involved with the educational program of one of the boys in the study. Her long time involvement in providing instruction to the boy at his home, when he was neither in the hospital nor well enough to be at school, was brought to my attention by the boy's mother. The mother invited me to her home at a time when the home teacher would be instructing her son. It was then that I had an opportunity to meet the home teacher, explain the study, and obtain her signed consent to take part in one interview and one observation session.

As a part of obtaining signed consent, every participant was informed of his or her rights and responsibilities as participants including the ability to withdraw from the study at any given time. The participants were also guaranteed confidentiality and have been assigned pseudonyms in this thesis (see Table 3). These assurances were given to the

participants both verbally and in written form by means of the consent form. A signed copy of the participants' consent forms was retained and an extra copy was provided to each of the participants to keep should they have any questions or concerns during or after the study (see Appendix B).

Since it is unusual to obtain positive responses for involvement from all potential participants, I asked one of the hospital teachers if in developing the initial list of potential participants, the teachers had only indicated those children and parents who they believed would be most cooperative. This hospital teacher assured me that the children they identified were selected on the basis of the sampling criteria only. During the initial discussions with the mothers, I also attempted to identify why they were so willing to be involved. At least 2 mothers expressed to me, at that time, that they knew their child had an uncertain future, but perhaps by cooperating in studies, such as this one, their child's life and experience may make a difference for someone else in a similar situation. I also believe, that the mothers and children were willing to cooperate because they saw their involvement in this study as a way in which they could reciprocate to people and to a system that has been there to assist them.

Pilot Study

Given the small number of potential research participants and the sensitive nature of conducting research with health impaired children, it seemed unlikely that a pilot study would be feasible in the hospital setting. Interviewing a healthy child of the same age and grade as the intended participants was proposed. However, during a review of the interview questionnaire, it became apparent that the questions could only be answered by a hospitalized, chronically ill child with a certain set of experiences. Therefore, I decided

that the first child interviewed may have to represent the pilot case if substantial changes were made to the proposed research design and that an additional student participant may be required whenever a change in the patient population took place. The primary purpose for conducting a pilot study was to ensure the appropriateness of the children's interview questions. More specifically, I wanted to ensure that the questions were understandable and were effective in encouraging dialogue. Based on these criteria, changes to the interview questionnaire were not required and this first child's case was included in the main study.

Main Study Research Design

The research design consisted of four data collection methods: (a) participant observations, (b) interviews, (c) document review, and (d) activity sessions (see Table 4). As was expected, the participant observations and interviews were the primary sources of data collection. However, by combining these dissimilar methods, the flaws of one method were compensated for by the strengths of another method (Merriam, 1988). This type of triangulation is a major strength of case study research and provides a more holistic view of the research phenomenon (Morse, 1994). Each of the data collection methods will be described more fully in the following paragraphs.

Observations.

Because case study methodology requires in-depth and detailed qualitative data only by getting close both physically and psychologically to the phenomenon under study, one aspect of the data collection for this study included participant observations (Merriam, 1988; Patton, 1990). Observations were collected at least three times per child during the

Table 4

Methodology Table

	Observations	Interviews	Document Review	Activities
Purpose	• become familiar with the setting and participants • note student interaction with teachers and parents • note behaviour that contribute to student motivation, degree of satisfaction, and adjustment in setting	• obtain information regarding efficacy beliefs • determine extent to which efficacy beliefs contribute to student motivation, satisfaction, and adjustment • track students' academic, health, and personal history	• determine nature of educational program in hospital • track students' academic history • determine extent to which efficacy beliefs correspond to information in students' records	• interact personally with students in naturalistic setting • develop understanding of students' belief systems • attempt to reciprocate for participants' contribution to study
Sample	• 5 oncology students • students' hospital teachers • 1 home teacher	• 5 oncology students • students' parents • students' hospital teachers • 1 home teacher		• 5 oncology students
Instrument	• participant observations during hospital teaching sessions • participant observations during home teaching session (for one student)	• semi-structured interviews	• review students' OSR files • review journal entries	• "fun" education activities
Procedure	• observe and record	• interviews audio taped, transcribed, and offered to adult participants for verification	• field notes	• observe and record (field notes)
Frequency	• at least 3 times in hospital with each student • once with one student at home	• once with all participants	• one visit to each community school • at least 3 journal entries following observations sessions	• at least 3 times with each student

students' individualized classes with the hospital teachers. This was done with all 5 students either while they were in the hospital as out-patients or while they were admitted for an extended period of time, over a 3 month period. Observations were also collected once with 1 student and his home instruction teacher. To ensure the comfort level of both the teachers and children, the teachers were involved in scheduling when the observation sessions would take place based on their own preparedness and confidence and on the children's physical condition on that day. Three observation sessions in the hospital and one additional session in the home with 1 student were considered to be adequate to establish a pattern of behaviour. The observations focused on (a) the setting for the learning, (b) the participants or people involved in the teaching session, (c) the students' use of self-regulatory skills, (d) activities and interactions, (e) the frequency and duration of the learning activities, and (f) subtle factors such as non verbal communication, informal or unplanned activities, and what did not happen and should have happened (see Appendix C) (Merriam, 1998).

Although the ideal involvement of a researcher during qualitative observation taking is to "get inside the perspectives of the participants, full participation is not always possible" (Merriam, 1988, p. 93). Given the sensitive nature of working with chronically ill children in a hospital setting and given that I was a stranger to these children at the beginning of the research process, my role as researcher changed throughout the data collection phase. It became clear early in the research process that to gain the children's trust and to become familiar with them and the setting, I had to start by spending some time as a complete observer. It was necessary for me to observe how the teachers and educational program operated, how the teachers interacted with the children, and for the

children, in turn, to see me interacting with their mothers and teachers. The planned observation sessions proved to be an excellent way for me to become a part of the children's environment in a non-threatening manner until they got to know me a little better. Fortunately, the children quickly adjusted to having me in their classroom sessions. I believe that their acceptance of me was facilitated because these children are accustomed to having unfamiliar adults interact with them as a result of their interactions with the medical hospital staff. In addition, to a certain extent, they are used to being observed and monitored because of their health condition. In only one situation did my presence have an effect on the education session and on the observations.

Interviews.

Much of what researchers cannot observe may be obtained through descriptions and interpretations of others (Stake, 1995). Thus, one of the most important forms of data collection in these case studies was interviewing. Since language is also one of the major tools used by individuals within their culture, interviewing not only the 5 children but also their mothers, hospital teachers, and 1 home teacher was crucial to understand, in particular, how social elements of the external environment affect the students' personal efficacy beliefs.

There are many different approaches and a wide range of practices to interviewing. In my study, I adhered closely to a prescribed set of, primarily, open-ended questions that varied only slightly depending on whether the interview was with a student, a mother, or a teacher. The variation in the questions ensured that they were appropriate for each participant's experience. The goal of these open-ended questions was to encourage the

participants to relay freely their perceptions and experiences in an interview that was conducted more as a guided conversation (see Appendix D).

The interviews took place once with all of the participants throughout the data collection phase of the research. Moving from being a complete observer during the observations to one who now had limited interactions with the students allowed me to move slowly, but progressively towards a participant position. Although the possibility of a second interview with the children was initially proposed, this set of interviews was not necessary for two specific reasons. First, since the initial set of interviews was conducted later in the data collection phase than was originally anticipated, there would have been no benefit in repeating the interviews. Second, between the initial interviews and the end of the data collection phase, there was no noticeable difference in the students' self-regulatory practices and perceived efficacy beliefs regarding their cognitive, motivational, affective, and selection processes and no difference concerning the impact of the social influences in the hospital setting. It was therefore concluded that a second set of interviews would not have produced additional information.

During the interviews the students were questioned about their school experience in both the hospital as well as the school. The items focused particularly on their self-regulatory skills, social interactions, and satisfaction with the school experience in both settings. The interview questions also required the teachers and mothers to reflect on similar efficacy related issues. More specifically, they focused on how the children's illnesses had affected their learning, their affective response to learning in the hospital and, the students' level of adjustment and coping. In addition, some personal information regarding the children's goals, their ability to socialize, and their degree of satisfaction

with schooling in the hospital environment was collected. A form of member checking was attempted in that all adult participants were given the opportunity to review and make changes to their own interview transcripts. However, only 1 parent and the 3 hospital teachers indicated a desire to review their transcripts and only the 1 parent and 2 of the hospital teachers actually made minor alterations to the original transcript.

To work most reliably with the words of the participants, all but one of the interviews were audio taped. The one interview that was not audio taped was with a child who seemed anxious about answering questions, and therefore field notes of his interview were taken. Although it is believed that the tape recorder may inhibit some of the participants, according to Seidman (1991), most participants forget about the device during the interview. I believe that the tape recorder did not intimidate my participants as I attempted to establish a sense of equity and mutual support early in the research process. I accomplished this by informing my participants of my belief in the value of the program and my desire to improve the current system. I also gave the participants the option of refusing to be taped, and assured them of their opportunity to review the transcripts. The children participants were also given a few minutes before each interview to play and become familiar, or comfortable, with the tape recorder. They had a chance to tape themselves and hear how they sounded and to investigate the different functions of the tape recorder.

Building equity and respect in the research relationship usually begins when the interviewer first makes contact with the participants (Seidman, 1991). All the participants, including the board of education and hospital administration were given explicit information about all aspects of the study from the outset of the research process

as well as written consent forms that outlined all the rights and responsibilities of the researcher and the participants. Consideration and respect for the participants was also attempted when scheduling the different aspects of the study. Observations and interviews took place at times and in locations, within the hospital, that were most convenient for the participants. In addition, I made myself available at any time to the participants by making sure all of them had my home telephone number and that the hospital teachers could also contact me by cellular telephone.

Document review.

Personal documents such as learning journals may tell a researcher about how a participant made meaning out of an everyday event. The term *document* in case study methodology refers to a wide range of material including public or archival, personal documents, and physical traces (Merriam, 1988). A "researcher can create documents for the purpose of investigation" (Merriam, 1988, p. 109). Because personal documents can be a reliable source of data concerning a person's attitudes, beliefs, and view of the world, it was intended that the student participants in this study would maintain a learning journal which would have one entry for each day they received educational services in the hospital. However, it did not take long in the setting to realize that asking the children to maintain a journal on a daily basis and for an extended period would be an unnecessary and additional stressor in their lives. Instead, I asked the students, either independently or with my help, to reflect on and answer a prepared set of questions regarding themselves as learners and how they felt about their learning in the hospital setting. These entries were completed at the end of the three sessions during which observations were taken (see Appendix E). For the observation session which took place in the student's home,

the student was asked to reflect on the same questions, but applied to learning in the home environment. These journal entries were short and took approximately 5 minutes at the end of the students' education session to complete. The entries, in addition to the periodic and voluntary comments from the hospital teachers regarding the observation sessions, allowed me to verify the accuracy of my observations and to understand better the different perspectives of the individuals involved in the situation.

A review of the children's report cards and their Ontario School Records (OSRs) also took place. Reviewing these records allowed me to trace the children's academic history and to obtain a more global picture of the student's school life. Accessing the students' OSRs was not particularly difficult since I had the written permission of the mothers in the form of signed consent forms. However, just prior to my contacting the principals of the community schools which housed the different students' OSRs, I reminded the mothers of this aspect of the research and prepared them for the possibility of them having to confirm their consent to their child's school principal. Preparing the mothers proved to be helpful as each principal and in one case a guidance counselor, telephoned the students' mothers to confirm their involvement in the study after discussing and arranging for me to access the students' files. In each case, a time was scheduled for me to come to the community school and review the child's file in the presence of either the principal, vice principal, or guidance counselor. I was also required to bring a copy of the mother's signed consent form as proof of consent. Since no documents could be duplicated or removed from the files, field notes were taken.

It was interesting to note that in all but one of the children's cases, there was no record in their school files of them receiving educational services in the hospital. Their files

simply did not contain reports for periods of time coinciding with academic terms during which the children received education either in the hospital alone or in combination with a board supplied home teacher. Only in one case did a child's report card(s) indicate that he was receiving educational services in an alternate setting. However, this report card contained no official marks representing the work he had accomplished, and the only record in his file indicating what he had done academically were unofficial reports written by his home teacher. This document review better informed me about the educational services offered to these children and program issues will be addressed later in the thesis.

Activity sessions.

Since one on one interaction with the student participants was limited, except during the interview situations, I arranged to meet with the students, on an individual basis on at least three separate occasions, either before or after a class time or at another scheduled time. These sessions were for the most part short, ranging from approximately 15 minutes to an hour and a half in length, depending on the children's mood and the way they were feeling that day. During these sessions, it was intended that I would work through learning activities with them that would either reinforce the skills and concepts that were being taught to them at that time, or introduce an activity in a subject area that the children were not receiving while in the hospital because of the emphasis on mandatory courses. The purposes of engaging in these activities were to (a) assist the hospital teachers and students and, in a way, attempt to reciprocate for the contribution of the participants, (b) develop a better relationship with the students and therefore gain more insight into their belief systems, and (c) participate with the students in completing

a naturalistic exercise and, in so doing, observe how the students activate and sustain cognitions, behaviours, and affects that allow them to complete an assignment or goal.

In an attempt to adhere to this proposal, I approached the hospital teachers to elicit their opinions as to what broad topics, from which I would plan age appropriate activities, they would find helpful for me introduce to the children. The intent was to augment, support, or enrich the child's current educational program and at the same time, maintain educational continuity. I was surprised to learn that neither the teacher nor the student participants saw this aspect of the research as being beneficial. The teachers did not believe that they knew enough about the students' educational programs to anticipate what might be academically helpful since the program they deliver in the hospital tries to mirror what takes place in the child's community school classroom. Therefore, the work that the children complete, while in the hospital, is often work that has been packaged and developed by the school classroom teacher or school principal. This work is picked up by the mothers at the school and then taught by the hospital teachers in the hospital setting. In one case, there was a home teacher who also assisted with this process. As a result, the teachers felt that I could do whatever I wanted with the students providing the students agreed to participate. The students, on the other hand, viewed these sessions as "having school twice" and were not receptive to this aspect of the study.

With the feelings of the participants in mind, I decided to still pursue having activity sessions with the children, but with less emphasis on academics. Using "fun" educational activities, such as reading to them, having them read to me, presenting them with brain teaser type games, and even playing age appropriate board games and cards, the sessions provided me with an opportunity to get to know the children better. In addition, these

sessions allowed the children to develop a social connection and have fun with a new person/adult and, at the same time, reinforced some basic academic skills. As mentioned earlier, these sessions took place at least three times with each student and in the case of one boy, these sessions developed into regular visits throughout my time at the hospital and even after the end of the data collection. My impressions of the activity sessions were recorded as field notes immediately following the session completion.

Role and Perspective of the Researcher

As previously mentioned, I intended and had the dual role of being a complete observer at the beginning to initiate myself with the environment and participants during the participant observations that then progressed into the role of an active participant during the interviews and activity sessions. By achieving this dual role, I obtained a more holistic perspective of the cases. I became better acquainted with the participants and program, approached the participants, particularly the students, in a comfortable, non-threatening manner, and became familiar with the hospital environment.

As previously mentioned, in order for this study to be successful I had to establish early in the research process a trust and relationship with the participants. Although I felt quite connected to the children and parents involved in the study, I found developing a rapport with the hospital teachers to be a slow process since they did not readily support the research initiative and initially saw my involvement as an inconvenience. However, by the end of the study one of the hospital teachers wrote me a note in which she indicated that as a result of being involved in the study, she had learned a great deal and is now better aware of the issues surrounding hospital education.

Throughout the data collection phase, I attempted to recognize the contribution of the participants by providing informal feedback whenever asked, by making sure that I was both approachable and easily accessible to the participants, by offering my assistance with any aspect of the children's educational program, by offering to provide any type of workshop or seminar regarding this aspect of educational psychology, and by offering to make my research available to the participants at the end of the study. In addition, in an attempt to make the participants' involvement in the research more pleasant, I often brought in small items such as doughnuts, chocolates, books, and games that both the teachers and students could enjoy. At the end of the data collection, all participants were given thank you notes and the hospital teachers and children were given small gifts in appreciation for their effort and support.

Withdrawing from the research site and ending the relationship with the participants, in the hospital setting, took place in stages mainly as a result of circumstances. Because each child had an individual hospital schedule and unique medical requirements, the completion of the data collection was staggered. This meant that while completing the last few cases, I was still in the hospital setting and was able to visit, on a less frequent basis, with the children who had finished participating in the study. This gradual decrease in the number visits and eventual stop took place with all but one the children participants. One child and his mother, I still visit periodically at their request.

Data Analysis

The process of data reduction into manageable pieces of analytic information is the end goal of qualitative research design. Huberman and Miles (1994) suggested that this reduction can begin at the outset of the research with a proposed study design and should

continue throughout the research process. Decisions made concerning the theoretical framework, research questions, instrumentation, changes to the instrumentation, and the "case" definition itself all involve anticipatory data reduction (Huberman & Miles, 1994). In making these decisions, the researcher focuses the research and calls attention to particular aspects for investigation. Like all qualitative methods, this method of data analysis aims to describe and explain a pattern or a phenomenon using a set of conceptually specified categories and themes. From these categories, codes can be applied to the raw data. According to Lofland and Lofland (1995), coding is the "most basic, continuing, concrete and mundane way one works at developing analysis" (p. 186). The purpose of the codes is to group the raw data into packages of items and information that are related to one another and from which meaning can be made (Lofland & Lofland, 1995).

As mentioned earlier, this research was guided by a theoretical framework and a set of research questions that directed the different aspects of the research design, but with enough flexibility to accommodate changes during the data collection phase. The broad analytical categories for this study were established early in the research process from the research literature and focused on how self-efficacy beliefs influence the following efficacy regulated processes: (a) *student motivation*, (b) *student cognition*, (c) *student affect*, and (c) *student adjustment under adverse conditions*. However, in discussing these categories, it cannot be forgotten that these categories represent belief processes that operate in concert. Therefore, there are incidents of overlapping categories in the data analysis.

These broad categories were further subdivided into more specific units of analysis and were coded. These smaller analytical units were, again, determined from the research literature. Within the category of *student motivation*, areas of particular interest included (a) the perceived importance of school for the student, (b) the student's perceived and actual academic success, (c) the student's perceptions of their learning abilities, (d) subject areas of particular interest, and (e) the influence of the teacher, family, and educational program with respect to student motivation. Within the category of *student cognition*, particular attention was paid to the students' use of academic self-regulatory skills, specifically those skills involving organization and planning, goal setting, environment structuring, seeking social assistance, task orientation, and study and work abilities. In addition, the influence of the teacher, family, and educational program on the students' regulatory abilities was noted. Student satisfaction with the hospital school experience as well as the affective influence of the teacher, family, and educational program were the primary focuses within the category of *student affect*. Finally, elements of *student adjustment* that were of particular interest were any indicators of student behaviour that promoted positive developmental outcomes including social connectedness, academic success, presence of a stable familial bond, and positive personal control beliefs. Again, the influence of the family, teacher, and educational program was considered to be important in promoting student adjustment and was noted. It should be mentioned here that similar to the large analytical categories, incidents of overlapping analytical units do appear in the data analysis. When such incidents occur, some of the smaller analytical units have been combined to facilitate the analysis discussion.

The data collected from the different aspects of the research design were coded according to these areas of interest and manually entered onto data recording charts (see Appendix F). To facilitate the citing and recording of participants' comments, the interview transcripts were assigned page and line numbers. Thus, any direct quotations from the participants' interviews found in this thesis are accompanied by a page and transcript line number. In addition, the observation sessions and journal entries were numbered from one to three representing each of the children's sessions. This process streamlined the data management and has ensured that there is an audit trail. From this coded data, a narrative describing each child's case has been written which has allowed for another creative opportunity to review the data and to apply an interpretation that gives the data meaning (Marshall & Rossman, 1995).

Research Trustworthiness

Although there is no consensus among the research community as to the appropriate criteria for assessing trustworthiness in case studies, Merriam (1998) suggested a number of basic strategies, based on a review of literature and her own research experience, which should enhance the credibility. These strategies include triangulation (using multiple sources of data, or multiple methods to confirm emerging findings), member checks, long term observations, clarifying the researcher's biases, and developing an audit trail. These strategies are built into this study. Data have been collected from multiple sources and using multiple strategies over a 3 month period of time. Member checks were conducted on an on-going basis through the regular involvement I had with the students, mothers, and teachers. In addition, adult participants were given the opportunity to review and make alterations to their interview transcript if they wished, and the hospital teachers

were given the opportunity to see my observations and comment on the observation sessions. The use of audio tapes also allowed me to check for accuracy in the interviews.

One particular aspect of research trustworthiness that has plagued qualitative researchers concerns the extent to which the findings of one study can be applied to another. Stake (1994) stated that "case researchers seek out both what is common and what is particular about the case, but the end result presents something unique" (p. 238). Case study can be seen as a small step toward obtaining further understanding in a particular area of interest (Stake, 1994). Individuals can draw on their tacit knowledge, intuition, and personal experience to look for patterns which explain their own experience as well as events in their world (Merriam, 1998).

Conclusion

It is my hope that by reading the stories of the children involved in this study, that the reader will come to admire these children and mothers. I also hope that their stories will not only touch the heart but will provide a small step toward better understanding this aspect of education.

CHAPTER 4

CONTEXT

At this point in the thesis I would like to draw the reader into the more personal elements of my experience conducting this study and describe the lives of the children that I had the privilege to meet. However, for me to do that, I must first "set the scene" by describing specifics about the hospital in which the study took place and about the hospital and home instruction programs offered in this Ontario school board.

The Hospital as a Research Setting

For many of us, the word *hospital* automatically conjures up images in of our own experiences with hospitals, either as patients or as visitors. There are usually unpleasant memories that we have tried to forget. Going to the hospital is often associated with either being seriously ill or injured or with visiting someone who is ill or injured. It may also mean coming to terms with issues surrounding mortality. When we go the hospital as a visitor, we often leave feeling thankful for the good health that we enjoy. For those of us who do enjoy good health, it is almost unbearable to think about children with chronic conditions who require frequent hospitalization, who have and are aware that they have an uncertain future, but also know that to combat the illness they must undergo extensive and aggressive treatment.

I have worked with health impaired children in the past, have come from a family of health care professionals, and have personal experience with the occurrence of cancer in my own family and its effects. For a number of reasons, however, I was still anxious when arriving at the hospital to begin my study. First, I was anxious because of my own uneasiness in seeing the suffering of children and families. Second, I was nervous

because I perceived a lack of support for my research from the school personnel. Third, I had never before been involved with an educational program situated in the hospital and was unaware of the complexities involved with delivering an educational program in such a unique setting.

The hospital smell was the first thing to greet me as I passed through the sliding, outer doors into the front lobby. To my left was a waiting area where several parents and children were gathered. Some looked like they were waiting to be picked up while others looked like they were just stretching their legs. These children were wearing pajamas or hospital gowns and were either in a wheel chair or were walking pushing an intravenous stand. Some of the children had hair, others did not. Some had casts, others did not. Some were crying, others were playing. To my right, two adults were using the pay phones attached to the wall. One was calling for a ride home and the other, a parent, was calling into work to explain that he was going to be late because his son's test had been delayed. As I continued down the hall to the elevators, the smell changed from a hospital smell to that of burnt toast as I passed by the gift shop and a small but busy cafeteria serving breakfast to visitors and hospital staff. I waited in front of the elevator doors, along with several others, for the next available elevator going up. When it arrived, I rode the elevator to the sixth floor where the school office and an adjoining classroom were located. When the doors opened, the first things I saw were the pink and blue walls with north, south, east, and west signs posted on them. The school office was on the sixth floor, in the north wing (6 North). Over the 3 months I spent in the hospital setting, 6 North, 5 East, and 4 West would be the areas in which I spent the majority of my time.

Although 6 North felt relatively spacious, as this area of the hospital had been allocated for the use of educational programs that were organized and operated in the hospital, the other two areas were always very crowded with children, parents, hospital personnel, medical equipment, and furniture. All of the education sessions with the oncology students took place in these two areas. On many occasions, particularly when the children were in the hospital as out-patients on 4 West, or the Medical Day Unit (MDU), there was often no space for the hospital teachers to teach and the lessons were consequently provided in the hospital corridors or in the little kitchenette, play room, or waiting area located on that floor and wing. The option of relocating the child to a more spacious, quiet, and less distracting location for the education session was not possible because the children, as out-patients, were in the hospital for a clinical treatment that did not require them to be admitted and would be called, by the nurses, for that treatment at any given time. The children's medical requirements and the hospital scheduling took precedence over the educational programming and on many occasions, the children were called during their educational sessions and were required to leave. Two of the children in this study, Jill and David, indicated in their interviews and journal entries that they believed their hospital education sessions and learning would be facilitated if there was a more appropriate setting, within the hospital environment, in which to do schoolwork with fewer distractions and interruptions. Jill also wrote in her journal entry that she would like better scheduling between the hospital and school personnel. Specifically, she would like to "tell [hospital personnel, she is] working and ask if [she] can get [her] blood work done either before or after school" (journal entry #3).

When the children were admitted they were often assigned to double occupancy rooms, on 5 East. This floor and wing of the hospital is specifically designated for oncology patients. According to Jill, sometimes even having a neighbour can be distracting while having school and that the best school experiences in the hospital are when the wards are quiet and empty.

Although having the children's rooms in which to teach seemed to provide the teachers and students with the best possible work space, there were still difficulties associated with teaching while the children were on this floor. Unfortunately, when the children were admitted, it was usually when they were feeling their worse either because they were under going chemotherapy, having a blood transfusion, or because the presence of a fever or virus had appeared and they were in isolation. On several occasions, the hospital teachers visited the children's rooms only to find them asleep, because they had been given Gravol or a type of sedative to assist them through the side effects of chemotherapy, or were too ill to attempt school. In these instances, the sessions were re-scheduled or canceled for that day.

It was also not uncommon to find upon entering the child's room in the morning, the child's mother asleep in the plush chair beside the bed as the mothers would often stay at the hospital, 24 hours a day, until their child was discharged. This was frequently the case with Mrs. Walters since she and her family lived outside of the immediate area and had to travel to bring Alex in for his treatments. In fact, my first memory of seeing Mrs. Walters was when I came to Alex's room to explain the study to them and found her asleep in the chair beside the bed and Alex, who was bed ridden, was throwing paper balls at her to wake her up.

Daily Activities

Distractions from the noises, routines, and other people were not the only aspects in the hospital environment that captured the students' attention. When the children were admitted to hospital or when they had to spend the day in the Medical Day Unit, the hospital staff often organized activities in which the children could participate. This was done in an attempt to keep the children occupied and stimulated and to counter the boredom and depression associated with being ill. On every floor in the hospital, there was a playroom for the children to go and play games and do crafts and on 4 West, there was a kitchenette in which the children often had the opportunity to cook. On 4 West there was also a big screen television located in the waiting area and when the children were admitted almost all of them had the use of either a television and VCR or computer equipment on which to play their games.

Doing crafts, cooking, playing computer, card, and board games, watching television and movies, eating, and reading were what all of the participants identified, in their interviews, as being the activities, apart from school, that occupied the children's time while in the hospital. These were also the activities that the hospital teachers often had to interrupt in order to initiate the education sessions. Cathy, a hospital teacher, mentioned that she would sometimes start her lesson by discussing, with the children, aspects of the games or books found on the children's bed when she arrived. Making the transition, for the children, from watching a movie or playing a game immediately into schoolwork was not always easy or accomplished quickly. However, from my observations, the children were always polite and accommodated the hospital teachers.

Despite the different activities made available to the students, it was evident that the children, particularly those who were in the hospital frequently, required a more diverse range of activities and activities which were challenging and gave them a sense of purpose. Mrs. Perron commented that although she and her daughter do a lot of different things together while in the hospital, the activities must change "all the time because they also get too repetitive if you are here a lot" (p. 6, 146). This was the sentiment of all of the mothers as they tried to supplement the activities available to their child in the hospital by bringing in other items of interest, often with a type of educational focus. Steven's mother, in particular, mentioned spending a lot of time reading to Steven while he is in the hospital. She stated, " I [would] read for hours and hours to him. When I read to him, I [would] play act the book a bit and [then] talk about the books and [other related issues]" (p. 4, 115-116). Mrs. Walters also expressed to me her approval of the activity session portion of the study since I was providing Alex with fun, but educational activities.

Interestingly, all 5 of the mothers assumed the responsibility of ensuring that the children's textbooks and educational material were at the hospital with their child in preparation for the education session. Two of the hospital teachers, Cathy and Julie, and all 5 of the mothers, mentioned that the hospital school program itself was a valuable way in which the children could (a) counter the boredom of spending long days in the hospital setting, (b) experience a sense of normalcy, and (c) engage in meaningful activity. Both Mrs. Walters and Mrs. Smith expressed their belief that, for children, school is like a job. Attending school, whether it be in a school building or elsewhere, provides children with a sense of purpose and security, a routine in their daily schedule, and the promise of a

future and success. Mrs. Walters stated, "[Alex] knows that when he comes into the hospital, he's going to have school. Somebody is going to be there to teach him school. So, he likes that" (p. 9, 270-272). Essentially, the hospital school sessions were viewed as having the potential to allow for normal child development under abnormal circumstances.

With an emphasis on attempting to provide normalcy, Julie referred to the hospital education component as being "normal situations" that give the children hope (p. 3, 79). According to Cathy, these education sessions are "30 minutes where [they don't] have other interventions that may hurt [them] or may be more invasive. It's a breath of fresh air [for the children]" (p. 5, 151-152). Cathy referred, later in her interview, to these sessions being a break not only for the students, but also for the parents. She articulated it very well when she stated that the parents "want to have something to talk to their children about... anything other than medical and the fact that they can come in and say 'What did you do at school today?' is just wonderful. It is not just a break, but is almost like it gives the normalcy back to the child and to the family because now, now they can talk about something that [the children] are supposed to do" (p. 10, 337-340).

The Hospital Education Program

According to the Ontario Ministry of Education and Training (1981), the objectives of the hospital program are to provide an educational program "of the same quality and having the same goals as the regular school programs, which by reason of their disabilities, the students are unable to attend" (p. 5). The Ministry of Education (1998) more recently reiterated this position, in a document concerning the approval of education programs in care, treatment, custodial and/or correctional facilities, by stating that "the

education of school-age pupils must not suffer if they are required to attend government-approved facilities for care and/or treatment purposes" (see Appendix G, p. 10). Thus, in anticipation of eventually transferring these students back into the regular school setting, it is the responsibility of the teachers and school boards to ensure that there is continuous instruction for these students while they are homebound, hospitalized, or in a treatment facility (Ontario Ministry of Education and Training, 1981).

These objectives are based upon principles established by the Ministry of Education and Training. The principles include (a) it is the right of every child to have access to a learning program that allows the child to develop to his or her optimum capacity, (b) it is the responsibility of education management to provide the facilities, resources and personnel so that the child may reach his or her optimum capacity, (c) no child is expendable, (d) the welfare and condition of the child is paramount, and (e) these programs are intended to be a method of including not excluding the child from the opportunities provided through education (Ontario Ministry of Education and Training, 1981; Crossland, 1996). Since these are the objectives and principles established through the Ontario Ministry of Education (1981), it is assumed that they should also be reflected in the home and hospital instruction policies in the different Ontario school boards. However, when I asked the vice-principal and former program supervisor for the board policy concerning the hospital program operating in this school board, I was told they did not have a board policy. The explanation given for the lack of a board policy was that due to the sporadic nature of chronic illness and children and the fluctuation in the number of children requiring this service from year to year, the school administration did

not want to legislate the specifics of the program thereby eliminating any possible flexibility.

Based upon my own observations, however, there did seem to be some agreed upon elements to the program. These included (a) each hospital teacher must participate in the rounds done by the hospital staff each morning in order to assess which students required schooling on that day and what their medical requirements were at that time, (b) each hospital teacher must deliver an educational session to at least eight children per day and that a record of these sessions must be kept, (c) each hospital teaching session was to be no longer than thirty minutes in length, (d) educational services for oncology students began immediately upon diagnosis as it was anticipated that the hospital schooling would be their primary source of education whereas children with other conditions must be hospitalized for three days before the hospital program was initiated, and (e) the hospital teachers must cooperate with the children's school teachers and, in most cases, it was expected that the hospital education program would mirror what was being done in the children's school classrooms so as to facilitate reintegration.

