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Partnership in Education:
An Academic Support Program for Cree Students in CEGEP

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A Thesis

in

The Department of Educational Technology

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Abstract

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This study investigates and develops a model of the functioning of an academic support program for Cree students in a non-Native CEGEP. The purpose of this modelling is to detect any mismatches between the actual structure and an optimally functioning program that learns and adapts and benefits those for whom it exists. The premise of the study is that before discrete solutions to problems can be implemented, certain structures must be in place. As well, values, assumptions, and goals must be clarified. Through the processes of philosophical inquiry and modelling the program as a complex system, this study found that the program has influenced not only the academic success and persistence of the Cree students but also some of the institution's approaches to teaching and learning. Analysis of the model of the program identified missing structures; in particular, some sort of management of communication between the program and the Cree communities. This model and the recommendations made for optimizing the program's behavior could be useful to other academic programs that are attempting to be more sensitive to the needs of Native students.

Acknowledgements

Much of the inspiration for this thesis has come from two sources. During my studies in the graduate program in educational technology at Concordia University, I was introduced to educational cybernetics. This course, taught by Dr. Gary Boyd, provided me with the theoretical foundation for this study. I also gratefully acknowledge the encouragement and thought-provoking questions and comments from my thesis advisor, Dr. David Mitchell, who has been very generous with his time, expertise, and trust in my ability to forge ahead with this work! I thank him too for his judicious editing.

The second source of inspiration has been my experience with the Cree student support project at John Abbott College. I have depended on the expertise and guidance of many people during the time I have worked in the project and I thank them all. However, I am most indebted to the Cree students who have helped me see through "two pairs of eyes." They have taught me not through direct lessons, but through their wit, gentle teasing, sense of humor, and stories which have unfolded over the years we have been together.

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CHAPTER ONE

An educational challenge: Cree students in a non-Native CEGEP

In the winter semester, 1989, 10 Cree women from James Bay, northern Quebec entered the nursing program at John Abbott College. It was the beginning of a new era for the teachers and the students. Faced with challenges to instructional methods which did not seem to work, the CEGEP teachers began a journey of discovery and learning that continues to this day. Cree students continue to come to the college to pursue studies in a variety of programs.

An academic support project, begun in the fall semester 1990, has evolved over a period of six years. Its primary goal has been to increase the academic success of the Cree students at the college. The purpose of this thesis is to develop a model of the project with the aim of clarifying assumptions and identifying missing or inappropriate feedback loops. The results of this study might be used to improve the support system.

The nature of this study

Background

Across North America, First Nations students are attending non-Native postsecondary educational institutions in greater numbers than ever before. Although some students are successful, many do not graduate. As a result, money and other resources are being directed toward an array of

programs that attempt to meet the perceived needs of these students. The programs differ dramatically in their approaches, with varying degrees of success. Success can be measured in different ways. However, for the purposes of this project it refers to student retention (passing courses, completing programs). One such program was set up at John Abbott College.

Originally designed to provide academic support for the Cree nursing students, the project began as a partnership between the Cree School Board (CSB) and the college. Funding for the first three years of the project came from the provincial Ministère de l'Enseignment Superior et de la Science following submission of a proposal written jointly by the CSB and the college. In the fall of 1993, the CSB negotiated a service contract with the college and subsequently provided funding that allowed the college to extend its academic support services to Cree students in programs other than nursing.

My interest in this educational challenge began in the winter semester, 1989. During that semester it became obvious that the teachers and the Cree students needed some form of assistance since very few courses were passed. As a first semester nursing teacher with 17 years of CEGEP teaching experience, my assumptions about teaching, learning and health care issues were challenged by the presence of 10 Cree women in a class of 32 students. Three semesters later, when the project funding was secured, I was hired as the pedagogical counsellor. Involved with the project since its

inception, I, along with two colleagues, have been responsible for its design and implementation.

Purpose

The program has evolved over six years and its form is primarily the result of self organization rather than of explicit design at the outset. Funding requests and progress reports supply information about the objectives, philosophy, job descriptions, successes and problems, all of which describe the structure of the program. Missing in these documents is a model for understanding why it works the way it does.

The purpose of this study is to conceptualize the program as it exists in an attempt to reveal the interrelatedness of its parts and to look for any mismatches between the actual structure and an optimally effective structure. This study therefore addresses the question "what should be the key ingredients of an academic support program for Cree students in a non-Native CEGEP?" This is not an investigation of the effect of a particular instructional practice. It is, however, concerned with the many variables in this educational system where human resources and money have been allocated to achieve certain outcomes. The intent of this study is to specify what "key ingredients" in the system are necessary to achieve desired and potentially replicable outcomes.

Personal experience and intuition suggest that, although many areas of the project are working well, there are some functions that are missing or not very clearly understood in

terms of their importance to the overall functioning of the system. Exploration of these functions is imperative for program planning and for justification of future funding. How can we be assured that the project benefits those for whom it exists? Are outcomes consistent with values? Have values and priorities changed since they were first articulated? In these times of rapid change within the Cree communities and in the world surrounding all of us, can this organization learn and adapt and continue to meet the needs of its clients? Although this study focuses on a particular group of Native students in one CEGEP, it is hoped that the analysis and findings will be of value to others who may build on or otherwise benefit from this project.

Overall structure of the study

Of initial concern is the selection of a credible approach as a framework for discussion, an approach that will supply a language, a perspective, and a means for ordering and categorizing the essential constructs. Research on Native learning styles and appropriate instructional techniques as well as investigations of reasons for poor academic achievement contribute a dimension of insight. Within the context of this study, however, this fundamentally reductionist paradigm has substantial limitations. It is first necessary to find out under what conditions the solutions that these investigations offer can be implemented. If certain functions are missing, then hard as we may try to implement the solutions, we risk failing in our mission. Concept analysis and modelling the program as a complex

system are two compatible choices that seem more appropriate in this case. Personal accounts provide a qualitative complement to philosophical and scientific inquiry.

Educational technology is essentially about relationships and the use of its techniques can provide a vehicle to understanding the phenomena of this educational program. Implemented with accurate identification of the philosophical and scientific underpinnings as suggested by Hawkridge (1991), educational technology can act as the interface between the educational organization (the college) and the management of other people's education (the Cree project). It can describe how the system must be organized "so that the maximum benefits of personal and cultural developments can be enjoyed for each expenditure of effort and resources" (Mitchell, 1986, p.224).

Point of view

As one of three people (all non-Native) hired to take part in the academic support project, I have been privileged to exchange ideas with and learn from Native people. In my capacity as the students' academic counsellor, I have had unique opportunities to attend Native educators' conferences, visit reserves in Canada and in the United States, listen to the elders speak and most valued of all, to develop relationships with the students over an extended period of time. These experiences have enhanced my awareness of another world view, one that is not necessarily legitimized in the Euro-Western education system despite the proliferation of politically correct talk.

Simultaneously exhilarated and frustrated by the day-to-day details of problem solving and meeting short term goals, I realize that there are many variables to consider during project planning. I also recognize that this study is only a stepping stone towards the development of educational programs that meet the needs of the Cree people. I undertake this study with full recognition that I cannot and do not speak for the Cree. The words and ideas are my own, chosen with respect for and gratitude to the Cree people with whom I work. As stated by Steven Bearskin in a message to health care workers planning to work in the north, "we certainly hope that you will try to understand our past experience and our future aspirations and that you will share your expertise with us in the spirit of friendly cooperation" (Atkinson & Magonet, Eds., 1990, p. 4). This project is an attempt to do just that.

Clarification of words and phrases

Words have the power to reflect attitudes and point of view. Their interpretation sometimes depends on the world view of the recipient. To reduce the possibility of misunderstandings, several words and phrases that appear throughout this study merit clarification.

There seems to be no consensus about the term that is currently most acceptable for describing the larger cultural group to which the Cree belong. In Canada, First Nations, Native and aboriginal are used interchangeably (for example, The Assembly of First Nations, The Canadian Journal of Native Education, The Aboriginal Nurses' Association). In the

United States, the terms Amerindian and American Indian (AI) are in widespread use. In this study, when referring to a specific author's work, I have retained the author's terminology. Otherwise, I have used the terms First Nations or Native when referring to all aboriginal peoples in Canada.

A second area that deserves attention is the use of "we/our" and "they" to refer to non-Cree and Cree respectively. This differentiation of groups has both positive and negative elements. It has the potential to reflect a negative aspect of ethnocentrism by making the "we" the standard against which the "they" are measured. It may also cause us to overlook shared aspirations, desires, feelings and beliefs. However, this differentiation is useful as a reminder of the existence of different world views and cultural values. Within this project, the distinction between the two groups is made to facilitate discussion of the differences that must be considered.

A somewhat related problem arises with the use of the terms formal and informal education. For the purposes of this study, formal education describes teaching and learning that is organized within an educational institution. Informal education is that which occurs outside the boundaries of the formal educational institution. Whether consciously or unconsciously, the word formal connotes a power differential: that formal education is superior to or more credible and valid than informal. Once again, as with the "we" and "they", one can become the measure against which the other is evaluated.

Several authors have pointed out that intellectual arrogance has resulted in lack of recognition of other ways of knowing and that this has certainly been the experience of North American Natives in Western educational institutions (Chambers, 1992; Snively, 1990; Wangler, 1984). Native ways of knowing have been thought of as highly subjective and unscientific. Institutions of formal education have succeeded in mystifying that which is actually common knowledge. The familiar has become unfamiliar when described in terms understood only by the discipline that has either invented or appropriated them. Part of the challenge of this study is to look beyond the boundaries of the formal education system into the realm of the informal, giving equal respect to both.

A final phrase warrants discussion. This study examines, as part of the literature review, the research on school dropouts. Unfortunately, this terminology has some negative connotations. It seems to place the blame for leaving on the student. Alternative phrases such as "school leaver" or "student who has been pushed out" may be more accurate. However, since dropout is the term most commonly used in the literature, I have retained it to describe a student who has left school before graduation or prior to the end of a semester.

Empowerment is an underlying issue in this discussion. The term Indian denies the history of the first Nations peoples prior to Columbus' visit to the Americas. There is no intent to pit the "we" against the "they", "formal"

against "informal" education, the "dropout" against the "successful student". These words and phrases are not meant to imply a power differential. They are used to respectfully acknowledge differences.

Historic perspective

The number of people involved in this project (three professionals and a total of 64 students since the beginning of the project) seems small relative to the total numbers at the college (over five thousand students and three hundred and fifty teachers). Conversely, the budget is large compared to that of other departments. In times of fiscal restraint, some might question the expenditure of this substantial amount of money and effort that seemingly benefits so few. Others, adhering to a more systemic perspective, might argue that the beneficiaries of such a project are not only a few students but also society. Does this educational problem warrant the attention it is receiving? Perhaps answers can be found through an examination of its historic, socioeconomic, and political antecedents.

Although it is beyond the scope of this study to review the history of the relationships between Natives and non-Natives in North America, my own experience leads me to believe that neglect of the legacy of this history limits our understanding of the present situation and hinders constructive action. This viewpoint is supported by numerous

educators (Busswood, 1993–94; Forbes, 1969; Hampton, 1993; Mussell, 1991; Perley, 1993). A brief overview of this history as it relates to the James Bay Cree partially explains the state of education and the significance of the presence of this Native group in Quebec colleges.

In the early 1970s, Premier Robert Bourassa announced the Quebec government's plans to develop a mega–hydroelectric project that would flood large parts of the hunting territory of the James Bay Cree. Increased contact with the dominant Euro-Canadian culture marked the beginning of a rapid change in lifestyle for the Cree. Although there had been influences from the outside prior to this time, the traditional way of life had not undergone many changes until the 20th century. The signing of the James Bay and Northern Quebec Agreement (JBNQA) on November 11, 1975 allowed the government to proceed with the hydroelectric project in return for monetary compensation to the Cree for loss of their land. Also negotiated was local self government for eight communities. Cree control of education was one of the major issues agreed upon.[1]

Prior to contact with outsiders, Cree children learned by active observation, listening, and practice. Living and learning in groups of extended family members, many children knew how to survive in the bush before adolescence. Storytelling communicated knowledge and ideas from one generation to the next. Interference with this traditional way of learning occurred with the arrival of the missionaries

[1] The organization of Cree education is outlined in Section 16 of The James Bay and Northern Québec Agreement (1976). Québec National Library. Editeur official du Québec, 268-275.

in the late 1800s. Taken away from their parents, children were now taught by non-Crees in residential schools. The impact of the residential school experience has only recently been acknowledged and recognized as a major factor in the contemporary difficulties of Native people (e.g., Bull, 1991; Ing, 1991; Miller, 1987; Persson, 1986). By the 1950s, a system of compulsory formal education based on a Euro-Canadian model was established (Atkinson, 1990; Francis & Morantz, 1983). However, despite ongoing attempts to assimilate the children, the rich cultural heritage of the Cree remains intact today. Along with it is evidence of the damage that has occurred as a result of cultural devaluation. The postsecondary students bring a combination of these attributes to college.

During the past two decades, the Cree have developed primary and secondary curricula that reflect a spirit of self-determination and a commitment to reclaim their cultural heritage. Cree language and culture are taught within a Euro-Canadian education system. Diamond (1987) states that, after regaining control over their children's education through the JBNQA, the Crees had to make a choice between adapting the Euro-Canadian education system already in place or starting from scratch to develop their own. "We chose to be practical and combine the best parts of both options" (p. 88). No longer sent away to residential schools, the children receive their primary and secondary education in their own communities. However, some of the students who go on to formal higher education are older adults whose

educational experience has been that of the residential schools and/or upgrading.

The Cree do not yet have their own facilities for formal higher education although numerous training programs have been developed within the communities. At the time of this writing, plans are underway for the development of a Cree CEGEP (personal communication, K. Wootten, January 1996). January, 1997 is the target date for submission of the plans to the Education Ministry (Roslin, 1996). Unlike the situation in the United States, there are very few tribally controlled institutions of higher education in Canada and none in Quebec.[2] As a result, a little more than twenty years after the establishment of CEGEPs and the signing of the JBNQA, Cree students are leaving culturally familiar environments to pursue postsecondary education in urban areas.

Socioeconomic factors also account for the increased numbers of Cree students seeking formal higher education. The original relationship between the Crees and outsiders was one of cultural symbiosis. Over the past two centuries, a dependency relationship has evolved. The Indian Act allowed the federal government to become very involved in various aspects of Cree life, particularly education, health and social affairs. The effort to return to a lifestyle of self sufficiency has meant that the communities require trained and formally educated people to work in Cree organizations

[2] The challenges, potential, and history of the development of tribal colleges in the United States are described in the Carnegie Foundation for Advancement of Teaching (1991). Tribal Colleges, shaping the future of Native America. NJ: Princeton University Press.

such as health, education, business and social services. There is hope that this generation of Cree people who are leaving home to obtain higher education will be able to return home with skills that benefit the communities. In support of and involved with this aspiration, I recognize that some of the skills and attitudes learned may not be congruent with Cree cultural values. However, the Cree people have expressed an urgent need to obtain formal education that will enable them to manage their own organizations. Lacking facilities in James Bay for this educational need, they are coming to urban colleges in the "south". Flow of communication between the college and the communities is both desirable and necessary to achieve goals which are shared by all who are involved in this endeavor. Some kind of management of this communication must be in place. Expenditure of money and resources for this effort is justified.

CHAPTER TWO

Literature Review

If the ultimate goal of a support program is to increase student retention and promote academic success, then a logical starting point is an investigation of the literature regarding early school leavers and persistence. There are two main areas of research on high dropout rates for Native students in mainstream educational systems.

One area of research investigates the magnitude of the problem. Dropout rates are difficult to measure due to differences in data-collecting methods across school systems. Inconsistent record keeping, transfer of students to different schools and lack of follow up with students after they leave school are factors that contribute to the problem of measurement (Brandt, 1992). The subcommittee on Aboriginal Education of the Standing Committee on Aboriginal Affairs and Northern Development reported widespread disparities in methodology for the measurement of dropout and retention rates. It notes that these differences occur not only from province to province but from university to university. The committee states that although retention rate statistics may reflect the fact that aboriginal students are staying in school longer, this may not mean that they are graduating in any great numbers. Tracking students throughout time seems to be a key factor in obtaining accurate measurements of dropout and retention rates (House

of Commons, 1995). Although precise statistics are not available, there is general agreement that Native students at all levels of schooling have a higher dropout rate than other minority groups in both the United States and Canada. Some estimates indicate that 70 percent of Canadian First nations students do not complete their undergraduate degrees (Archibald & Urion, Eds., 1995).

A second area of research, the main focus of this literature review, attempts to identify the predictors for persistence as well as the factors that put Native students at risk for leaving school. The results of these investigations aid in the identification of target populations. Some of the research goes beyond specification of the causes and makes recommendations for the design of interventions that address the needs of these students. A vast amount of research looks at persistence and attrition of minority students in general.

For the purposes of this study I have focused, with some exceptions, on the research related to First Nations students. The review of American and Canadian literature reveals similar themes and issues. However, it is important to note that there are always differences between groups and within groups. The standard academic literature is not the only source of valuable information. Reports, project proposals and evaluations from various forms of support programs and projects offer interesting insights.

Attrition and persistence research

The research on attrition and persistence seems to fall into three general categories which overlap to some degree. However, the use of these categories aids the process of uncovering the underlying assumptions in the research. One body of research suggests that student and/or institutional characteristics explain the academic difficulties experienced by Native students. Some researchers focus solely on student deficits. More often, however, they acknowledge that early school leaving and low academic achievement arise from problems within both the student and the educational institution. Cultural differences is a second focus of research. The third goes beyond looking at the student, the institution and cultural differences. Its focus is larger and is attentive to socioeconomic and political issues. The latter perspective is evident in the more recent literature.

Student and /or institutional characteristics

In a critical analysis of the published research on academic programs for improving retention of at-risk minority college students in the United States, Levin and Levin (1991) concluded that not enough empirical research had been done in this area. However, along with suggestions for topics that warrant further research, they outline recurring themes in the literature. They point out that in most cases, the research question was "what is wrong with the student?" Their analysis found two factors that stand out as predictors of college persistence, namely, student and family

characteristics (pre-college predictors) and, "even more critical, the at-college experience itself" (p. 324). The components of both categories are worth listing in detail since they continue to surface in the studies and reports following Levin and Levin's article. Adaptability, academic preparedness, commitment to and perception of progress toward academic goals, self-confidence, socioeconomic status and willingness to ask for academic assistance are the specific components of pre-college predictors of persistence and academic achievement. The authors found agreement among researchers that academic and social integration are even more important determinants than family and student characteristics. This is because student interactions with peers, advisors and faculty "increase satisfaction with the institution...create a sense of belonging,... and strengthen commitment to the institution's educational goals and standards" (p. 324). Levin and Levin suggest that, based on these findings, the critical components of retention programs would include proactive assistance in various forms (for example, supplemental instruction, identification of at-risk students), small group tutorial, study and test-taking skills, and quality instruction. The extensive list of works cited in this article does not include any references from Native education journals.

Although the subjects of Levin and Levin's study are minority students in general, numerous authors report similar findings for American Indian (AI) students. In response to a concern about low rates of entry into and graduation from

university social work programs, Tate and Schwartz (1993) conducted a survey of 84 AI students in these programs to ascertain the main factors associated with this problem. They based the survey's 40 questions on barriers to retention identified in the literature. Analysis of the results identified three main categories of barriers: cultural differences, non-traditional student status, and non-supportive family. Non-traditional student status refers to students who are older, married, have children and financial responsibilities, and who perhaps have done upgrading.

Addressing the dearth of research on AI female student dropouts, Bowker (1992) analyzed responses to interviews with 991 women residing on reservations. The purpose of the study was to determine factors that contribute to academic success and to dropping out. Therefore, participants of varying ages and levels of education were interviewed. The interview instrument included sections on the correlates relating to the success and lack of success in school including personal problems, family background and school factors. As in numerous other studies, (e.g., Deyhle, 1992) the results indicated that there is "no formula for success or dropping out" (p.17) but that many factors seem to affect academic performance. Bowker reports that most of the successful students had the support of extended families and especially the support of mothers and grandmothers.

Echoing one of Levin and Levin's (1991) findings, a study by Vaala (1993) suggests that Native students perceive

the college experience more favorably when their studies have a specific career orientation. In this case the students in a program that blended upgrading with a career program perceived the college experience more favorably than those that took upgrading prior to program entry. Boredom with remedial classes and perception that school was not relevant to life goals were also cited as reasons for leaving school in Deyhle's (1992) study. However, Deyhle asserts that research into the problem of dropouts has to go beyond asking what is wrong with the student. The results of this researcher's seven year ethnographic study of Navajo and Ute adolescent school leavers are framed within a larger sociocultural and political context. Although this research focuses on secondary school leavers, the reasons for withdrawal as indicated in analysis of questionnaires, official school records and interviews are similar to those found in studies at the college level. Personal problems and lack of parental support were cited as important reasons for leaving school. However, difficulties arising from within the school were also described. Boredom with the content of schooling, institutional racism (arising from the assimilation model which leads to a sense of disempowerment) and insensitive teachers surfaced as important factors. Noting that some reasons for leaving school did not appear on official records (because there was no official code to categorize such things as pregnancy and insensitive teachers), Deyhle points out the importance of looking at the dropout problem within a larger context than student deficit.