When I asked the hospital teachers whether they were satisfied with the education program that was offered in the hospital setting, all three hospital teachers responded that they would like to have more instructional time with each student. Thirty minutes once a day, according to these teachers, was not a sufficient amount of time. Two of the hospital teachers also pointed out that with an increase in the instructional time, this would necessitate the hiring of additional teaching staff. This, in turn, would mean the requirment for additional board funding.

Many of the adult participants also commented that with only 30 minutes of schooling per day, the children could only focus on specific and mandatory areas of study. Therefore, in order for these children to receive a well-rounded program of study, they require additional educational services such as the home instruction program. In the cases of Jill and David, these children were able to attend school on a part-time basis. However, as one mother, Mrs. McDonald, pointed out, even though there is a limited amount of school time in the hospital, without the educational support in the hospital, the children "wouldn't be nearly as interested in going back and doing well [at school]" there would be "too much of a gap" in their understanding and they would feel awkward with their peers (p. 9, 297).

The Home Instruction Program

As mentioned earlier, the home instruction program and the hospital program almost go hand in hand since often when oncology students are not in the hospital, they are confined to home and require the continuation of their educational program in the home environment. This school board does have a policy with respect to the home instruction program (see Appendix H). The policy outlines the objective, responsibility, and procedures associated with the operation of the program. Unfortunately, two particular policy procedures, seemed to be sources of concern for the participants involved in this study and they will be described in the following paragraphs.

Report cards.

The first procedure of concern is procedure 3.2 that states, " The home instruction teacher will send written reports to the school at regular reporting periods, and upon the student's return to school". This procedure caused some confusion because although it

encourages regular reporting by the home instruction teacher, it does not specifically state who is responsible for providing an official report card to these children. When a child is only receiving home and/or hospital instruction, as was the case with three of the students in the study, and there is no hospital instruction policy, who then is responsible to complete an official report card for the child?

From the participants' perspective, it was generally felt that the children's report cards were the responsibility of the community school and classroom teacher. The assumption being that the educational program being delivered either in the home or hospital would be the same as what was going on in the child's classroom. The practice being that, via the parents, the homework would be picked up at the school, given to the home and hospital teachers to be taught, and then dropped off to the classroom teacher for marking. Because the classroom teachers ultimately assess the children's work, it was believed that the classroom teachers should be able to assign marks to the students and give the oncology students report cards similar to their peers and siblings, and, in doing so, encourage normalcy and a continued link with the school, and positively reinforce their academic efforts while away from the school environment.

All of the teachers interviewed for this study indicated that they usually do not become involved in the preparing of report cards unless asked by the community school administration. And even then, they usually do not complete a report card, they just attach anecdotal comments. This lack of official recognition of educational programs offered outside of the school environment was apparent during the document review of the children's OSRs. It was found that none of the children had report cards on file representing times when they were away from the school environment and receiving

educational services in the home and hospital. Mrs. Smith expressed her sincere disappointment with the current reporting system since she believed that she and her son had worked diligently at maintaining Steven's academic efforts and, in her opinion, this lack of recognition was insulting to her child. She stated,

> the teacher sent things home and never made comments about the things we had given back and at the end of the year, the report card just said 'Work has been sent home'. It didn't say that one scrap of paper ever made it back. Which is really pretty insulting for [Steven]. Near the end of the school year I took in a big pile of work. He had been working really hard... So, when I got the report card, I was fuming. I was thinking, you can't just put this on his record because if you don't acknowledge that anything came back then you are implying that nothing came back... (p. 3, 75-84).

Steven's home instruction teacher, Evelyn, mentioned that she has tried to compensate for this lack of reporting and perceived lack of support from the school, by providing Steven and his parents with a written page of comments. However, she often found this reporting to be difficult as she was not certain that Steven was doing exactly the same work as his classmates and could not assess Steven's progress relative to his peer group.

This perceived lack of cooperation, communication, and support from some community schools and classroom teachers was also mentioned by 2 of the parents and 2 of the hospital teachers. For example, Julie mentioned that often "[the hospital teachers] don't get a lot of cooperation and support from the home school and some of the teachers don't send homework or won't even discuss the child with you because they are out of sight out of mind" (p. 8, 229-231). These participants also indicated that without a coordinated effort, maintaining the continuity of the children's educational program was very difficult. Mrs. Perron stated,

> The only way to keep up while you are going through this is to be really organized and you have to chase down the [classroom] teachers and work and even then it is difficult. You have to be ready all the time and it is time consuming and you have other kids too... You have to write everything down and keep track and go back because [the teachers] won't tell you unless you ask... I am lucky that I can because I have focused on it, but other people who are working... they can't do that" (p. 7, 169-181).

When I asked the teacher participants in this study, who, in their opinion, was responsible for maintaining the child's educational continuity while receiving services in the home or hospital, 2 of the hospital teachers felt it was the responsibility of the hospital teacher. One of the hospital teachers felt it was the responsibility of the home instruction teacher, and the home instruction teacher believed it was the responsibility of the parents as well as herself.

Unlike the above mentioned participants, Mrs. Walters indicated that, in Alex's case, the school principal had tried to be supportive and cooperative by providing Mrs. Walters, at the beginning of the year, with all the schoolwork that Alex would need to complete while he was away from the school. By doing this, the principal showed some support and also relieved Mrs. Walters of the heavy responsibility of having to transport schoolwork back and forth between the home, hospital, and school. As Mrs. Smith remarked, it is often difficult for parents to maintain the connection with the school and visit there frequently since so much of their time is spent with their child in the hospital. She stated,

> Lately, I have been spending either most of my time or all of my time...[in the hospital], and I can't make a phone call. You know, if I manage to get a hold of the teacher, well that's all fine and good, but the chances of that are zilch... I don't want to start trying to get his homework over the phone... sometimes we can stop [at the school] on the way home, but no one is at school at six o'clock at night when we seem to be getting out of here lately. That's another sore point (p. 9, 232-245).

Although the mothers in the study were very supportive of the efforts of home and hospital teachers, several of the mothers saw their involvement in maintaining educational continuity for their child as being an extra stressor for them and something which, they felt, was the responsibility of the education system.

With respect to the hospital education program, the Ontario Ministry of Education and Training clearly outlines the roles and responsibilities of teachers working in care and treatment facilities. Two such responsibilities include (a) to develop educational programs (in cooperation with the staff of the facility and staff of the receiving school) for pupils who may be returning to their community school, and (b) to supervise the educational program (see Appendix G, p. 10). According to the Ministry, the development of individualized education plans (IEP) is required for each child in order for successful learning to take place. From my observations in the hospital setting, the cooperative development of IEPs was not taking place. The hospital teachers indicated contacting the hospitalized children's classroom teachers at the beginning of the year, identifying the educational goals of the classroom teachers and then, generally, waiting for the materials to come into the hospital via the parents and students. Although following the classroom program while in the hospital facilitates eventual reintegration, 1 hospital teacher, in particular, stated that she only communicates with the classroom teacher when there is no work coming in or if she had a concern, but when things are [going well] you touch base, I'd say, twice a term with the school teacher" (p. 12, 401-402). This hospital teacher also stated that in her opinion, it was the responsibility of the home instruction teacher to be more involved and have greater contact with the classroom teacher.

Initiation and duration of home instruction.

The second procedure of concern is procedure 3.3 of the home instruction policy which states, "Home instruction will normally begin in the ninth week of absence from school and will be provided for up to a maximum of six months in any given school year" (see Appendix H). Although the policy does not specify the amount of time per week a home instruction teacher can spend with a child, it seems from the experiences of the participants that each child is limited to 5 hours per week of home instruction time. The experiences of the participants also indicated that if the child can at any time return to school, he or she is expected to do so and the nine week waiting period recommences with his or her next absence. Therefore, it was brought to my attention, that even if chronically ill students are feeling well enough to attend school for one day, parents often do not send them because this would mean further discontinuity with the loss of the home instruction teacher for an additional 9 weeks. Almost all of the adult participants agreed with the sentiments expressed by Julie that this policy was "setting [the children] up to fail, because how could [they possibly] pass" (p. 6, 176) particularly when the success of the hospital education program is also dependent on the child having the additional support and contact through a home instruction teacher. In David's case, Mrs. McDonald did not believe that David should have to wait so long before receiving educational services outside of the hospital and, as a result, she enrolled her son with a private tutoring company. Mrs. McDonald commented that David's private tutoring sessions were "for a long time, the only contact he was having with education" (p. 3, 76).

Despite the important role of the home instruction teacher, 3 of the 5 children in this study were not receiving educational services in their homes. David and his parents, as

mentioned earlier, did not want to wait nine weeks for the services of a home teacher, and Jill and Alex did not have home instruction because of scheduling difficulties. Only Amanda and Steven had the benefit of supplementary instructional services in their home environment (see Table 5).

Conclusion

If we acknowledge that it is the right of every child to have access to an educational program that promotes optimal development, then we must also ask if the programs currently available to oncology students meet this standard. From this brief look at the programs and context in which the learning is to take place, improvements to the present system seem to be necessary. Therefore, the limitations associated with the educational programs available to oncology students will be discussed again in chapter 6 of this thesis. In that chapter, these limitations will also be addressed in relation to the theoretical framework of this study and recommendations for improvement will be outlined.

Table 5

Educational Services Student Participants Receiving at Time of Study

Student Participants	Hospital Instruction	Home Instruction	School	Other
Alex	x			
David	x		x (when possible)	x (private tutoring)
Amanda	x	x		
Steven	x	x		
Jill	x		x (when possible)	

CHAPTER 5

THE STORIES

The five narratives found in this chapter of the thesis represent the stories of the children involved in this study. Each narrative will not only describe the characteristics of a unique and special child, but will also be organized around the previously determined analytical categories of *student motivation*, *student cognition*, *student affect*, and *student adjustment.*

Amanda

If I had to describe Amanda I would use the same descriptors as those used by her classroom teachers and listed on her report cards. I would say that she is friendly, kind, confident, sociable, well-liked, comfortable with adults, cooperative, creative, a good listener, anxious to share, and an enthusiastic encourager of others. She has a spontaneous and amiable personality and "adds to any class atmosphere".

More specifically, however, Amanda is a 9 year old girl, who is repeating grade 3, and who was diagnosed with acute lymphoblastic leukemia (ALL) in May 1999. She has undergone 6 months of aggressive cancer treatment requiring frequent hospital admittance and, according to her mother, has another 2 years of treatment ahead. I am aware that her treatment regime has included receiving chemotherapy intravenously as well as chemotherapy treatment to the spinal column by way of lumber punctures. However, it is anticipated that Amanda will soon be returning to the classroom setting, on a part-time basis.

My best mental snapshot of Amanda is finding her one day in the hospital playroom, looking quite content, making miniature furniture out of glue and popsicle sticks. On that

day she was into the hospital for some blood work and was not staying. She was dressed in jeans and a sweatshirt with black sunglasses pushed to the top of her head pulling back the few remaining strands of her shoulder length blond hair. Unaware that anyone was noticing her, she was quietly singing to her favourite Back Street Boys song that was playing on the over head speaker.

Student motivation.

Prior to the participant interviews with Amanda, her mother, and hospital teacher, and based upon my own preliminary observations and interactions with her, I speculated that her academic motivation and interest in school was primarily driven by her very social personality. My first impressions were confirmed when I asked Mrs. Johnston, how important she thought going to school and receiving school in the hospital were to Amanda. Mrs. Johnston believed that school was very important to her daughter, but the aspect of school that Mrs. Johnston identified as being the most important to Amanda and the aspect which she felt Amanda missed the most since becoming ill was the social component. Julie, Amanda's hospital teacher, also believed that the social aspect of school was important to Amanda, but that her interest in school at the hospital was more a result of her desire to not fall behind in her work so that when she eventually returns to school, she will be at pace with her peers. Interestingly, when I asked Amanda how important going to school and receiving hospital instruction was for her, she responded that it was "very important because if I don't go to school, I don't learn anything and then I can't get a job" (p. 3, 48-49). She also mentioned that the hospital instruction was very important to her because she liked her hospital teacher. Mrs. Johnston also indicated that

the fact that Amanda liked Julie contributed to Amanda's school success while in the hospital and to Amanda's positive school perceptions.

Amanda's response to the question of school importance was particularly significant because it would seem that despite her illness, she is still looking forward to the future, is setting career goals, and has a desire to fulfill an essential societal role when she is older. While these desires do not represent proximal goals, they still tend to indicate that Amanda recognizes the purpose and value of school and that she is motivated to learn and to do well.

However, despite these motivational goals, Amanda is actually a child who has not experienced continued school success. Although Amanda's report cards indicated that she was, generally, a solid student, Mrs. Johnston mentioned that prior to Amanda's illness, she had been experiencing some academic difficulties particularly in the area of reading. Since reading is a fundamental aspect of most school subjects, Amanda was, therefore, beginning to experience difficulties in almost all areas of school. Her uneasiness with reading was apparent during the research activity sessions as Amanda seemed less receptive to doing activities which contained a reading component. At the time of Amanda's diagnosis, Mrs. Johnston had agreed to have Amanda undergo the psychological tests required in order for her to be identified as an exceptional pupil and was considering having Amanda repeat grade 3. The results of her tests, as found in her OSR, indicated that Amanda's overall intellectual functioning fell in the average category, but with weaknesses in verbal short term memory and low average abilities in verbal concept formation and abstract reasoning. In addition to the test results, with the onset of Amanda's illness and because Mrs. Johnston anticipated Amanda missing a

significant amount of school, Mrs. Johnston decided to have Amanda repeat her grade 3 year while in the hospital setting.

It was evident that Mrs. Johnston was concerned about her daughter's academic functioning because she indicated that since Amanda's diagnosis and prior to the commencement of the research, she had tried to organize educational activities at home with Amanda. Unfortunately, Mrs. Johnston found this to be too difficult as Amanda was uncooperative. Mrs. Johnston stated, we had a "real hard time. Like [Amanda] would take off and go to her grandmother's down the street. She'd be, 'You're not teaching me. You're not a teacher'" (p. 6, 154). At the time of the research, Mrs. Johnston indicated that she believed her new role was to make sure that Amanda does her schoolwork and does not "manipulate things". Mrs. Johnston stated that Amanda

> has gotten too smart... Like, she can manipulate things. And she has done that to Julie. Amanda was in the playroom and told Julie she was busy doing a craft and could she come back and I almost flipped... Amanda gets very wise. Like 'I'm not feeling well' or 'I'm too tired to read' and then ten minutes later, [she] is back up (p. 6, 155-160).

Julie also mentioned Mrs. Johnston being very supportive of the hospital program and stated that "next to the medical attention, I feel [Mrs. Johnston] thinks it's number one" (p. 4, 114).

Despite Amanda's academic difficulties, Julie believed that Amanda felt successful during her hospital school sessions. When I asked Amanda whether she felt academically successful, she indicated that she did, particularly in the areas of spelling and grammar. Her feeling of success in spelling seemed to be based upon having received some "good" marks on spelling tests while she was still in school. In fact, Amanda commented that she felt a little more successful in the community school than in the hospital because in

the hospital she "doesn't do spelling tests with Julie" (p. 6, 127). From this comment, it would seem that Amanda does not receive enough formal feedback in the hospital setting. This lack of formal feedback also became apparent when I asked Mrs. Johnston how well she thinks Amanda learns in the hospital setting and she responded, "I think well, I mean I don't watch her because I am sort of told to go, but Julie tells me she does well"(p. 6, 182-183).

Although Amanda indicated feeling more academically successful at school, she also indicated in her journal entries, that her hospital education sessions were, in her opinion, easy. In the observations of Amanda's sessions, I also remarked that the material presented to her seemed too basic and did not challenge her. Amanda attributed this perceived easiness to the instructional context in that she often worked with a computer and because she was working one-on-one with Julie, and to her own ability. In her second journal entry, she stated, "It was easy to learn today because I am smart" (journal entry #2). She also indicated that the way in which she could improve her learning would be through increased practice and effort since "practice makes perfect" (journal entry #2).

Working with the computer was a regular and desired component in Amanda's hospital education sessions. Every session began with some designated computer time and then moved into paper and pencil work. Amanda thoroughly enjoyed working on the computer and using the computer became a way in which to academically motivate Amanda and for Amanda to regulate her own sessions. During the observations I remarked that Amanda consistently looked forward to using the computer, but also, on her own accord, turned the computer off in order to complete other schoolwork.

Unfortunately, one subject area that cannot be addressed in the hospital setting because of the instructional focus on mandatory courses, but is an area of particular interest for Amanda is art. Mentioned repeatedly in Amanda's OSR were comments concerning Amanda's artistic abilities. Some of the comments included: "She has an excellent appreciation of drawing and colour in art work". "She takes pride in art work". "She has a good eye for overall design". I found that her inclination towards creative and artistic pursuits was evident throughout the data collection as Amanda was often found spending her time doing crafts and other creative activities. Even the research activities sessions, tended to focus on activities that required creative imagination. For example, we developed an advertisement for skunk perfume, we made popsicle stick furniture, and we created a Halloween recipe for a witch's brew, complete with the ingredients and cooking instructions.

Student cognition.

According to Bandura (1991), students cannot influence their motivation and actions unless they pay adequate attention to their own cognitive performances through processes of self-regulation and self-monitoring. As mentioned earlier, academic self-regulatory skills involving study and work habits, organizing and planning, goal setting, environment structuring, task orientation, and seeking social assistance were of particular interest for this research.

Although I never had an occasion to observe whether Amanda was able to study or do homework while in the hospital setting, I was told by Amanda, herself, Julie, and Mrs. Johnston that, depending on how she felt, she could adequately study and complete homework in this environment. Mrs. Johnston referred to her daughter as a "creative

dreamer" and indicated that while Amanda was in school, she was often distracted by the other children and needed to work better independently. The requirement for improved independent work was also consistently noted on Amanda's school report cards. Because Amanda was easily distracted in the classroom environment, Mrs. Johnston believed that Amanda's study skills and ability to recall taught material had actually improved in the hospital and home environment because she was working individually with the home or hospital teacher and because of the emphasis on a limited number of school subjects. Julie also commented that although "often one can learn better in a group situation. For Amanda, I think she is learning better [here] because she needs more attention, she has more difficulties, so she is learning more than she realizes [in the one-on-one situation]" (p. 3, 69-71).

It was interesting that Amanda, herself, recognized that she has not always been able to concentrate and remain task focused particularly in the school classroom environment, but has found it easier in the hospital setting working with Julie. She stated, in the classroom there were social distractions because "the boys were running around and doing that kind of stuff" (p. 1, 10-11). However, when I asked her why she believed she was able to concentrate while working with Julie she stated, "Because I can... I believe it" (p. 4, 80-82). This statement tends to indicate that although Amanda has not always, up to this point, effectively self-regulated with respect to this learning skill in an educational context, she does perceive this skill to be something which, at least to a certain extent, she can control. For example, it was not uncommon to see Amanda very engaged in a "fun" activity for a long period of time despite the distractions in the hospital environment.

Although I believe that Amanda's concentration has improved with individual teacher attention, I remarked during her hospital education sessions that she still required frequent prompting and re-directing. Julie also commented that "Amanda sometimes has trouble attending to tasks" (p. 1, 4-5). Her requirement for re-direction and focus was also noted in her OSR.

With respect to planning and organizing, neither Mrs. Johnston or Amanda believed that Amanda did any planning or preparing for her education sessions. Mrs. Johnston believed that everything was organized for Amanda. She stated, "from what I could see, things seemed to be organized, like homework was sent home (p. 3, 84-85). Julie, on the other hand, believed that Amanda did prepare for her hospital education sessions and felt that Mrs. Johnston played a pivotal role in supporting her daughter's educational program by making sure Amanda completed her homework, by helping Amanda when she needed assistance, and by bringing the books in from the school. Julie commented, "I have left homework [with Amanda] and it has been done... And, generally, [Amanda] remembers where we are supposed to start the next day. So, I think [she has] either thought about it..., or planned it..., or else looked it over before I got there" (p. 1, 21-24). During my observation sessions, I remarked that Amanda often seemed to know what needed to be done during her hospital education sessions and would indicate to Julie what her home instruction teacher would like her to complete while in the hospital.

From these observation sessions, it became apparent that Julie and Amanda had a strong rapport. Amanda participated and interacted enthusiastically and spontaneously during the hospital education sessions and looked to Julie for correction and positive reinforcement. Although Julie did not model self-regulatory skills, she did suggest some

learning strategies such as sounding words out when trying to spell them, which Amanda did attempt to implement.

Student affect.

If one could disregard Amanda's physical appearance and just get to know her "fun" personality, it would be very hard to believe that she was a little girl with a very serious and chronic condition. I observed that Amanda always had a smile on her face while walking through the hospital corridors with her favourite stuffed dog and a collection of beanie babies. In one of her journal entries she indicated that she felt happy and stated "I always smile. I don't know why, but I just do" (journal entry #1). Only on very few occasions did Amanda indicate not feeling happy and these times seemed to be directly related to what was occurring with her treatment and physical condition.

When I asked Mrs. Johnston and Julie what they believed the effect of Amanda's illness was on her they both indicated that, from a school perspective, not being able to go to school and to see friends was the biggest disappointment. Mrs. Johnston commented that she believed Amanda liked going to school especially for the social aspects and for the outings. However, Mrs. Johnston also indicated that she believes Amanda has handled her illness quite well. She stated,

> When I told [Amanda] what she had in a very simplified form of course, that she had ALL, she wasn't surprised. I think she knew. Like she was sick and she really knew something was wrong, but she has handled things very well and you know of course she is upset about certain things like she didn't go to school and she hasn't been able to do the things that she did before (p. 1, 15-19).

School activities that Amanda indicated enjoying, but can no longer participate in include: being in a choir, swimming, gym, playing soccer, and having fun at recess.

When I asked Amanda how satisfied she was with her school experience in the hospital, she repeatedly indicated that she was satisfied with her hospital instruction and that she liked her hospital teacher. Amanda had no suggestions as to what she would like changed in order to improve her learning while in the hospital setting. Similarly, Mrs. Johnston offered no suggestions for program improvement and seemed very content and supportive of the hospital program and of the teachers.

Student adjustment.

As mentioned earlier, social interaction is very important to Amanda. Amanda, Mrs. Johnston, and Julie all commented on how Amanda has remained connected with her school friends and has formed a close friendship with another little girl, Christine, in the hospital setting. At first, according to Mrs. Johnston, it was very difficult for Amanda to develop friendships in the hospital because all the children are on different treatment schedules, and the children vary in age. However, Mrs. Johnston stated that Amanda and Christine

> hit it right off... They have some fun. They are up to no good, with little pranks and things. And it makes it better. And [Amanda] sees someone her own age who is a worse situation than herself. I mean, there's a lot of things that maybe she hasn't learned which she should, but then again, they are learning a whole bunch of other things... It's a real education (p. 6, 163-172).

Julie commented on how she tries to encourage social interaction amongst the children she teaches in the hospital by attempting, whenever possible, to teach children of similar ages in a group situation. She stated, "I have taught Amanda, in particular, in a group setting with two other students and after the lesson is over and during, she is very sociable" (p. 2, 37-39). Julie also mentioned that Amanda has been fortunate because

although she has experienced periods when she has been quite ill, she has also experienced times during her treatment that were not as difficult and this has allowed her to be more physically and socially active than some of the other oncology patients.

In addition to Amanda's relationships with other children, it was apparent that she had developed stable bonds with several adults, such as Julie and other hospital personnel, and had close familial ties. Amanda had a very strong connection with her mother and immediate family and was frequently visited in the hospital by members of her extended family. For example, Amanda mentioned in one of her hospital education sessions that she wanted to make something on the computer for her younger brother. When I asked Julie what she believed to be the key element in Amanda's adjustment and coping, Julie immediately identified Amanda's family and their positive influence.

As discussed earlier, Amanda had experienced some academic difficulties in the school environment, but, despite these difficulties, still felt academically successful. Julie mentioned how she tries to make every hospital session very positive so that all the children experience success, no matter how small. She stated, " I honestly feel that when they leave, they have had a good time and that they feel successful. I wouldn't say that they ever leave saying that was a bad lesson or it wasn't fun or I didn't like it" (p. 3, 85-87). Amanda seemed to attribute her difficulties not to a lack of ability, but to a lack of effort and that with controlled hard work she will improve. As Amanda, herself, stated, "practice makes perfect" (journal entry # 2). By recognizing her ability to influence her school performance outcomes, Amanda demonstrated a positive conception of ability, personal control beliefs, and a favorable sense of self. She also indicated

looking forward, through continuing education, to eventually fulfilling an essential role in adult life (see Table 6 for summary of Amanda's case).

Table 6

Amanda

	Student Motivation	Student Cognition	Student Affect	Student Adjustment
Amanda	1. **Perceived school importance** Attending school and having hospital instruction are very important to Amanda. 2. **Perceived difficulty learning-** Although Amanda does not have a history of school success, she finds the hospital sessions easy and believes that with increased effort she will do better. She does not attribute her lack of school success to a lack of ability. 3. **Preferred subjects-** Amanda enjoys computers, art, and spelling 4. **Academic success-** Currently repeating grade three and is experiencing difficulties in the area of reading. Amanda feels slightly more successful in the classroom than in the hospital and identified doing well on classroom spelling tests. 5. **Influence of teachers/parent/family/ education program-** Amanda indicated liking the hospital teacher. Mother sees her role as making sure Amanda does her work and does not take advantage of her situation to avoid doing work while in the hospital.	1. **Organizing/Planning-** Mrs. Johnston and teachers seem to do most of the organizing and planning. However, Amanda is aware of what is the required work for each session. 2. **Goal setting-** Not observed 3. **Environment structuring-** Not observed 4. **Study/ Work habits-** Amanda's study skills and ability to recall taught material has improved with the individual hospital teacher attention. I never had the opportunity to observe whether Amanda was able to do homework in the hospital. 5. **Task Orientation/Concentration-** Amanda, her mother, and teachers noted she is not always able to stay task focused. She is easily distracted by environmental disturbances. For this reason, the one-on-one instruction may be the best approach with Amanda. Amanda seems to be able to focus on "fun" activities and believes she can control her level of concentration. 6. **Seeking social assistance-** Amanda does rely on teacher for positive reinforcement. 7. **Influence of teachers/parent/family/education program-** Mrs. Johnston and teachers organize Amanda's educational program. Hospital teacher provides positive reinforcement and suggests strategy use.	1. **Impact of illness-** The biggest disappointment, from a school perspective, is not being able to go to school and to see friends. 2. **Satisfaction with the hospital learning experience-** Amanda is satisfied with her hospital learning experience and likes her hospital teacher. 3. **Influence of teachers/parent/family/education program-** Amanda likes her hospital teacher. Neither Amanda nor Mrs. Johnston had suggestions for improvement.	1. **Social connectedness-** Amanda has remained connected with school friends and has developed a close friendship with another little girl in the hospital. Establishes relationships with adults easily. 2. **Familial bond-** Strong connection with family, particularly her mother. 3. **Personal control beliefs-** Amanda recognizes her ability to impact on her school performance and seems to have a favorable sense of self. She believes school to be important so that she can eventually have a job and fulfill an essential adult role. 4. **Influence of teachers/parent/family/education program-** Amanda's hospital teacher, identified the positive influence of Amanda's family as being the critical factor in Amanda's adjustment.

David

David is charismatic, proactive, a leader, and an extrovert who, according to his hospital teacher, Cheryl, has chosen to view his condition "as a big adventure" (p. 5, 167). He plans to use his illness as a vehicle for public awareness. During my time spent in the hospital, David was involved in the filming of a UNICEF commercial, gave safety seminars and talks, through the War Amps and Champs program, for his community school and Cub pack, and was interviewed for the hospital telethon.

David is also an 11 year old boy, in grade 6, who was diagnosed with osteosarcoma in February 1999. Osteosarcoma, as described earlier, is a primary tumour of the bones and, in David's case, has affected the bones in one of David's legs. Although limb replacement can sometimes be an option, this was not possible for David because it was anticipated that he his skeletal size would increase throughout his teen-age years and, therefore, similar to Terry Fox, David's leg had to be amputated in May 1999. David is now quite mobile through the effective use of a prosthetic limb and crutches. According to David's mother, Mrs. McDonald, David has taken a "that's it and now you move on" (p. 4, 116) approach to his condition. She also mentioned that one of the things that David finds to be funny is when other children want to try on his prosthesis. She stated, "The funniest story that [David] can tell is kids who want to try his prosthesis on- which just cracks him up because of course you need to put the foot on backwards to try it on" (p. 4, 118-120).

Student motivation.

According to Mrs. McDonald and Cheryl, prior to David's diagnosis and illness, school was not really important for him, but since his illness, school, and in particular

going back to his community school on a frequent basis, has become an essential component in his life. Mrs McDonald stated,

> Until this year, I would never have said that he loved school. He loves learning... but he has never really loved school. This year is the first year that he has genuinely liked school. He has enjoyed going to school to have recess... but this year he has really enjoyed being in [school]. And I don't know where that comes from... I think what has happened is that he had just decided having not been at school last year was not so good, so this year, he is feeling like he can do it (p. 9, 282-291).

Mrs. McDonald also commented that for her son, having hospital schooling is critical because without the educational support in the hospital setting, he would not be interested in attending school. She believed he would be academically behind and that there would be "too much of a gap for him to feel comfortable" (p. 9, 297). Since David's diagnosis, Mrs. McDonald believes that he has become very anxious about school and does not want to be left behind. Similarly, Cheryl mentioned that the hospital program was an important way for David to keep up with his peers. She believed that without the encouragement of David's mother and the hospital program, "the end result would be that David would sort of fall behind. And then it wouldn't be a pleasant experience overall. Whereas this way, he is able to keep up and it gives him one more thing to be doing socially at the hospital as well" (p. 5, 141-144). David, himself, commented that school is more important to him now than it was before. He stated, "I just can't stand being at home. It's so boring, I don't get to see any of my friends. It's just not fun. I don't have any challenge" (p. 3, 64-65). David also mentioned that having school in the hospital was very important to him because he does not like to fall behind or to receive poor marks on his report cards.

David's new motivation and interest to do well academically was reflected in the fact that David, according to his mother, "had the best report card he has ever had this year" (p. 9, 305). Both Mrs. McDonald and Cheryl commented that David has, in the past, struggled with school and does not have a history of school success. His academic weaknesses as identified by his school report cards, his mother, and Cheryl are primarily in the areas of reading and writing. I also found that David was reluctant to do activities with me that required any extensive reading and when he was required to read, he seemed to struggle with comprehension and vocabulary. Mrs. McDonald attributes David's difficulties with English language arts, at least in part, to prior poor teaching and to his enrollment in the Early French Immersion Program.

However, despite David's prior academic difficulties, during his interview, he indicated that he presently feels academically successful. Mrs. McDonald believes that his success is not only a result of his own ambition, but he has also been motivated by the academic success of his older brother and his supportive relationship with Cheryl. She stated that she believes David "learns very well with the one-on-one contact, partly because of Cheryl's way of approaching him... and...what it has done for him is to establish a rapport for him with Cheryl and he now wants to succeed for her as well as for himself" (p. 10, 229-334). David also mentioned liking his hospital teacher, and in one of his journal entries indicated that he found it easier to learn when he had the one-on-one teacher assistance.

Subjects that David seems to enjoy and were mentioned by David, Mrs. McDonald, and Cheryl are math, science, history, art, and drama. Because some of these subjects cannot be handled in the hospital setting, Mrs. McDonald has tried to supplement David's

educational experiences by enrolling him in various community based clubs such as a video group called Lights, Camera, Action and has purchased a membership at Upper Canada Village. Mrs. McDonald stated, "David loves history. Can't get enough history. We have a membership at Upper Canada Village... Because he loves history, we have to go three or four times a year" (p. 7, 224-226). Cheryl also specifically mentioned David's interest in science and that because the hospital program tends to focus on the core subjects of math and English, they have not been able to add a science component to his individual sessions. Cheryl stated, although David "really likes science...a lot of the experimental stuff we can't do here" (p. 4, 104). However, despite the limitations of the hospital education program, Mrs. McDonald felt that her son was very self-motivated with numerous outside interests and therefore, if there was something of particular interest for him, he would use the computer to research the topic on his own. I also found this to be true of David as one time I found David, alone, on the computer in the hospital playroom exploring the internet for information about Mount Everest.

Student cognition.