Brandt (1992) also cautions against locating the problem of dropping out within the student and the family. In an article presenting the highlights of a major Indian dropout study in Navajo schools in 1986, Brandt states that students and administrators had differing perceptions of the problems. Where both students who stayed in school and those who left stressed school factors (mainly boredom and problems with interactions with peers and teachers), administrators identified student and family characteristics (lack of family support, problems at home) as predominant factors. Perceived by administrators as being uninterested in education, the students themselves expressed a respect for and a commitment to education. This researcher asserts that focusing on the student and family as the primary source of difficulty makes it almost impossible to make changes since the school cannot alter these characteristics. However, it is not impossible to make changes in the quality of interaction and curriculum in schools both at the elementary/secondary levels and in postsecondary.

The premise that certain characteristics of the school influence the performance of at-risk students even more than do student characteristics suggests that there are specific areas where change is possible. One major focus of attention has been that of learning styles and their implications for classroom teaching. Institutional racism is another area that is addressed in the literature.

Learning styles

Although it is beyond the scope of this literature

review to engage in an extensive discussion of learning style research, it is appropriate to scan this area for studies that have investigated the possibility of a dominant Native learning style. This area of research is complicated by the many different theories about how people learn, each with its own definitions, terminology and perspective. Sawyer's (1991) review of the literature on learning styles reveals a lack of clarity in the differentiation among learning styles, the way students process information, and teaching styles. It is apparent that no one theory provides a complete explanation of how knowledge is gained and retained. Moreover, measures of learning styles vary widely in rationale, means, and validity (Mitchell, 1994). Therefore, the results of research must be viewed with caution.

Many researchers have pointed out that, although there are tendencies toward certain learning styles in the Native population, we must guard against stereotyping that may ultimately harm the student (e.g., Anderson, 1988; Pepper & Henry, 1986; Swisher, 1991). With this in mind, the results of several studies are presented. More (1987) states that "learning in the traditional Indian culture can often be described as watch-then-do...or listen-then-do...or think-then-do (p. 21). He contrasts this with the "trial-and-error" learning which is usually encouraged in classrooms (p. 21). More (1987) as well as Swisher and Deyhle (1989) conclude that, although there are certainly differences among and within Indian cultures, there is converging evidence from the research that there are common patterns in the way Native

students learn. Swisher and Deyhle argue that even though the research shows that AI students have learning styles that are different from the mainstream, teachers continue to use the same style of teaching for everyone. This, they assert, puts the AI student at a disadvantage.

Noting the non-Western population's tendency toward a cognitive style that is concrete, holistic, and relational (drawn from everyday life), Anderson (1988) adds support to Swisher & Deyhle's argument. He strongly believes that non-recognition of the cultural strengths of non-Western groups in the education system is a form of academic racism. He contends that an analytic, abstract, and non-relational learning style approach predominates in mainstream schools. Pepper & Henry (1986) contribute to this discussion with their list of practical suggestions for classroom activities that support the AI tendency to respond more positively to teaching that moves from the concrete to the abstract, and that gives students the opportunity to see-and-do or observe-and-imitate. One wonders if many non-Native students might also respond more positively to these approaches!

Backes (1993) conducted a study of high school students to determine and compare the dominant learning styles of AI Chippewa (Metis) students (both graduates and dropouts) and non-AI high school graduates. The findings indicate a preference for an "abstract random" channel of learning for the Metis students; that is, a learning style that "coincides with a deductive, holistic instructional methodology" (p. 25). The dominant learning style for the non-AI was

"concrete sequential" a learning style that coincides with the "inductive, linear methodology that dominates mainstream classrooms" (p. 25). Wauters, Bruce, Black & Hocker (1989) found that Alaskan high school Native students preferred kinesthetic learning followed by strong preferences for visual and tactile learning.

Considerable attention has been devoted in past years to the hemispheric specialization theory. The results appear questionable. Browne (1990) supports the hemisphericity model of learning style. After finding that her sample of 197 AI students performed higher on the Performance than on the Verbal part of the Wechsler Intelligence Scale for Children, this researcher concluded that AI students develop a "right hemisphere dominant learning style" (p. 28). She suggests that AI students may therefore be at a disadvantage since schools are influenced predominantly by left hemisphere dominant thinking.

Larose (1991) and Chrisjohn and Peters (1989) strongly argue that the evidence supporting the right-brain dominant theory is weak. Chrisjohn and Peters caution against subscribing to this "science fiction of the right and left brain" (Chrisjohn & Peters, 1989, p. 78). Their concerns are twofold. Firstly, they fear the consequences of research that finds anatomical differences between the brains of whites and non-whites since this sort of evidence has historically been used to claim superiority of one race over another. Secondly, they question whether or not there really is a right-brain curriculum. Disagreeing with Browne's

(1990) interpretation of the AI students' scores on the Performance part of the WISC, they suggest that active and passive test biases may account for the difference between the Performance and the Verbal scores.

The research presents evidence of learning style preferences for AI students. However, it is worthwhile to reemphasize the potential negative effects of overgeneralizing. This process can lead to discriminatory practices and to inappropriate excuses for failure (Swisher, 1991). Although there is considerable support for affirming a variety of learning styles (Pepper & Henry, 1986), clearly there are problems with current methods of identifying learning styles and with designing appropriate instructional methods and curriculum.

Institutional racism

Archibald and Urion's account of their research into the postsecondary educational experiences of First Nations graduates at the University of British Columbia includes a section on racism. Included in the discussion is Floy Pepper's position statement on racism. Of particular interest here is her definition of institutional racism which is described as "practices within social institutions favoring one ethnic group over another. Racist practices may develop with deliberate intent (as in former segregationist policies) or without conscious racist intent (as with educational differences based on economic disparities)" (Archibald & Urion, Eds., 1995, p. 151). The issue of racism is discussed in the next chapter but suffice it to say here

that numerous authors have described its destructive effects on First nations students in non-Native educational institutions (e.g., Calliou, 1995; Mussell, 1991).

Cultural deficit/difference/discontinuity

The perspective of a second body of research offers different explanations for low academic achievement and high dropout rates. This approach adheres to the cultural deficit/discontinuity model. Reyhner (1992) supports the theory that AI students drop out of school at higher rates than mainstream students due to cultural differences. Using the theoretical framework of cultural discontinuity, he suggests that learning occurs in culturally different ways that do not coincide with the expectations of teachers and schools. According to the cultural discontinuity hypothesis, culturally based differences in communication styles lead to failure and conflict. Therefore, according to Reyhner, teaching must be adjusted to include what is known about the students' culture, culturally relevant curriculum, active teaching methods, and more community involvement. Archibald and Urion (Eds., 1995) question the usefulness of the concept of culture conflict because it assumes that conflict is inevitable.

Interestingly, several researchers have found that, contrary to the prevailing assumption, those students whose cultural identity is most secure (that is, who have a high degree of cultural knowledge and a traditional Indian orientation) are more likely to persist. Belgarde's (1992) research at Stanford University found that levels of

acculturation affected persistence of AI students. For this investigation, Belgarde categorized students into one of three levels of acculturation. The bicultural group consisted of students who had the highest degree of cultural knowledge and ethnic loyalty. The assimilated group had the lowest degree and the intermediate group fell between. Belgarde suggests that the traditional values and Indian culture keeps the bicultural and intermediate level students "emotionally and spiritually grounded" (p. 10).

Deyhle (1992) also reported that a culturally nonresponsive school curriculum was a greater threat to those whose cultural identity was more insecure. This concurs with the findings of an interview study designed to document the survival strategies and the difficulties of 11 successful female graduates of a MSW program at the University of Utah (Macias, 1989). This sample consisted of traditional, reservation Indians, all bicultural. One major difficulty reported was the demands of academic, impersonal writing that is different from the more personal "Indian" style. Cummins (1986) states that "widespread school failure does not occur in minority groups that are positively oriented toward both their own culture and the dominant culture, that do not perceive themselves as inferior to the dominant group, and that are not alienated from their own cultural values" (p. 22).

Socioeconomic and political structures

Other researchers find the cultural compatibility and incompatibility hypothesis overly simplistic. Ledlow (1992),

emphasizing that the research to date does not support this perspective, strongly urges researchers to look to variables beyond the boundaries of the school, in particular economic and social issues. Wilson's (1992) ethnographic research with Sioux Indian students in a Canadian prairie high school suggests that both culture conflict and macrostructural factors affect student performance. Investigating a high dropout rate for students who moved from a reserve elementary school to a non-Native high school, Wilson concludes that sociocultural factors are more important determinants of persistence than are student characteristics. Different from the deficit and cultural discontinuity driven approaches, this perspective recognizes a larger frame of reference that takes into account key aspects of culture and social structure. One of these key elements is language.

Cummins (1986) proposes a theoretical framework for analyzing the relatively low success rates of minority language students (including AI students). Starting with the premise that their academic failure is a function of the unequal power relations between the school and the minority groups, he illustrates four ways to positively influence the minority student's educational progress. These students succeed when their language is incorporated into their formal education, when the community is included in curricular decisions, when the teacher collaborates with the student to achieve educational goals, and when student failure is viewed within the larger context of unequal power relations between the minority and the dominant groups rather than as a problem

within the student.

McLaughlin (1994) supports the view that "minority language students succeed educationally to the extent that political processes in schools reverse those that legitimize the domination and disablement of members of the minority group as a whole" (p. 53). He asserts that "curricula constitute, and are constrained by, key aspects of social structure, such as domination, stratification, and empowerment" (p. 55). One way of empowering these students is to develop school knowledge based on their language and culture.

Practical applications of this approach are evident in the more recent literature (e.g., Danziger, E., 1992; Lipka, J., 1994; Martin, K., 1995; Wilson, J., 1992). Lipka describes in detail the application of Yup'ik language, culture and world view to the design of culturally based mathematics. A similar approach was used in the design of a science and math program in Akwasasne (Martin, 1995). These program designers and researchers point out that they maintain high academic standards and that most often Western curriculum requirements are incorporated along with the Native-based curriculum. One of these requirements is a second language. Barman, Hébert & McCaskill (1987) emphasize that the knowledge of both a Native language and English and/or French is crucial for Native people who desire cultural continuity and freedom of choice in careers and occupations.

Classification of programs and projects

The possibilities for changes to educational processes are wide-ranging. The literature abounds with diagnostic and prescriptive tools with which to address the issues of academic achievement and persistence of Native students in mainstream education. How does an institution make choices? Tierney (1991) indicates that programs require a clear sense of their specific goals as well as criteria for determining whether or not those goals have been reached. He also points out that because these programs are often developed in isolation from other parts of the institution, their goals may not be coordinated with those of the institution and their existence becomes tenuous.

Several authors offer ways to classify the range of programs, projects, and institutions that exist to meet the educational needs of First Nations students. Through the process of describing their frameworks, these educators identify the implicit goals of the various approaches. It is possible that these classifications may facilitate the process of making informed decisions about programs. Charleston, a noted educator and researcher from the Choctaw Nation of Oklahoma, describes three ways to classify Native education (Charleston, 1994). The most prevalent is pseudo education which teaches Native students "the standard American curriculum needed to assimilate into American society" (p. 19-20). Quasi Native education is the result of attempts to "reform the American education system to be more

relevant and appropriate for Native students" (p. 27). A third alternative is true Native education where both high quality academics and Native cultures form the basis of education.

Charleston's description of pseudo Native education aligns itself with the research that suggests that Native students need help to integrate into mainstream education due to personal characteristics that do not fit with mainstream educational processes. He asserts that the processes implemented to help the students are a "threat to tribal existence" (p. 19). Whyte (1982) adds support to this assertion with his statement that these problem-centred approaches tend to be assimilative, paternalistic, and condescending. Levin and Levin's (1991) work, on the other hand, stressed that academic and social integration are important determinants for success.

The research that prescribes interventions that make interactions and curriculum in schools more culturally relevant fits into the category of quasi Native education. Charleston feels that, in a less than perfect world, these solutions are better than nothing. He points out that these projects are usually add-ons to the regular education programs and that the funding for them is often temporary. Finally, his description of true Native education aligns itself with the research that supports educational processes that arise from Native cultures and language.

Diamond (1987) describes the dominant culture's way of looking at Native education. "To non-Natives, Indian

education simply means the adaptation of Indians to a school system and pedagogical regime which has been created by a different culture to fulfill its own needs and aspirations. Natives, however, do not see it that way" (p. 86). He questions why it is necessary to choose one approach to the detriment of the other. Numerous authors have attempted to describe ways in which the two perspectives can be blended (e.g., Ambler, 1994; Evans, 1994; McAlpine, Cross, Whiteduck & Wolforth, 1990; Whyte, 1982). Hornberger (1994) summarizes the positive results that occur when local and outside educators collaborate to design curricula for schools in Native communities. When teachers and elders of the community work with university-based consultants to generate a curriculum, "the participants eventually reach a third cultural reality (p. 60).

Barnhardt's framework classifies Native education, projects and institutions according to their degree of autonomy "because that quality more than any other shapes the cultural dynamics of these institutions" (Barnhardt, 1991, p. 201). At one end of the spectrum are the independent institutions such as the Tribal Colleges in the United States. These operate outside mainstream institutions and their ultimate goal, achieved through Indian control of Indian education, is empowerment of Native people. At the opposite end of the spectrum are the integrated programs that exist within and are administered by dominant society institutions. The underlying assumption is that Native students need help to integrate into and succeed in

mainstream education. Affiliated programs are in the middle ground, sharing aspects of both the independent and integrated classifications. These programs exist within a cooperating institution and are administered and staffed by Native people (Barnhardt, 1991).

A comprehensive directory of Native programs in Canada does not exist although the potential value of such a document has been recognized by educators across Canada. Some examples are cited here to provide an idea of their wide range of focus and content. In general, the postsecondary response to the educational needs of Native students fits into one of three patterns. Firstly, some programs and projects are community-based and community-controlled. These correspond to Barnhardt's independent and affiliated classifications. Navajo Community College, the first AI-owned and fully accredited college to be established in an American Indian nation is a role model for the independent postsecondary approach. This tribal college offers pre-university and two year courses leading directly to employment. Its information guide reflects an orientation toward Navajo culture. "Navajo history and philosophy are integrated into the traditional academic subjects of all college curricula to enhance students' respect for the Navajo heritage and to develop an appreciation of basic university concepts and principles." All students, Native and non-Native, are required to study the Navajo language and history (Navajo Community College).

At Saskatchewan Indian Federated College (SIFC)

educational services are run by Native people under the accreditation umbrella of the University of Regina. This semi-autonomous college has directed its efforts toward research and curriculum development. A statement in the SIFC Annual Report (1988) suggests that "if students are to lead wisely and well, they must learn from a curriculum which not only prepares them professionally but which is rooted in what Indian people believe and wish to uphold...Any Indian educational institution which simply 'brokers' curricula shaped by those outside the Indian world to meet needs other than their own does not fully reflect Indian control of education" (Saskatchewan Indian Federated College, 1988). This college represents another path to achievement of Charleston's (1994) true Native education.

A second form of response to Native educational needs has been the modification of regular mainstream programs. Modified teacher training programs are prime examples of this focus. McGill University, for example, trains Native teachers through a community-based program delivered in the Native communities (McAlpine, Cross, Whiteduck & Wolforth, 1990). A number of postsecondary institutions have responded by implementing access or transitional programs to already existing on-campus programs and/or by establishing support services for First Nations students. In Barnhardt's classification system, this third type of response would fall under the heading of integrated programming. The American Indian Science and Engineering Society (AISES) designs and implements pre-college academic programs for AI students to

encourage more AI students to enter science and engineering programs. Affiliating themselves with universities and colleges, they offer programs that emphasize AI culture, high academic standards, and tribal needs (Hill, 1991). The University of Manitoba offers an access program in medicine (Krause & Stephens, 1992). Lakehead University's Native Nurses Entry Program is one of the few programs for which a program evaluation is available (Lakehead University, 1987-1990).

The Canadian and American literature identifies many issues relating to Native education. The dropout and persistence literature reveals similar themes in both countries. Although contradictory findings are evident in some areas (for example, learning style preferences and the influence of level of cultural identity), there are areas of agreement. It is probably prudent to treat the results of research as trends rather than truths about Native educational needs. Some authors such as Barnhardt (1991), Charleston (1994), and Mussell (1991) have emphasized that point of view greatly influences the direction that postsecondary institutions follow.

The literature suggests that, as educators, we are often unaware of the biases, beliefs, and assumptions that guide our actions. One clear message is that different interventions are not all designed in the best interests of First Nations people and that those involved with Native education have an obligation to be fully aware of and to articulate the goals of the educational processes they

implement. In an effort to clarify the beliefs, assumptions and goals of the Cree student support program, the next chapter focuses on a concept analysis of the research question, "What should be the key ingredients of a support program for Cree students in a non-Native CEGEP?"

The issue of retention and persistence is complex and no one perspective provides a complete explanation. It is clear that a support program must go beyond asking "what is wrong with the student" and must view this educational problem from a broader perspective that includes socioeconomic, political, and cultural factors within and beyond the institution. Systems analysis provides a vehicle for looking at the interrelatedness of these factors. In chapter four, concepts from systems thinking are used in an attempt to reach a better understanding of the dynamic complexity of this support system.

CHAPTER THREE

Concept analysis

Concept analysis is a philosophical technique that can be used to clarify the assumptions and beliefs that give direction to a discussion as well as to research or systems analysis and planning. There are both positive and negative aspects of assumptions. They may block awareness of their influence on our actions since, once accepted, they are no longer questioned. They may be unconsciously accepted as incontrovertible facts. However, once examined, questioned and articulated, they also allow us to move in specific directions (Myers, 1982).

Magee (1962) presents a convincing argument for valuing the clarification of concepts. He points out that the process of philosophical inquiry may reveal that what a person is doing is not really what that person wants to do. It also enables people to discuss their practices rationally. For the purposes of proceeding with caution, searching for answers that respect different viewpoints, and avoiding the development of yet another well—intentioned but potentially ineffective program, I will endeavor to clarify the assumptions and beliefs inherent in the research question. Support for these assumptions and beliefs comes from research, testimony from First Nations communities and personal experience.

This philosophical inquiry is a critical part of the

study. As the literature review indicates, many of the descriptions of and suggestions for support projects neglect to clarify their purposes. This allows for perpetuation of unquestioned Eurocentric beliefs which in turn lead to the implementation of processes based on these beliefs. If we are to benefit from the knowledge and experience of both world views, we need to challenge our mindsets. The clarified assumptions may be controversial. However, their articulation decreases the possibility of misunderstandings and forces us to confront our culturally-conditioned ways of thinking, feeling, perceiving and behaving.

First assumption: Cree students need a support program

Several assumptions underlie the research question "what should the key ingredients of an academic support program for Cree students in a non-Native CEGEP?" First, this statement assumes that Cree students need a support program when studying in a non-Native post-secondary educational institution. We might ask several questions about this statement. What is meant by the word support? What conditions necessitate a support program? To whom is the support directed?

The word support means to keep from falling, sinking, or failing; to supply with necessaries; to lend assistance to; to back up; to speak in favor of (The Concise Oxford Dictionary, 1976, p. 1161). The literature offers an abundance of information about the conditions that indicate a

need for some kind of support when Native students attend non-Native educational institutions. These conditions are explained from four different perspectives. First, the student is impoverished in some way and therefore cannot meet the demands of school. Second, various structures within the school impede the student's progress. Third, cultural and linguistic differences impede the interaction between the student and the teacher or institution. Fourth, the school systems do not recognize the imbalance of power or the socioeconomic and political issues that affect educational processes.

Available in many different forms, support projects attempt to remedy the difficulties. In other words, teachers and other professionals in the academic setting employ a variety of techniques to keep the student from failing or sinking, to supply them with the necessities to achieve academic success.

Is this a case of shifting the blame to the victim who must be helped? Shortt (1992) asks why the Canadian education system requires specialized adaptations in the context of First Nations education. In a workshop presentation for the Association of Community Colleges of Canada (ACCC), another Native Canadian educator, Bill Mussell, asked the participants to consider the same question by taking into account the legacy of oppression, the purpose and goals of education and the effects of institutional racism (Mussell, 1991). Faced with the fact that postsecondary education designed and provided by Cree

educators is not available, those of us who work with the students perhaps have to take up the challenge proposed by Mussell.

Natives have been forced to adapt to an education system not of their own making. As a result, they face the inherent contradictions between Western and Native ways of teaching and learning. The traditional Native approach to education is circular, holistic, community-based, personal and frequently non-verbal. The Euro-Western perspective is typically linear, analytic, removed from the community, impersonal and highly verbal (e.g., Cajete, 1994; Charleston, 1994; Hampton, 1993; Locust, 1988; Ryan, 1992; Snively, 1990). Colorado (1988) eloquently describes the contrasting approaches to science.

> Coming to truth in an Indian way involves spirit, body, mind and relationships. While Western science stresses cognitive abilities and powers of reasoning, American Indian science relies on these two facets as part of the total way of coming to knowledge. American Indian science is based on observation, experience, information and prayer (p. 58).

The Euro-Western claim to objectivity is challenged by Cajete (1994). "Science is a cultural system, and objectivity is really a subjective matter. Objectivity is a relative cultural system you happen to be applying" (p. 196).

Different world views are also reflected in language. Referring to her work with the Dene, Chambers (1992) states that when we teach English to non-English speakers we are not

only teaching a language but also a way of thinking, speaking and listening. In my own work as a tutor with the Cree students, I am reminded everyday that Euro-Western forms of discourse and processes of teaching and learning are not universal. The Cree students' encounters with mainstream education often lead to frustration, conflict and alienation. Unintentional exclusion of other ways of thinking, writing and speaking contribute to their difficulties.