On only one occasion did I see David complete some homework while in the hospital setting. During the other two observation sessions, David and his mother had forgotten to bring in his school books, and so alternative activities were completed during his hospital education sessions. When I asked David whether he believed he could successfully complete homework in the hospital setting, he responded that he found it difficult to work in the hospital because "people are bugging me to take pills and stuff" (p. 4, 88), but that he could complete homework very easily at home. David believed that he had plenty of time to do homework at home, but that if he did not do his homework it was because he

had decided to do other things. Mrs. McDonald also believed that David was capable of doing his homework in the hospital setting, but that he would be inclined to avoid doing it if the homework was not something he cared about or enjoyed. For example, she stated, "He hasn't studied for a French dictation yet. He got a D+ in French. He just hasn't done it" (p. 6, 219-220). Cheryl, on the other hand, suggested that despite David's interest in keeping pace with his peers, in her opinion, it seemed more difficult for David to work in the hospital because he was often distracted by the social aspects of the hospital environment. According to Cheryl, doing homework "was a little bit more difficult for [David] because he sort of got hooked into the social life of the hospital... and schoolwork would not be the one thing he would want to be doing" (p. 1, 7-9). She mentioned that the thirty minutes she spent with David was often "what sort of kept him on track" (p. 1, 10).

Similarly, Cheryl believed that David sometimes lost his focus and was unable to study, due to environmental distractions, but that he was easily redirected during his education sessions. David also mentioned not being able to concentrate well because of the distractions in the hospital, but he commented on having a study strategy. He stated, "anything you need to study for is very easy, like spelling tests. You just read it through, remember it. Read it again. Remember it. Until you get it. It's just like reading a book" (p. 4, 95-97). Mrs. McDonald could not remember ever having seen David study for anything school related and suggested that he is able concentrate and focus, regardless of the situation, "when he decides he wants to" (p. 7, 241). The requirement for David to be more focused and less easily distracted by the environment and other children was also mentioned repeatedly in David's report cards.

Because of David's excitable personality, many outside interests, and his tendency to become distracted, Mrs. McDonald believed that David benefited from the one-on-one instruction time with Cheryl and from his private tutor. In David's third journal entry, he mentioned that he found his learning that day to be easy because he had Cheryl's help. According to Mrs. McDonald and Cheryl, David interacts well during his sessions and does not hesitate to seek Cheryl's assistance when he is experiencing difficulties. Mrs. McDonald stated, "When he is having problems...he can say 'I need help with this' and Cheryl is really good at being able to get through that with him" (p. 8, 268-270). I also remarked that David was very receptive to teacher correction during his education sessions and would seem to remember basic skills that were taught by Cheryl. Mrs. McDonald mentioned trying to teach and work one-on-one with her son, herself, but that David did not consider her to be a reliable teacher.

Although Mrs. McDonald did not take on the responsibility of teaching her son, she was very involved in his educational program and, according to Cheryl, often brought "the work in and out, when David was admitted" (p. 7, 211). David also mentioned that his mother usually helps him organize and prepare for school. When I asked David if he believed he was responsible for bringing his books into the hospital with him, he stated

> No. I'm responsible for getting myself here and getting my chemo. And then, studying with the stuff we have. My Mom will bring my books and stuff. Usually I'm getting up in the morning and come straight here and I don't have time to gather a pack or anything. Even the night before, I've got so much stuff going on (p. 5, 111-114).

In one of David's journal entries he commented that his learning at the hospital could be improved if the hospital was equipped with books. He believed that it was hard enough

for him to get his mother to go into the school to pick up his work and so notebooks should be provided by the hospital teachers (journal entry #1).

Student affect.

Similar to Amanda, David is a very positive and social student. In his journal entries he usually indicated feeling happy and satisfied with his learning in the hospital setting. The only time that David indicated feeling a little less happy occurred when he was expected to undergo a medical procedure following his education session. In this same journal entry, David mentioned that he sometimes found learning in the school setting to be easier than in the hospital because "in the classroom you are not thinking of health things" (journal entry #2). In this statement, David effectively pointed out that in order for students in the hospital to remain focused during their education sessions, they must not only ignore environmental and social distractions, but put aside their own feelings of apprehension regarding their physical condition.

Cheryl suggested that David's illness has had a significant impact on him especially because of the required amputation. Cheryl stated that for David "it [required] a whole different, change in lifestyle and focus" (p. 5, 164). Both Cheryl and Mrs. McDonald commented that David was previously a very active and sportive boy and that the loss of mobility was particularly difficult for him. Mrs. McDonald believes that David's involvement with the War Amps has been critical because of their extensive education program for children with amputations. She stated,

> they really emphasized the positive things. You know, active living and the positive aspects of what they can do and has them focus on things like education. Like maybe being a pro hockey player is not what you're going to do, but... think about physiotherapy and you can be a trainer for a hockey team. And that's been really productive (p. 4, 141-145).

David's desire to be both physically and mentally active was repeatedly noted throughout my time in the hospital. For example, David indicated remaining connected with his previous hockey and baseball teams by becoming involved with the coaching. Mrs. McDonald also mentioned that David is eager to learn to downhill ski with his prosthesis.

As discussed earlier, David was, generally, very satisfied with his learning experience in the hospital and believed that school is an extremely important aspect in his life. However, he also believed that the hospital experience could be improved if the hospital teaching staff was supplied with textbooks and notebooks. David also mentioned that although he enjoyed and often benefited from the one-on-one interaction with Cheryl, that he preferred to learn in a group situation and therefore, the individual hospital teacher attention was good, but only for a limited amount of time. In addition, David repeatedly stressed that his learning in the hospital could be improved if he had more than 30 minutes a day of instructional time and if there was an appropriate space within the hospital environment where he could do his work without interruptions. Mrs. McDonald was very supportive of the hospital program and did not offer any suggestions for improvement.

Student adjustment.

Although David has missed his friends while in the hospital and home setting, he has still been able to remain socially active. In David's interview, he indicated having many friends at school and being able to maintain his friendships despite his illness and subsequent school absences. Mrs. McDonald commented that David's classmates "did lots of things like when he was first diagnosed, send him cards and stuff. Plant balloons

on, you know, on trees for him, stuff like that" (p. 4, 125-127). David has also developed close friendships with two other children in the hospital setting and has made social connections with various people, including adults, through his involvement in different community groups. David is close to his family and both David's mother and step-father, were available to assist David in the hospital and with his treatment.

It is interesting to note that despite David's very social personality, his ability to cooperate with others and to resolve conflicts seems to be a learning skill that David's school teachers have indicated as requiring improvement. David's school teachers describe David as being a capable student who enjoys challenge, likes to socialize and interact with adults, has strong verbal skills, and is observant. However, according to these same teachers, because of David's leadership qualities, he sometimes has difficulty working in small groups and can be intolerant of his peers. David also remarked that he is only comfortable interacting with certain children. He stated, that his two hospital friends, "are really the only ones I can talk to that won't go crazy on me.... They have the same style of being as I do...I'm not saying that the other kids are not nice kids. I'm just saying kids are different" (p. 6, 131-133). David's decided sense of self and awareness of his personal likes and dislikes seems to be reflected in his discriminating choice of friends.

During my time in the hospital, I came to see David as being a child who, despite illness and previous academic difficulties, felt personally successful and self-confident. David was determined to not let his illness and physical condition control him, but rather decided to experience life, with osteosarcoma, to the fullest. David's personal control beliefs, his very positive sense of self and overall adjustment were apparent and were

remarked upon by Cheryl. She stated, "You know, when David doesn't have the prosthesis on, you know, with the foot sticking up,... people stare. And I think he takes it more in a 'Well, come and ask me and we will talk about it or I'm just going to ignore you'" (p. 6, 182-185). Mrs. McDonald commented that after David had undergone his amputation, he "just decided that he wanted his life to resume" (p. 2, 36) (see Table 7 for summary of David's case).

Table 7

David

	Student Motivation	Student Cognition	Student Affect	Student Adjustment
David	1. **Perceived school importance-** Prior to David's illness, attending school not really important, but since his diagnosis, having school in the hospital and attending school has become very important. David does not want to be behind peers or receive poor grades. School helps to counter boredom. 2. **Perceived difficulty learning-** Despite prior academic difficulties, David now feels academically successful. he is motivated by his own desire to do well, he sees the success of his brother, and because of the relationship he has with the hospital teacher and the one-on-one instruction. 3. **Preferred subjects-** David enjoys math, science, history, art, and drama. Subjects which cannot be given in the hospital setting are supplemented by his involvement in community organizations or by parents. 4. **Academic success-** David does not have a history of school success. He experiences difficulties in the areas of reading and writing. David has a strong desire to do well, but this desire seems to be applied in the subject areas which he enjoys. 5. **Influence of teachers/parent/family/education program-** David's parents supplement his education program by involving him in various organizations. Influenced by the academic success of older brother. David likes his hospital teacher and wants to succeed for her.	1. **Organizing/Planning-** David, generally, does not plan or organize himself or his school work. This is done by his teacher and mother. Mrs. McDonald will also go to the school and arrange to pick up his work. 2. **Goal setting-** David did not indicate setting any personal goals, but seems motivated to obtain "good grades". 3. **Environment structuring-** The requirement for David to be less easily distracted by the environment and other children mentioned also in David's OSR. He benefits from the individual teacher attention. 4. **Study/Work habits-** David finds it difficult to work in hospital with the environmental distractions. However, is able to work at home when decides to complete the work and not involved in other activities. 5. **Task orientation/Concentration-** David also finds it difficult to concentrate in the hospital with the distractions, but s easily redirected by the hospital teacher. 6. **Seeking social assistance-** Interacts well with his teachers and does not hesitate to seek social assistance. 7. **Influence of teachers/parents/family/education program-** Mrs. McDonald is very involved in her son's education. She will pick up and drop off work and will assist in the organization of David's school work. David enjoys working with Cheryl and she seems to keep him focused and "on track".	1. **Impact of the illness-** It is believed that David's loss of mobility has had a significant impact on him since he was previously a very active boy. The War Amps have played a key role in assisting David to focus on the activities that he can do and on education. 2. **Satisfaction with the hospital learning experience-** David is, generally, happy and satisfied with his hospital learning experience. His happiness is linked to his physical condition and what medical procedures were going to take place on a given day. David commented that he would prefer a better work environment in the hospital with fewer interruptions and that he would like the hospital teachers to be fully equipped with textbooks and notebooks. 3. **Influence of teachers/parents/family/education program-** Mrs. McDonald got David involved with the War Amps that have assisted him with adjusting to his amputation. David enjoys the individual hospital teacher attention, but would like to be part of a school group. He also indicated that he would like more than thirty minutes of instructional time and a more appropriate work space.	1. **Social connectedness-** David has missed his friends while in the hospital, but has been able to remain socially active. He has developed friendships with certain children in the hospital. Occasionally intolerant of peers due to leadership tendencies. David interacts well with adults. 2. **Familial bond-** David has a strong familial bond. 3. **Personal control beliefs-** David is an extrovert who knows his likes and dislikes. He has decided to view his situation as a "big adventure". 4. **Influence of teachers/parent/family/education program-** David's mother is very involved with David and supports his various outside interests.

Jill

The first time I met Jill, she approached me in the hospital kitchenette located on 4West. When she came into the kitchenette, on her crutches, I saw this tall, but slight young teenager with no hair, wearing soccer pants and a t-shirt and I was not certain if this person was indeed Jill or perhaps a young boy who had come in for some other purpose. At the time, I remember thinking how difficult it must be for a young teenage girl, to not only cope with a cancer diagnosis, but also to come to terms with her physical appearance. Perceptions of body image can be quite important particularly during the teenage years. I was later informed by Mrs. Perron that, at the time of Jill's diagnosis, she had decided to shave her own head and wear a hat instead of experiencing having her hair slowly fall out. However, according to Mrs. Perron, despite Jill's decision, she is still sensitive about her appearance and had experienced one difficult time when a boy in Jill's class tried to remove her hat without her permission.

Jill, similar to David, was diagnosed with osteosarcoma located in the leg bone in December 1998. Jill is a 13 year old grade 9 student. Because of Jill's age and growth pattern, it was not necessary for her to have her leg completely amputated. Instead, Jill opted for a limb replacement which meant that the cancerous portion of the leg bone was removed and replaced with a prosthesis, and the majority of her leg is still her own. Jill experiences difficulty with her mobility, but is able to be active with the assistance of crutches.

Student motivation.

Jill's classroom teachers have described her as a conscientious, hard working, diligent, and organized student. She works well independently, takes initiative, communicates

clearly, strives to do well, and is supportive of both peers and adults. She has experienced, throughout her school years, a history of academic success and, despite her illness, continues to achieve academically.

When I asked Jill if she felt academically successful, she stated that "I'm still getting pretty good grades", but commented that she did not know if she felt more successful when she was attending school or when she was in the hospital. She mentioned that when she is in the hospital "it's one-on-one. [Whereas in school,] with other kids you can kind of see if they are getting stuck" (p. 5, 143-144) and from this social comparison she felt she could better assess her own abilities. Jill expressed further uncertainty since she does attend school whenever possible and therefore is not sure whether her marks reflect the work she does with the hospital teacher or the work she does in the classroom. As a result, she feels she "can't really value it" (p. 6, 151) and had difficulty evaluating her success. Jill's goals, with respect to school, are to keep up with the work, get good grades, and to keep improving.

Mrs. Perron mentioned that Jill is "very hard on herself" (p. 4). When she was first diagnosed in grade eight and was particularly ill, Jill was not able to keep up with her schoolwork and therefore, "January to June was very difficult" (p. 1, 26). However, because of Jill's prior academic success, the school administration decided to promote Jill to grade nine even though she was unable to complete the year's worth of work. Since beginning grade nine with the additional support of hospital schooling, Jill has been very academically successful. Jill's hospital teacher, Cheryl, stated, "I think Jill definitely does [feel successful]. Today she was saying that she has been asked to join the enrichment program because she has over a ninety average and I'm thinking that's not

bad for someone who has missed, so far she has missed about two months of school" (p. 5, 147-150). According to Cheryl and Mrs. Perron, having the hospital instruction program in place has definitely contributed to Jill's success.

Before Jill's diagnosis, she was very athletic and enjoyed physical education classes at school. However, since her diagnosis, the subject area that Jill seems to enjoy the most both in and out of the hospital is math "when [she] understands it" (p. 3, 56). Although she enjoys reading books, she does not feel as capable in grammar and therefore, does not enjoy the subject of English as much as math. She stated, "we haven't done too much grammar yet, and I'm not very good at grammar. So, I feel that when we get to grammar, my math is stronger than English at that point" (p. 6, 158-160). Jill's mother also believed that her daughter enjoyed doing math. She commented that during Jill's grade eight year, when she could not manage all of her subjects, they decided to have Jill focus exclusively on math. Mrs. Perron believed math to be a cumulative subject which builds on previous knowledge and felt that, without maintaining her studies, math could be an area of academic difficulty for Jill later on.

However, despite the various subject areas, Jill believes that both going to school and having school in the hospital are very important to her. Jill mentioned that she did not realize how much she would miss school and schoolwork until she was not able to have it in her life. She commented that while in the hospital she

> kind of enjoys school because the night before I'll get all the questions I did not understand and I'll ask Cheryl. Just because when I go to ask the teachers in my class, they have already done it a couple of days ago and so they are past that, but so I can't really ask in front of the whole class because they are not even thinking about that anymore (p. 5, 115-119).

Jill mentioned that not being able to arrange for one-on-one time with the classroom teacher after having been absent is difficult for her. It often leaves her feeling frustrated because she does not feel that she has received all the instruction necessary in order for her to do her work. In addition, because Jill is now in grade nine and on a semester system, both Jill and Cheryl believed that when Jill misses some instruction, she misses a significant amount due to the pace at which high schoolwork is taught and completed.

Mrs. Perron believed that some of Jill's frustration is related to "her whole perception of herself because she had very good marks and she expected to stay at the same level ... through all this. So, she [feels] a lot of frustration [when she isn't] getting any instruction really, or missing so much... and she still wants to do well" (p. 3, 71-72). According to Mrs. Perron and Cheryl, being able to keep up with the work, peers, and previous levels of academic performance is critical for Jill. These are also the primary reasons why Jill believes her hospital schooling to be so important. From these comments, it would seem that Mrs. Perron and Cheryl believe that being a "good student" is an integral component of how Jill sees herself and that without school, or the chance to continue experiencing academic success, Jill's self-image would be threatened. Therefore, school, both in the classroom and in the hospital, plays a crucial role in the formation of Jill's self-perceptions.

All three participants, Jill, Mrs. Perron, and Cheryl, commented that they believed Jill's schooling is particularly important to Mrs. Perron. Mrs. Perron stated, "To me [school] is [important] because I want to keep Jill with her peers. So, I kind of want to push it, that she keep up with it" (p. 6, 161-162). Jill also commented that "Mom is always kind of pushing me so it's like when I was small" (p. 2, 51). Cheryl attributed

Mrs. Perron's interest in Jill's academic success to something "that just seems to be in the family background. The parents are educated, all [of Jill's siblings], you know, do fairly well in school" (p. 4, 126-127). School seems to be a priority with Mrs. Perron and a priority that she shares with her daughter. Cheryl commented that on several occasions Mrs. Perron would spend the day assisting Jill with her homework as a way to pass time while in the hospital.

When I asked the participants how well they believed Jill was able to learn while in the hospital setting, they all commented on how Jill benefited from the one-on-one contact with the hospital teacher. Cheryl believed that Jill learned more in the hospital than in school because she tended to be more focused with specific questions and because "it is often stuff she has missed in class and she knows it, so she will pay attention" (p. 4, 106). Jill also commented that she finds it easier to remember lessons taught in the hospital because it is easier for her to ask questions. In addition, because her sessions with Cheryl are one-on-one, Jill believed she avoided becoming confused by the other students' misunderstandings. Jill stated, "because when you're with other kids another thing that happens is they're confused and they explain something this way and then they confuse you when you had it" (p. 4, 85-86). Although other students provide Jill with a social comparison, it seems that, according to Jill, she often prefers to work independently and solve her own problems in a way that makes sense for her. This problem solving can be accomplished during her hospital education sessions.

However, despite the benefits of an individualized and concentrated educational program, Jill and Mrs. Perron did not believe that the hospital was an ideal work environment. Jill commented in her interview and in her journal entries, that she found it

difficult to learn while in the hospital because people interrupted her education sessions and because of her medical scheduling requirements. She stated, "I know it's hard because I have physio and school and they both, we have certain spaces to fit in" (p. 4, 110). With an inflexible medical schedule, when Jill is interrupted during her education sessions, it means that she loses the school time because it cannot be made up later on. When I asked Jill what could be done to make her learning better, she responded in her journal, "no interruptions and clear instructions from the school teacher" (journal entry #2).

Student cognition.

According to Jill, her ability to concentrate and focus, amid distractions, is dependent on the environment. For example, when I asked her if she could study and concentrate while she is at school, she responded, "Yeah. I'm pretty good at that. I have never really had problems with focusing and blocking other people out" (p. 1, 8-9). Her ability to work independently was also remarked upon in her report cards by her previous classroom teachers. However, when I asked her how well she was able to concentrate in the hospital, she stated, "It's harder here than at school I find... There are totally different distractions. At school, there are people who are trying to bug you, but here they are either trying to help you or they are trying ... not trying to deliberately distract you" (p. 3, 70-72).

Jill expressed similar sentiments when I asked about her ability to complete homework. Again, she found completing homework in the hospital setting to be more difficult because of the interruptions and distractions. She stated, "when I am alone in a room and Cheryl comes it's okay... but when we are out in the hall, like upstairs, and

everyone's walking by going 'Oh, what are you doing?' then it's hard. You don't want to ignore them" (p. 3, 64-66). Jill seems to want to be sensitive to hospital personnel because she is appreciative of their help and does not want to offend them by ignoring them even when she it trying to complete her schoolwork.

Mrs. Perron also commented that it was difficult to find a quiet area in which to work when Jill is not admitted. As a result, Mrs. Perron did not believe that Jill completed much work while in the hospital setting. Mrs. Perron stated, "She will work when Cheryl comes for that half hour, but usually we do it at home" (p. 4, 104-105). Cheryl also believed that Mrs. Perron structures Jill's time at home and in her routine, ensures that there is time spent doing homework. Cheryl commented that because of this routine, she believed Jill found it easier than other children to remain committed to her schoolwork even during periods when she was particularly ill.

Mrs. Perron's involvement in Jill's educational program became apparent again when I asked the participants about Jill's ability to plan and organize her schoolwork. Cheryl remarked that Jill always has organized binders and has a system of using notes to remind herself of sections in her work where she believes she requires assistance. I also noticed that Jill is an extremely neat and organized student. However, Cheryl commented that she believes Jill receives extra support from her mother because often Mrs. Perron will indicate to Cheryl what academic areas she would like Jill to focus on during the hospital education sessions. Mrs. Perron admitted to being highly involved in the organization and planning of Jill's program. She stated, "A lot of it is me... I do a lot of 'I think we need to do a lot of concentrating on this, or let's do this' because I know what is involved and what Jill is doing" (p. 5, 122-124). However, despite Mrs. Perron's involvement, I

noticed during my observations that Jill is a conscientious student and will sometimes determine the content of her own hospital education session. Jill stated, " I try and pick one thing a day and I'll say 'okay, I need to work on this'. And then I have everything I need so I am not searching for stuff" (p. 3, 76). Working cooperatively with her mother, Jill and Mrs. Perron make an effective team with a common goal of ensuring that Jill not only receives adequate schooling, but is also adequately prepared for every session she has in the hospital setting.

Student affect.

In all of Jill's journal entries, she indicated feeling happy and somewhat satisfied with her learning experiences. Jill attributed her happiness, at the time, to her ability to keep up to date with her schoolwork, her ability to maintain her good grades, and to her degree of health. During my time in the hospital, Jill completed her last round of intensive chemotherapy treatment. It was anticipated that if she continued to improve, she would not have to be admitted to the hospital on such a frequent basis. Instead, her treatment schedule was expected to change to requiring her to return to the hospital 1 or 2 days a week, as an out-patient, for monitoring and various clinical procedures.

Jill commented that she was very pleased about her new treatment schedule because it would mean that she could go to school more often and that she could feel more a part of the class. Mrs. Perron suggested that since being diagnosed, Jill has not participated as well in school because she "misses so much school she feels like she doesn't really know what's going on and she is quite lost sometimes" (p. 2, 37-38). Mrs. Perron seemed to also believe that Jill's feelings of self-consciousness and frustration would be alleviated once Jill returned to the classroom on a regular basis.

However, despite Jill's periodic feelings of "being behind, not knowing what was going on... and feeling like she was totally lost" (p. 3, 66), as stated by Mrs. Perron, I consistently remarked upon Jill's very positive attitude throughout my time in the hospital. I observed that Jill was always a very willing student who required little or no redirection. Jill quickly developed a rapport with me and was always eager and willing to participate in any aspect of the research including the activity sessions.

When I asked Mrs. Perron what she believed to be the most significant effect on Jill as a result of her illness, she identified Jill's loss of mobility. She stated, that "it has really kind of had an effect on her because she was really into sports. She was very athletic and playing on a lot of competitive teams. So, very quickly she had to stop everything and then after her operation she lost her mobility" (p. 1, 5-9). Now, according to Mrs. Perron, Jill is helping to coach a team since she unable to play. Jill also indicated being previously involved in sports, but stated, "now, I just kind of do stuff with my class... with my friends. Like if we have breakfast, I'll organize it" (p. 2, 38-39). Spending time socializing with friends and working with other students was identified by Mrs. Perron and Jill as being very important to Jill and aspects of attending school which she has missed.

Student adjustment.

Even though Jill has missed interacting with her friends while in the hospital, she has still been able to maintain her school relationships. According to Jill, "Every time I go, [to school, the other students] all say 'hi'. Everyone starts talking in between classes and stuff. There's always people who come up to me" (p. 2, 33-34). And even when Jill is confined to the hospital or home for a period of time, Jill's friends still visit her or

telephone. During one of my observation sessions with Jill, her friend, Alison, was visiting with her and she took part in Jill's hospital education session and in the activity session I organized for Jill following her hospital schooling. Cheryl believes that Jill's ability to remain connected to her school friends is partially a result of Jill's parents. According to Cheryl, Jill's parents made it possible that whenever Jill could not participate in something at school, that Jill's friends could come over to their house. Mrs. Perron has also arranged with Jill's school principal that Jill and her best friend be registered in the same classes this year so that when Jill is able to attend school, she already has a good friend in her classes.

In addition to Jill's school friends, Cheryl commented that Jill has recently started to interact with some of the other children in the hospital. She stated,

> I have noticed this year, since maybe the end of September that Jill has been a lot more buddy-buddy with everyone. I think [the other student] helps too because he is just the kind of person who could just sort of hang out and do that kind of stuff and he is more her age (p. 3, 75-78).

Mrs. Perron believed that Jill's new interaction with some of the other teens in the hospital was a result of a hospital social worker who had arranged for the teens to meet. According to Mrs. Perron, this social worker, "organized the teens so they went out, outside the hospital so they got to know each other. Then when they were in here they had a friend" (p. 5, 138-140). However, Mrs. Perron also commented that despite Jill's friendships with other teens in the hospital, she often does not interact with them when she is admitted. Most of her interaction, with other children, while in the hospital takes place when she is visiting the hospital as an out-patient.

It was noted that before Jill started meeting some of the other children in the hospital, she spent a lot of time with her mother. Cheryl stated, "when Jill first started coming, she didn't mix as much with the other kids so, she was in her own room with her mom" (p. 1, 4-5). As a result of their time spent together, Jill and Mrs. Perron have developed a very close bond. I observed that Mrs. Perron does not leave Jill alone when Jill is undergoing treatment and stays with Jill, twenty-four hours a day, when Jill is admitted and must stay several days in the hospital. This familial connection is very important to Jill as she confided to me that she and her mother were planning to take a vacation together once Jill was finished her rounds of chemotherapy and could travel.

Although I did not meet any of Jill's other family members, I was told by Cheryl that Jill and her siblings also have very good relationships. Cheryl suggested that the siblings do a lot of family activities together. During one of the activity sessions, Jill also spoke to me about her father. She commented how, on that day, instead of coming to the hospital, she wanted to accompany her father on his business trip to Toronto. According to Jill, they were planning to drive to Toronto, go out for lunch, and then come home.

Jill was observed to be a very responsible, conscientious, considerate, sociable, and nice young teenager. I agree with the comments of Jill's previous classroom teachers that Jill is an excellent role model for her peers. She has and continues to adjust to her physical condition, but has maintained a positive attitude throughout. Jill has decided to focus herself on her academics and to remain a high performing student. Going to school and having hospital instruction are priorities in Jill's life. Being able to keep pace with her peers and maintaining her academic success seem to be Jill's primary personal goals at this time (see Table 8 for summary of Jill's case).

Table 8

Jill

	Student Motivation	Student Cognition	Student Affect	Student Adjustment
Jill	1. **Perceived school importance-** Going to school and having school in the hospital are very important to Jill and to her mother. Jill appreciates school more since becoming ill. 2. **Perceived difficulty learning-** Jill tends to use her marks as indicators as to whether or not she is succeeding and finds it difficult to self-evaluate when she is away from her peers (social comparison). In addition, because she does attend school periodically she is not sure whether her marks reflect her classroom work or her hospital work. Jill seems to benefit from the individual hospital instruction and Jill commented finding it easier to remember lessons taught in the hospital. However, she finds it difficult to learn with the hospital distractions. 3. **Preferred subjects-** Since Jill's diagnosis, her preferred subject both in and out of the hospital is math. 4. **Academic success-** Jill has a history of academic success and despite her illness continues to excel. Jill is described by her teachers as being a highly motivated student. 5. **Influence of teachers/parents/family/education program-** Jill is sometimes frustrated with the classroom teacher as she does not seem to receive the instruction from her/him that she requires. Being able to keep up with her school work, peers, and previous levels of academic performance is critical for Jill. Being a "good student" is an integral component of how Jill sees herself.	1. **Organizing/ Planning-** Jill is a very neat and organized student. However, her mother is highly involved in her education program and will often decide what will be accomplished during her hospital education sessions. 2. **Goal setting-** Jill's goals, with respect to school, are to keep up with the work, get good grades, and to keep improving. 3. **Environment structuring-** Jill finds working in the hospital difficult because the distractions are often from people who are trying to assist her. 4. **Study/Work habits-** Jill finds it more difficult to work in the hospital than in the classroom. However, Jill is an effective worker during her hospital education sessions. 5. **Task orientation/ Concentration-** Jill does not experience concentration difficulties at school, but is less task oriented in the hospital. 6. **Seeking social assistance-** Jill readily seeks social assistance. 7. **Influence of teachers/parent/family/education program-** Mrs. Perron structures Jill's time at home to ensure that she completes her homework. Mrs. Perron also assists her with her work and makes sure Jill has all her school materials.	1. **Impact of the illness-** Mrs. Perron identified Jill's reduced social interactions and her loss of mobility has having the most significant impact on her. Also, because of frequent absences from school, Jill feels less a part of the school community and does not participate in class as often. 2. **Satisfaction with the hospital learning experience-** Jill is somewhat satisfied with her hospital learning experience. She identified the lack of an appropriate work space and the frequent interruptions as negatively affecting her learning. 3. **Influence of teachers/parents/family/education program-** The hospital education program seems to assist Jill because she can ask questions and receive instruction which then helps her to reintegrate into school whenever it is possible.	1. **Social connectedness-** Jill misses the social interactions she has while at school, but is still able to maintain her friendships. She has established friendships with children n the hospital. Her siblings also seem to be her friends. 2. **Familial bond-** Jill has a close familial bond particularly with her mother. 3. **Personal control beliefs-** Jill works very hard to achieve her academic goals. She took the initiative to shave her head when she was first diagnosed as a way to exercise control on what was expected to happen. 4. **Influence of teachers/parents/family/ education program-** Jill's parents are very instrumental in ensuring that Jill remain connected with her friends. The hospital education program helps to prepare her for her return visits to the classroom. Jill enjoys working with her hospital teacher.

Steven

Steven is a 9 year old boy, in grade 4, who was diagnosed with neuroblastoma in April 1997. According to Steven's mother, Steven's cancer is a type that is quite difficult to treat. For the last 2 ½ years Steven has undergone various treatments with varying degrees of success. Of the 5 children involved in this study, Steven has had a cancer diagnosis and has had to deal with the effects of cancer the longest. Steven's cancer began in the adrenal gland and has metastasized into his bones and bone marrow. As a result, "when the disease gets going, Steven is in a lot of pain" (p. 1, 16). Steven has also had to deal with several side effects due to his treatment including: an affected gait, swelling of the eyes, mouth sores, hair loss, weight fluctuations, and a deterioration of hearing capability in both of his ears. Because of the seriousness of Steven's condition, Steven has not been able to attend school since his diagnosis in grade one and has been completely dependent on the home and hospital instruction programs for his education since that time.

Steven's inability to benefit from a well-rounded community school program is unfortunate for many reasons, but particularly because Steven is considered to be an extremely intelligent little boy who for the last several years has been capable of completing schoolwork at or beyond his grade level. According to his home instruction teacher, Evelyn, Steven is a superior math student who has an intuitive grasp of math concepts. Even Cathy, Steven's hospital teacher, referred to Steven as a child " who is sharper than most children" (p. 3, 81) and who has a great deal of undiscovered potential.

Student motivation.

When I asked Steven if he felt academically successful, he responded simply that he likes math. Mrs. Smith believes that despite her son's natural intellectual abilities, her son feels academically successful only "to a certain extent" (p. 6, 155). She suggested that Steven's cooperation and involvement in the hospital education sessions were more a result of him enjoying the time spent with Cathy. Mrs. Smith remarked that Cathy "seems to work well with Steven" (p. 6, 156). When I asked the same question to Cathy, she stated that she "[thought] Steven feels successful" (p. 6, 179), but tended to comment more about her teaching philosophy. According to Cathy, it is "one of my objectives, to have him meet with success... where if [Steven] gleans one or two ideas that's what it is all about because you are working on a time, a very small time frame, 30 minutes" (p. 6, 174-176). Evelyn, Steven's home instruction teacher, believed that Steven has felt successful in the past, but suggested that he is feeling more academically frustrated now. Evelyn attributed Steven's recent academic frustrations to two factors (a) the increased difficulty and amount of schoolwork as Steven progresses through the grades, and (b) to his enrollment in the French Immersion Program. Not only is Steven attempting to complete the same volume of work as his class peers in a reduced amount of time, but he is also attempting to succeed in completing his work in French without the benefit of hearing French being spoken throughout the school day. Evelyn suggested that "I am starting to think that I will have to adapt his work as opposed to before, I [had to] enrich it" (p. 3, 96). Prior to this year, Evelyn stated that "I supplemented 80% of what I did with him. And now he seems to be hitting walls the other way. It is difficult"

(p. 3, 76-77). Even Cathy suggested that French composition writing has become too difficult for Steven because he does not have the opportunity to practice and use the French language.