The discomfort and frustration is also felt by the people who work with the students. Unconventional as it is to include personal anecdotes in standard academic work, I will nevertheless tell a story that illustrates how this discomfort arises. My first visit to James Bay was the beginning of a personal discovery of my own beliefs and values. Staying in a camp with Cree friends, my colleagues and I decided to learn how to make bannock. We gathered the ingredients then proceeded to ask questions. "How much flour?" "How much water?" "How long do you knead it?" Our questions were met with silence and quiet smiles. We did our best and carried on. Finding the silence uncomfortable, we asked even more questions. The bannock got made...badly! We understood the source of our discomfort weeks later. In Western culture we are conditioned to ask questions. Learners who ask questions are rewarded. The Cree students have shown us (when we take the time to watch and listen) that learning happens in other ways, in culturally-conditioned ways. Active listening, observation and apprenticeship are valued by the Cree people. One student,

expressing her frustration with all my questions, stated quietly and assertively, "Suzanne, my grandfather told me that people who ask too many questions don't live long".

The literature, the stories and the data from the project all point to a need for support for both the students and the college personnel. The purpose of this support is to help us all interpret the diversity of learning and teaching styles, ways of thinking and perceiving, values and beliefs. Eventually we may be able to "speak in favor of" and "back up" this diversity within the standard average Euro-Western education system.

Clarification and restatement of the first assumption

The statement "Cree students need a support program" is refined and restated as follows. When Cree students attend non-Native postsecondary educational institutions, both the students and the educational institution benefit from support that facilitates communication, understanding and valuing of diverse ways of teaching and learning. It is understood that in the short term much of the support that the students receive will help them to integrate and succeed in a primarily Euro-Western system. However, there should also be ongoing efforts by college personnel to learn and to change and/or adapt educational processes. In the long term, the culture of the college may evolve by moving beyond its supportive function. It will learn to appreciate and benefit from what the Crees have to offer.

Second assumption: the key ingredients of the support program can be determined

The research question assumes that it is possible to determine the key ingredients of a support program for Cree students in a non-Native postsecondary education institution. To do this it is first necessary to examine and clarify the options that exist for such programs. The result of this discussion is a detailed description of the desired form for the support project, its goals, potential outcomes, and criteria for selection of key ingredients. The ultimate choice is based on feasibility, practicality, and congruence with values and beliefs articulated in various parts of this study. Basic to the entire discussion is an assumption that education is not neutral; that is, the CEGEP is among other things an instrument of Euro-Western cultural survival.

Options for support program approaches

A method of concept analysis that juxtaposes contrasting and related examples to a paradigmatic case is used to arrive at the essence of a desired support program. The classifications of approaches to Native education described in the literature review are woven into the discussion. Although each author employs unique terminology, all of the classification systems describe a range of options with opposites at either end and a middle ground. The frameworks supply a vocabulary for this concept analysis.

Negotiated balanced integration

A description of a paradigmatic example of the desired

support program begins the analysis. In keeping with previously stated beliefs and values, the desired support program should combine the best of both worlds, affirm the viability of cultural strengths, and ideally eliminate the power differential between the minority and the majority cultures. There are convincing arguments to support the view that academic failure is the result of unequal power relations between the school and minority groups (Cummins, 1986; Forbes, 1969; McLaughlin, 1994).

The dynamic quality of the interaction between the cultures has the potential to create a third cultural reality that ultimately changes both. Stairs (1994) states that "schools are critical sites for and agents of negotiation among cultures in contact, not merely transmitters for the means for success in a dominant culture...cultural negotiation is the potential for evolving cultural identities as a rich range of alternatives to assimilation and culture loss, or even to indigenization and cultural isolation or anomie between the two" (p. 155). Ryan (1992) also emphasizes the theme of negotiation and uses the term mixed adaptation to describe Native education in which contact with traditional life is maintained at the same time as educational activities are negotiated within non-Native institutions.

In Barnhardt's (1992) classification system, an integrated approach is one in which indigenous culture is reflected in the mainstream institution. Cajete (1994) uses the term balanced integration to describe how Native

communities can "integrate the learning occurring through modern education with the cultural bases of knowledge and value orientations essential to perpetuate [the communities'] way of life" (p. 18). In a mainstream institution support program which offers balanced integration, the students are able to function biculturally.

Assimilation

An approach that contrasts with a negotiated integrated support program is one whose orientation is toward the dominant culture and whose ultimate goal is assimilation of the minority culture. The key elements or interventions are designed to perpetuate the beliefs, values and culture of the dominant society. The residential school program that existed in Northern Quebec until the 1960's is an example of this orientation. If the Cree student support program were to emulate this example, the key interventions would encourage the students to suppress their Cree culture and immerse themselves in the Euro-Western approach to teaching and learning. Use of the Cree language would be discouraged.

The goal of this deficiency or problem-oriented program model is to change the student. The educational institution loses an opportunity to enlarge its focus and enrich its educational processes. The students who succeed in this system may be able to function in the dominant society but cultural loss and cultural devaluation with resulting loss of self esteem are potential outcomes (Charleston, 1994).

Focus on minority culture

In direct opposition to the assimilation model are the

programs that arise from and stress the minority culture. The purpose of interventions is the transmission of the minority culture's values, beliefs, and knowledge. In this approach new academic programs based on Cree culture and knowledge would be established. The students might attend sheltered classes ideally taught by Native teachers. A potential outcome is individual and group empowerment. On the other hand, cultural isolation may not prepare the students to work in or with a world outside their community (Whyte, 1982).

Non-negotiated integration

Yet another option for the mainstream institution is to unilaterally adapt regular programming and add support services in an attempt to include the minority culture. This approach is related to the paradigm example. However, the direction of acculturation has a tendency to be skewed toward the dominant culture. One culture predominates because there is little collaboration or negotiation. An example of this type of programming is described by Whyte (1982) as the "beads and feathers" approach, where only the material aspects of culture are added to the curriculum. The potential outcome is that the minority culture is marginalized and ultimately the program serves to socialize the minority group into mainstream society.

Choice of approach

There is in reality no clear cut line separating each of these examples. They are not mutually exclusive. They are described as if they were discrete entities to facilitate

clarification of their goals and potential outcomes. The juxtaposition of the various alternatives clarifies what the ideal program strives for (empowerment, acceptance of change for both cultures, negotiation) and what it strives to avoid (assimilation, disempowerment, superficial processes).

Amid all the possibilities it seems most sensible and beneficial to select an orientation that supports cultural diversity and that is committed to empowering the Cree student. The assimilation model is rejected because it does not adhere to the values and beliefs articulated in previous discussions in this study. It denies the sociopolitical context of the support program. The program will not resemble Charleston's (1994) true Native education. A model that derives from the minority culture is not practical and likely not feasible within this mainstream educational institution because the school knowledge is not derived from Native cultures. It might be feasible if the program were incorporated into an affiliated institution or into a Cree CEGEP.

Determination of the key ingredients

For the support program to aspire to a form of balanced integration, parameters must be established. Because the program is located in a mainstream educational institution, there is a risk of losing the focus. A goal of balanced integration presents a daunting challenge and will require a prolonged period of time to achieve. Numerous authors emphasize that institutional commitment is essential to achieve this goal (Archibald & Urion, Eds., 1995; Mussell,

1991). Otherwise, the project's viability is in jeopardy. How is this commitment realized? Several themes emerge consistently as essential to the process. They are highlighted here in three statements that serve as guidelines for the selection of the key ingredients in the support program. Examples from the experience of the college support program illustrate the practical implications of each statement.

The Cree culture and language is valued within the context of the educational institution.

Cummins (1986) suggests that even if the minority language is not taught in the school due to small numbers of students, there are ways to acknowledge the value of that language and culture. A designated physical space for the Cree students and support staff is a critical component (Barnhardt, 1991; Cummins, 1986; Hampton, 1993). Far from being isolating, the space provides an affirmation of a strong cultural identity. In the nurturing environment of the college project, the majority language and culture is Cree. The culture is visible through, for example, posters, Native literature, and newspapers. It is a resource centre for visitors, college staff, and students.

The culture and language is valued when academic practices acknowledge a variety of behaviors. The literature review presents evidence that, although certain student characteristics may interfere with academic success, other factors must be considered. The teaching and learning processes are enhanced when they go beyond focusing on the

student as a problem. To this end the teachers do not attempt to replace the knowledge, skills, and personal characteristics that the students bring to school with that of the dominant society. On the contrary, they add new knowledge, skills, and an understanding of the dominant culture to the students' repertoire (Cummins, 1986; Mussell, 1991). This requires an effort on the part of the organization to become oriented to the students (Anderson, 1988; Tierney, 1991).

The staff of the support program, acting as liaisons between the students and the educational institution, play a vital role in this process. Campbell's (1992) process approach to cross-cultural communication training is based on a belief that "educators, for the most part, are cross-culturally 'illiterate' and culturally asleep" (p. 2). Therefore, Campbell begins the training process with activities that lead to recognition of the influence of the Eurocentric world view on educational practices.

Numerous personal experiences support Campbell's belief that the Euro-Western world view is deeply embedded in mainstream teaching materials and activities. I have collected many examples from the students' classroom experiences to illustrate this point in workshops for college personnel. For example, a Cree student had dutifully written in her history class lecture notes that "the basis of <u>our</u> philosophical thought derives from that of the ancient Greeks". I spent some time with the student clarifying to whom the word "our" referred.

Therefore, a support program demonstrates a value for Cree culture and language by making these attributes visible to the college community. It not only develops ways to add to the Cree students' repertoire but also ensures that changes occur in the classroom. The literature review presents a variety of issues that deserve attention. Included in the list of factors that contribute to academic success is recognition by teachers of diverse learning styles and different forms of discourse, both verbal and written. As well, acceptance of oral testimony as a credible source for students' research demonstrates a value for knowledge that has been passed down through an oral tradition. In other words, the institution must be committed to learning about Cree history, language, culture, and present experience so that these elements can be included in educational processes.

There is a commitment to the community as well as to individuals.

Many educators and researchers emphasize the importance of participation of Native communities in educational activities and decision making (e.g., Barnhardt, 1991; Busswood, 1993-94; Cajete, 1994; Charleston, 1994; Ryan, 1992). A responsive support program directs its actions toward meeting the needs of both the community and individual students. Collaboration and negotiation between the support program and the Cree communities has the potential to elicit a range of benefits for both groups. Together they identify factors and develop interventions that enhance academic

success. They can also determine to what degree the students are able to apply their new skills and knowledge in the community.

The literature as well as anecdotal evidence from the Cree support program suggest that commitment to a career goal, family support, the presence of a strong cultural identity, and preparedness for college are predictors of persistence. These are some of the critical issues that the support program and members of the community might address. For example, information about employment opportunities has been used to guide the students in their choice of program. The ten original students all entered the nursing program because the Cree Health Board had determined a need for Cree nurses. Ongoing communication with the Cree School Board, secondary school counsellors and students, parents and elders helps to maintain a strong Cree presence in the institution. A liaison committee, active in the early years of the college support program, held meetings in the northern communities and at the college.

The input of elders must not be overlooked. Barnhardt (1991) and Obomsawin (1986) emphasize that the participation of elders is critical to the process of educational processes since they may contribute a spiritual dimension as well as cultural knowledge. The college support program has benefitted from visits by elders from various Native nations. For example, during a visit to the college, a Cree elder used storytelling to teach the Cree nursing students and staff about the importance of combining traditional and Western

health care practices. He encouraged us to take the best from both worlds.

Mussell (1992) makes a plea to non-Native researchers to share the results of studies that involve Native people. Stressing the importance of reciprocal interaction, he also asks that the research be presented in a language and form that can be understood by those with an education from outside standard, formal academia. The collection and sharing of data (in a form that is accessible to Cree people who are unfamiliar with the language used in research) is a critical part of any support project.

Participation in postsecondary education is a relatively new experience for the Cree. Therefore, data collection and analysis is essential for justifying financial support for special programs and for decision making about educational programming at all levels. Information about persistence and academic achievement is one area of vital importance. The college support project data indicate that a significant number of students who have been accepted into college programs do not have the appropriate level of English language skills required for academic success in college (this issue is discussed more fully in chapters 4 and 5). Discussion and shared decision making about this issue may lead to creative interventions that are implemented in the community and/or the college. Assessment of students' readiness for college is another potential topic for discussion.

The support program has a commitment to provide the

students with the tools to succeed in a mainstream institution. This should be done in a way that values the students' cultural gifts as it teaches new skills. However, at the same time as the project personnel work with individuals, they should retain a focus that sees the student as a member of a community with unique needs. The students will eventually be responsible for dealing with these needs and must learn the skills and knowledge that will assist them in this endeavor.

Support program staff, students, college staff and community members take on a variety of roles.

Busswood's (1993-94) advice to Canadian colleges who are questioning their role in Native education is that they listen and advise, that they do not give answers or lead. He suggests that this may require "a new humility" (p. 11). In a similar vein, Forbes (1969) advocates that mainstream educators avoid "elitist procedures which serve to show disrespect for the [minority group] community" (p. 24). Perhaps these suggestions are a starting point in the institution's effort to realize a goal of balanced integration. As students, teachers, support project staff, and community members take on and move across a variety of roles, it becomes possible to develop symbiotic relationships. All participants can be teachers, learners, advisors, researchers, and even friends. Under these conditions, the institution's commitment to valuing Cree culture and language and involving communities in educational processes can be facilitated.

Several examples illustrate how this concept of multiple roles translates into practice. First, teaching and learning are reciprocal activities in a program that seeks balanced integration. Although people have their areas of expertise, no one person can assume to have all the answers. In the classroom, teachers have a commitment to the course requirements set by the Ministry of Education and the Cree students are expected to achieve the course objectives. However, within these parameters, there is room for flexibility as teachers learn from the Cree students.

Flexibility does not equate with lower standards. For example, during my first semester with the Cree nursing students, I was responsible for evaluating their performance in the clinical area. Therapeutic communication techniques with patients was one skill that had to be evaluated. According to the textbook and the classroom teaching, direct eye contact is an important nonverbal communication technique that demonstrates caring and attentiveness. For several of the Cree students, direct eye contact was uncomfortable and disrespectful. From this experience, I learned that the textbook was only partially correct. I stated on the evaluation form that the students met this objective using the caring behaviors that were appropriate for them. The students and I exchanged information about the concept of nonverbal therapeutic communication. By assuming dual roles of teacher and learner, we all gained a degree of bicultural understanding. When students are frustrated and struggling with the constructs of academically sanctioned writing

styles, I take time out to have them teach me some Cree!

Likewise, support project personnel and community members assume roles as teachers, learners, and consultants. The project support staff share their knowledge of the academic processes that take place in a college distant (in both the geographic and cultural sense) from the James Bay communities. For example, the CSB counsellors might be informed about the complicated college registration process. This might be an activity in which they would choose to be more involved. Elders and other community members might find ways to share their expertise with students and college members. The oral tradition is validated when elders' knowledge is welcomed in the institution. Obomsawin (1986) and Barnhardt (1991) point out the important role that elders play when they help students make connections between their academic studies and their real world.

Numerous writers have described the highly personalized relationships that are a part of Native education institutions (Barnhardt, 1991). This may be explained in part by the holistic view of life. Chambers (1992) describes the use of familiar language and stories and the presence of the language of emotion in Native education environments. She describes the notion of the family and community as the key pedagogic relationship. Ross (1992) contrasts this view with the tendency of Euro-Western society to compartmentalize various aspects of life. "There is, for most of us, no spiritual component to our recreation, no family component to our work, no learning component to our shopping, no exercise

component to our worship and no laughter component to our study" (p. 140). Colorado (1988), accepting that some things need to be compartmentalized for practical reasons, suggests that Euro-Western society has divided up some things that should not be divided. These different views have some implications for mainstream institutions where education tends to be separated from community life and where communication between or among different disciplines is often limited.

Non-Native staff in a support project may initially be overwhelmed by the expectation that they be involved with the students and their communities outside academia. Their job descriptions will most likely reflect the mainstream institution's tendency to compartmentalize roles. For example, pedagogical counsellors (tutors, in other words), may anticipate that their entire focus with students will be academic. In the experience of the college support program, many Cree students seek help for both academic and non-academic problems from staff with whom they have developed a personal relationship. The students may be reluctant to make an appointment with a counsellor whom they do not know. Therefore, tutors who work with these students must be prepared to teach, listen, advise, and to make referrals when and if the student is ready to accept help from a professional they do not know. It is important to note that community members are also important resources. Busswood (1993-94) reminds us that "Euro-Canadian culture is rich with the technologies of self-help" but that "individual

'solutions'... are likely to be unsuccessful. Support for community-based projects is much more likely to be successful" (p. 9).

All participants can contribute to the functioning of the support project as they take on a variety of roles. Through collaboration and information sharing, communities can become involved in the decision making that affects the Cree experience in postsecondary education. It may be more difficult for the non-Cree personnel to assume a flexible approach to their work, one that allows them to develop personalized relationships and to listen and advise rather than give answers. In Euro-Western work environments, roles are usually clearly delineated and based on academic qualifications. However, members of the Cree communities, including those without formal academic training, as well as students are invaluable resources for the system and they can take on roles as teachers, learners, researchers, colleagues and friends. The following story offers an illustration of the rich rewards that arise from this kind of interaction.

A personal experience

Snowshoeing through the bush in James Bay with my Cree hosts and guides, I was confronted with the challenge of crossing a running stream. Two narrow logs covered with ice bridged the water. With snowshoes on, we took turns crossing using two long tree branches for balance. Heart pounding with fear, I had to rely on my Cree friends' reassurances that I would not fall in. Good natured laughter and outstretched helping hands facilitated my transition to the other side. In those few brief moments I gained an insight into the Cree students' experiences in the south.

Faced with very ambivalent feelings about crossing, I knew that I did not really have a choice. I could be left behind or move on with the group. I had to trust that my Cree guides knew what they were doing and that the risk was worth taking. Physically, I was still the same person when I reached the other side, but a change had occurred. I had learned a new skill familiar to the Cree but certainly not in my repertoire. Reassurance, motivation, trust, recognition of my inherent abilities, and provision of the appropriate tools all played a part in my successful transition across the water. In case the interpretation of this experience seems exaggerated, I add that, if I had fallen in, we were at least two hours (by snowshoe) away from a warm, dry shelter. Had I been faced with this challenge on my own, I would have been very reluctant to attempt the crossing.

This experience provided me with an analogy to the

support program. I envision the program as a provider of the tools needed to maintain balance and cross the bridge from secondary five in northern communities to college in the south. But the bridge allows a person to go in both directions. The students must be able to return to their communities with commitment to their cultural heritage intact. To accomplish this ideal, the design of the support program must recognize the influence of systems beyond the immediate boundaries of the educational institution. The program planners must also anticipate and/or identify short and long term effects of any interventions. Systemic modelling, as carried out in the following chapter, offers a way to do this.

CHAPTER FOUR

Systemic modelling

Construction of a model or representation of the support project as it exists is one way of dealing with the vast amounts of information available. Given the complexity of the world, a model helps us describe our own perspective of a specific reality. If it is a good model, it reduces complexity but retains the essential components (Beer, 1984; Clemson, 1991). For example, there are a variety of ways to perceive and represent the Cree student support project.

At its simplest, this reality might be represented by one of the following conceptual models. The Cree student, perceived as culturally and academically disadvantaged, is acted on in some way (an instructional technique or self-esteem building exercise for example) to produce an outcome (academic success). Conversely, the project might be represented by a different entity. The non-Native teacher, perceived as culturally and professionally disadvantaged, is acted on in some way (cultural sensitivity learning experiences for example) to produce an outcome (teaching behaviors that demonstrate appropriate attention to a different world view). These models demonstrate that our perception or point of view plays a critical role in determining the solutions that we apply to problems. Although the interventions that result from these perspectives lead to short-term improvements, they overlook

other inputs and controls from the environment such as those related to the issue of empowerment. These simplistic models deny the dynamic complexity of the project. They offer static snapshots that result from linear thinking. What we see are the results of individual actions. We are unable to see the multiple levels of behavior that interact to produce a variety of consequences.

At a more complex level, the project can be formalized into a model of interrelated networks where phenomena are investigated holistically. This is systems thinking in which the key idea is that relationships between entities are more important than the entities themselves in determining overall system behavior (Clemson, 1991).

The basic assumption underlying the use of a systemic model is that, in order to determine the short and long term consequences of our actions, it is necessary to view the various attributes from a common perspective and in a communicative framework. This process involves looking at the focal system's identity and ownership, context and environment, internal structures, behavior over time, and viability. Several concepts from cybernetics inform the discussion. As a starting point, the issue of the observing system's perspective is addressed. This provides insight into the ownership and identity of the focal system. Other vehicles for understanding the complexities of this system include the concepts of boundaries, environment, controls, and requisite variety. The notion of feedback or circular causality is the key to understanding recurring patterns of

behavior in the system. A more comprehensive description of these concepts is integrated into subsequent discussions.