In order to assist Steven with his French writing and vocabulary, Cathy discussed encouraging Steven to use strategies. For example, Cathy recalled telling Steven to "go back and re-read the composition, or the lecture" and then "use the words that are there" (p. 5, 164) and that are familiar when composing a piece of written work. She also mentioned spending time with Steven discussing comprehension questions and reviewing vocabulary. According to Cathy, things like "conjugating verbs and reading [are] a breeze" for Steven, but "writing is a real challenge" (p. 5, 170) and because of this challenge, Cathy also believed that Steven is beginning to feel frustrated with his work.

Despite Steven's difficulties with French writing, Steven seemed to really enjoy and excel at math and computer work. Mrs. Smith mentioned that Steven has been interested in numbers and mathematical concepts since a very young age and stated that her son "has just got a mind that works well with numbers" (p. 5, 132). Cathy also commented that math "is Steven's forte. He just remembers well, understands the concepts and expresses them quite clearly and is eager to tackle something new" (p. 3, 93-94). As a way to pass the time in the hospital, Mrs. Smith and Steven will take practical items in the hospital and test their mathematical abilities. For example, Cathy recalled seeing them with a "box of juice, they were looking at how many ounces...litres, or millilitres [it contained] and then... figuring all sorts of things" (p. 3, 95-96). According to Cathy, " Mom and Steven, they problem solve all the time" (p. 3, 97). Evelyn suggested that it is

only because Steven's math program is also in French that he has not progressed more quickly through his math work.

When I had the opportunity to work with Steven, I remarked that although he found writing difficult, he seemed to want to be academically challenged and mentally stimulated during his education sessions. Mrs. Smith commented that "he is a really bright kid, but you have to move along at his pace or you lose him. He will yawn off and start doodling on his page or something" (p. 4, 94-95). Cathy also believed that Steven was looking to be challenged through school and she stated " that he fits in really well with [his] family. They all like the world of ideas and they all like to be challenged" (p. 8, 270-271). By providing Steven with hospital schooling, Cathy believed, that he was not only being challenged, but he was also being given "something that he [could] go to" (p. 8, 268) that would keep him mentally active and prevent boredom.

In addition to preventing boredom, Cathy also believed that the hospital education program was important for Steven because the 30 minutes of instruction represented a time in which Steven was not under going a treatment and could have a break from interventions that may hurt him. Evelyn stated that she did not know "if Steven interpreted school as being important" (p. 3, 91), but that the home and hospital instruction programs were, in her opinion, very important to Mrs. Smith. Cathy believed that Mrs. Smith's involvement and interest in Steven's education is fueled by her desire to try to normalize his life and to provide him with all the necessary tools that he may require to have a successful future. Cathy stated, "[Mrs. Smith wants to keep] him up to date so that he can have that future that they dream of for each one of their high academic

children" (p. 8, 252). Evelyn stated, that from her perspective, maintaining Steven's educational programming

> is entirely the right thing to do. At one point I did question, are we pushing something here that we shouldn't be pushing. Most times I don't think that anymore. I think it is the right thing to do. I think it gives a sense of normalcy. It gives a sense of structure. It gives a sense that when [Steven] does return [he] will fit in the best [he] can (p. 3, 87-90).

In Mrs. Smith's opinion, she did not believe that school is "something Steven looks forward to every day, but he has to do it and he recognizes that he has a job to be done" (p. 6, 152-153). Steven, himself, was not sure if having school in the hospital was important to him and believed that attending school was only slightly important. Steven's indifference with respect to the importance of school may be, at least partially, a result of his long absence away from the classroom.

Student cognition.

Although Steven does not believe that either going to school or having school in the home or hospital to be particularly important to him, both of his teachers commented that he has good work habits and a strong work ethic. Evelyn believed that although she found it difficult to motivate Steven to complete homework while he was unsupervised, Steven's disciplined work habits were evident during his home instruction sessions. According to Evelyn, her one-on-one teaching sessions usually last at least an hour or an hour and a half and she believed this to be a long time for even a healthy person to stay focused and task oriented

Cathy commented that, in her opinion, Steven has been "trained right from the very beginning of school, what you start you finish" (p. 1, 4). Therefore, she believed that

Steven was particularly strong in completing supervised tasks. Cathy recalled a time when Steven had to focus, for an extended period of time, on his penmanship. She stated,

> He even stuck to it with the pencil writing, which he could see was deteriorating in front of him... I know at one point, he was distraught that it wasn't working out quite as well as he had wanted... but with coaching and encouragement he stuck to it and new he is pleased. He can see that his work his readable (p. 2, 34-36).

However, Cathy also commented that despite Steven's persistence and ability to focus and concentrate, that "the distractions [in the environment] have to have an impact on what he does" (p.1, 26). Mrs. Smith suggested that "it would be nice to have... some sort of study environment [since] the hospital rooms are very crowded and busy" (p.1, 25). Although I agree that the hospital is not an ideal work environment, I remarked during my observations of Steven's education sessions, both in the hospital and in the home, that he was often distracted and required frequent redirection in both environments. Mrs. Smith suggested that some of Steven's distraction may also be due to his medication which, according to Mrs. Smith, tends to make Steven either "feel yucky or makes him feel sleepy" (p. 1, 23). Evelyn believed that for teachers working with seriously ill children, "it is just a fine line to know how much to push" (p. 1, 20) and seemed to question the level of academic expectations she should have for a child like Steven.

Steven's current education program, which is, for the most part, developed by his classroom teacher and implemented by Cathy and Evelyn in the hospital and home, respectively, does not seem to require that Steven do much studying or planning in preparation for his education sessions. Although Steven believes that he is capable of studying in both the school and hospital environment, he has never had to write a test. According to Cathy and Evelyn, they do not "receive any [tests] from his classroom

teacher" (p. 2, 36), only on-going assignments and thus "never give a test" (p. 1, 20). Cathy believes that in the elementary panel, the emphasis is on completing activities. Therefore, after Steven has completed an assignment, or activity, Evelyn returns it to Steven's classroom teacher for assessment. These returned and corrected assignments, according to Cathy, would represent the contents of a student portfolio if Steven were attending school.

Similar to studying, neither Steven's teachers nor mother, expect him to plan or organize himself or his schoolwork. Mrs. Smith believed that it is her responsibility and the responsibility of the teachers to organize and present the educational material to Steven. She stated, "Generally, I seem to present him with the work. He still doesn't do much organization of the work partly because it is such a hassle getting it from the school... I figure his job is to do it, our job is to act as the teacher and get things organized" (p. 2, 45). Evelyn commented that as a way to maintain, as much as possible, an uninterrupted routine for Steven, she believed that Mrs. Smith does much of his school and work planning. Cathy seemed to attribute Mrs. Smith's involvement, again, to Steven's age and grade level. She stated, "There [are] no organizational skills. It's all the parent. I don't want to say control, but, again, with this age bracket, I don't think... he organizes" (p. 2, 44). From my observations, I noticed that it is also often Mrs. Smith who physically organizes Steven for his education sessions. For example, it was Mrs. Smith, and not Steven, who would turn off the television or video game when the hospital teacher entered the room. Mrs. Smith would also physically arrange Steven in his bed with his hospital table in preparation for work, and direct Steven to remember his manners and to remain attentive.

It should be mentioned here that Mrs. Smith's involvement with Steven's educational program is not only as an assistant to Steven and Steven's teachers, but she also instructs Steven in the subject areas of math and English. This arrangement of Mrs. Smith teaching portions of Steven's curriculum, was agreed upon so that during the time Steven spends with his qualified French home and hospital teacher, he can focus specifically on his French skills. It is Mrs. Smith's opinion that "if Steven is going to carry on in the French Immersion, he needs to have as much French as possible" (p. 2, 51). Cathy suggested that with the limited number of home and hospital instruction hours available to Steven, Steven's parents have, in the past, had to personally subsidized additional home instruction hours.

Student affect.

As mentioned earlier, it seems that Steven is indifferent to the importance of school and does not seem to really enjoy school or having school in the hospital setting despite the many benefits. As Mrs. Smith stated, there are other things that Steven prefers, but he recognizes that "he has to do it" (p. 6, 153). Cathy expressed the same opinion stating that "Even if Steven would, you know, groan before he'd come in [to the sessions], he does get right down to whatever you've got for him" (p. 2, 39-40). Mrs. Smith further commented that because Steven has been having school in the hospital and home for so long, he no longer misses attending school. According to Mrs. Smith, whenever Steven has been able to return to school, "the kids make a fuss over him and he doesn't want to be made a fuss over" (p. 6, 162). Mrs. Smith believed that since Steven's diagnosis, he has not had a chance to be back at school long enough in order for him to overcome his

feelings of being an outsider. The only positive memory of school that Steven could recall during his interview was of making pompoms and doing crafts in kindergarten.

When I asked Steven how he felt and how satisfied he was with his school experience in the hospital setting, he indicated in two of his three journal entries that he was feeling unhappy and in all three of his journal entries, only partially satisfied with his learning experience. He attributed his unhappiness to either being bored or to the lesson being too difficult. When I asked him what could be done to make his learning better, Steven indicated wanting to focus on computer work or math only during the education sessions and that he wanted the sessions to be more entertaining. The only time that Steven indicated feeling happy was on a day close to Halloween when he had just been given some Halloween treats.

Cathy suggested that Steven's frustration, not only with certain aspects of his schoolwork, but also his, more general, unhappiness maybe a result of his desire to be healthy. She stated, "He is a very deep boy, very deep boy. He wants to get better so badly" (p. 4, 130). According to Cathy, given Steven's situation, she believes "he has got every right to get angry every once and awhile" (p. 4, 131). However, despite this right to be angry and frustrated, Cathy does not believe that Steven is allowed to act overtly on his frustration. She stated,

> I don't know if he is allowed to be frustrated... his family has such a nice way with him. They are so down to earth. 'Well, that's just the way it is, and there will be better times. Tough up'. It is a philosophy that Steven has bought into. Thank goodness and has made him the boy he is (p. 4, 134-137).

Evelyn suggested that since Steven is such a "bright little boy. There are a lot of questions that go on inside him with regards to himself" (p. 1, 19) and that perhaps these

unanswered questions produce a lot of concern and insecurity which is manifested in his attitude and approach to certain aspects of school.

Student adjustment.

Activities, or things, that Steven seems to enjoy and were mentioned during the participants' interviews included (a) spending time with his mother, family, and puppy, (b) watching television, (c) eating sweet foods, candies, and treats, (d) skating, whenever possible, and (e) playing computer games. During my time in the hospital setting, I remarked that Steven spent a lot of time playing computer games. Cathy commented that when she goes to visit Steven, "I do ask for school and explain that I have to [teach] him now, I really have high competition, I have to pull him away from the machine" (p. 2, 162). However, both Mrs. Smith and Cathy believed Steven's computer game playing to be a type of coping strategy, but attributed the benefit of his game playing to two different factors. On one hand, Mrs. Smith believed that by playing with the computer Steven is able to "block out all the other, [more unpleasant], stuff that is going on" (p.2, 26). Cathy, on the other hand, believed that through proficient computer game playing, Steven "reaches success and that in and of itself is a reward" (p. 5, 141). Cathy also suggested that perhaps playing computer games was one of the ways in which Steven is able to interact with his siblings, when at home, and therefore, it would be important for him to be a skilled player.

It was mentioned by both of Steven's teachers and his mother that Steven's siblings are his closest friends. For example, Mrs. Smith stated that Steven "doesn't really have a lot of friends. Really his best friends are his brother and sisters. He has got some friends that are friends of his siblings. So, if his older brother has a friend over, then they all

hang out together" (p. 4, 98-99). According to Steven, he does not believe that he ever had any friends at school and therefore, does not miss his classmates now. It was also remarked upon by Evelyn that because Steven and his family live in the country, he has very little opportunity to develop friendships with other children even when he is at home. Evelyn also commented that she believed it was difficult for Steven to develop friendships with healthy peers because, in her opinion, Steven is self-conscious about appearance and often feels apprehensive.

Similarly in the hospital setting, Cathy commented that she has "never really seen Steven say 'hi' to other children, which is very unusual because a lot of times they are kind of tight" (p. 2, 65). Cathy believed that, in the past, when Steven was in the hospital, he tended to remain somewhat isolated and did not initiate interactions with other children. Interestingly, it was noted on Steven's previous report cards that he prefers solitary activities to group interactions. However, during my time in the hospital, Steven did develop relationships with two other boys who visit the hospital on Thursdays for treatment. Evelyn stated,

> Steven has [two] little friends at the hospital on Thursday. Steven seems upset if his day at the hospital is on Wednesday or Friday because he would like to go on Thursday and the reason is his friends. I see that as a good sign because I haven't heard that in years before (p. 2, 44-47).

Cathy suggested that a possible reason why Steven has not developed childhood friendships, in the past in the hospital setting, is partially due to his close familial connection. Cathy believed that, in some ways, because of Mrs. Smith's devotion and attention to Steven, Steven has not needed to interact with other children. For example, Cathy recalled one time in the hospital, when Mrs. Smith had pitched a tent and she and

Steven had a picnic. According to Cathy, "a lot of things are planned for Steven and he, perhaps then doesn't make an attempt to play with other friends because he has got an agenda" set by his mother and family (p. 3, 75-77). However, despite Steven's prior lack of socialization, Cathy strongly believed that Mrs. Smith's constant commitment to her son is necessary for maintaining Steven's morale and preventing boredom and depression.

Although Steven has had difficulties developing friendships with children his own age, he has established stable social bonds with several adults, outside of his immediate family, including Cathy and Evelyn. Both Cathy and Evelyn, during their interviews, commented on Steven sophisticated sense of humour which was also noted throughout his OSR on several teacher reports. Evelyn referred to Steven as being, in some ways, "like a mini adult" who can converse with adults because of his "general knowledge about things"(p. 2, 56). I found that Steven was very capable of having polite and mature conversations, but he was not interested in developing new adult relationships. In many ways, I believe that he considered my presence to be an intrusion on his privacy and by the end of the data collection was unwilling to participate in anything further (see Table 9 for summary of Steven's case).

Table 9

Steven

	Student Motivation	Student Cognition	Student Affect	Student Adjustment
Steven	1. **Perceived school importance-** Steven believes that attending school is slightly important and is not sure whether having school in the hospital is important. Providing Steven with school in the hospital and home is believed to be important to Mrs. Smith and to Steven's hospital and home teachers. 2. **Perceived difficulty learning-** Steven is a very intelligent boy, but is finding French composition work to be demanding at this time. 3. **Preferred subjects-** Steven enjoys math. 4. **Academic success-** Steven has experienced a history of academic success, but is recently finding his school work, particularly his French writing, to be more difficult. This is tending to frustrate Steven. 5. **Influence of teachers/parents/family/education program-** Mrs. Smith very involved with Steven's education program. Mrs. Smith would like to keep Steven up to date with his work so that he can have a future. Therefore, she believes the home and hospital programs to be very important. Steven's hospital teacher did not model self-regulatory skills, but did suggest strategy use. Steven enjoys working with his hospital teacher.	1. **Organizing/Planning-** Steven does little organizing and planning. This is believed to be the responsibility of the mother and teachers. 2. **Goal setting-** I did not observe any goal setting. 3. **Environment structuring-** Mrs. Smith prepares Steven's work environment in the home and hospital. 4. **Study/Work habits-** Steven tends to be distracted by environmental factors, but does participate in long education sessions in the home. 5. **Task orientation/Concentration-** Steven seems to require frequent redirection. 6. **Seeking social assistance-** Steven does seek social assistance, but not readily. 7. **Influence of teachers/parents/family/ education program-** Steven's parents have subsidized additional instruction hours so that Steven can continue in the French Immersion program. Mrs. Smith has assumed responsibility for the instruction of math and English to Steven. She maintains contact with Steven's school and makes sure he has his materials.	1. **Impact of the illness-** Steven's illness has caused him to be more isolated and has produced, in him, feelings of anxiety and concern. 2. **Satisfaction with the hospital learning experience-** Steven indicated being, generally, unhappy and only partially satisfied with his hospital school experience. 3. **Influence of teachers/parents/family/ education program-** Mrs. Smith is critical to maintaining Steven's morale.	1. **Social connectedness-** Steven does not believe he has any remaining school friends. He has developed friendships with children in the hospital. According to Mrs. Smith, Steven's siblings are his closest friends. Steven has established relationships with several adults, but was not interested in establishing new connections. 2. **Familial bond-** Steven has a close bond with his family, particularly his mother. 3. **Personal control beliefs-** I did not observe Steven exercising control on his situation. However, it was mentioned that his computer game playing may be a coping technique. 4. **Influence of teachers/parents/family/education program-** Having the hospital education program provides Steven with another social contact. Steven's relationship with his mother and family is critical.

Alex

For me, describing Alex is like trying to describe a good friend. From my observations and interactions with the children, Alex seemed to be a polite, quiet, loving, unselfish, and cooperative boy who, as his grade four teacher remarked on his report card, "makes your day with his wonderful disposition, courteous manner, excellent work habits, and his greetings with a smile". As his mother pointed out, "no matter how he is feeling, he has got a smile for everybody and he is asking them how they are and he stops to make sure he says 'hi'" (p. 2, 56). Alex and I established a good rapport early in the research process. As a result, I found that over the 3 months in the hospital setting, I spent a significant amount of time with Alex doing not only research related activities, but visiting with him and his mother and passing time by reading and playing a variety of board and card games.

Alex is an 11 year old boy, in grade 6, who was diagnosed in May 1999 with neuroblastoma. According to Mrs. Walters, by the time of Alex's diagnosis, his tumour "had grown the whole left side of his stomach and part of his right... now they have shrunk it down to about the size of a plum or a little bit bigger" (p. 1, 5). Alex's treatment regime has included chemotherapy given intravenously, radiation treatment to the affected area, and multiple surgical procedures.

During my time in the hospital setting, it was hoped that the doctors might be able to surgically remove the remainder of Alex's tumour. Unfortunately, this was not possible because during the surgery the doctors discovered that although Alex's tumour had shrunk in size, it had also wrapped itself around several vital organs and they could not successfully complete the surgery. I visited Alex and Mrs. Walters the day after Alex's

surgery and was amazed at the courage with which this mother and son were coping with the news. Mrs. Walters had difficulty holding back her tears when she informed me of the outcome. However, with a forced smile on her face, she simply stated that they would continue with the radiation and chemotherapy and hope that these treatments would arrest the remainder of the tumour.

Student motivation.

Reviewing Alex's OSR indicated that throughout Alex's school years, he has been a consistently solid academic performer. His final year report cards indicated that he finished most years with a B average or within the expected range of achievement. Julie, Alex's hospital teacher, also indicated that, currently, in the hospital setting, Alex is successfully working at grade level. Alex is described in several of his report cards as being a slow, but steady worker who with consistent effort achieves academically.

When I asked Mrs. Walters if she believes Alex has experienced a history of school academic success she stated,

> Oh, excellent. His marks were always As and Bs, and Cs. I always told him his report card. You know, I always read the report cards to [him] and asked [him] 'well, do you think next term that you can make this grade go up higher, even if it's a plus or a minus higher'?... And [he] would try... He has always been good in school (p. 2, 46-50).

I believe that Mrs. Walters's encouragement and goal setting for her son, for improved marks from term to term, in combination with the efforts of Alex and his school teachers is reflected in his report cards. Most of Alex's report cards indicated Alex beginning his school years slightly academically weak, but progressively improving throughout the year. Mrs. Walters attributed Alex's past and present school success to Alex's rapport

with his teachers, including Julie, consistent teacher reinforcement, and to parental encouragement. She stated,

> I think he likes the teachers. He has gotten a lot of 'Way to go' and pats on the back. Reinforcements that make him want to do better. And plus at home, there's always mom that pushes a little. I push a little much. I can't help that. I told him that last night, 'that I am always going to be doing that, even when you're sixty-five years old' (p. 5, 136-140).

I believe that this is a very important statement because Mrs. Walters not only indicates trying to motivate Alex in the present, but, in a way, is also asking Alex to visualize his future. By telling him that she will always be "pushing" him, she is effectively telling Alex that she has expectations for him and that she is going to be there, as his mother, to help him excel and reach his potential.

With respect to subject areas, Alex stated feeling satisfied with his academic achievements in math and English while in the hospital setting, but indicated art and science as being his favourite subjects. Mrs. Walters also commented about Alex's interest in these subject areas, and suggested that he enjoys art, in particular, "because it's a challenge for him to do something different" (p. 5, 149). Doing art requires that Alex practice different types of skills and Mrs. Walters believes that this variety is both appealing and motivating for Alex. Unfortunately, because of the emphasis on core subjects in the hospital, neither art nor science is, currently, a part of Alex's hospital education program. However, according to Mrs. Walters because of Alex's interest in science and because the textbook work of science can be done in the hospital setting, Julie has agreed to try to incorporate some science into Alex's educational program.

Despite the limitations of the hospital education program both Mrs. Walters and Julie believed that the program was important for Alex. Mrs. Walters, on one hand, believed

that the education program gave Alex a routine which he has not had, at home, since his diagnosis and a social contact. Julie, on the other hand, believed the program was important for Alex because it allows him to stay current with his schoolwork and, as a result, gives Alex hope that he will return to his life and school. However, when I asked Alex how important having school in the hospital was for him he stated, "between 55% and 75% ... because getting, right now to me, getting better is more important than school" (p. 6, 129). Mrs. Walters suggested that school has always been important to Alex, but that "when he started getting sick, he didn't want to go to school anymore because he wasn't feeling good" (p. 5, 143-144). Therefore, even though the hospital education program plays an important role for Alex, his ability and desire to learn, even in the hospital setting, is affected by his physical condition on any given day.

The effect of Alex's physical condition on his learning was also remarked upon by Julie when I asked her how well she thought Alex learned while in the hospital setting. She stated, "under the conditions [he] is in, I think [he] learns well. Of course, it's not ideal because [he] is not always feeling very well" (p. 3, 66-67). Julie further commented that she believed that the one-on-one hospital teaching approach was not always the best learning situation. Alex, himself, commented that he preferred working in a group situation similar to what he had experienced in his classroom. Mrs. Walters stated that in her opinion, "that's the one thing Alex misses the most is the school environment" (p. 2, 62) and the opportunity for social interchange. For this reason, she believed that it was "good for Alex when [his sister], Susan, comes [to the hospital], because he's got a school partner. Usually what Julie does is she will teach Alex and teach Susan at the same time. And Alex just loves that because it's more like a school environment"

(p. 2, 59). Fortunately, Alex and his younger sister are very close in age and only one school year apart. Therefore, these joint education sessions while Susan is in the hospital visiting are academically beneficial for both children. I had the opportunity to observe Alex and Susan during one of these joint education sessions and I noted how well these two children interacted with one another. They also seemed pleased to be able to spend the time together.

Student cognition.

Alex reiterated, at another time in his interview, that he prefers to work collaboratively instead of individually. He stated that he was better able to concentrate on his work in school " because there wasn't any distractions except for the other kids asking me questions, but I would answer them. It would be much easier to concentrate than when I would work by myself" (p. 1, 14). Alex also seemed to suggest that because the hospital setting is not as well equipped with learning materials as a school environment and contains more potential distracters, he has more difficulty staying task focused while in the hospital. He commented, "[I am not able to concentrate] as much as... when I was in school... Because there's no people around asking me questions... no desks to sit on like at school. It's pretty hard to explain" (p. 4, 90). However, I noted during my observations that Alex required very little redirection during his hospital education sessions and seemed to remain task focused throughout the thirty minutes. Interestingly, neither Mrs. Walters nor Julie identified elements of the hospital environment as being possible factors affecting Alex's ability to study or concentrate. However, both participants did restate that Alex's school performance is dependent on how well he is feeling at that time.

Similarly, when I asked Julie and Mrs. Walters about Alex's ability to finish his homework, they both commented that although Alex attempts to do his homework while in the hospital, if he is not feeling well, he will not complete the work. For example, Mrs. Walters mentioned,

> Like Julie gave Alex homework on Monday and he was too sick on Monday to do it. But he did do it on Tuesday night. He tries to get it done. Whenever Julie is with him, he'll do it, no problem. It's when he's not with her. He tends to be more 'I don't care if it's not done right now because I'm not feeling good. When I'm feeling better I'll get it done' (p. 6, 168-170).

As a result of Alex's current condition, both Mrs. Walters and Alex commented that he infrequently completes homework in the hospital setting. However, they both also added that even when Alex attended school, he only sometimes completed his homework because, in their opinions, Alex's last school teacher often assigned too much work. Mrs. Walters stated that in Alex's school "[the students] would have about 4 hours of homework every night" (p. 3, 78). Because Mrs. Walters believed this to be an excessive amount, she would often select, from the teacher assigned questions, the questions that Alex would actually complete for homework.

Despite Alex's difficulty concentrating and studying in the hospital and the infrequency with which he completes his homework, Alex, Mrs. Walters, and Julie, all believe that he recalls much of the lessons that Julie teaches him. Mrs. Walters believes that Alex has always been able to remember his school lessons, but particularly the lessons he learns in the hospital because she has overheard Alex accurately telling his sister about his lessons with Julie. Alex attributes his ability to recall his hospital lessons to the fact that, in his opinion, "most of it is easy and it just stays in really easily"

(p. 5, 103). In one of Alex journal entries, he also commented that his learning, in the hospital, could be improved if the work was more difficult (journal entry #2).

As mentioned earlier, Mrs. Walters believes that one of reasons why Alex has continued to experience academic success is because of his fondness for Julie. Mrs. Walters stated that Alex always interacted very well with all of his teachers, but " he likes Julie a lot. He says 'she's a really good teacher, Mom'" (p. 6, 181). According to Julie, Alex always participates well with her and seeks her assistance whenever it is required. Unlike his mother, Alex believed that although he participates well with Julie, he only sometimes participated while attending school. He stated, " I didn't put my hand up all the time, but I put it up sometimes" (p. 1, 21). However, from reviewing Alex's report cards, it seems that Alex's school teachers believed his class participation to be good and commented that Alex participated openly.

Because of the good relationship Julie and Alex enjoy, Alex commented in his interview, that occasionally Julie would allow him to determine what will be taught during his education session. However, Alex also commented that most of the planning and organizing for his sessions is done by his mother and Julie. During my observations, I noticed that Alex relies heavily on his mother for direction and explanations when he does not understand something. He stated, "Julie and my mom usually say what I do. Sometimes Julie asks me what I want to do in my work. And sometimes it's just computer that we do" (p. 4, 97). Mrs. Walters also believed this to be the case when she stated, "I think the teachers [plan and organize] him or I do it. Like I'll suggest to Julie what I would like her to focus on and she will because Alex just kind of goes with whatever she says" (p. 7, 192). The only time that Alex and his mother could recall when

he had taken the initiative to prepare and organize occurred when he was in school. He maintained a learning agenda whenever he undertook independent projects. Although Julie admitted that she does not require Alex to do anything in particular to prepare for his education sessions, she believes he does do some simple preparations. For example, she stated, "generally, [he] remembers where we are supposed to start the next day. So, I think [he has] either thought about it in [his] head, or planned it out in [his] head, or else looked [the material] over" (p. 1, 21-23). I remarked during the third observation session that Alex would tell Julie what he would like to do and what his mother is expecting him to cover during the lesson.

Student affect.

Alex's perception of his academic abilities and his feelings of personal happiness are dependent on his physical condition at the time. For example, Alex indicated feeling happy in his first and second journal entry when he was " feeling better" (journal entry # 2) and when he was "gaining weight" (journal entry #1) and on these days, Alex also indicated that learning for him was easy. Conversely, in Alex's third journal entry, he indicated feeling only moderately happy because he was expecting to undergo a chemotherapy treatment (journal entry #3) and on this day, believed that learning for him was slightly difficult. The difficulty or ease that Alex experienced during his education sessions, he attributed to his assessment of the level of difficulty or easiness of the presented material and whether he liked the work that day. For example, he believed that learning was more difficult when the education material was challenging and unappealing to him. However, at the same time, Alex believed that on the days when he learned easily

that his education sessions could be improved if the material was more difficult and if the lesson could be more fun.

Alex's desire to have fun and to interact with children his own age was identified by both Mrs. Walters and Julie and being the one thing that Alex misses the most since having to come to the hospital. Julie stated, that the impact of Alex's illness "on [him] was devastating from a school picture, because [he] was going to be away from friends. Being away from friends was the biggest thing" (p. 4, 101). Alex also commented that, in his opinion, the aspects of school which he enjoyed the most were "gym, computers, recess, and hanging out with my friends. And art" (p. 3, 62). I remarked upon Alex's fun-loving spirit one day when I came to visit him and he and the nurse were having water fights in his room. Although Alex was bed ridden, they were taking turns squirting water at each other using clean, empty plastic syringes.

As a result of Alex's illness and his reduced social opportunities, Mrs. Walters believes he has become more family oriented and is particularly attached to her. She stated, "he has always been a caring kid... That's never been a problem, but now it's more family oriented... He is more attached to me now than he was before. Like, I could leave him for a week and no problem, but now, I can't go for the day without him wanting me back" (p. 2, 33-34). Mrs. Walters also suggested that although Alex enjoys having his father stay with him in the hospital, he prefers his mother's company.

Student adjustment.

Alex's connection and closeness with his family was apparent throughout my time spent in the hospital. Julie, in fact, identified the positive influence of Alex's family on him as being the key to his adjustment. As mentioned earlier, not only does Alex have a

particularly strong bond with his mother, but he also has the company and support of all his family members. Mrs. Walters suggested that because Alex and Susan have such a good sibling relationship that Alex's hospitalizations and necessary separations from his sister have not only been difficult for him, but have also been challenging for Susan. These separations have required that Susan adjust and adapt to Alex's illness as well. Mrs. Walters stated,

> Those two are only eighteen months apart and they have been inseparable since they were born. You would think they were twins the way they are always together. Whenever they have gone to school, they have always gone to school together. When one of them was sick, the other one wouldn't want to go to school... And Susan hasn't had anybody to go to school with since September. Well, since May actually. And she feels that. She feels the difference because she has had to develop more mentally than she did before (p. 3, 66-75).

At the end of the hospital education session in which Susan participated and that I observed, Susan, in addition to Alex, completed a journal entry. In her entry, she indicated feeling happy that day because as she wrote, "I am with my brother".

When I asked Mrs. Walters if Alex misses spending time with his school friends, she indicated that he does, but because he is self-conscious about his appearance, he does not want his friends from school to see him in the hospital. Therefore, this has meant that Alex has been separated from his classmates for almost a year. Consequently, Mrs. Walters commented that Alex, mistakenly, believes that he only has one or two remaining friends at his school. She stated, "He honestly thinks he only has one friend or two friends. But he has a whole class that miss him so much" (p. 4, 122). Throughout Alex's OSR, he is also referred to, by his classroom teachers, as being a "well-liked" boy who is not only an excellent example for his peers, but has a wonderful influence on his peers.

However, despite the opinions of both Mrs. Walters and Alex's previous classroom teachers, Alex commented, in his interview, feeling socially isolated from his school friends and only having one or two friends at school even prior to his diagnosis.

In addition to feeling disconnected from his peers, Alex also seems to believe that the other children in the hospital are younger, and, as a result, has not developed friendships in the hospital setting. Mrs. Walters explained that, in her opinion, Alex does not pursue making acquaintances or friendships in the hospital because he is anxious that others will not want to spend time with him and would rather people come to him. She stated, "He likes [his peers] to come to him because he is afraid of them saying 'no' to him" (p. 7, 212). According to Mrs. Walters, "Alex likes the idea that other people have an interest in him. He thinks it's amazing. And I say 'why'? 'You're a nice kid. Why wouldn't people want to come and visit you and talk to you'? He doesn't believe it" (p. 6, 185). However, despite Alex's shyness, I observed that he does easily establish relationships with anyone he meets and, very early in the research process, was willing to establish a connection with me. In addition, as Mrs. Walters pointed out, Alex's academic progress in the hospital setting was also partially a result of the good relationship he developed with Julie.