Ownership and identity of the support program

Decisions about which features and relationships are represented in this model are determined in large part by the observers' perspective. The importance of articulating that perspective has been explored in the previous three chapters of this study and has been emphasized by various proponents of systems thinking. Senge (1990) puts forth a compelling argument for elucidating what he calls "mental models". He describes these as "deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action" (p. 8). There is a strong connection between what we do as a result of what we see. Pask (1961) suggests that the observer invents the purpose for or of the system. Clemson (1991) states that "the activity the observing system engages in to investigate reality changes that reality...different observing systems apprehend different aspects of reality" (p. 43). Further clarification of the identity and ownership of the focal system is elicited through the identification of the participants, goals, beneficiaries, costs, and global aspirations and concerns.

Participants

Three groups of people participate in the project: the college personnel, the Cree students, and the staff at the

CSB postsecondary office in Montreal. The three college personnel are on full-time leave from their regular positions at the college. Two act as pedagogical counsellors, providing one-on-one and small group tutorials to the students during regular college hours. The third person coordinates the activities of the project and acts as the academic advisor. The written job descriptions do not reflect the reality of these roles which, in fact, overlap and are multidimensional.

The CSB postsecondary office provides a variety of services for all the Cree students attending school in areas outside the James Bay communities. The Montreal office is staffed with administrative support personnel, a guidance counsellor, and a student affairs technician. Their responsibilities range from social support services and counselling to financial assistance for living expenses, tuition, travel, and child care. A detailed description of the functions of this office is in the CSB publication, Post-Secondary and Secondary-Level Off-Community Adult Student Assistance Program (1994-1995).

Since the winter of 1989 and up to and including the winter semester 1996, a total of 64 Cree students have registered at the college. Their ages ranged from 17 to 36 at the time of admission. Some are married and some have children. The families of the students either remain in James Bay or come south for the academic school year. Nearly all the students speak Cree as their first language and French and/or English as a second or third language. Eight

students have graduated from the college since the project began: 5 in Nursing, 2 in Social Science, and 1 in Creative Arts. Some students come to college with specific career goals, others do not. All the students indicate that they intend to return to their communities after graduation. Ongoing personal communication with many of those students who left prior to graduation reveals that they intend to continue their education at some time in the future, either at the college or elsewhere.

Goals

The original goals of the project reflect its orientation towards the Cree nursing students. At the beginning of the second year of the project they were as follows:

1. To assist the nursing students to progress through the program by continuing to provide them with tutoring, academic support and counselling, as well as acting as mediator with their teachers when needed
2. To continue to search out consultants (Native if possible) experienced and knowledgeable in health care and/or education who can assist us in discovering more ways to help the students succeed and provide role models that help sustain their motivation and morale
3. To identify specific skills and knowledge that will be required by the Cree students to function effectively as nurses in meeting the health care needs of the James Bay population
4. To explore possible ways for the college to provide the

necessary support for the Cree students in the college who are not officially part of the James Bay Nursing Project 5. To provide support for the development of a program design and proposal for funding of an access and continued support program for all Cree students (James Bay Nursing Project, 1991-1992).

Although these original goals do not include specific statements about working with college staff to sensitize them to Cree culture, this activity was in fact carried out throughout the six years of the project. Some teachers in English, humanities and nursing subsequently made an effort to include Native literature and/or issues in their courses. Others had already been doing this prior to the project's inception. The goals and activities of the project reflect an effort to move away from an assimilationist approach toward one that more closely resembles the "balanced integration" described in the concept analysis (chapter 3).

In August, 1993 the project's name changed to the Cree Student Support Services. The aim of this program was "to provide all Cree students with academic support and advising comparable to that received by the Cree nursing group in previous years" (Cree Student Support Services, 1993). The academic support for the Nursing students continued under this new arrangement.

Beneficiaries

The main beneficiaries of this system are the students, the Cree communities and the college. The students will have increased opportunities for employment and financial

independence. The graduates will take their new skills back to the communities, thus making a contribution to the Cree nation's goal of self-determination. For example, there were no Cree nurses in 1986. There are now eight Cree nurses available to work in James Bay. Five are graduates of the college. These graduates also serve as role models in the communities. The college also benefits because of this potential source of new students. The most holistic benefit is perhaps the mutual enrichment of all the participants in the focal system.

Costs

Money, time and human resources are the major costs. The budget for the project covers college personnel salaries, teaching supplies, travel, and administrative costs. The provincial government funded the original project. In 1993, the CSB contributed to the funding for the expanded project. A subsection of Section 16 of the JBNQA states that the CSB shall have specific powers, subject only to annual budgetary approval. One of these powers is that the Cree could delegate responsibility for postsecondary education (JBNQA, 1976, subsection 16.0.9). Diamond (1987) has pointed out that the Cree have had difficulty acquiring the funding that is required for postsecondary education. The funding for the Cree Student Support Services project is subject to yearly review and is tenuous.

Time and energy of all the participants are other costs of this project. In particular, the students and their families give up time together while energy is directed

toward academic achievement. The amount of time can be significant especially if the students carry reduced course loads. Some nursing students took 12 semesters to complete a 6 semester program and during this time not only studied but also became mothers or grandmothers! Time is also a factor for the support project personnel who devote time outside contractual hours for travelling, meetings, extra work with students, and keeping in touch with students who have returned to their communities.

Global aspirations and concerns

Recognizing that postsecondary education is essential for meeting the needs of the Cree communities, Paul Gull, the former chairman of the Cree School Board, states that the Cree School Board plays "an important role in trying to provide a reasonable level of resources in order to alleviate some of the financial burdens and difficulties which our students encounter" (Cree School Board, 1994-1995, p. vi). He also reminds students to "believe in what you know in terms of language and the Cree way of life" (p. vii). The participants in this project recognize that the contact between the two cultures has the potential to either assimilate one into the other or to nourish the cultural gifts of each. The latter is the global aspiration of the project. We might call it a desire for cultural symbiosis. Some students may learn to be proficient with the use of behaviors and language of both cultures. Others may achieve this to a lesser degree. The non-Native personnel will also achieve varying degrees of bicultural understanding and

certainly not nearly as much as the Cree students unless they learn the language.

Focal system's relationship to the environment: boundaries and constraints

A boundary separates the system from its environment. Everything inside the boundary is part of the focal system under study. In a systems-based framework, the environment is a functional rather than a physical entity. It consists of all the variables that are capable of producing a change in the state of the system and that are themselves changed by the system's behavior (Clemson, 1991). Shoderbek, Shoderbek, and Kefalas (1985) state that the environment includes "all that lies outside the system's control and that determines, in part at least, how the system performs" (p. 29).

Systems are hierarchically arranged within broader systems. In other words, systems of increasing complexity are nested within each other to produce the whole (Beer, 1979). The selection of a boundary is subjective; that is, the level of investigation is arbitrary and depends on what focal system is selected for study (Beer, 1984). The choices made influence the range of possibilities for change, growth and stability. These notions about nested systems and boundaries guide the following identification, description, and hierarchical arrangement of the systems that influence and are influenced by the support project.

Nested arrangement of systems

Focal system and its environment

Figure 1 provides a visual illustration of this study's conceptualization of the focal system, its subsystems and the systems in which it is nested. The focal system is the Cree student support project. Its subsystems include the Cree students, the college staff in the project (an academic advisor/project coordinator and two pedagogical counsellors/tutors), and the CSB Postsecondary Office in Montreal and its personnel.

The focal system is a subsystem of a larger academic environment, the college with its personnel, programs and policies. Beyond this is the education system managed by the CSB in James Bay. These three systems are nested within a system that is made up of the Cree communities. The Ministry of Education of Quebec and the JBNQA complete the order of magnitude of the environment. Following is a description of each of these systems as they influence or are influenced by the focal system (Figure 2).

The college

The focal system has the potential to influence to some degree the college's financial situation, its policies, and approaches to teaching and learning. Financial support for the focal system is separate from the college's regular funding. External funding means that the college benefits financially since salaries for the college personnel who work in the project are not taken out of the college budget. The focal system, by virtue of the services it provides to Cree