Although Alex did not seem to take the initiative to establish new social connections while in the hospital, he did seem to take an interest in better understanding his condition and participated with the nurses in managing his own treatments. For example, I recall being in Alex's room one day when a nurse came in to adjust or change the medications Alex was receiving intravenously. The nurse came into the room with five small plastic wrapped packages containing various medical supplies which she laid out on Alex's bed

beside him. While she systematically went about doing her job, I noticed that Alex took two of the packages which were beside him. I remember asking myself if I should alert the nurse to the fact that Alex had taken these packages. However, I remained quiet because I was interested to see what Alex would do with these items. After the nurse left, Alex opened the plastic wrapped packages and removed from each a long cotton tipped swab housed in a hard plastic tube. Alex then lifted up his shirt and with the swabs, ran the cotton tip around the areas where the intravenous tubes had been inserted. He then put the swabs back into their plastic housings and put them both in his pillowcase. When I asked him what he was doing, he informed me that the swabs were used to determine whether infection had developed at the intravenous site and that in order for the doctors to test for the presence of infection, the swabs had to be kept warm for two days. Therefore, since his mother had told him that the head was the body's primary heat source, he believed that the swabs would be best kept warm in his pillowcase.

Similarly, on another occasion, Alex was again receiving treatment intravenously and his intravenous pump began to beep indicating a problem with the machine. As I was leaving Alex's room to try to alert a nurse of the situation, I noticed Alex calmly and methodically pushing several buttons in an attempt to readjust the machine. The machine did not stop beeping and so Alex kept pushing different buttons until it finally stopped. When I asked Alex if everything was all right, he told me that everything was fine and that he thinks the machine indicated a problem because he was lying on the tubing.

By taking part in his treatments and by being able to manage potential problems associated with his medical procedures, Alex was, in effect, exercising control on his situation. As one of the other mothers, Mrs. Johnston, pointed out, although the children

in the hospital may miss out on some of the traditional aspects of education and schooling, what they are exposed to in the hospital provides them with whole different kind of education. As she stated, "It's a real education" (p. 6, 172) (see Table 10 for summary of Alex's case).

Table 10

Alex

	Student Motivation	Student Cognition	Student Affect	Student Adjustment
Alex	1. **Perceived school importance-** According to Mrs. Walters and Julie, it is very important that Alex attends school when possible and that he have hospital schooling. Alex, on the other hand, believes attending school to be quite important, but that having school in the hospital to be not as important. Alex believes that when he is in the hospital, getting better is more important. 2. **Perceived difficulty learning-** Alex learns well in the hospital, but his ability to learn is affected by his physical condition on any given day. 3. **Preferred subjects-** Alex feels satisfied with his achievements in math and English, but his favourite subjects are art and science. He particularly likes the challenge of art. 4. **Academic success-** Alex has and continues to perform at grade level despite his illness. 5. **Influence of teachers/parents/family/education program-** Teacher reinforcement and parental influence are considered to be the main factors contributing to Alex's school success. Mrs. Walters indicating that she, in particular, "pushes" Alex. Alex enjoys having his sister at the hospital with him.	1. **Organizing/Planning-** Alex did little or no organizing or planning for his education sessions. This seemed to be the responsibility of the mother and/or teacher. 2. **Goal setting-** Academic goal setting seemed to be done by Mrs. Walters. 3. **Environment structuring-** I did not observe environment structuring. 4. **Study/Work habits-** Alex's work habits depend on how he is feeling. If he does not feel well, he will not complete his work. 5. **Task orientation/Concentration-** Alex believes he has more difficulty concentrating in the hospital setting. However, I noted that he required little redirection during the education sessions. 6. **Seeking social assistance-** Alex readily seeks social assistance. 7. **Influence of teachers/parents/family/education program-** Mrs. Walters is very involved in Alex's education program. Alex's sister will participate in his hospital sessions when she is in visiting.	1. **Impact of the illness-** Alex's illness has meant that he feels socially isolated. It has also meant that he has become more family oriented. 2. **Satisfaction with the hospital learning experience-** Alex's feelings of happiness are dependent on his physical condition at the time. On days when Alex is feeling well, he also indicates having less difficulty learning. 3. **Influence of teachers/parents/family/education program-** Alex is very attached to his mother. The hospital education program provides Alex is an additional social contact.	1. **Social connectedness-** Alex misses spending time with friends, but is self-conscious of his appearance. Alex believes he only has one or two friends. However, Alex establishes relationships easily and interacts well with adults. 2. **Familial bond-** Alex has a strong connection with his family. 3. **Personal control beliefs-** Alex participates in his medical procedures. He tries to understand what is being done to him. 4. **Influence of teachers/parents/family/education program-** Because Alex feels socially isolated, the contact he has with Julie is beneficial.

Review of Cases

Since the objective of case study research is not to produce generalizations, this review will simply contain observations of characteristics that occurred across the cases. These observations will, again, be organized and presented according to the previously determined broad analytical categories and the smaller units of analysis. However, information and units of analysis that pertain to different analytical categories, will only be discussed once in order to avoid repetition. Thus, units of analysis that overlap each other will be combined to facilitate the review.

Student Motivation

School importance.

For Jill and David, who at the time of the study were at school on a part-time basis, attending school and having hospital instruction was very important to them. In fact, both of these students commented that school had now become more important to them than before their diagnosis. Prior to their diagnosis, neither student realized how important school was for them until they experienced not being capable of having it in their lives. For these students, hospital instruction was primarily valued because it assists them in keeping up to date with their peers and in maintaining their "good" marks. It also facilitates their reintegration into school whenever possible, and while in the hospital, helps them counter boredom and depression. Amanda, who was expected to return to school, on a part-time basis, shortly following the end of the data collection, also believed that attending school and having hospital instruction was very important. However, unlike Jill and David, Amanda considered school to be critical because it would prepare her for possible employment later in life. Interestingly, the two students, Alex and

Steven, who at the time of the study were disconnected from their community schools and had no immediate expectation of returning to the classroom setting, did not attribute as much importance to attending school or having hospital instruction as the other students. For these students, attending school and having hospital instruction were only slightly to moderately important and of the two instructional settings and methods, attending school was considered to be slightly more important than having hospital instruction. However, they both viewed hospital and home instruction as something they had to do and seemed to appreciate spending the instruction time with the teacher as opposed to valuing the time for the educational component. All the mothers and teachers believed that attending school and having hospital education, in particular, was very important for the children. From their perspectives, the hospital education program provided the students with a sense of normalcy and hope for the future, assisted the students in passing time while in the hospital, countered boredom and depression, and is an activity in the hospital setting which is not invasive or painful.

Academic success and perceived learning abilities.

All the mothers and hospital teachers indicated that, in their opinions, each of the students experienced a feeling of success while receiving education in the hospital setting. Although 3 of the students commented preferring the collaborative classroom atmosphere to working independently because it allowed them to gauge their performance in relation to their peers, all 5 of the children benefited from the one-on-one hospital teacher attention. Even those children, David and Amanda, who according to their OSRs, had not experienced a history of school success prior to their diagnosis, still indicated feeling academically successful in the hospital. These children did not attribute their difficulties

to a lack of ability, but rather to the requirement for increased effort. David's belief in his ability to improve his academic performance through dedicated effort, seemed to be, at least in part, because of the influence of his older brother and witnessing his brother work to succeed academically.

Although the children's perceptions of their learning abilities seemed to be linked to their physical condition at the time, Amanda, Alex, and Steven, in particular, tended to want to be mentally challenged during their hospital education sessions. Amanda and Alex stated, in their interviews and journal entries, that they found their hospital sessions, when they were feeling well, to be easy. According to Alex, his learning could be improved if the work was a little more difficult. Interestingly, again, these are the students who at the time of the study were not attending a community school and perhaps required more mental stimulation.

Preferred subjects and the influence of teachers/family/education program.

All 5 of the students seemed to understand and accept the limitations of the hospital education program. Therefore, even though 3 of the 5 students indicated liking subjects which could not be accommodated for in the hospital, the students recognized that the hospital program must focus on the core subjects of math and English. To accommodate the children's other interests, the mothers supplemented the children's educational programs by involving them in outside organizations, bringing into the hospital setting activities of interest, and, in the case of David and Steven, paying for additional teacher time.

All 5 of the mothers were intricately involved in the children's educational programs. Four of the 5 mothers stated, in their interviews, being the person who, in partnership

with the hospital teacher, "pushes" their child to finish their schoolwork and strive to meet various educational objectives. All 5 of the students indicated liking their hospital teachers and, in the case of David, he wanted to succeed for her. However, according to the hospital teachers, it was the mothers and families who played the critical role of maintaining the children's morale through their constant commitment and devotion to their children.

Student Cognition

Organization and planning.

In all of the student cases, none of the children assumed complete responsibility for their personal organization, planning, and preparation for their hospital education sessions. Although Julie believed that Amanda and Alex did do some preparation for their sessions, all of the children commented that the organization and planning required for their educational experiences was done by their teachers and mothers. This was particularly true of the younger children involved in the study. Jill, the oldest of the student participants, demonstrated more indicators of self-regulation. With respect to organization and planning, it was observed that she maintained a neat and organized binder and often came to her hospital sessions with a series of questions to assist her with her work.

Goal setting.

Although I did not observe formalized proximal goal setting by the teachers, mothers, or students while in the hospital, it became evident that distal general goals such as receiving "good" marks, keeping pace with peers, and returning to the school setting were very important to the children and mothers. Of course, academically supporting the

children while they are unable to attend school and then facilitating their reintegration was also the primary objective of the hospital teachers and the hospital education program.

It is interesting to note that these general goals tend to stress the participants' desire to want social comparative information or feedback and that they are looking to the teachers to provide them with a reliable assessment of student development. For example, I was in the hospital setting at the end of the first school term and all of the children and parents were eager to receive report cards that would provide them with an indication of how these isolated children were doing in relation to their peer group. However, students, such as Steven, Amanda, and Alex, who were totally reliant on the home and hospital programs for their education, did not receive completed formal school report cards. As mentioned earlier, this lack of official recognition was particularly upsetting for Mrs. Smith and Steven.

Study and work habits.

Although all of the children believed they were capable of studying and working in the hospital setting, their ability to do so seemed to be determined by two factors (a) how they were feeling, and (b) to what extent they were distracted by the environment. Jill and David, who participated in hospital education sessions primarily as out-patients on the Medical Day Unit (MDU), found the hospital to be a particularly poor work environment. They believed that their education could be improved if the hospital education staff were provided with school supplies such as textbooks and workbooks and if there was a more appropriate work space with fewer interruptions.

Task orientation, concentration, and recall.

Similar to the children's abilities to study and work in the hospital setting, their abilities to concentrate, recall presented material, and remain task focused seemed to also be determined by their health and disturbances inherent in the hospital environment. Although all the children believed they were capable of remaining task focused, particularly on activities that appealed to them, 4 of the children found interruptions in the environment to negatively affect their ability to work. Consequently, these children also required redirection during their hospital education sessions. However, in two of these four cases, Amanda and David, these children's tendencies to become easily distracted were remarked on by the children's previous classroom teachers. As a result, Mrs. Johnston and Mrs. McDonald both believed that their respective child benefited from the individual teacher attention provided in the hospital setting.

Social assistance and the influence of teachers/family/education program.

Although none of the hospital teachers seemed to encourage or consistently model the development of self-regulatory skills, these teachers did provide the students with constant positive verbal feedback and in two cases, did encourage some strategy use. Because of this performance feedback, the students did feel comfortable approaching the hospital teachers for assistance when experiencing difficulties and looked to the hospital teachers for correction information. In addition, because the students did not receive marks while in the hospital setting, and since student assessment seems to be the responsibility of the classroom teacher, both the students and mothers relied on the hospital teachers to be credible sources to indicate how the students are progressing academically.

As mentioned earlier, all of the mothers were highly involved in their children's hospital education program. These mothers ensured that their children completed their schoolwork and assumed a large portion of the organizational responsibilities for their children's educational program including transporting educational materials to and from the community school. Perhaps it was because the mothers are such effective managers that the requirement for the children to develop regulatory skills was not necessary.

Student Affect

Effects of illness.

It was believed by all of the participants that one of the greatest effects on the children due to their illness was an increased feeling of social isolation. For David and Jill, the loss of mobility, in addition to social disconnection, was also considered to be a significant factor resulting from their specific cancer type. However, all of the children either commented missing their school friends or did not believe they had any remaining school friends. In the cases of Alex and Steven, these boys commented feeling particularly lonely. Perhaps in Steven's case, in particular, his long absence from school had contributed to his feelings of social disconnectedness. As well, both boys had no immediate expectation of returning to the classroom environment and perhaps because they cannot look forward to returning to school, they tended to have a more depressed social perspective.

Satisfaction with the hospital learning experience.

For 4 of the 5 children, feeling "good" or "happy" following their hospital education sessions was dependent on how they were feeling physically and what was happening, at the time, in their medical regime. As mentioned earlier, for these children, learning

tended to be easier on days when they were feeling healthier and thus more positive about their medical condition. These children also felt either satisfied or somewhat satisfied with their hospital learning experience. These children suggested that their learning in the hospital could be also improved by having a better work environment, fewer distractions and interruptions, more instructional time, and by doing schoolwork which appealed more to them and, in some situations, was more challenging. Steven was the only child who repeatedly indicated either "not being in a good mood" or "being bored" and was consistently only somewhat satisfied with his hospital learning experience. Steven believed that his education sessions could be more entertaining and should focus specifically on his favourite subject, math.

Influence of teachers/family/education program.

As mentioned earlier, all of the children indicated liking their hospital teachers and each of the mothers was extremely supportive of the hospital education program. Mrs. Walters, in particular, commented on how the hospital education sessions provided Alex with a needed routine and she believed that the additional social contact with the hospital teacher was very beneficial for her son.

Student Adjustment

Social connectedness and familial bonds.

Although all the children in the study experienced some degree of social isolation while being separated from the school environment and their peer group, all but one of the children had established friendships with other children in the hospital setting. All of the children have strong familial bonds, particularly with their mothers, and their siblings are also often their closest friends and playmates. According to a hospital teacher, the

positive influence of the families was considered to be the key to the children's adjustment and personal success.

All of the children demonstrated a maturity that has also allowed them to interact and establish relationships with caring adults such as their hospital teachers and other hospital personnel. Interestingly, the ability of these children to interact well with adults was remarked upon by previous classroom teachers in each of their OSRs.

Personal control beliefs.

The issue of control, as mentioned earlier, is crucial to the concept of self-efficacy. It is also an important aspect of personal adjustment and coping since having control means increased predictability and predictability is reassuring. During my time in the hospital setting, I observed 4 of the 5 children exercising different forms of personal control beliefs. For example, both David and Alex demonstrated having a scientific interest in their illness and medical procedures. In David's case, he was also willing to share his personal story with anyone who cared to ask and listen, including the general public. David as well as Amanda, did not attribute their previous academic difficulties to a lack of innate ability, but to insufficient effort. Therefore, putting in the required effort in order to receive "good" marks became particularly important for David. Jill also seemed to work very hard at keeping pace with her peers and maintaining a high level of academic performance. In addition, she reacted to her diagnosis by shaving her head and, in so doing, preempted and took control of one of the side effects commonly associated with cancer treatment. Steven was the only child I did not observe exercising some degree of personal control. However, it was suggested that perhaps his frequent computer game playing was a type of coping method.

Conclusion

At this point in the chapter and thesis, I would like to re-state some of the significant characteristics and observations found across the cases.

a) For the oncology students, the hospital school experience was valued most when the expectation of returning to the community school was imminent. For those oncology students who did not anticipate returning to school, the hospital school experience was valued for the social contact the children had with the hospital teacher.

b) Although all of the students seemed to experience some success while in the hospital setting, prior academic difficulties experienced by two of the students, in particular, were attributed to a lack of effort and not to an inherent inability.

c) For all of the children, the ease with which they were able to learn as well as their feelings of happiness were linked to the way they were feeling on a given day.

d) All the mothers were intricately involved in their children's educational program and often supplemented the hospital education sessions.

e) The oncology students did not demonstrate the use of self-regulatory strategies.

f) The oncology students wanted social comparative information.

g) Although all the children had strong familial bonds, the greatest effect on the children as a result of their illnesses was increased peer social isolation.

CHAPTER 6

DISCUSSION AND IMPLICATIONS

I began this thesis by suggesting that the quality of life for children with a cancer diagnosis may be influenced by the degree of control they feel able to exert and to the extent to which they are able to adjust psychosocially. Because successful psychosocial adjustment requires the promotion of normal child growth and development, the role of schooling becomes critically important. Schooling is not only a vehicle for intellectual development but also provides any child with the social lessons required to interact in society and to be competitive with peers (Moffitt, 1985). Therefore, through indicators such as school task performance, peer social comparisons, and teacher feedback, children use school as a measure of their development and normalcy. Hence, by encouraging sick children, who have so many physical constraints imposed upon them, to succeed in school (regardless of whether that school is located in the community school building, or in the hospital setting), the children have an area in their lives that they can control. They also see themselves as being more "like the rest of the kids; they have a future and thus they can better tolerate the medical treatments and side effects" (Moffitt, 1985, p. 3).

Since Bandura (1997) has effectively demonstrated that at the heart of psychosocial functioning is self-reflection or an assessment of a person's capability to manage situations, I posed the following research questions. How do efficacy beliefs of hospitalized oncology students (a) influence their motivation to learn in the hospital setting, (b) influence their ability to regulate and master academic activities, (c) influence their level of satisfaction and affective response to their learning experiences, and

(d) indicate personal adjustment under adverse conditions. These research questions did effectively guide this research study. However, one aspect of this research that was briefly mentioned at the end of chapter two and has become critical to this study is the role of peer social isolation. This emergent theme developed during the investigation of the efficacy regulated processes and is linked to the research questions. Therefore, the effects of peer social isolation will be explained as part of the detailed discussions of the research questions.

Data for this study were collected using a descriptive, multiple case study approach within a single research site. Methods used included interviews, participant observations, document reviews, and activity sessions. By combining these different methods, the intent was to gain a more holistic view of the educational development of 5 oncology students in the hospital setting. In so doing, this study also presents some preliminary findings in the area of hospital education.

Because one of the purposes of this research is to make a practical contribution to this area of teaching and education, chapter 6 will not only focus on a discussion of the research questions, but will also contain program recommendations for consideration. In addition, it should be noted that discussion of the research question is not organized and presented according to the study's analytical categories and units. Many of the overlapping analytical units have been combined to produce a more concise narrative. The chapter will conclude with an acknowledgment of the limitations of this study and implications for future research.

Research Question #1

How do oncology students' efficacy beliefs influence their motivation to learn in the hospital setting?

Motivation research indicates that students' beliefs, values, and expectations often mediate their achievement related behaviours. More specifically, student motivation is guided by the students' beliefs in what they are capable of doing. Based on these efficacy beliefs, the student will set goals, plan courses of action, and anticipate likely outcomes. Forethought is then "translated into incentives and appropriate action through self-regulatory mechanisms" (Bandura, 1993, p. 128). Three types of cognitive motivators that Bandura (1993) considered significant in motivational processes include causal attributions, outcome expectancies, and cognized goals. Each of these motivators will be discussed in relation to the research in the following paragraphs.

Causal attributions.

According to Bandura (1993), students "who regard themselves as highly efficacious ascribe their failures to insufficient effort; those who regard themselves as inefficacious attribute their failures to low ability" (p. 129). Perry, Ott-VandeKamp, and Hoption (1999) further suggested that students who believe ability to be generative or incremental are also most likely to adopt effective self-regulated approaches to learning and will value learning and understanding.

To assess to what extent the children in this study did indeed value learning and the education experience, the question of perceived school importance (both attending school and having hospital instruction) was put forward. The children in this study, Amanda, Jill, and David, who considered both attending school and having hospital instruction to

be very important also demonstrated behaviour or made interview comments which suggested that they do indeed view learning as generative and requiring work. Although the other children, Steven and Alex, also saw school as requiring work and effort, they did not consider school to be as much of a priority and viewed hospital instruction as even less important. As mentioned earlier, I believe that this indifference to school may be partially a result of these students' disconnection from their community school. Neither Alex nor Steven had any immediate expectation of returning to their classroom, and Steven, in particular, had already been absent from school for an extended period of time. These two students were also, at the time of the study, experiencing more serious medical complications. Therefore, in Alex's opinion, while in the hospital, "getting better is more important than school" (p.6, 131).

It is interesting that the students who seemed to value attending school and having hospital instruction the most were also those who were already attending school on a part-time basis or were expected to return to school shortly. This suggests that, motivationally, there may be a link between the students' perceptions of the value of school, particularly hospital instruction, and their physical condition and their subsequent expectations of returning to the classroom environment. However, I believe that this link is strongly related to the students' perceptions of the purpose of hospital instruction and to the participants' goal setting. Therefore, this link will be discussed in more detail in the upcoming thesis sections.

Since repeated successes in a domain will tend to raise self-efficacy beliefs and failures will lower them, it was expected that those children in the study who had not experienced histories of school success would be less academically motivated in the

hospital setting. However, this was not always the case. In fact, the effect of performance information on self-efficacy beliefs depends on how that information is cognitively appraised and, more specifically, on the student's conception of ability. As mentioned earlier, Amanda and David, who had experienced prior difficulties succeeding in school, did not attribute their difficulties to a lack of ability but rather to lack of effort and attention. Both students also believed that they could control these two achievement factors. Therefore, even though previous performance indicators could have had a negative effect on their efficacy beliefs, their beliefs in their academic abilities were unaffected. Actually, despite their previous difficulties, and in combination with their reduced physical capabilities, these students still stated feeling academically successful.

Unfortunately, however, Steven, who had consistently performed at or beyond his grade level and is considered to be extremely intelligent particularly in the area of math, was negatively affected by his recent difficulties in French writing. I believe that his recent academic challenges affected his overall opinion of school and the home and hospital programs and caused him to become frustrated with his learning experiences. Furthermore, I believe that these challenges also contributed to his indifference with respect to the importance of school.

Schunk (1989) suggested that attributional feedback, "which links students' successes and failures with one or more causes, [can be] a persuasive source of efficacy information" (p. 18). Expectancies for future "success and failure in part depend upon ascriptions for prior outcomes" (Schunk, 1983, p. 848). However, Schunk (1989) also stated that younger children tend to stress the role of effort, whereas ability information becomes more important with development and older children. This is interesting

because Amanda, in particular, was one of the youngest participants and did indeed tend to stress effort as being key to her future academic success. Jill, on the other hand, who had a history of school success and who was also the oldest participant, tended to link her school success more to her abilities and self-perception. She also seemed to be heavily reliant on her school marks and social peer comparisons to be the indicators of her ability. Consequently, it was difficult for Jill to be socially isolated from school and not able to maintain her high level of academic performance.

Although ability information becomes more important with development, "effort feedback can [still] motivate students of different ages" (Schunk, 1989, p. 18). Effort information in the form of teacher praise can have a significant impact on a student's self-efficacy for learning because this positive feedback conveys how the teacher sees the student's ability. Students may experience feelings of increased efficacy when they are told by a trustworthy source that they are capable of learning (Schunk, 1989). This trustworthy source could be anyone whom the students believe is capable of providing them with a credible assessment of their educational development. In most academic situations, this source is usually the teacher. However, students will doubt their teacher and their own capabilities if they believe the teacher does not understand their situation or if they perceive that the teacher has lowered his or her expectations. Although medical considerations necessarily take precedence over the child's educational program, hospital teachers are warned not to lower their expectations of these special students since students will feel less efficacious when they believe that their teachers do not expect much of them (Schunk, 1989).

During the research data collection, I observed that all the oncology students received consistent positive teacher reinforcement or praise. The children, in turn, responded favourably to this encouragement. They developed close relationships with their hospital teachers and they wanted to succeed academically for their hospital teachers.

Although all the mothers were highly involved and interested in their children's educational program, for 3 of the students, Jill, Alex, and Steven, their mothers played particularly significant roles. These mothers were intricately involved either by helping to deliver the child's curriculum or by structuring and working through the schoolwork with their child. Unlike David and Amanda, for these three children, their mothers were considered to be "reliable teachers" and perhaps credible sources of development information. These were also the same children who had experienced histories of school success. All the children, however, with the exception of Steven, who was experiencing some difficulties with French composition, were excelling in the hospital program and their success was largely attributed to the influence of the mothers and the hospital teachers.

However, despite the support that the children received while in the hospital setting, it became evident that the academic expectations for the children, while in the hospital, were not clear. Evelyn and Cheryl both remarked on being unsure as to how much they should be expecting from the oncology students and suggested that there existed some misunderstandings among education professionals as to the role of the home and hospital programs. For example, Cheryl commented that sometimes classroom teachers rationalize not sending oncology students schoolwork by suggesting that they should be focusing on their health and not necessarily on school. However, this type of thinking

actually undermines the purpose of the home and hospital programs and can be detrimental to the students. As Cheryl stated, "I don't think they quite understand how the hospital school program works" (p. 10, 321).

For those children who were attending school periodically, student expectations seemed to be set by the classroom teachers based upon grade appropriate school programs. The function of the hospital program then became to support the classroom objectives. However, for those children who were completely dependent on the home and hospital programs for their educational content, it became apparent that without formalized Individual Education Plans (IEPs), agreed upon by the students, mothers, and teachers involved, knowing what the specific expectations should be for hospitalized children is difficult. Even if there is communication and cooperation among the teachers, simply attempting to mirror some mandatory components of the classroom program without stated and agreed upon objectives or expectations may lead to disorganization and confusion. Student assessment, therefore, also becomes a difficult task. As a result, classroom teachers are reluctant to complete formal school report cards for oncology students and the home and hospital teachers do not consider student report cards to be within their area of responsibility. It was also brought to my attention by a community school principal that, in her opinion, the recent changes in the Ontario school report cards did not provide classroom teachers with the flexibility required to customize the report card for a hospitalized child. Consequently, only 1 of the 5 children involved in this study, Steven, had any record of receiving home or hospital instruction in his OSR. Furthermore, despite having been completely dependent on the home and hospital programs for the last three academic years, the only records contained in Steven's school

file, recognizing his continued work and effort, were unofficial progress reports completed by his home instruction teacher.

This lack of recognition is unfortunate for many reasons. For example, it does not promote normalcy or recognize the work and effort of the student and mothers to maintain and encourage the child's educational progress. By not acknowledging these efforts, the school system is, in essence, telling these chronically ill children that there is no purpose or reason for their efforts; thereby further undermining the intent of the program. As well, I believe that this lack of recognition affects the students' self-efficacy beliefs and this negative influence will be discussed, in detail, in the following paragraphs.

According to Bandura and Cervone (1983), motivation generated by performance standards, operates mainly through an internal comparison process. When people or students commit themselves to explicit standards or objectives, perceived negative discrepancies between what they do and what they seek to achieve creates self-dissatisfactions which serve as a motivational inducement for enhanced effort (Bandura & Cervone, 1983). However, the self-evaluative process through internal comparisons requires both personal standards and knowledge of the level of one's performance. Therefore, "neither knowledge of performance without standards nor standards without knowledge of performance provides a basis for self-evaluative reactions and thus has little motivational impact" (Bandura & Cervone, 1983, p. 1018).

According to Schunk (1985), students acquire information about their own capabilities through teacher assessment and knowledge of how others perform. He further suggested that when objective standards of behaviour are unclear or unavailable, that people and

students will tend to rely even more heavily on social comparisons for the purpose of self-evaluation. Students will, therefore, feel more/less efficacious and will exert more/less effort when they believe they are accomplishing more/less work than their peers. Given this information, how then do hospitalized oncology students, who are socially isolated and who do not have clear educational objectives, self-evaluate, form self-efficacy beliefs and, subsequently, motivate themselves?

Based on the information I obtained from my participants, it was repeatedly stressed that, while isolated, oncology students just want to be normal and are, with respect to school, primarily motivated by their desires to "keep up with their peers", to "get good marks", and to eventually return to school. This was particularly true of the students who were already attending school or were soon expected to be returning to the classroom environment. Since school is a critical component in normal childhood development, receiving report cards, or obtaining marks, becomes very important to chronically ill children. These marks, in the absence of clear expectations and peer social interactions, become the only vehicle they have for self-evaluation. In addition, marks allow oncology students to determine whether they are developing normally in relation to their peer group. However, in order for these students to use marks as potential self-efficacy cues, the students must believe that their classroom teachers are credible sources who will assess their abilities in relation to what they know to be the age and grade appropriate norm. Alternatively, if the students believe that their teachers do not have age and grade appropriate expectations of them, they expect that their report cards will objectively indicate to them the gap between their performances and the average.

As mentioned earlier, I was in the hospital setting at the end of the children's first term. For Jill and David receiving their first term report card was a very positive and encouraging experience because not only had they received report cards similar to their peers and siblings, their work and effort been recognized, and they had tangible evidence of their academic progress. Unfortunately for Alex, Steven, and Amanda, not receiving a formal report card had no positive effect and caused increased aggravation and stress for Steven and Mrs. Smith.

Outcome expectancies.

According to Bandura (1993), people will "act on their beliefs about what they can do, as well as their beliefs about the likely outcomes of performance" (pp. 129-130). Thus, the motivating potential of outcome expectancies is partly determined, again, by a person's beliefs in his or her capabilities (Bandura, 1993). However, as mentioned earlier, people's beliefs in their capabilities are not necessarily exclusively linked to previous performance indicators as the formation of capability beliefs is also dependent on how individuals cognitively weigh self-efficacy cues. Consequently, despite the students' different prior experiences with school and success, four of the five children still stated feeling academically successful. It was even believed by Mrs. Smith and Cathy, that Steven, who was, at the time of the study, experiencing some academic difficulties and who chose not to comment concerning his feelings of success, did experience a sense of success while in the hospital setting.

When I asked the students about their learning abilities perceptions, Alex, Steven, and Amanda seemed to link to their capability beliefs more to the perceived content difficulty and content appeal of their hospital schoolwork. These students stated finding it easier to

learn in the hospital setting when they perceived the educational material to be both easy and enjoyable. Thus, according to these students, and in particular Steven, their learning while in the hospital setting could be improved if their sessions focused specifically on their preferred subject areas or were more fun and entertaining.

According to Schunk (1989), perceived content difficulty is an important motivational and task engagement variable. Content that students believe is difficult may lead to a lower sense of self-efficacy than material that students believe is easier to learn. As mentioned earlier, I believe that Steven's recent difficulties with French composition work are having a negative influence on his academic efficacy beliefs and on his motivation to learn in the hospital setting. Alex and Amanda, on the other hand, believed their hospital education sessions to be easy, particularly when they were feeling well, and seemed to want more challenge.

Jill and David, unlike Alex, Amanda, and Steven, who received most of their hospital instruction in the Medical Day Unit as out-patients, seemed to link their perceptions of their learning capabilities more to the instructional context. According to Schunk (1989), "the instructional context includes such factors as the setting, the instructional format, materials, and equipment. Students' beliefs about how well they learn under these various conditions will affect their efficacy for learning" (p. 16). Although almost all of the participants commented on the lack of appropriate work space in the hospital setting, these two students repeatedly stated feeling that they would be better able to learn if they had a better work environment with fewer distractions and interruptions. David, in particular, also believed that increased instructional time and the availability of additional

school supplies would be useful for him. Similarly, the hospital teachers commented that, in their opinions, increased instructional time would be beneficial for the students.

As mentioned earlier, all of the students liked their hospital teachers and 3 of the students and all of the mothers commented on the advantages of the individualized instructional format. Although Jill, David, and Alex indicated preferring working and learning in group situations, the one-on-one hospital teaching method was considered to be particularly beneficial for Amanda and David as these children had a tendency to become easily distracted. In addition, their requirement for redirection and teacher prompting was also considered, by their mothers and previous classroom teachers, to be a contributor to their academic difficulties.

However, as mentioned in the Causal Attribution section, Amanda and David, despite their difficulties still considered school to be an important component in their lives. In fact, I suggested earlier that these students as well as Jill, who were either attending school periodically or were expected to be returning shortly, perhaps considered school to be important because of their beliefs in the purpose of hospital instruction.

Schunk (1989) defined the *purpose of instruction* as "the uses students believe they will make of the material to be learned" (p. 16). Thus, the students' beliefs about the outcomes of their learning will affect their self-efficacy perceptions. Since the stated purpose of the home and hospital programs is to provide educational support to children who for medical reasons cannot attend school in order to facilitate reintegration, it would seem logical that those children who had reintegrated or were expecting to soon reintegrate, would consider these programs to be more valuable and more important than those children with no immediate expectation of returning to the school environment. In

anticipation of being in the classroom and having to interact with peers, Amanda, Jill, and David would see a more immediate use, or purpose, for the educational program they were receiving while in the specialized setting. As stated by Mrs. McDonald, these children recognize the importance and value of the program because without it, they "wouldn't be nearly as interested in going back and doing well" (p. 9, 300-301) or feel efficacious in their academic abilities. As stated earlier, I believe that these children's perceptions are also linked to the motivational influence of goal setting and will be discussed further in the next section.

Cognized goals.

According to Bandura (1993), "behaviour is motivated and guided by cognized goals operating in the present rather than pulled by an unrealized future state" (p. 130). Goal properties that are of particular importance include specificity, difficulty level, and proximity (Schunk, 1985). Therefore, goals that incorporate specific performance standards and are proximal are more apt to lead to higher performance than more general and distal student goals.

As mentioned earlier, I did not observe any specific goal setting taking place during the hospital education sessions. However, it became apparent that the students most closely connected to their community school, were highly motivated by their desires to get "good" marks, keep up with their peers, and to return to school on a full-time basis. Although these desires, or goals, are general and lack specificity, for those students who were already reintegrated or soon to be reintegrated, these represented more proximal goals than for those students who did not know when they might be going back to school. Therefore, perhaps Amanda, Jill, and David were more motivated and positive about their

learning experiences and considered these learning experiences to be more valuable than Steven and Alex, because their goals seemed more attainable in the immediate future. Bandura (1993) and Schunk (1985) suggested that goals, which are close at hand, result in greater motivation than goals that extend farther into the future or seem unattainable.

Summary.

Although it seems logical that if one perceives ability to be generative and incremental, this person would then also value learning and educational experiences. However, this was not always the case with the oncology students. For these students, despite their ability perceptions, hospital education was valued most when the general and primary goal of returning to school was proximal and thus the purpose of the instruction was clear. With no immediate expectation of returning to school, the hospital education experience was considered to be only moderately or slightly important and seemed to have only a marginal influence on the children's academic motivation. For these students, who had no immediate expectation of returning to the classroom setting, the motivational value of the hospital program was in the social interactions the children had with the hospital teachers.

Because repeated successes in a domain area usually promote strong efficacy beliefs, it was anticipated that those oncology students who had experienced histories of school success prior to hospitalization would also feel academically efficacious in the hospital setting. However, what became apparent was that academic efficacy beliefs are strongly linked to the way oncology students attribute their difficulties and to their ages. For example, the academic efficacy beliefs of two students who had not experienced histories of academic success were unaffected as they attributed their difficulties to a lack of effort

as opposed to a lack of ability. One of these two students was also the youngest participant and according to Schunk (1989), the role of effort is more frequently stressed by younger children.

Interestingly, indicators of academic frustration were most prevalent with those oncology students who had experienced school success. For these students, being a "good" student was a part of the way they saw themselves. Therefore, during difficult periods when they were physically unable to maintain their high level of academic performance, the inability to achieve seemed to threaten their self-image and identity and resulted in frustration.

In the absence of peer social comparative information, the oncology students depended heavily on their hospital teachers and mothers to be credible sources of learning information based upon challenging, but age appropriate standards and expectations. The oncology students seemed to consider teacher feedback, both in the form of teacher praise and formal summative assessments, as being important motivational academic efficacy cues. Thus, they responded favourably to hospital teacher reinforcement and were disappointed by the absence of marks and report cards.

Similar to all children, the oncology students felt most academically capable, or efficacious, when they understood the hospital education material and when the subject and material was appealing. Unfortunately, none of the participants believed the hospital to be an ideal instructional context. However, all of the students benefited from the one-on-one teacher contact. In three of the cases, this contact and resulting rapport between the oncology students and the hospital teachers was identified as being a motivating

factor in the children's academic pursuits. The oncology students liked their hospital teachers and wanted to work and succeed for them.

Research Question #2

How do oncology students' efficacy beliefs influence their ability to regulate and master educational activities?

A challenge for any theory which emphasizes socialization is to explain how control of behaviour and learning can be managed by the individual (Grusec, 1992). Bandura (1997) believed that this is possible through self-regulation and a major determinant of self-regulation is a person's self-efficacy beliefs. According to Bandura, people develop domain-specific beliefs about their abilities that not only guide their behaviour, but also determine what they will try to achieve, how much effort they will put into a particular situation, and how long they will persist even in the face of difficulties. For Zimmerman (1989), in order for students to qualify as self-regulated learners, they must make use of specified strategies which assist to regulate their personal functioning, academic performance, and learning environment, and allow the student to achieve academic goals on the basis of their self-efficacy perceptions. As mentioned earlier, particular attention was devoted to the students' use of the regulatory strategies involving organization and planning, goal setting, environment structuring, seeking social assistance, task orientation, and study and work habits. These strategies will be discussed in more detail in the following paragraphs.

Organization and planning.

None of the children in this study thoroughly planned or organized themselves in preparation for school or for their hospital education sessions. Although Amanda, Alex,

Jill, and David, occasionally, indicated what topics they wanted to cover during their hospital education sessions, most of the organization and planning was under taken by the children's teachers and mothers. Although Jill did have a system of using notes in her binder to remind herself of areas in which she required assistance and should be discussed with the hospital teacher, she still indicated in her interview that her mother was highly involved in structuring her educational experience for her. It was believed by some participants, such as Cathy and Mrs. Smith, that the organization and planning involved in the children's educational program should not be the children's concern particularly if the children are still at the elementary school level. Hence, there were also very few expectations placed on the children by the hospital teachers to even complete homework. David believed his responsibilities were to get to the hospital, to undergo his treatment, and to do the assigned work. However, any other school related issue should be addressed by his mother and teacher.

In fact, all of the mothers assumed much of the education coordination responsibilities which meant that they often acted as the liaison between the community school and the hospital program. In the cases of David, Jill, and Steven, and to a lesser degree, in the cases of Alex and Amanda, the mothers also physically transported the children's work back and forth between the school and the hospital. This was done so that the children's completed work could be assessed by the classroom teacher and so that educational materials were available for the children's hospital education sessions. However, this responsibility was often burdensome for the mothers and as a result, the mothers, in particular Mrs. Smith and Mrs. Perron, believed that more coordination responsibility should be assumed by the teachers involved in their children's cases.

Goal setting.

This self-regulatory strategy was addressed earlier as also being a cognitive motivator, and as previously stated, no specific goal setting, either by the students or hospital teachers, was observed. However, Jill and David, in particular, were highly motivated by more general desires. Mrs. Walters indicated during her interview that when Alex was in school, she would, in collaboration with her son, set goals for him to work toward improving an area in his academic studies based on the remarks found in his school report cards. However, while in the hospital, there did not seem to be specific goals set for the children and perhaps this is a further indication of the lack of clear expectations built into the children's hospital education program. Although Cathy and Julie did encourage their students to use some learning strategies for certain tasks, such as sounding out words that are unfamiliar or making use of reference texts, specific and proximal goals can only be set when there are clear educational and program objectives.

Environment structuring and task orientation.

According to Zimmerman (1989), a student's ability to be a self-regulated learner will be influenced by the structure of the learning context, particularly such aspects as the academic task and the setting. Therefore, changing the difficulty of an academic task or changing the setting from a noisy to a quiet place is expected to affect self-regulated learning and a student's self-efficacy perceptions. Effective self-regulated learners will thus use strategies such as environment structuring (e.g., creating a work area) or seeking teacher assistance to improve the environmental influences surrounding their learning thereby increasing the likelihood of achieving academic success and positively affecting their efficacy beliefs.

As previously discussed, the content difficulty and appeal, as well as the context in which the learning took place did affect the children's efficacy beliefs. It was agreed upon by all the participants that the hospital is a particularly difficult learning environment as it is not designed to be an educational institution. Those students, Jill and David, who received most of their instruction in the Medical Day Unit, found it to be especially difficult since in these situations, the children do not even have a room in which to meet with the teacher. Instruction was therefore provided to these students either in the hospital corridors or in the activity areas on the hospital floors. In these cases, there was very little the teachers or students could do to optimize the learning environment. In fact, both Jill and David commented that they preferred to complete their schoolwork at home. However, even when the children were admitted, I remarked that the children, themselves, did very little to structure their own learning environment, or their hospital room. The children's mothers or the hospital teachers would ensure that the television or computer games were off and that the children were suitably arranged in their beds in preparation for their education session. Even in these situations, it was still impossible to eliminate all the environmental distracters and limitations.

Now, at this point, one might wonder what makes the distractions found in the hospital to be different from those found in the school setting. Although all the children believed they had the ability to remain task focused, Jill and Alex explained that, from their perspective, it is more difficult in the hospital than in school because as Jill stated, "they are totally different distractions" (p. 3, 70). Jill, David, and Alex all commented that they enjoyed having their peers around for the purposes of social comparisons, for collaboration, and for the social interaction. According to Jill and Alex, because their

classmates are their friends and peers, at the same time, they could better disregard them as potential distracters. For example, Jill stated, " at school, there are people who are trying to bug you, but here, they are either trying to help you or they are... not trying to deliberately distract you... and you don't want to ignore them" (p. 3, 70-71). Therefore, from Jill's perspective, because she did not want to be rude to her health care providers, she did not believe she could effectively control or structure her hospital learning environment. Alex, on the other hand, missed the structure of the classroom with desks and other learning materials and thus found the hospital to be a more difficult learning environment.

Seeking social assistance.

However, despite the hospital distractions and limitations, and the lack of peer interaction, it was believed that all the children, but particularly Jill, Amanda, and David, benefited from the individual hospital teacher attention. As previously stated, for those students who had a history of being easily distracted even in the classroom environment, it was felt that these students were retaining more of their lessons than they realized because of the one-on-one teacher contact. Even Jill, who had a history of being a diligent student in the school environment, commented that she recalled her hospital lessons better than her classroom lessons because she found it easier to ask her hospital teacher questions. In fact, all of the children readily interacted with their hospital teachers and did not hesitate to seek their assistance.

Summary.

According to Zimmerman (1989), to be a self-regulated and highly efficacious learner, students must be able to "personally initiate and direct their own efforts to acquire

knowledge and skill rather than relying on teachers, parents, or other agents of instruction" (p. 329). By this definition, these oncology students are not self-regulated learners and are not taught or modeled self-regulatory behaviours. In some respects, these children are so highly managed by their mothers and teachers that they do not need to exercise any self-regulatory skills. With this in mind, why then do, at least four of, these children still feel academically successful in the hospital environment? I believe that these children are made to feel successful and efficacious through the positive reinforcement they receive from their teachers and mothers. In addition, since these children believe that their mothers and teachers are working in their best interests, it seems that they can be dependent on their mothers and teachers to regulate and structure their learning without having this dependency affect their individual academic efficacy perceptions.

Research Question #3

How do oncology students' efficacy beliefs influence their level of satisfaction and affective response to their learning experiences?

According to Bandura (1993), people's beliefs in their abilities affect how much stress and depression they experience, particularly in difficult situations. For students, a low sense of efficacy can result in feelings of vulnerability and achievement anxiety. Again, depending on the student's perception of ability, past academic successes should encourage high efficacy beliefs, whereas failures may weaken a student's efficacy beliefs.

Interestingly, as mentioned earlier, previous academic achievements or failures did not seem to affect the oncology students' efficacy beliefs. In fact, it would seem that the children, Jill and Steven, who had experienced histories of academic success were also

the students who experienced the greatest sense of achievement anxiety. For both Jill and Steven, not being able to consistently maintain their high level of academic performance due to their illnesses, resulted in frustration and anxiety. Although at the time of the study, Jill was once again experiencing academic success, I believe that the pace and challenges of the high school curriculum were additional sources of stress. Jill and Mrs. Perron repeatedly commented that Jill had to work particularly hard because she did not believe she received all the instruction she needed to complete her work particularly when her instructional time was split between the classroom and the hospital. This is perhaps why Jill was only somewhat satisfied with her hospital learning experience and was annoyed by the uncontrollable distractions and interruptions in the hospital environment.

David was also eager to achieve even though he did not have a history of academic success. He, like Jill, was also only somewhat satisfied with his hospital learning experiences due to the inherent difficulties in the instructional context. It was Mrs. McDonald's belief that her son was now particularly interested in succeeding academically as a result of having witnessed his older brother struggle and find success with his schoolwork. In the absence of peer interactions, David's brother was his closest peer comparison and in this case, this sibling had a positive affect on David's motivation and academic efficacy beliefs.

Ultimately, Bandura (1993) suggested that a "low sense of efficacy to exercise control produces depression as well as anxiety" (p. 134). The route to depression, he further suggested, can occur in three ways (a) through unfulfilled aspirations, (b) resulting from a low sense of social efficacy, and (c) through an inability to control ruminating thoughts.

Only through effective coping strategies will people be able to alter their courses of action and change threatening situations into benign ones.

As previously stated, for all the children except Steven, their overall and general feelings of happiness were directly linked to the way they were feeling on a given day or to the medical procedures they were anticipating or undergoing. Interestingly, on one occasion for David and on two occasions for Jill, their feelings of happiness were also attributed to being up to date in their schoolwork, doing well in school, or being able to go to school and feel a part of their class. This would suggest that when these students felt academically efficacious, they also experienced a greater sense of overall well-being. Unfortunately, for Steven, who has experienced a long period of particularly difficult treatments and who had no immediate expectation of returning to school, he consistently indicated feeling unhappy and only somewhat satisfied with his learning experience.

All the adult participants believed that the most significant negative effect of a cancer diagnosis in the lives of all the children, particularly from a school perspective, is the increased sense of social isolation. Consequently, the teachers and mothers tried to supplement this aspect of the children's lives by enrolling the children in outside organizations, making sure the children's friends felt welcome in the family home, by involving the children's brothers and sisters in hospital activities, and by, whenever possible, teaching the children in a group setting. However, despite these attempts, Alex and Steven, still felt socially disconnected and were experiencing a low sense of social efficacy. For example, both of these children commented on not feeling like they had any remaining school friends and were self-conscious about approaching other children. Interestingly, however, both of these children could effectively interact with any adult and

Mrs. Walters, in particular, believed that having the hospital program was very important if only for the additional social contact Alex had with Julie.

Summary.

As previously mentioned, under normal conditions, students who do not experience school success usually also have low academic efficacy beliefs. Under these circumstances, the fear is that these students will experience achievement anxiety and will perceive this anxiety as an inability to manage school tasks. Ultimately, with a low sense of generalized efficacy beliefs, these students may also experience a state of depression. For the oncology students, the greatest source of academic anxiety seemed to stem not from their beliefs in their inability to control their performance outcomes, but in their inability to control the effects of their illness on their physical and academic capabilities and the difficulties inherent in the instructional context. Therefore, it is logical that these students felt most academically efficacious and generally happy with their hospital learning experiences when they were feeling healthy.

Because one possible route to depression is through a low sense of social efficacy, the increased sense of peer social isolation that the oncology students experienced while in the hospital setting was considered by the participants to be an important negative consequence of a cancer diagnosis. However, despite the children's isolation from their school peer group, they readily established relationships with caring adults such as their hospital teachers.

Research Question #4

How do oncology students' efficacy beliefs allow for personal adjustment under adverse conditions?

According to Bandura (1997), children who grow up under adverse conditions often develop into efficacious, caring, and productive adults. Their ability to overcome enormous hardship, he suggested, stems from their efficacy beliefs that are reflected in the achievement of positive developmental outcomes primarily through the school experience. Some of these developmental outcomes include social competence, academic achievement, and evidence of a sense of control over one's life circumstances. Each of these outcomes will be addressed individually in relation to the research findings.

Social competence.

Bandura (1997) identified two types of social competencies that are important in the development of children's efficacy perceptions: social competence among peers and social competence among adults. Each of these competencies will be discussed in detail in the following paragraphs.

Since " a vast amount of social [comparative] learning occurs among peers", developing social competence among peers is extremely important for children (Bandura, 1997, p. 173). Bandura suggested that age-mates are often the most informative points of reference for comparative efficacy information and therefore, children are especially sensitive to their relative standing among their peers. As previously discussed, the oncology students not only missed their friends while in the hospital setting but they also wanted to know how they were performing in relation to their classmates, in the form of a report card.

Forming friendships in the hospital setting with other children with cancer was also considered to be important, particularly for Amanda. According to Mrs. Johnston, seeing and interacting with other sick children was very helpful for Amanda because she could observe how these other children were dealing with their illnesses and derived a sense of hope when she perceived the other children's illnesses to be more advanced than her own.

Jill, David, Steven, and Amanda developed friendships in the hospital. However, for the most part, the friendships developed slowly, particularly for Steven. Mrs. Perron and Mrs. Smith commented that sometimes it was difficult for their children to connect with other hospitalized children because of the different medical regimes and schedules. Even the children suggested that they did not form hospital friendships quickly because they mistakenly believed that the other children were not the same age and in the case of David, he did not believe that the other children would share his interests. Only Alex did not develop friendships among the other children in the hospital. Both Alex and Mrs. Walters also commented on his feelings of self-consciousness that deterred him from approaching and initiating friendships with other hospitalized children. Because of these feelings of embarrassment and vulnerability while in the hospital setting, it would seem that often these children are often without peer social comparative information. Therefore, the report cards and marks, again, become the one of the best sources of comparative information especially for those hospitalized children who have no contact with their community school.

Bandura (1997) also identified the development of a stable social bond with a caring adult as being a central factor in a child's ability to manage adversity. Bandura stated, that "caregivers can offer emotional support and guidance, promote meaningful values

and standards, and model constructive styles of coping" (p. 172). Therefore, if a child has a connection with an enabling caregiver, the child can interact in a trust relationship, can develop a variety of competencies, and can experience a strong sense of personal efficacy.

As repeatedly mentioned, all five of the children participants had strong familial ties, particularly with their mothers, and also had close relationships with their home and hospital teachers. In addition, 4 of the 5 children easily established a relationship with me. Interestingly, in all of the children's OSRs, classroom teachers, prior to the children's illnesses, commented on the children's abilities to interact well with adults. It would seem that all of the children, while in the classroom setting, had a maturity which allowed them to relate to adults. This same competence, in the hospital setting, has also allowed them to form stable and supportive bonds with caring adults. In turn, this social connection has assisted them in dealing with their situations and conditions. Steven was the only child who seemed reticent to form stable bonds with unfamiliar adults. He was also the child who seemed to be the most private and socially uncomfortable around new people.

Academic success.

Although the academic successes of the oncology students have already been discussed and will not be repeated here, I believe it is important to indicate how academic achievement can positively contribute to an oncology student's efficacy beliefs and, subsequently, to their overall adjustment. As previously stated, one of the major purposes in providing hospital education to oncology students is to give them an opportunity to cultivate interests and to experience successes that they may miss because of their absence from the school environment. In so doing, this educational experience not only

represents a valuable opportunity for these students to exercise control and to develop a sense of self, but also becomes a bit of an escape from the turbulence, difficulties, and negativity associated with being ill. It would seem logical, therefore, that the children's academic endeavours and achievements could positively contribute to their academic efficacy beliefs and to their coping abilities. All of the hospital teachers identified this role of the hospital education program as being particularly important for these students. The teachers also further emphasized that the 30 minutes of hospital instruction time represented an element of normalcy and that this glimpse of normalcy, particularly when the children experienced success, had the potential of giving the children hope. Bandura (1997) suggested that children who face adversity have the best chance of leading productive lives when they have a chance to develop their intellectual skills and to establish supportive relationships.

Personal control beliefs.

Bandura (1997) also indicated that when people believe that they have personal control over their life circumstances, they will be more resilient and better able to cope with difficulties they encounter. For children, according to Bandura, personal control beliefs can alleviate feelings of distress and will allow for the enlistment of social supports.

Therefore, given this information, during the data collection, I tried to be alert to indicators of the oncology students exercising control in their lives and particularly over circumstances surrounding their illnesses and education. As mentioned earlier, all of the children sought assistance from their hospital teachers when they experienced academic

difficulties and were reliant on the love and support provided to them by their mothers and families.

However, despite these supports, 4 of the 5 children demonstrated independent and efficacious control behaviours. For example, as previously mentioned, although all the children felt capable of self-regulating, even Amanda and David, who had not experienced academic success, believed themselves to be efficacious and capable of achieving academic success with improved effort. Amanda articulated it best in her interview when I asked her why she believed she was able to concentrate in the hospital setting and she responded, "Because I can... I believe it" (p. 4, 80-82). Amanda also indicated in her interview that she believed school to be important because it would prepare her for employment later in life. The desire to eventually fulfill an essential role in society also tends to indicate strong self-efficacy beliefs.

David, in addition to his beliefs in his academic abilities, did not allow his illness to interfere with his outside interests or to make him feel self-conscious about his appearance. He, like Alex, took an interest in finding out more about his condition and has become quite active in organizations such as the War Amps. Research has indicated that children, such as David, who are able to discuss openly issues surrounding their disease also tend to demonstrate better overall adjustment (O'Halloran & Altmaier, 1996).

Alex, although a slightly more shy and quiet boy, according to my observations, did become involved in managing his own medical procedures and demonstrated a type of scientific curiosity about his surgeries and treatments. As stated earlier, Alex was

competent to adjust, or fix, the medical equipment around him and was involved in such procedures as caring for his own bacteria culture sample.

Finally, Jill not only demonstrated being highly motivated to become fully reintegrated as part of her class, she was also willing to put in the necessary work in order for her to do so and, at the same time, reach a desired level of success. In addition, she preempted the effects of treatment by shaving her head as soon as she learned of her diagnosis thereby retaining, to a certain extent, control over her physical appearance.

The only child I did not observe exercising control over his situation was Steven. However, it was suggested by Cathy and Mrs. Smith that Steven's computer game playing and love of reading may be his hospital coping strategies. In both of these cases, Steven could become absorbed in a make believe world that would allow him to escape the hospital setting and find enjoyment and success.

Summary.

The hospital education program provided the oncology students with a vehicle through which they could possibly attain positive developmental outcomes, as identified by Bandura (1997), and thus develop the efficacy beliefs required for successful adjustment and coping under adverse conditions. Unfortunately, however, even though the children missed their friends while hospitalized, 4 of the 5 children were slow to develop friendships with children in the hospital setting. Their reluctance to establish these bonds was attributed to several factors including their feelings of personal self-consciousness which could perhaps be interpreted as low peer social efficacy beliefs. These feelings of inefficacy could be another reason why the oncology students seemed to want a report

card. The report card represents a safe way of obtaining social comparative information without the requirement for social interaction.

Interestingly, all the children had stable and supportive bonds with their families and seemed to have a natural ability and the maturity required to interact with adults. Although Moffitt (1985) suggested that children with a cancer diagnosis may experience an accelerated development and an elevated maturity level due to the stress of the disease, the oncology students' abilities to bond with adults was remarked on in all their OSRs prior to their diagnosis. However, their feelings of social competence among adults were continually reinforced as a result of their constant involvement with hospital and education personnel.

As previously mentioned, as a result of their strong relationships with their hospital teachers, in particular, the oncology students benefited academically. Furthermore, with respect to their educational experiences, 3 of the 5 children indicated feeling academically efficacious and capable of exercising control on their learning situations. Thus, also indicating an inclination for effective coping and overall adjustment.

Theoretical Contributions of this Study

This research contributes to theory and extends our knowledge in several ways. However, it may be useful to discuss the research contributions while commenting on the adequacy of the study's theoretical framework.

As stated earlier, the theoretical model used to guide this study is based on Bandura's social cognitive theory and Zimmerman's approach to self-regulated learning. This model was developed to illustrate the cyclic nature of self-efficacy beliefs. More specifically, how efficacy regulated processes can have a mediational role on a

chronically ill child's learning within a unique and naturalistic setting and under adverse conditions. Bi-directionally, through the development of academic self-efficacy beliefs a child's feelings of personal self-efficacy are increased and that child may experience a greater sense of overall well-being. Recognizing that people are social in nature, this model also included elements of the external social environment as potential contributors to a child's efficacy beliefs. This study is, in fact, the first to investigate how the constructs of self-efficacy and self-regulation influence the educational development of chronically ill children under adverse conditions in the hospital setting. It is also one of the few studies available in education literature that discusses aspects of hospital teaching and makes practical recommendations for the education of chronically ill children from a Canadian perspective.

For the most part, this theoretical model did effectively guide the study. The findings demonstrate that through education and the hospital school experience, oncology students have the opportunity to exert influence and to feel self-efficacious. Thus, the study confirms Bandura's (1995) position that the issue of control is central in human lives and is particularly important for those who feel powerless to manage aspects of their lives or have constraints imposed upon them.

However, one construct that was not originally included in the theoretical model but emerged as significant in the findings and contributes directly to theory, is the aspect of social isolation. While some aspects of the social external environment were considered, what was not initially accounted for was the social nature of learning. Therefore, for children who due to necessity receive schooling in an isolated and unique context, the requirement for social comparative information becomes crucial. Chronically ill children

require this information to gauge their educational development in relation to their peer group and from this self-assessment, form efficacy beliefs. In the absence of peer social interaction, credible teacher feedback, both verbal feedback as well as written feedback in the form of report cards and marks, becomes the primary vehicle for self-evaluation. Thus, this study further supports the notion that children do tend to judge their capabilities by comparing their performances with those of other children (Pajares, 1996; Schunk, Hanson & Cox, 1987). Children, not necessarily siblings, therefore play a pivotal role in the development of other children's self-efficacy beliefs and educational development.

Summary and Recommendations

At this point in the thesis, I would like to review the research findings and, at the same time, insert into this review practical recommendations for possible improvements in the educational programs available to these oncology students in this Ontario school board. Although this research focused on the involvement of mothers in their child's hospital education program, the forthcoming recommendations will make use of the word *parent* so as not to exclude the involvement of fathers. I also realize that the implementation of recommendations often requires an influx of money. However, recommendations will be discussed here irrespective of financial considerations. Ultimately, boards of education will have to consider how best to accommodate these special students. A complete list of these recommendations can be found in Appendix I.

Efficacy beliefs and motivation.

For all the oncology students, their personal efficacy beliefs and subsequent level of academic motivation seemed to be linked to their physical condition and to their

anticipation of returning to the community school. This link seemed to be particularly strong when returning to school, even on a part-time basis, appeared to be a realistic and proximal goal. With the expectation of returning to school, the oncology students better appreciated the purpose and value of going to school and of the home and hospital education programs.

Since school reintegration seemed to be a strong motivational goal for these oncology students, successfully facilitating that reintegration, whenever possible, should be a school board objective. In order for successful reintegration to take place, the children must feel that they have continued their educational progress while away from the school and are adequately prepared to reenter the classroom setting. This means that educational support programs, such as the home and hospital programs, must be made available to these students immediately upon diagnosis and without mandatory waiting periods. The management of these programs must also be flexible enough so that if the child does return to the school setting and then experiences a relapse, the child will not be penalized and without educational instruction while they wait again to qualify for the home instruction program.

In addition, the availability of the program should not be limited to only 6 months in a school year. As cancer treatment can last for several years, to limit a child with cancer to only 6 months of home instruction services, is, in essence, setting the child up for failure and is certainly not promoting successful reintegration. Few children are capable of passing an academic year with only 6 months of educational instruction.

Recommendation #1: Since a cancer diagnosis means that children will necessarily be away from the school environment, educational support programs, particularly the home instruction program, should be initiated immediately following the diagnosis and should be available to oncology students without mandatory waiting periods.
Recommendation #2: Home instruction services should be available to oncology students for as long as is required.

All the oncology students believed that to be academically successful, it required work and effort. They all seemed to view ability as being generative and incremental. The students' conception of ability was important because it allowed 2 of the students who had not experienced continued school success to still feel successful and academically motivated because they attributed their difficulties to a lack of effort as opposed to a lack of innate ability. However, for the other 2 students, who had consistently worked to the best of their ability and had experienced academic success, it became frustrating and anxiety producing when they could not physically and consistently maintain their high level of academic performance. For these students, achieving academic success seemed to be more closely linked to their self-perceptions and identity.

The oncology students were positively affected by the verbal reinforcement they received from their teachers and mothers. However, in order for this verbal reinforcement to have a motivational influence, the students first had to believe that their teachers and mothers were credible sources of educational development information. Therefore, it is recommended that parents and teachers maintain high expectations of their children since this lowering of standards will be sensed by the oncology students and may negatively affect the trust relationship that has been established between the students, parents, and teachers.

Recommendation #3: Teachers and parents must maintain age and grade appropriate expectations for the oncology students.

However, to maintain appropriate educational standards, hospital and home teachers must work cooperatively with classroom teachers to develop individualized educational plans (IEPs). These plans are particularly important for those oncology students who are completely disconnected from their community school. These IEPs should specifically outline the required educational objectives so that the students can benefit from an organized program of study whether they receive the educational services in the home, hospital or classroom setting. Furthermore, without IEPs, the instruction received in the home and hospital may be perceived as an ad hoc service, or simply as a stop-gap measure, and the value and purpose of these programs may be undermined.

Recommendation #4: There is a need for better communication and coordination among the teachers involved in a child's case.
Recommendation #5: IEPs should be developed cooperatively among the teachers for each of the oncology students clearly outlining the required educational objectives.

Without clear educational objectives and expectations, student assessment also becomes a difficult task. I believe that it is because there are no specific expectations for these students that none of them had formal school report cards in their records (OSRs) documenting their educational experiences in the home and hospital setting. Unfortunately, for these isolated students, report cards and marks are their only forms of social comparison and their only vehicles for self-evaluation. Through marks and report cards the oncology students' work and effort away from the school is not only validated, but they can also assess how well they are developing in relation to their peer group. The

design of the report cards must also be flexible enough to provide teachers with the capability to customize the report cards to accurately reflect the hospital school experience. These students want to be normal and in the absence of clear expectations and as a result of peer social isolation, they have no other way to gauge their abilities and are, therefore, highly reliant on this method of teacher feedback.

> **Recommendation #6:** Oncology students must receive formal school report cards while in the home and hospital setting. By receiving these report cards, the students' work and effort will be recognized and they will have clear indicators of their abilities in relation to their age-mates.
> **Recommendation #7:** Report cards must also be designed so that customized reports can be given that will accurately reflect the hospital school experience.

Interestingly, for these isolated, hospitalized students, their learning ability perceptions seemed to be linked to either the content difficulty and content appeal, or to the instructional context. With respect to the content difficulty and content appeal, similar to all students, the oncology students found it easier to learn when they enjoyed the lesson and when they found the material to be easily understood. However, hospital teachers should be mindful that hospitalized students require mental stimulation and want to be academically challenged. In fact, 2 of the oncology students stated wanting more challenging schoolwork while in the hospital setting. Although the ease with which a student is able to learn a topic can positively affect the student's efficacy beliefs, these same beliefs will be undermined if the students perceive the experienced easiness to be a result of lowered expectations.

Unfortunately, for all the oncology students, the instructional context of the hospital seemed to negatively affect their learning ability perceptions. The lack of appropriate work space in the hospital setting was repeatedly remarked upon by 2 students who

frequently received hospital education services as out-patients. These students believed their learning was affected by environmental distractions, limited hospital instruction time, and the lack of available school supplies and materials. The hospital teachers also remarked that increased instructional time would be beneficial.

> **Recommendation #8:** An appropriate work space should be made available on each of the hospital floors for the specific use of the hospital education program.
> **Recommendation #9:** Thirty minutes a day of hospital instruction time is not adequate. More time needs to be made available particularly for those students who are totally reliant on the home and hospital programs for their educational services. This may also mean the requirement for additional teaching staff.
> **Recommendation #10:** Hospital teachers should be supplied with copies of the students' textbooks and educational materials by the school board.

However, despite the limitations of the hospital context, all of the students, but particularly those students who had tendencies, while in school, to be easily distracted, benefited from the one-on-one hospital teacher contact. Because of the individual time spent with the hospital teacher, the students were not only better able to learn, but could also develop a close, social relationship with their hospital teacher. As a result of this relationship, the students wanted to succeed academically for their hospital teacher.

Efficacy beliefs and self-regulation.

As previously mentioned, according to Zimmerman's (1995a) definition of self-regulated learners, these oncology students are not self-regulated. In fact, these students are highly dependent on their mothers and teachers to structure their learning experiences and thus facilitate their skill and knowledge acquisition. In addition, very little self-regulation was expected of the children by the mothers and hospital teachers while in the hospital setting. As already stated, the mothers, in particular, assumed much of the organization and planning responsibilities, outside of the actual education sessions,

associated with the children's hospital education. These mothers often acted as a liaison between the hospital teacher and the classroom teacher and physically transported the children's work back and forth between the home, hospital, and school. However, because of scheduling difficulties surrounding the children's cancer treatment and due to the mothers' many other responsibilities, these mothers found this additional responsibility to be burdensome. All of the mothers specifically expressed feelings of guilt because so much of their time was spent with the child with cancer or managing that child's other requirements that they could not spend an equal amount of time with their other children. Therefore, in their opinions, more coordination responsibility should be assumed by the teachers and school system.

I believe that parents, as well as oncology students, must be supported as much as possible. For many parents, they are also struggling to cope with their child's diagnosis. Thus if the school system can assist the family, as a whole, to cope with the more mundane issues surrounding everyday life, it may relieve some of the family pressure and give more time to the parents to look after themselves and their children (Evans, Stevens, Cushway, & Houghton, 1992). In addition, if the education system assumes more responsibility for these oncology students' educational programs, the parents should no longer be caught between the hospital and the different educational facilities and, again, this will alleviate some of the demands associated with caring for a child with cancer.

> **Recommendation #11:** With the development of an IEP, agreed upon by all parties involved in a child's case, parents should not have to assume any additional organizational responsibilities. Based on the details of the IEP, hospital teachers should be able to coordinate with the classroom teacher so that a copy of the necessary educational materials, or resemble substitutes, are at the hospital ready for use during the oncology students' education sessions.

Recommendation #12: In addition, with an agreed upon IEP, assessment of the child's work may be completed by either the hospital teacher or the classroom teacher thereby eliminating the requirement to transport materials and assignments back and forth from the hospital and school.

Bandura (1997) suggested that parental influences contribute to the scholastic attainments of their children in several ways. Parents provide resources, guidance, modeling, and other incentives that promote academic learning. In these cases, the mothers, in cooperation with the hospital teachers, even frequently structured the children's physical environment, or their hospital rooms, in an attempt to optimize, where possible, the children's learning context. The oncology students, in turn, did not hesitate to seek the assistance of their mothers and hospital teachers.

Although the children stated feeling academically successful in the hospital setting, in some respects, it was believed that because of the mothers' active involvement in the children's educational programs, the children did not need to develop regulatory skills. Most parents and care givers would naturally do whatever possible to assist sick children. However, allowing children to control and have responsibility of manageable aspects in their lives may be more beneficial to their overall well-being. The amount of responsibility a child could assume would of course be dependent on the individual child and his or her physical condition. Although some learning strategies were introduced to the children during my time in the hospital setting, for any child to become a self-regulated learner, he or she must be consistently taught and modeled a variety of different self-regulatory skills. The use of skills that will allow oncology students to become autonomous learners should be emphasized and encouraged during the hospital education sessions.

Recommendation # 13: The development of self-regulatory skills may be beneficial for oncology students. These skills should be taught and reinforced during the children's hospital education sessions.

Efficacy beliefs and student satisfaction.

Having already indicated the participants' dissatisfaction with the hospital as a learning environment, the children tended not to link their general feelings of happiness to their hospital school experience, but rather to their physical condition on a particular day. Consequently, when the children were feeling healthy, they also found their learning experiences to be easier and more satisfying. On three occasions, however, Jill and David did directly link their feelings of happiness to their academic accomplishments. Therefore, suggesting that with these children, their feelings of academic efficacy could positively contribute to their overall sense of well-being and to their affective response.

The most significant negative consequence of a cancer diagnosis, from a school perspective, as identified by the adult participants, is the children's increased feeling of social isolation. Although the mothers and teachers attempted to combat the effects of social isolation on the children, 2 children, in particular, still indicated feeling significantly socially disconnected. It was believed, therefore, by the teachers and mothers that especially for those children who have limited peer interactions, that the hospital education program fulfills an essential role if only for the additional social contact the children have with the hospital teacher.

I believe that this is an important observation given that the Ontario education system is currently restructuring and special education programs are readily available targets for budget cut backs. In addition, as computer technology becomes more sophisticated,

accessible, and cost-effective, the fear is that for these special education students in alternative settings, the introduction of technology may eventually eliminate the role of the teacher. In my opinion, this would be extremely detrimental to these students as the hospital teachers provide not only educational instruction, but are also important social contacts.

> **Recommendation # 14:** The hospital teacher not only provides educational instruction, but is also an important social contact for hospitalized, oncology students. Therefore, funds must be made available to ensure that these special education students be adequately serviced in the hospital setting by qualified personnel.

Efficacy beliefs and student adjustment.

Bandura (1997) identified social competence as being an important indicator of personal efficacy beliefs and a positive developmental outcome. As previously mentioned, peer social interactions were considered to be especially important to the oncology students, particularly because these interactions provided the students with necessary social comparative information. However, forming peer relationships while in the hospital setting was not always easy for the oncology students. As previously stated, 2 of the children also found it particularly difficult to maintain their friendships with former classmates. These same children, who seemed to have the lowest social efficacy beliefs, were also experiencing the most serious medical complications, had the least contact with their community school, and were not expected, at that time, to be returning to the classroom setting. This would suggest that peer social isolation is most acutely felt by those children who are in the poorest health and who cannot anticipate their return to

school. According to Bandura (1997), low social efficacy beliefs can eventually result in a state of depression.

> **Recommendation #15:** Hospital teachers must be aware of the effects of peer social isolation on the oncology students and be particularly sensitive to these effects on those students most at risk physically and most disconnected from their community school and peer group.

According to Bandura (1989), the ability to have control or to exercise self-agency over one's thoughts, motivations, and behaviours is a distinctly human characteristic. It is through these mechanisms of self-agency, or personal control beliefs, that changes within the individual and the individual's environment can be realized. For the oncology students, exercising control in specific and manageable areas in their lives, such as education, may allow them to develop the personal efficacy beliefs required to face the difficulties they encounter. However, as previously stated, the extent to which these children can academically excel is also dependent on whether the educational program itself promotes policies and practices that allow for successful learning to take place. I believe that with improvements in the present system educators will be better able to assist these children with their psychosocial adjustment and will be enabling these children to cope with all aspects of their conditions.

Study Limitations

Although case study methodology is considered to be a powerful way to gain insight into educational issues, through understanding the experiences and perceptions of the individuals involved, there are some limitations involved with this type of research and specific to this study. First, it is necessary to realize that the investigator and the inquiry are inextricably linked. However, ultimately, the investigator must shape the narratives

and information given by the participants and that this shaping of a new construction is limited. Constructions are plastic and dependent on the way the participants view reality at the time of the study. However, the participants' "lives go on; our narratives of them are framed and reified" (Seidman, 1991, p. 103). That is, research tends to fix the information (Crossland, 1996). Believing that the mind is continually active means that the participants are continually creating new constructions regarding the research questions.

In addition, the stories, or cases, presented here are a result of the investigator making sense of the research phenomenon based on an interaction with the participants, their words and actions. Since it is impossible to understand another person perfectly, I had to use my own frame of reference to interpret the information. I had to rely on my own teaching experiences and previous interactions with health impaired children to facilitate with the formation of new understandings that will perhaps encourage further investigation.

It must also be pointed out here that this study represents an investigation into an area of education psychology and is not medical research. As such, this study did not explore ways in which the disease of cancer or cancer treatments affect learning and cognitive functioning. Although some mention was given to the effect of chemotherapy and radiation treatment to the spinal column and brain on learning, the inclusion of the children in this study was based on the previously discussed sampling criteria and on the hospital teachers' recommendations and assessments of the children's cognitive abilities.

Earlier in the thesis I discussed some of the criticisms associated with self-efficacy theory and at this point, I would like to return to two of those criticisms. First, I

mentioned that Schunk (1996) believed confusion exists surrounding the ways in which people judge or assess self-efficacy beliefs and how these beliefs operate across the domains. Although this study does not assume that efficacy beliefs operate uniformly and did describe multiple measures of efficacy beliefs, I believe that the results of the study tend to provide a more general picture of how the efficacy beliefs of oncology students influence certain efficacy regulated processes. Specific efficacy beliefs were not identified, nor was it outlined how the participants' efficacy beliefs may change across domains. In addition, the study did not identify which types of efficacy beliefs would be more important for health impaired students to develop.

Second, I commented that in the literature, Pajares (1996) suggested that more information is needed regarding how students at developmentally different ages use diverse sources of efficacy information to develop self-efficacy beliefs. Bandura (1997), himself, stated that "students at different phases of their education present different psychosocial competencies, motivational orientations, and instructional challenges" (p. 249). Thus ideally, to take into consideration the possible effect of development on efficacy beliefs, the children in the sample group should have been the same age and at the same grade level. However, given the unpredictable nature of chronic illness and particularly the difficulties surrounding sampling for oncology students, these conditions were not possible at the time of the data collection.

In fact, the children participants included 3 boys and 2 girls ranging in age from 9 to 13 years old. Investigating the influence of efficacy beliefs according to gender was also not within the scope of this research.

With respect to participant sampling, it should be mentioned again here that the participants involved in this study included the 5 hospitalized oncology students and the adults directly involved in the students' hospital education experience. For these students, the parent most involved in the hospital learning experience was the mother and thus information was not collected from the students' fathers. However, it is acknowledged that fathers may have provided additional information specifically related to the influence of the students' efficacy beliefs on student adjustment and student affect.

However, despite these limitations, it is my hope that this exploratory and multiple case study offers insights into the role of efficacy beliefs and the educational development of hospitalized oncology students. Identifying ways in which schools and teachers can assist in minimizing the effects of cancer on a child's development should be a priority for all educators involved in this area of education.

Future Research

Although Bandura's theory of social cognition has been investigated thoroughly there has been no previous research that examines the role of efficacy beliefs in the educational development of chronically ill children. In addition, the existence of educational services provided in the hospital milieu is not well known and hospital teaching is a relatively unexplored area in education literature (Reamy, 1988). Therefore, there are many implications for further studies.

For example, the influence of peers and the role of social comparative information should be further explored. Since it is naïve to assume that the absence of group ties and social interactions has little motivational or pedagogical influence on the learner, the question becomes how do children learn in isolation and how does this isolation affect

their efficacy beliefs (Agostino, 1993)? Knowing the effects of learner isolation can not only contribute to the study of hospitalized children, but also contributes to the area of distance education, computer education, and even to special education particularly for special needs students who are removed from the class environment.

Furthermore, socialization and teacher feedback are just two important sources, or cues, of efficacy information. From these particular sources students can self-assessment and can better determine whether they are meeting their educational objectives. However, further research is needed to explore how students and, in particular, oncology students weigh efficacy cues or information. More specifically, from which efficacy cues do oncology students derive the most ability information and which cues are most important to them in their development of academic efficacy beliefs. According to Schunk (1985), knowing "how students weight cues would be beneficial in designing instruction to promote students' motivation, skill development, and learning self-efficacy" (p. 220).

As previously mentioned, little work has been done investigating the role of academic efficacy beliefs with chronically ill children. Although Bandura (1997) has investigated the ability of children to surmount childhood adversities such as poverty, family discord, abuse, divorce, parental alcoholism, or mental disorders, more research is required investigating the role of efficacy beliefs and aspects of resilience as they relate to children with life threatening illnesses. More specifically, the contribution of academic efficacy beliefs in the lives of chronically ill students should be further researched. By better understanding efficacy beliefs as they operate for students under adverse conditions, we can better anticipate the effects of efficacy beliefs in the lives of "normal" students.

In addition, since no child can cope with all aspects of a life threatening condition and maintain normal growth and development on his or her own, the role of the family and school becomes very important. Bandura (1997) suggested many challenges in life center on problems that require people to work together to overcome obstacles. In the cases presented here, the influence of the mothers and teachers was critical to the successes of the children, but was not explored in detail. Thus, more research is required to investigate the role of the entire family, including fathers, mothers, siblings, and the extended family, in promoting educational development in chronically ill children. Particular attention should be devoted to the development of academic efficacy beliefs in chronically ill boys when situated in a female dominated environment similar to the conditions found in this study.

Investigation is also required to determine whether chronically ill children experience phases of coping. By understanding the stages through which children come to terms with their illnesses, families and teachers may be able to anticipate the needs of the child. In addition, with this knowledge, family members may be better prepared and able to cope with the occurrence of this type of disability.

One of the research findings presented here was that according to Zimmerman's (1989) definition of self-regulated learning, the oncology students were not autonomous and self-regulated learners. However, the self-regulatory strategies put forward by Zimmerman and Martinez-Pons (1990) as being important for successful learning have only be used in conventional learning settings. Ertmer, Newby, and MacDougall (1996) suggested that these self-regulatory strategies are applicable across instructional methods within conventional settings, but no research has yet investigated whether these strategies

apply across instructional contexts. Thus, an investigation into the regulatory strategies required for successful learning in non-conventional settings would be beneficial.

Finally, since this research has focused primarily on the experiences of the oncology students, little attention has been devoted to the needs of the hospital teachers. People, in general, seem to easily recognize the stress associated with providing medical services to potentially terminal patients. Medical professionals refer to this stress as *compassion fatigue*. However, there is little or no consideration given to the stress associated with teaching hospitalized children with life threatening conditions. Therefore, in the interest of ensuring our teachers' well-being, it may be beneficial to further explore to what extent hospital teachers experience *compassion fatigue* and how this disorder can be averted in this field of education.

Conclusion

Managing a chronic illness requires more than simply providing the patient with the necessary treatments that aid in controlling the illness; it means recognizing the need for total readjustment in the person's lifestyle (Lambert & Lambert, 1987). For a child with a cancer diagnosis, families, teachers, and medical personnel must work as a team in the total care of the child (Moffitt, 1987). Each must work to maximize the child's potential and continue to promote normal growth and development. This thesis explores how educators can assist with an oncology student's psychosocial functioning and overall well-being through the development of strong efficacy beliefs beginning within the sphere of education. Education can be an effective vehicle through which oncology students can not only experience control and autonomy, but can also achieve many necessary developmental outcomes for successful psychosocial adjustment.

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APPENDIX A

Letters of Appreciation

1528 Payette Dr.
Orleans, Ontario
K1E 1S9

October 6, 1999

Dear Mrs. Smith:

May I take this opportunity to express my appreciation to both you and your son for agreeing to participate in my research study. I thoroughly enjoyed meeting both of you the other day and I look forward to getting to know Steven a little better. I believe that both of you have a tremendous amount to contribute which, I hope, will result in educational improvements for children who suffer from chronic health impairments.

Further to our conversation, I have also sent Steven a thank-you note for agreeing to participate and have mentioned, in the letter, that he should speak with you and that you have a form to show him. I hope that this helps to make things more comfortable for him. Once you have spoken with Steven, or when you feel that both of you are ready to start, please telephone me.

I really appreciated all of your suggestions and if there is anything further, please do not hesitate to let me know. I look forward to starting and to seeing you both more in the next few weeks.

Thank-you again.

Yours truly,

Andrea Crossland

October 6, 1999

Dear Steven,

I just wanted to write to tell you how nice it was to meet you the other day and to say thank-you for agreeing to help me with my project. By helping me, you will also be helping many other children like yourself.

As you know, I had an opportunity to speak with your mother and she now has quite a bit of information about my project. I hope you will speak with her as well so that she can answer any questions you might have about the project. She also has a piece of paper for you to look at and to give back to me. I really appreciate everything that you and your mother are doing and I look forward to seeing you both more in the next few weeks.

Thank-you again Steven. Give your puppy a pat for me.

Yours truly,

_____

Andrea Crossland

APPENDIX B

Consent Forms

Consent Form for Students

Title: Influence of Efficacy Beliefs and the Satisfaction of Learning on the Child with a Chronic Condition in the Hospital Setting

Researcher: Andrea Crossland
1528 Payette Dr.
Orleans, Ontario
K1E 1S9

Thesis Supervisor: Dr. Cheryll Duquette
Faculty of Education
University of Ottawa
145 Jean-Jacques Lussier
Ottawa, Ontario
613-562-5800 ext. 4040

When a research project involving individuals is started by researchers at the University of Ottawa, the Ethics Committee of the University requires that the people involved in the study sign a form which states that they agree to participate. In the case of children, the agreement of the parents, or guardians, also has to be obtained. This does not mean that the project is risky in any way. Rather, this is required in order to ensure that the participants of the study are treated with respect and that the information the participants give and their identities will be kept confidential and used in the research only.

The purpose of the research is to better understand how ill students' beliefs about their abilities in school influence their motivation to learn, the way they feel about their learning in the hospital setting, whether their learning is affected by the hospital environment, and to what extent they persist under difficult situations.

If you agree to participate, this participation will consist of:
1) Participating in two interviews with me (each interview will last no longer than 60 minutes).
2) Granting me permission to observe your classroom sessions while in the hospital (a minimum of three times).
3) Granting me permission to see your Ontario School Records.
4) Granting me permission to work with you in three educational activities.
5) Agreeing to keep learning journal which will be given to me at the end for research purposes.

Please be assured that if you agree to participate that the information you give will be used for research purposes only and will be kept confidential. The information is also protected under the Municipal Freedom of Information and Protection of Privacy Act, 1989. Your name and identity will be protected throughout the study and in any written form of the research. Your identity will only be known to those directly involved in the study. There is no risk to you as a

participant. However, as a participant you can choose to withdraw from the study at any time. In the event that you choose to not participate, the information that has been collected will be destroyed in your presence. In addition, if you have, now or later, some concern or problem with the research, please feel free to discuss this with the following people:

Your parents
Your hospital teachers
Investigator- Andrea Crossland 613-841-4641

"You may contact the Chair of the Research Ethics Committee, for information regarding patient's rights in research studies at (tel #); however, this person cannot provide any medical information with regard to this study".

There are two copies of the consent form, one to be returned to the researcher and the other to be kept by you if desired.

This research is being funded by the Social Sciences and Humanities Research Council of Canada.

By signing this form you are agreeing to your involvement in the research and that you understand what has been explained above.

_____ _____
Signature of Participant Date

_____ _____
Signature of Witness Date

_____ _____
Signature of Researcher Date

Optional:
If you would like to receive a summary of the findings of this study, please indicate your name and address below.

_____
_____
_____
_____

Consent Form for Hospital Teachers

Title: Influence of Efficacy Beliefs and the Satisfaction of Learning on the Child with a Chronic Condition in the Hospital Setting

Researcher: Andrea Crossland
1528 Payette Dr.
Orleans, Ontario
K1E 1S9

Thesis Supervisor: Dr. Cheryll Duquette
Faculty of Education
University of Ottawa
145 Jean-Jacques Lussier
Ottawa, Ontario
613-562-5800 ext. 4040

When a research project involving individuals is undertaken by researchers at the University of Ottawa, the Ethics Committee of the University requires the written consent of the participants and, in the case of minors, the written consent of a parent or legal guardian. This does not imply that the project is risky in any way. Rather, the intention is simply to assure the respect and confidentiality of the individuals concerned.

The purpose of the research is to better understand how perceived efficacy beliefs influence chronically ill children's educational development in the hospital setting. Specifically, how do efficacy beliefs influence these students' motivation to learn, their affective responses to learning in the hospital setting, the influence of the hospital environment on learning, and their level of persistence under adverse conditions.

If you agree to participate, your participation will consist of:
1) Participating in an interview with me (each interview will last no longer than 60 minutes).
2) Granting me permission to observe during hospital classroom sessions (a minimum of three times for each student).
3) Providing me with support documentation.
4) Agreeing to assist with any coordination issues which may arise.

Please be assured that if you agree to participate that the information you give will be used for research purposes only and that it will be kept confidential and inaccessible to anyone who is not directly involved in the research. Your identity will be protected throughout the study and in any written form of the research and is protected under the Municipal Freedom of Information and Protection of Privacy Act, 1989. There is no risk to you as a participant. However, as a participant, you have the right to withdraw from the research, or parts of the research, at any

time. In the event that you choose to withdraw, the research that has been collected will be destroyed. In addition, if as a research participant you have, now or later, some concern about the research, please feel free to discuss this with the following people:

Investigator: Andrea Crossland 613-841-4641
Thesis Supervisor: Dr. Cheryll Duquette 613-562-5800 ext. 4040
University Human Research Ethics Committee Chair- Faculty of Education
room 305, Lamoureux Hall tel. 613-562-5800 ext. 4057

"You may contact the Chair of the Research Ethics Committee, for information regarding patient's rights in research studies at (tel #); however, this person cannot provide any medical information with regard to this study".

This research is being funded by the Social Sciences and Humanities Research Council of Canada.

There are two copies of the consent form, one to be returned to the researcher and the other to be kept by you if you desire.

By signing this form you are agreeing to your involvement in the research and that you understand the above mentioned rights of the participant.

_____ _____
Signature of Participant Date

_____ _____
Signature of Witness Date

_____ _____
Signature of Researcher Date

Optional:

If you would like to receive a summary of the findings of this study, please indicate your name and address below.

_____
_____
_____

Consent Form for Parents

Title: Influence of Efficacy Beliefs and the Satisfaction of Learning on the Child with a Chronic Condition in the Hospital Setting

Researcher: Andrea Crossland
1528 Payette Dr.
Orleans, Ontario
K1E 1S9

Thesis Supervisor: Dr. Cheryll Duquette
Faculty of Education
University of Ottawa
145 Jean-Jacques Lussier
Ottawa, Ontario
613-562-5800 ext. 4040

When a research project involving individuals is undertaken by researchers at the University of Ottawa, the Ethics Committee of the University requires the written consent of the participants and, in the case of minors, the written consent of a parent or legal guardian. This does not imply that the project is risky in any way. Rather, the intention is simply to assure the respect and confidentiality of the individuals concerned.

The purpose of the research is to improve our understanding of how perceived efficacy beliefs influence chronically ill children's educational development in the hospital setting. Specifically, how do efficacy beliefs influence these students' motivation to learn, their affective responses to learning in the hospital setting, the influence of the hospital environment on learning, and their level of persistence under adverse conditions.

If you agree to participate and consent to your child's participation, this participation will consist of:
1) Participating in an interview with me (each interview will last no longer than 60 minutes).
2) Granting me permission to interview your child.
3) Granting me permission to observe your child during hospital classroom sessions (a minimum of three times).
4) Granting me permission to access your child's Ontario School Records
5) Granting me permission to interact with your child in approximately three educational activities.

Please be assured that there is no risk to either you or your child. Also, if you and your child agree to participate, the information you , or your child, give will be used for research purposes

only and will be kept confidential and is protected under the Municipal Freedom of Information and Protection of Privacy Act, 1989. Your identity as well as your child's identity will be protected throughout the study and in any written form of the research. As participants, you and your child will have the right to withdraw from the research, or parts of the research, at any time. In the event that you, or your child, choose to withdraw, the research that has been collected will be destroyed in your presence. In addition, if as research participants you or your child have, now or later, some concern about the research, please feel free to discuss this with the following people:

Investigator: Andrea Crossland 613-841-4641
Thesis Supervisor: Dr. Cheryll Duquette 613-562-5800 ext. 4040.
University Human Research Ethics Committee Chair- Faculty of Education
room 305, Lamoureux Hall, tel. 613-562-5800 ext. 4057

"You may contact the Chair of the Research Ethics Committee, for information regarding patient's rights in research studies at (tel #); however, this person cannot provide any medical information with regard to this study".

There are two copies of the consent form, one to be returned to the researcher and the other to be kept by you if you desire.

This research is being funded by the Social Sciences and Humanities Research Council of Canada.

By signing this form you are agreeing to your involvement and your child's involvement in the research and that you understand the above mentioned rights of the participant.

_____ _____
Signature of Participant Date

_____ _____
Signature of Witness Date

_____ _____
Signature of Researcher Date

Optional:
If you would like to receive a summary of the findings of this study, please indicate your name and address below.

_____
_____
_____

APPENDIX C

Observation Charts

Observational Focuses

1. Setting for the learning

2. Participants involved in the observed activity

3. Student use of self-regulatory skills

-to what extent the student finishes homework or educational assignments in the hospital
-to what extent the student is able to study in the hospital
-to what extent the student is able to concentrate on school work during teaching sessions
-to what extent the student participates/ interacts/ takes notes during the teaching sessions
-to what extent the student plans or organizes his/her school work
-to what extent the student seems to remember presented material
-to what extent the student seeks assistance from teachers/ parents when having difficulty
-to what extent the student manages his/her own time

4. Student activities and interactions with teachers and parents

-to what extent the teachers and parents encourage/teach/model self-regulatory skills in the hospital
-whether teachers and parents demonstrate through actions and words to the child that they value the educational program and encourage, through feedback and positive reinforcement, the child to succeed

5. Frequency and duration of learning/teaching sessions

6. Subtle factors

-non verbal communication
-informal or unplanned activities
-unexpected happenings

Observation Focus Chart

1. Setting for learning	
2. Participants involved in observed activity	
3. Student use of self-regulatory skills	a) student finishes homework or assignments in hospital b) student is able to study in hospital c) student is able to concentrate on school work during sessions d) student participates/interacts/take notes during sessions e) student plans and organizes school work f) student understands and recalls presented material g) student seeks assistance when having difficulty h) student manages time
4. Student activities and interactions with teachers and parents	a) encourage/teach/model self-regulatory skills b) feedback and reinforcement
5. Frequency and duration of sessions	
6. Subtle factors	a) non verbal communication b) informal or unplanned activities c) unexpected happenings

APPENDIX D

Interview Questions

Semi-Structured Interviews with Students

1. Questions related to school experience outside/ or before hospitalization

Self-Regulatory Skills:
How well were you able to finish your homework at school? Why/ why not?
How well were you able to study while in school? Why/ why not?
How well were you able to concentrate in school? Why/ why not?
How often did you participate in school? Why/ why not?
How well could you plan or organize your work? Why/why not?
How well could you remember the lessons taught in class? Why/why not?

Social Interactions/ Activities:
Did you have a lot of friends at school? Why/why not?
Did you participate in extracurricular activities (like play on a school team etc.)? Why/why not?

Satisfaction with School:
Did you enjoy school? Why/ why not?
What did you particularly like/ not like about it (school)?
How important is/was school to you?
Which subjects did/do you enjoy the most?
How successful do/did you feel about Math and English?

2. Questions related to school experience in the hospital

Self-Regulatory Skills:
How well are you able to finish your homework in the hospital? Why/ why not?
How well are you able to study while in the hospital? Why/ why not?
How well are you able to concentrate in the hospital? Why/ why not?
How often do you participate in teaching sessions? Why/ why not?
How well can you plan or organize your work in the hospital? Why/why not?
How well can you remember the lessons taught in the hospital? Why/why not?

Social Interactions:
Do you miss your friends while in the hospital? Why/ why not?
Are you able to see other children while in the hospital? Why/ why not?

Daily Schedule:
What types of activities do you like/ not like to do while in the hospital? Why/why not?

Satisfaction with School in the Hospital:
What subjects do you enjoy in the hospital? Why/ why not?
How well do you think you learn in the hospital? Why/why not?
How important is school for you while you are in the hospital? Why/why not?
How does this experience with school in the hospital compare with other times you have been in the hospital? Why/why not?
How successful do you feel about Math and English here? Do you feel more or less successful here?

Semi-Structured Interviews with Parents

1. Questions related to school experience outside/ or before hospitalization

Self-Regulatory Skills:
How well was your child able to finish his/her homework at school? Why/ why not?
How well was your child able to study while in school? Why/ why not?
How well was your child able to concentrate in school? Why/ why not?
How often did your child participate in school? Why/ why not?
How well could your child plan or organize his/her work? Why/why not?
How well could your child remember the lessons taught in class? Why/why not?

Social Interactions/ Activities:
Did your child have a lot of friends at school? Why/why not?
Did your child participate in extracurricular activities (like play on a school team etc.)? Why/why not?

Satisfaction with School:
Did your child enjoy school? Why/ why not?
What did your child particularly like/ not like about it (school)?
How important is/was school to your child?
Which subjects did/do your child enjoy the most?
How successful do/did your child feel about Math and English?

Academic and Health History:
Throughout the years, did your child experience success at school? Why/why not?
When did your child's illness develop and could you explain about the impact of the illness on your child?

2. Questions related to school experience in the hospital

Self-Regulatory Skills:
How well is your child able to finish homework in the hospital? Why/ why not?
How well is your child able to study while in the hospital? Why/ why not?
How well is your child able to concentrate in the hospital? Why/ why not?
How often does your child participate in teaching sessions? Why/ why not?
How well can your child plan or organize his/her work in the hospital? Why/why not?
How well can your child remember lessons taught in the hospital? Why/why not?

Social Interactions:
Does your child miss his/her friends while in the hospital? Why/ why not?
Is your child able to see other children while in the hospital? Why/ why not?

Daily Schedule:
What types of activities does your child like/ not like to do while in the hospital? Why/why not?

Satisfaction with School in the Hospital:
What subjects does your child enjoy in the hospital? Why/ why not?
How well does your child learn in the hospital? Why/why not?
How important is school for your child while he/she is in the hospital? Why/why not?
How successful does your child feel here? Why/why not?

Semi-Structured Interviews with Hospital Teachers

Self-Regulatory Skills:
How well is the student able to finish homework in the hospital? Why/ why not?
How well is the student able to study while in the hospital? Why/ why not?
How well is the student able to concentrate in the hospital? Why/ why not?
How often does the student participate in teaching sessions? Why/ why not?
How well can the student plan or organize his/her work in the hospital? Why/why not?
How well can the student remember lessons taught in the hospital? Why/why not?

Social Interactions:
What types of social ties does the student have while in the hospital?
Does the student miss his/her friends while in the hospital? Why/ why not?

Daily Schedule:
What types of activities does the student like/ not like to do while in the hospital? Why/why not?
How does the student spend his/her time while in the hospital?

Satisfaction with School in the Hospital:
What subjects does the student enjoy in the hospital? Why/ why not?
How well does the student learn in the hospital? Why/why not?
How important is school for the student while he/she is in the hospital? Why/why not?
How successful does the student feel here? Why/why not?

Academic and Health History:
Throughout the years, did the student experience success at school? Why/why not?
Has the student experienced success while in the hospital?
When did the student's illness develop and could you explain about the impact of the illness on the student.

Familial Involvement
To what extent are the parents involved in the educational program provided to the student while here?
How do the families keep in contact with the hospital teachers?
To what extent do the families maintain contact with the student's school and school teachers while the student is here?

Teaching of the Students
How is a program of study developed for a child in the hospital?
What is involved with teaching a child in the hospital?
Is the educational program tracked in any way?
Explain how the reintegration of the child takes place (What is done to facilitate reintegration?)
How is educational continuity with the school, home teachers, classroom teachers maintained?
Who is responsible for the organization and communication involved between the education professionals?

APPENDIX E

Journal Questions

Journal Entry Questions

1. How do you feel today?

Happy Somewhat Happy Not Happy

2. Why do you feel this way?

3. What did you learn today?

4. Was it easy to learn today? Why/why not?

5. How satisfied were you with your learning?

Satisfied Somewhat Satisfied Not Satisfied

6. What could be done to make your learning better?

APPENDIX F

Data Recording Charts

Motivation Data Recording Chart
Student Motivation- Amanda

	School importance	Academic success	Difficulty learning	Subjects	Role of teacher, parents, sibling, program	Physical Condition	Hospital	Self-Regulatory Skills
Student interview	p. 3, 48-50 p. 5, 111-116	p. 3, 52-62 p. 5, 120 p. 6, 126-127	p. 5, 103-106	p. 3, 50-51 p. 5, 101	p. 5, 111-114 p. 6, 126-127			
Parent interview	p. 4, 107-115 p. 7, 185	p. 2, 30-44 p. 6, 182-184 p. 7, 187		p. 4, 117-118 p. 5, 120 p. 6, 180	p. 3, 67-72 p. 6, 152-160 p. 6, 182-184 p. 5, 141	p. 1, 4-12	p. 5, 141	p. 2, 40-50
Teacher interview	p. 3, 75	p. 3, 84-88 p. 4, 90	p. 3, 66-70	p. 3, 60-66	p. 4, 109-115	p. 4, 96-101	p. 3, 66-70	
Observations	- for social connection not academics		- easy material		- likes teacher - easy for her			- shuts off computer
Journal			Journal #1- easy because computer #2- easy because "smart" #3- easy because computer					
Activities			- does not enjoy reading					- write to spell - kept work book

Cognition Data Recording Chart
Student Cognition- Amanda

	Study	Homework	Plan/ Organize	Concentrate/ Recall	Role of teacher, parents, sibling, program	Physical Condition	Hospital	Participate
Student interview	p. 1, 6 p. 4, 75-76	p. 1, 1-4 p. 3, 67	p. 1, 9-11 p. 1, 22 p. 4, 77-82 p. 4, 82-85	p. 1, 9-11 p. 1, 22 p. 4, 77-82 p. 4, 82-85	p. 3, 67			p. 1, 12-15
Parent interview	p. 3, 65-70	p. 5, 125-127	p. 3, 80	p. 2, 40-60 p. 3, 88-92 p. 5, 130	p. 2, 59-63 p. 5, 120 p. 5, 131	p. 1, 4-12	p. 5, 140-146	p. 3, 78-81
Teacher interview	p. 1, 7-9	p. 1, 1-5	p. 1, 19-24	p. 1, 7-11 p. 2, 26	p. 4, 109-115 p. 5, 120-125			p. 1, 12-15
Observations	- able to study item of interest even with noise	- little homework given	- aware needs to work - will turn computer off - knows where to start	- recalls computer, but little distracted, needs redirecting	- does activity for brother - no modeling by. teacher, but frequent praise		-admitted in bed - as out-patient	- participates well - interacts well - sounds out words - looks for teacher assistance
Journal						- how she feels related to condition and mindset for school- Journal #3		
Activities			- kept book - planned how to construct furniture	concentrates on fun things				

Affect Data Recording Chart
Student Affect- Amanda

	School Satisfaction	Role of teacher, parents, sibling, program	Hospital
Student interview	p. 2, 44 - liked school – "fun at recess" - likes hospital, liked hospital teacher		
Parent interview	p. 4, 108-115 - liked going to school for social aspects	p. 5 – mentions liking hospital teacher p.1, 25	p.1, 18-20 - upset because couldn't do certain things
Teacher interview		p.4, 109-115	
Observations	- likes computers - smiles a lot	- likes hospital teacher - thinks of brother - frequent teacher reinforcement	
Journal	- generally happy- Journal #1 - feelings seem related to how she is feeling and what is going on with her	- parents arranged for Back Street Boys concert- Journal #3	
Activities			

Adjustment Data Recording Chart
Student Adjustment- Amanda

	Social Connection	Academic Success	Familial Bond	Control Beliefs	Role of teacher, parents, sibling, program	Hospital
Student interview	p. 2, 23-25 p. 4, 90-95	p. 3, 52 p. 5, 120 p. 6, 126-127		p. 4, 77-82		
Parent interview	p.4, 95-98 p. 5, 147-150 p. 6, 161-170	p. 2, 30-44		p. 6, 170-175	p. 1, 15-26	p. 6, 160-175
Teacher interview	p. 2, 35 p. 2, 43 p. 4, 96-101 p. 8, 240		p. 2, 35 p. 3, 57-60		p. 2, 35 p. 4, 109-115	
Observations	- connected to teacher	- meets with success but work not difficult				- comfortable in environment- talks to staff and volunteers
Journal		- easy because she is smart – Journal #2		- "practice makes perfect"- Journal #2		
Activities	- established connection with me		- mother provides activities - extended family there once	- belief in capabilities		

APPENDIX G

Ontario Ministry of Education and Training Document

Ministry of Education and Training

Mowat Block
Queen's Park
Toronto ON M7A 1L2

Ministère de l'Éducation et de la Formation

Édifice Mowat
Queen's Park
Toronto ON M7A 1L2

Ontario

MEMORANDUM TO:

FROM:

DATE:

NUMBER:

SUBJECT: **Approval of Education Programs in Care, Treatment, Custodial and/or Correctional Facilities**

The announcements about the new Student-Focussed Funding Model clarified that the processes used in the past to approve the educational program in care, treatment, custodial and correctional facilities would remain the same in 1998 as in previous years. I am pleased to enclose the guideline and forms necessary for your district school board to apply for approval, for grant purposes, for such programs, now referred to as Intensive Support Allowance (ISA) Level 4, for the 1998/99 school year.

Note that due to the change in Ministry funding policy for the 1998 short year, no approvals are required for 1998 summer school programs.

The guidelines for this program have not changed substantially from previous years. However, as a result of our review of programs from the 1997-98 school year, it became clear that further policy clarification was needed regarding pupil enrolment for funding purposes. These changes appear in boldface in the accompanying guideline.

1. 1998 Guideline

The 1998 version of the guideline incorporates all the criteria in the previous guidelines, and includes some policy clarification. I would like to emphasize the fact that the overriding criterion in the guideline is **a child/youth's need for treatment is so severe that a regular day school or special education classroom program cannot serve their needs.** It is not to be implied that programs that do not meet this criterion are not valuable; it simply means that they are not eligible for additional funding under the current guideline. You may wish to discuss with the district office whether individual pupils with high needs enrolled in other types of programs should be considered ~~for additional~~ funding through ISA Levels 2 or 3.

RECEIVED

2. Request for Approval Form

Please complete one form for each facility for which approval is requested, plus a separate application for any administrative personnel such as a principal or liaison staff who is not attached to specific facilities, but whose numbers are to be included in the overall PTR calculation for grant purposes.

Please note that the number of agency staff reported on the form are those who are funded by the agency.

Board applications for funding (hard copy plus electronic versions) are to be submitted by May 29, 1998 to the attention of the District Manager of your assigned District Officer.

Electronic versions of the guideline and forms may be requested at the following e-mail address: Mira.Lee@edu.gov.on.ca.

Your usual cooperation is appreciated.

Drew Nameth
Director
Capital and Operating Grants Administration Branch

cc. Superintendents of Business

Enclosures

GUIDELINES FOR APPROVAL OF EDUCATIONAL PROGRAMS IN GOVERNMENT-APPROVED CARE, TREATMENT, CUSTODIAL AND CORRECTIONAL FACILITIES (ISA Level 4)

The needs of most school-aged children/youth can be effectively met within their family environments and through regular attendance in local schools. There are, however, conditions where a child/youth's social and/or medical needs require the individual to be placed in treatment facility. There are other situations where a young person must reside in a correctional facility. In either case special arrangements may be required to address the person's educational needs.

Service providers from the Ministries of Community and Social Services, Health, Solicitor General and Correctional Services, and Education and Training recognize the value of a multidisciplinary approach to meet the needs of children requiring special services. Fundamental to these beliefs is the recognition that an opportunity for education be provided for school-age children (**students 21 or under as of December 31, 1998**) who are admitted to government-approved facilities for care, treatment, custodial or correctional purposes, and who cannot attend a local school on a regular basis because of their need for the services provided by the facility. It is also acknowledged that local district school boards are the best agents for the delivery of educational programs to these children.

The care, treatment, custodial or correctional facility sets the overall goals and objectives for the provision of its services. Therefore, facility staffing arrangements must be in place to carry out the comprehensive program. The range of facility professionals will vary, with some professional services directly available to the child while others may be available as consultation to the multi-disciplinary team. Whatever the range, it is necessary that the teacher be included in the multi-disciplinary team and that the teacher be partnered on a full-time basis with facility staff who work directly with children/youth.

MET Policy/ Program Memorandum #85 (1986) (Appendix 1) outlines the ministry policy for the development of suitable educational programs which recognize the primacy of the care and/or treatment needs of the children/youth who have been admitted to facilities. The General Legislative Grants Regulation, issued annually, provides the regulatory basis for funding educational programs provided by district school boards for children who are admitted to such government-approved facilities.

PROGRAMS FOR CHILDREN/YOUTH IN FACILITIES

Co-operative planning is essential in developing programs to meet the needs of children and youth requiring special services in a multidisciplinary environment. The care, treatment, custody, correction and education of these individuals involve the direct and indirect services of several kinds of trained professionals such as child care workers, social workers, nurses, psychologists, medical doctors, psychiatrists, and teachers. Of necessity, supervision, guidance, and learning can only be accomplished through co-operative development of individual plans for each child. In both preparing and applying these plans, education often becomes interwoven with social and medical programs provided. Curriculum and instruction are modified to meet the individual's needs and are integrated with the facility's overall plan.

Since every staff function must be carried out within the context of the facility's total program and the individual program for each child, full and frank discussions between facilities and district school boards about philosophies, policies (eg. child abuse protocols), staffing arrangements and care, treatment, custody or correctional programs must take place. These discussions should include such topics as staff roles and functions, qualifications, arrangements for mutual support, class hours and schedules, holiday and illness arrangements, professional development days, participation in program planning, case conferences and contact with the parent/guardian. (Any or all of these may be included in the agreement between the facility and the district school board.)

EDUCATIONAL PROGRAM

When a child/youth's program need for treatment may be so severe that a regular day school or special education classroom program cannot serve their needs, approved facilities may ask district school boards to enter into written agreements in order to place teachers, and if necessary, educational assistants in their settings as part of a multidisciplinary team. The educational program will be provided in support of the treatment and will become part of a plan of service.

For approval purposes, an educational program is composed of both instructional and blended activities. Blended activities are where both the teaching and agency staff are working with students at the same time. The educational program will not include pupil withdrawal where the student is under the exclusive supervision of agency staff.

Arrangements for the placement of teachers in these facilities are established by written agreement and signed by appropriate officials of the district school board(s), the facility(ies) and, under some circumstances (Ministry of Solicitor General and Correctional Services), designated officials of the respective ministries. Where the placement of the teacher in the facility is approved by the Ministry of Education and Training for grant purposes, the district school board will be reimbursed under the provisions of the General Legislative Grants Regulation for:

- the salary of the teacher and related employee benefits;
- the salary of the educational assistant, if applicable, and related employee benefits;
- an additional amount per teacher and educational assistant in respect of the expenditure incurred by the district school board for administrative, consultative and supervisory services and for the purchase of instructional supplies; and
- an amount for the approved portion of the expenditure for a facility's classroom furniture and equipment. This amount is a one-time-only start up grant.

A child in a care, treatment, custodial or correctional facility receiving an educational program in the facility must not be recorded as a pupil of a district school board and is not eligible for funding, on either a full-time or part-time basis, as a "resident pupil" of a district school board; students can only be reported once for funding purposes.

ACCOUNTABILITY

While it is understood that the supervisory officer of the district school board will be responsible for educational consultation and teacher supervision, teachers usually report directly to a principal. The facility's director and the district school boards' supervisory officer or designate will consult as required to ensure that all staff activities are consistent with each child's needs.

With respect to the issue of staffing and validity of data submitted to generate grants, there exists a shared accountability role. District School Board and Ministry District Office personnel share accountability for the approval of education staff. It is the responsibility of ministry staff to clarify guidelines and to approve applications for grants with consistency, equity, and efficiency. It is the responsibility of the designated district school board supervisory officer to ensure that staffing guidelines are applied and that data submitted to generate grants is accurate.

The Ministry of Education and Training will conduct both on-site and computer based monitoring of program and application data.

FULL TIME EQUIVALENT (FTE) PUPILS

In government-approved institutions or facilities, enrolments often fluctuate, with temporary highs and lows. For grant purposes, the staffing guidelines considered by the Ministry of Education and Training will be based on the pupil enrolment which meets the following criteria:

- students must be required to attend the facilities educational program (optional attendance is not eligible for funding);
- the enrolment must be recorded in an appropriate Ministry of Education and Training enrolment register (in most cases the Register of Daily Attendance for Elementary Schools [21-0922] is most appropriate);
- the monthly enrolment as of the last school day of the month is to be reported on the Application Form;
- it should be noted that pupils 21 and over as of December 31, 1998 shall not be included in the enrolment reported in the grant applications for the 1998/99 school year;
- to be defined as a full time student, the pupil must be enrolled in the educational program for an average of 210 minutes or more per day over the program cycle;
- the FTE reported for a student must be supported by student timetables, teacher timetables, or individual education plans; and
- the FTE calculation for students enrolled in the education program for less than 210 minutes will be dividing the educational program the student is enrolled in by 300 minutes per school day in the program cycle.

District school boards are responsible for keeping accurate records of enrolment and attendance for grant purposes.

PUPIL:TEACHER RATIO (PTR)

Funding approval is tied both to the number of children/youth in the institution, plus the overall educational needs of the facility. Wherever possible, the ratios for staffing the educational program will be in line with Ministry of Education and Training Regulation 298, section 31

(Appendix 2). An average of six FTE pupils is viewed as the minimum number required to receive ministry grants for a full-time teacher; **other methods of program delivery and funding may be more appropriate where the FTE of pupils is lower. However, the Ministry review of the particular program will determine the approved PTR.** The opinion of facility staff about treatment requirements will also need to be taken into account.

At times there may need to be a lower PTR in a facility for a particular period of time. To facilitate this, a district school board may report and account for staffing on a "board-wide" basis to permit a degree of staffing flexibility within its jurisdiction. In such instances, the district school board supervisory officer would determine where there can be a compensatory higher PTR to allow for the lower PTR elsewhere. It is clearly expected that the overall, confirmed PTR for grant purposes will remain within the guidelines pertaining to the FTE ratio range.

TEACHERS

Approval of the number of teachers is based on pupil enrolment and attendance as reported by the district school board. Educational staffing decisions are based on a number of factors, in addition to pupil enrolment, including:

- the facility's mandate and the total number of clients currently being served and/or currently in an admission/demission process with respect to care, treatment, custody or correction who require education;
- the attendance patterns evidenced in any previous annual agreement(s) between the boards and the facility;
- short-term enrolment fluctuations;
- an indication of the amount of time during the school day required for care or treatment activities;
- a comprehensive analysis of the educational needs of the pupils;
- the organization of viable instructional groupings;
- the nature of the multi-disciplinary service delivery; and
- the need for cost-effectiveness and fiscal accountability.

It is the responsibility of the designated supervisory officer of the board to confirm the FTE(s) of pupils who require education within a facility. Where numbers warrant, it may be necessary to increase or decrease staffing during the school year, provided that the change is not a temporary high or low point.

EDUCATIONAL ASSISTANTS

In unique situations, where careful analysis of the delivery of the total program indicates that the education component cannot be delivered appropriately for a particular grouping of pupils without greater individualization, a request to the District Office for an educational assistant may be submitted for approval. For grant purposes, an educational assistant is counted as 1/2 FTE teacher and is included as part of the overall staffing ratio. It must be stressed that in the circumstances described above, an educational assistant is employed only for educational purposes under the direction of a teacher and must not be confused with the need for an addition to care, treatment or correctional staffing. Aside from educational assistants, support staff should

be allocated and funded by the other ministries to fulfill the various facility mandates and to address the primary care, treatment or correctional needs of these pupils.

ADMINISTRATION / LIAISON

Where warranted, various staffing arrangements may accommodate the provision of some administrative, assessment or liaison functions. The portion of time allocated to these functions will vary according to the specific situation. **The Ministry of Education and Training recommends 16 full time equivalent teaching positions before one full time non-teaching position is approved.** The supervisory officer of the board is in the best position to determine whether such functions are necessary to complement the direct instruction provided to the pupils. It must be recognized, however, that all education staff funded by the ministry (including persons whose primary responsibilities are supervision, administration, liaison, etc.) are included in the PTR calculations for grant purposes.

Requests for approval for administrative, assessment or liaison staff should accompany the board's overall application and include the rationale used by, and the signature of, the supervisory officer that determined such functions are necessary.

TRANSITION TO SCHOOL PROGRAM

Where the multidisciplinary staff in the facility agree, and on going assessment indicates the child/youth's readiness, admission to a school of a board may be appropriate. The facility and the district school board providing the educational program are strongly encouraged to work co-operatively and with community agencies and the receiving school to create a plan for the successful transition of the pupil. Until this transition time, usually a few weeks to a few months, is complete, the child/youth shall remain on the facility register, since this provides protection for the child/youth in case of regression. A child/youth may not be included on the register of the facility and the register of a day school at the same time.

Various educational alternatives may need to be considered when supporting integration of pupils into a new educational setting. Elements of the plan should include gradual integration, with sharing of documentation and records and regular communication with parents. Principals may adjust the education program, and, in the case of secondary students, award partial credits. Where a timely transfer of a pupil to a new educational setting is a priority, facility directors may adjust the discharge date. Suggested procedures for transfer from a facility to a local school should be part of the agreement.

Upon enrolment in the school, the pupil may be considered for either regular or special education class placement. In either case, and especially if a referral is made to an Identification, Placement and Review Committee (IPRC), the facility staff should participate in discussions about placement.

CONFIDENTIALITY: RECORD KEEPING AND INFORMATION

Children participating in education programs in care, treatment, custodial or correctional facilities are entitled to the same rights regarding confidentiality of their education records as pupils in regular day school programs. The Ontario Student Record (OSR) should be obtained

from the school last attended by the pupil and kept at the facility. Additionally, a district school board has a responsibility to share diagnostic assessment and liaison services for its pupils, as they engage in the admissions/demission process with respect to care, treatment, custody or correction. Report cards regarding the child's educational progress while attending an educational program in the facility must become part of the OSR. The legislation and guidelines about OSRs apply to the OSRs of these children/youth.

Two major pieces of legislation are important:

1. Clause 265(d) and section 266 of the Education Act outline the duty of the principal respecting pupil records and the access to and use of the OSR. (The contents of the OSR are described in the guideline "Ontario Student Record (OSR) Guideline, 1989".)

2. Freedom of Information and Protection of Privacy Act and Municipal Freedom of Information and Protection of Privacy Act (FOI) contain information about the collection, use of, and access to all personal information, including the OSR.

Any personal information recorded about a child/youth, whether or not it is kept in the OSR, is generally accessible to the child or parent/guardian under the Education Act and FOI legislation, irrespective of the format of the information. Information about the child/youth's education should not be disclosed to anyone other than the parent/pupil without the consent of the parent/guardian or the pupil, if an adult. Also note that both freedom of information acts permit, but do not require, disclosure of personal information in circumstances not contemplated by the Education Act. It will be up to the individual district school boards to decide whether these discretionary exemptions may be applied to OSRs in any given situation.

In certain cases, where personal information is being requested from a facility or agency, a specific form may be required. One such example is the Form 14 Consent to the Disclosure, Transmittal or Examination of a Clinical Record Under the Mental Health Act, but this form only applies to mental health records. However, the district school board bears complete responsibility for the access to and release of information contained in the OSR.

TRANSPORTATION

Section 190 of the Education Act provides the legislative authority for district school boards to transport pupils. Although students attending school in care, treatment, custodial or correction facilities are not "resident pupils" of the board, sub-section 190(3) allows boards to transport a person who is qualified to be a resident pupil of the board to and from the following types of facilities:

- a centre classified as a Group K hospital under the Public Hospitals Act,
- a facility designated under the Developmental Services Act,
- a psychiatric facility designated under the Mental Health Act,
- a place where an agency approved under subsection 8(1) of Part 1 (Flexible Services) of the Child and Family Services Act provides child development service, a child treatment service, or a child and family intervention service.

ACCOMMODATION

When planning for an educational-facility agreement, the location, size, and type of classroom accommodation should be discussed by all parties as early in the process as possible, and as soon as the nature of the pupils to be served and their educational requirements are established. It is the responsibility of the care, treatment, custodial or correctional facility to provide adequate and appropriate classroom accommodation for the educational program. The educational program may be located within the facility premises, or in accommodation leased by the facility elsewhere in the community, including in a school of the board, as best meets the needs of the pupils. When a district school board leases space to a care or treatment facility, the district school board may recover the cost of that space.

When planning accommodation for the educational program, a facility must consider the following:

- sufficient space for the provision of support from care, treatment, custodial or correctional services staff;
- support for the teacher(s);
- adequate additional space for any necessary supervisory staff;
- requirements of the Occupational Health and Safety Act;
- adequate safety provisions for pupils and teachers;
- appropriate utilities, e.g., a source of water in the classroom;
- sufficient, easily accessible washroom facilities;
- proper building maintenance;
- appropriate insurance;
- access to adequate playground or gymnasium, resource centre, and other facilities; and
- the costs of leasing the space.

MECHANISM FOR CONFLICT RESOLUTION

Where conflicts develop between educators and care, treatment, custodial or correctional personnel, it is anticipated that most will be resolved through the normal consultation process among the professional staff involved.

Occasionally, however, issues may develop that cannot be resolved successfully in this manner. A process for resolving conflict should be agreed upon in advance by the facility and the district school board and should become a part of the written agreement.

Mechanisms for conflict resolution might include the following:

- senior staff of both parties to meet as required to resolve an issue;
- consultation with the facility program supervisor and education officer or official from the appropriate offices of both ministries; and,
- joint facility/education committees.

ELEMENTS OF AN AGREEMENT

District school boards and facilities should consult with their own legal counsel when preparing their agreements. However, the following may serve as a guide to components of an agreement:

Heading and Introduction:

a. names of facility or agency and local district school board;
b. name of act under which facility/agency is licensed;
c. type of clientele, referral sources, catchment area, location of program (address), number of pupils per teacher, total number of children/youth;
d. duration of agreement, time lines for review or termination of agreement;
e. Philosophy of care, treatment, or correction facility program in conjunction with the district school board's educational program; and
f. geographic area serviced by facility.

Facility, Agency Responsibilities:

a. admissions to care, treatment, custodial or correctional facility;
b. appropriate accommodation for the educational program, and its location;
c. nature and frequency of care, treatment or therapeutic support services to be provided during school hours;
d. number and type of professionals assigned to address the care/treatment needs of the children/youth;
e. name and title of person responsible for the supervision of the care, and/or treatment program;
f. description of the care and/or treatment program to be provided for the children/youth;
g. provision of treatment or care plan for each pupil;
h. copy of site plan (physical location);
i. timetable for educational program should be on file at the facility; and
j. security.

District School Board Responsibilities:

a. hiring of teachers for the provision of an educational program in the care, treatment, custodial or correctional facility program;
b. supervision of educational program and teacher;
c. teacher works under the district school board's teachers' collective agreement;
d. provision of furniture, equipment and instructional supplies;
e. time schedule for operating the educational program within the facility/agency;
f. provision of professional development for educational staff;
g. educational assessment and student's evaluation;
h. maintain daily attendance record;
i. description of educational program; and
j. method of selection of educational staff.

Mutual Responsibilities

a. multi-disciplinary co-operative approach to planning of child/youth's program;

b. confidentiality;
c. conflict resolution process;
d. roles of educational and facility supervisory personnel;
e. provision and maintenance of equipment;
f. description of transition process from facility's educational program to community schools;
g. Occupational Health and Safety Act interpretation and how the Act is to be implemented by both parties named in agreement;
h. design, review and evaluation of individual programs;
i. specific local conditions; and
j. development of a violence prevention policy, as required.

Signatures

a. signatures of signing officials of each party.

APPENDIX 1
POLICY / PROGRAM MEMORANDUM NO. 85
Education Programs for Pupils in Government-Approved Care and/or Treatment Facilities

The Ministry of Education believes that the education of school-age pupils must not suffer if they are required to attend government-approved facilities for care and/or treatment purposes. As far as possible, these persons should attend regular or special education classes in local schools. However, in cases where pupils cannot attend local schools because of their need for care and/or treatment, suitable educations programs which recognize the primacy of the care and/or treatment needs may be provided by the school board within the facilities. Arrangements for the provisions of such educational programs for persons of school age in these facilities should be developed jointly by the staff of these facilities and board personnel.

1. Provision of Educational Programs in Care and/or Treatment Facilities.

A) General Terms and Conditions

At the request of a government-approved care and treatment facility located within its jurisdiction, a school board may enter into a written agreement to provide educational programs in the facility for those pupils who cannot attend local schools because of their need for care and/or treatment. A school board may employ one or more qualified teachers to provide such educational programs in the facility.

Where a school board and a government-approved care and/or treatment facility enter into an agreement for the provisions of an educational program, the facility must provide one or more suitable classrooms in the facility for the educational program, as well as the necessary support staff to maintain the care and/or treatment programs, as required, while the pupil is in the educational program.

B) Role of the Teacher

A teacher employed to provide an educational program in a care and/or treatment facility may be required to perform any or all of the following duties:

i. Provide classroom instruction for pupils in the facility
ii. Collect information about the child from the school board and transmit it to staff of the facility
iii. Act as a member of a diagnostic, assessment, and treatment team
iv. Provide treatment and care staff with information regarding the school system which may assist in making decisions pertaining to discharge, program development, and relevant contacts
v. Develop educational programs (in co-operation with the staff of the facility and staff of the receiving school) for pupils who may be returning to their local schools
vi. Provide and interpret information to school officials based upon the findings of the staff of the facility
vii. Supervise the educational program.

Teachers performing these types of duties are expected to maintain contact with all boards which would normally have jurisdiction over the pupils attending the facility.

Educational consultation and supervision will be provided to the teachers by the supervisory officer of the school board. The supervisory officer of the board (or a designate) and the director of the facility will consult regularly to ensure that the needs of each pupil are being met as effectively as possible.

C) Funding

The cost incurred by a board as a result of the employment of teachers to provide such educational programs and of teacher-aides to assist these teachers may be approved for grant purposes by the Minister of Education. Where approved, the Ministry of Education will reimburse the school board in accordance with the General Legislative Grants regulations for:

- the salary of the teacher and related employee benefits
- the salary of the teacher-aide and related employee benefits
- an additional amount per teacher and per teacher-aide in respect of the expenditure of a board for administrative, consultative, and supervisory services, for replacement of furniture and equipment, and for the purchase of instructional supplies
- an additional amount per classroom in the facility for the approved portion of the expenditure for furniture and equipment. (The maximum amount is $3300 per classroom.)

2. Attendance in Local Schools

Where a pupil who is a resident of an approved facility is able to attend a local school, the board may designate the pupil as either "resident-internal" or "non-resident".

A) For each pupil designated as a "non-resident" pupil, the Minister of Education pays the school board an amount equal to the cost of education in accordance with the General Legislative Grants regular. Where a pupil is placed in a high-cost special education program, a high-cost factor may be applied as provided in the Calculation of Fees for Pupils regulation. In applicable cases, the high-cost factor may be negotiated between officials of the school board and the district office of the Ministry of Education.

B) Where a pupil from an approved facility is designated as a "resident-internal" pupil of the board, that pupil is included in the board's total enrolment. In such cases, funding is provided under the regular grant structure.

NOTE: Eligible government-approved care and/or treatment facilities are listed in the General Legislative Grants regulation.

APPENDIX 2
EXCERPT FROM REGULATION 298
Operation of Schools - General

31. The maximum enrolment in a special education class shall depend upon the extent of the exceptionalities of the pupils in the class and the special education services that are available to the teacher, but in no case shall the enrolment in a self-contained class exceed,

a. in a class for pupils who are emotionally disturbed or socially maladjusted, for pupils who have severe learning disabilities, or for pupil who are younger than compulsory school age and have impaired hearing, eight pupils;
b. in a class for pupils who are blind, for pupils who are deaf, for pupils who are trainable retarded, or for pupils with speech and language disorders, ten pupils;
c. in a class for pupils who are hard of hearing, for pupils with limited vision, or for pupils with orthopaedic or other physical handicaps, twelve pupils;
d. in a class for pupils who are educable retarded children, twelve pupils in the primary division and sixteen pupils in the junior and intermediate divisions;
e. in an elementary school class for pupils who are gifted, twenty-five pupils;
f. in a class for aphasic or autistic pupils, or for pupils with multiple handicaps for whom no one handicap is dominant, six pupils; and
g. on and after the 1st day of September, 1982, in a class for exceptional pupils consisting of pupils with different exceptionalities, sixteen pupils.

APPENDIX H

Home Instruction Board Policy

PROCEDURE PR.559.SES

TITLE: HOME INSTRUCTION

Date issued 18 November 1998
Last revised:
Authorization: Senior Staff 98/10/16
Next review: 03/2001

1.0 OBJECTIVE

To outline the procedures for and the conditions upon which home instruction will be provided to students who are unable to attend school for medical reasons.

2.0 RESPONSIBILITY

Superintendent of Special Education/Student Services and school principals

3.0 PROCEDURES

3.1 The procedure for arranging the provision of home instruction to a student who is unable to attend school for medical reasons is as follows:

a) in consultation with the teacher and principal, a parent may submit a request in writing for home instruction;

b) the request must be accompanied by a doctor's statement of need, and include the estimated length of absence from school;

c) the principal will submit a formal written request for home instruction, accompanied by the doctor's letter, to the Superintendent of Special Education/Student Services or designate for approval;

d) the Superintendent of Special Education/Student Services or designate will approve a specific number of dates and hours for the student's home instruction, and will inform the school;

e) the school principal will assign a home instruction teacher in consultation with Human Resources, as required;

f) the home instruction teacher will contact the school to make arrangements for curriculum material and the course of study to be followed.

3.2 The home instruction teacher will send written reports to the school at regular reporting periods, and upon the student's return to school.

3.3 Home instruction will normally begin in the ninth week of absence from school and will be provided for up to a maximum of six months in any given school year.

3.4 Renewal of home instruction for the following school year will be subject to re-application in writing by the parent, recommendation by the principal, and approval of the Superintendent of Special Education/Student Services or designate.

3.5 In rare cases, home instruction may be provided at the direct request of the Critical Incidents Review Committee or at the documented request of Psychological Services. The approval of the Superintendent of Special Education/Student Services is required in such cases.

4.0 OTHER

4.1 Students who are in-patients of the may access teacher service instruction through the instructional unit at the hospital.

5.0 REFERENCE DOCUMENTS

The Education Act, Regulation 298, s 11 (11)
Board Policy P.070.SES: Home Instruction
Board Policy Procedure PR.528.SCO: Critical Incident Review Process

APPENDIX I

List of Recommendations

List of Recommendations: Educational Programs in Care,

Treatment, Custodial and/or Correctional Facilities

Recommendation #1: Since a cancer diagnosis means that the child will necessarily be away from the school environment, educational support programs, particularly the home instruction program, should be initiated immediately following the diagnosis and should be available to oncology students without mandatory waiting periods.

Recommendation #2: Home instruction services should be available to oncology students for as long as is required.

Recommendation #3: Teachers and parents must maintain age and grade appropriate expectations for the oncology students.

Recommendation #4: There is a need for better communication and coordination among the teachers involved in a child's case.

Recommendation #5: IEPs should be developed cooperatively among the teachers for each of the oncology students clearly outlining the required educational objectives.

Recommendation #6: Oncology students must receive formal school report cards while in the home and hospital setting. By receiving these report cards, the students' work and effort will be recognized and they will have clear indicators of their abilities in relation to their age-mates.

Recommendation #7: Report cards must also be designed so that customized reports can be given that will accurately reflect the hospital school experience.

Recommendation #8: An appropriate work space should be made available on each of the hospital floors for the specific use of the hospital education program.

Recommendation #9: Thirty minutes a day of hospital instruction time is not adequate. More time needs to be made available particularly for those students who are totally reliant on the home and hospital programs for their educational services. This may also mean the requirement for additional teaching staff.

Recommendation #10: Hospital teachers should be supplied with copies of the students' textbooks and educational materials by the school board.

Recommendation #11: With the development of an IEP, agreed upon by all parties involved in a child's case, parents should not have to assume any additional organizational responsibilities. Based on the details of the IEP, hospital teachers should be able to coordinate with the classroom teacher so that a copy of the necessary educational materials, or resemble substitutes, are at the hospital ready for use during the oncology students' education sessions.

Recommendation #12: In addition, with an agreed upon IEP, assessment of the child's work may be completed by either the hospital teacher or the classroom teacher thereby eliminating the requirement to transport materials and assignments back and forth from the hospital and school.

Recommendation # 13: The development of self-regulatory skills may be beneficial for oncology students. These skills should be taught and reinforced during the children's hospital education sessions.

Recommendation # 14: The hospital teacher not only provides educational instruction, but is also an important social contact for hospitalized, oncology students. Therefore, monies must be made available to ensure that these special education students be adequately serviced in the hospital setting by qualified personnel.

Recommendation #15: Hospital teachers must be aware of the effects of peer social isolation on the oncology students and be particularly sensitive to these effects on those students most at risk physically and most disconnected from their community school and peer group.