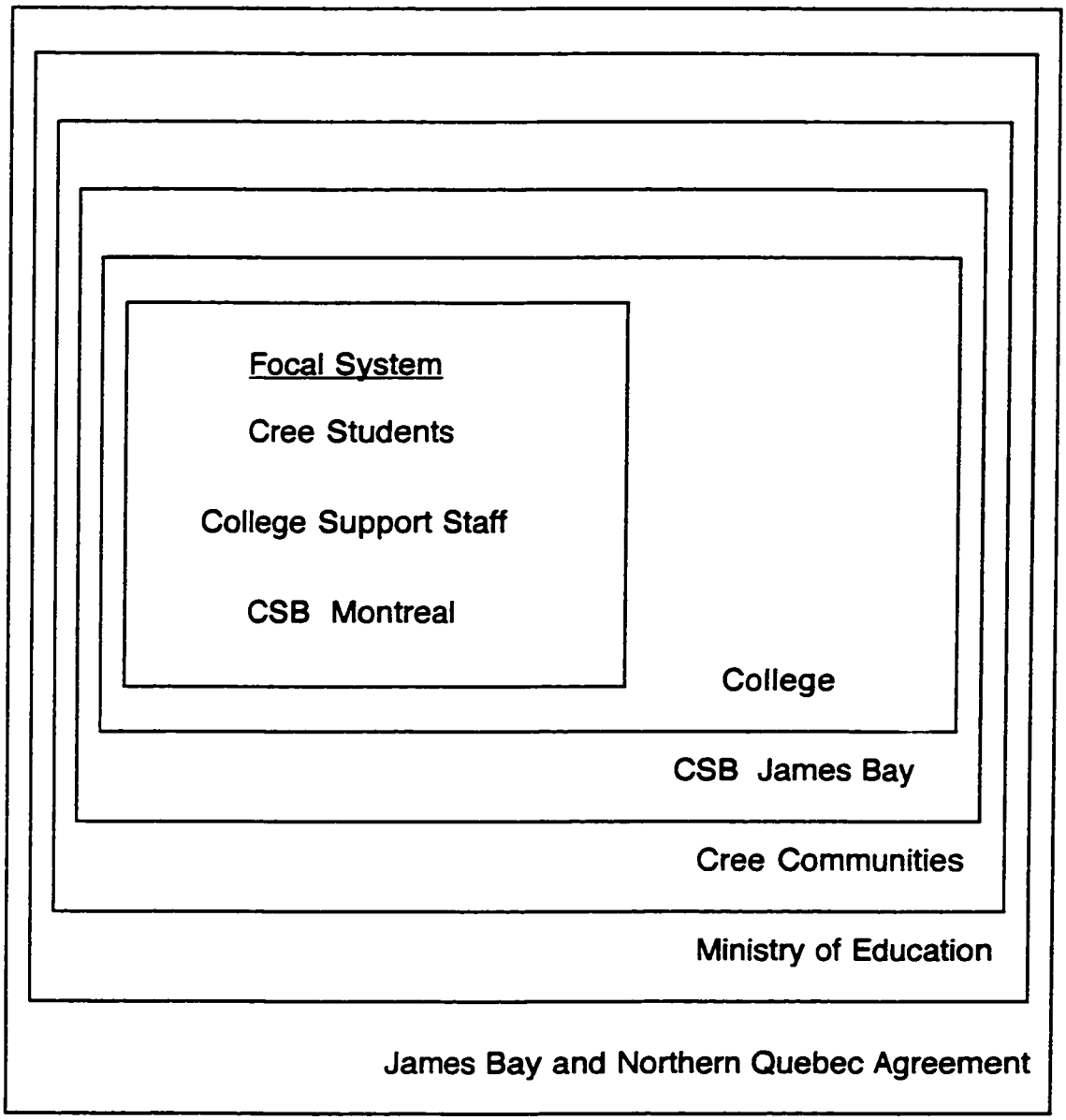


Figure 1. The focal system and its environment

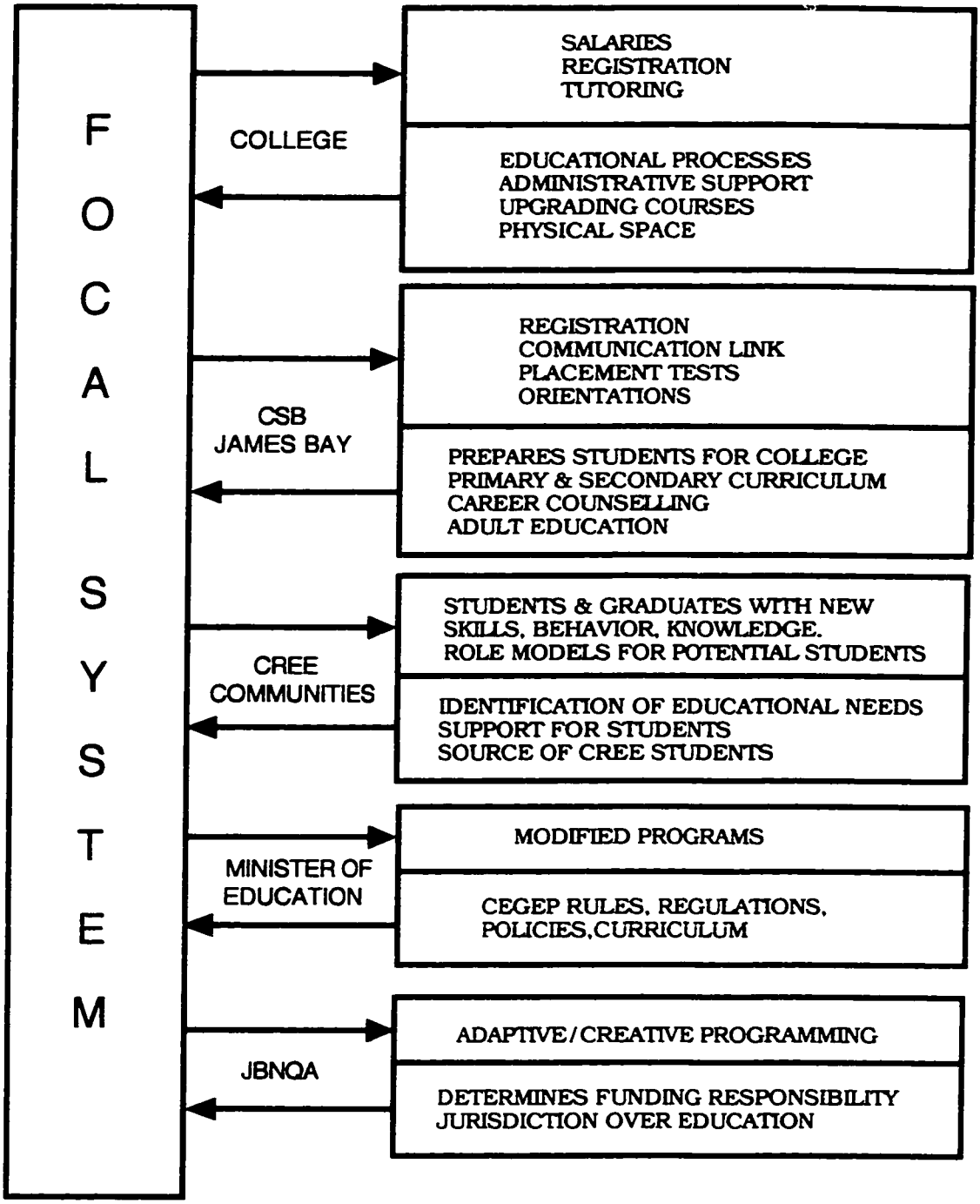


Figure 2. Relationships between focal system and systems in its environment

students, alleviates the workload in areas such as the registrar's office and the learning centre. Teachers also benefit since the project personnel provide the extra help that many of the Cree students need. Working closely with college administrators, the project personnel have influenced policies and decision-making within the college. For example, due to negotiations between the support system and the college, some Cree students have benefitted from adaptation of the rules regarding registration and probation. Arrangements have been made to preregister the Cree students in courses that are appropriate for their first two semesters. Communication between the classroom environment and the focal system has the potential to produce conflict and/or to enrich the educational processes.

The college may change the behavior of the focal system. The degree of administrative support and willingness to consider innovative ways to proceed affects the capabilities of the project. For example, the college may offer non-credit English and math courses for those students who do not have the skills required to take first level college courses in these subjects. The availability of a suitable physical space affects the project's ability to serve the students. The degree of autonomy negotiated for the project also influences the focal system's behavior.

Cree School Board, James Bay

The CSB in James Bay is mandated to design and deliver education for the primary and secondary schools of the nine communities. It makes decisions about courses offered in its

high schools, has the power to use standardized tests, and develops textbooks and teaching materials designed to preserve and transmit the language and culture (JBNQA, 1976). Counsellors in the schools assist the students with program selection and registration for college. The CSB offers adult education to mature students who have not completed high school and is responsible for designing training programs that are given in the communities. It also delegates responsibility for postsecondary education. The college and the focal system are affected by these variables.

The degree to which the students are prepared to meet the academic demands of college is largely dependent on what happens in the James Bay schools and in adult education. The English and/or French language skills and the variety of courses offered in James Bay secondary schools affect the students' progress in college and indeed determine admission to college programs.

The results of college language assessment tests indicate that there is a wide range of English reading skills among the students (see Table 1). For the 31 students tested with the Gates-MacGinitie Reading test which provides grade equivalency levels, results for vocabulary ranged from grade 4 to 11.9 and for comprehension from grade 2 to 13.9. A grade of 11.9 is recommended for the demands of college courses. For comparison purposes, the mean grade equivalency of the approximately 2500 new students tested at the college in the fall 1995 was 11 with a range from grade 4 to grade 18 (G. Booth, personal communication, April, 1996). The

Grade Equivalency	Vocabulary (No. of Students)	%	Comprehension (No. of Students)	%
2 - 3.9	0	0	3	10.4
4 - 5.9	10	32.3	7	24.1
6 - 7.9	9	29	9	31
8 - 9.9	7	22.6	6	20.7
10 - 11.9	5	16.1	2	6.9
12 - 13.9	0	0	2	6.9
TOTAL	31	100	29*	100

* Two students did not do the Comprehension section of the test.

Table 1. Grade Equivalency Reading Levels for Cree Students 1993-1995

secondary five math and science courses that are prerequisites for some college programs are not offered at all James Bay schools. This may prevent students from admission to some college programs such as police technology, nursing and pre-university science.

The focal system exists only to the extent that it receives qualified students through the CSB which recruits students and advises them about postsecondary programs. The students make their own choices about where to study. They are allowed to attend colleges outside the province if their desired program is not available in Quebec.

The CSB in James Bay is in turn affected by behaviors of the project and the college. The focal system assists the students and counsellors in James Bay with the complicated process of applying to college and registering for courses. The geographic distance between the college and the James Bay communities makes it difficult for the students and counsellors to access information and have questions answered. The focal system has eased this process by maintaining contact with the counsellors, mailing necessary forms, and helping individual students select appropriate courses via telephone communication. The college registrar's office does not have the resources that would be needed to offer this amount of personalized assistance.

Geographical distances create an additional problem for new students. All students entering the college must take English and French placement tests. These tests are done in June in order to leave the teachers enough time to mark them

and place the students in an appropriate level English and French before fall registration. It would be inconvenient and expensive for the Cree students to make the journey to the college for this one purpose. The support project staff have eased the situation by mailing the tests, with instructions, to the James Bay school counsellors who administer the tests and mail them back to the college to be marked.

Thus, in many ways, the focal system facilitates communication between the northern communities and the college. In addition to helping with registration and placement tests, project personnel attend career days in James Bay schools when possible. The students receive direct and personal access to information that may help them with decisions about their postsecondary education. When the students visit the college during their last year of high school, the college support staff provide them with an orientation not only to the physical environment but also to the academic demands of college.

The Cree communities

The Cree communities are changed by and change the behaviors of the focal system. The extent to which the communities identify educational needs and provide emotional support affects the motivation, persistence, and direction of the students in college. For example, in the mid-1980's, the communities identified a need for Cree nurses in the James Bay health care system. As a result, ten Cree women entered the Nursing program at the college. The knowledge that there

would be employment after graduation inspired the nursing students to persevere despite the many challenges they faced. All of these students stated that the support and encouragement of their families was important. Communities can provide incentives, encouragement, and recognition of achievement, all of which potentially influence the outcomes of the students' college experiences.

If the college does not offer the programs that the communities are asking for, the students will go elsewhere (to community colleges in Ontario, for example). Therefore, the college may be inspired to develop appropriate courses and/or programs in the future. The students return to James Bay with new skills, new behaviors, and their impressions of the courses to which they have been exposed. Parents can also influence the viability of the focal system. They inform the CSB about what kind of support (if any) they feel the students need when away at school. The circle of communication influences the focal system's decision making and planning.

In the short term, the Cree communities are changed by the focal system. Students are away from home for prolonged periods of time, leaving behind their responsibilities to extended families. Enthusiasm about the potential for academic success and future employment is counterbalanced by the stress of maintaining two homes, providing for childcare, dealing with emergencies through long-distance telephone calls and the absence of students from traditional community activities.

In the long term, students return home with new skills and behaviors some of which fit with the communities' beliefs and values and some which may not. They return with the tools to give something back to their communities (for example, nurses who speak Cree, value Cree customs and beliefs about health care and who may develop the ability to combine the best of both worlds in their practice). They are role models for potential students. In addition, the graduation of five nurses from the program means that the Cree are closer to the goal of control of their health care system.

The potential for negative effects on the communities must not be overlooked. Returning students/graduates may have difficulty reintegrating into the communities after prolonged absences. Some students find it difficult to face returning home when they have failed. Others students have expressed a fear of losing their fluency in Cree. There is always a possibility that the students will not return home. To date this has not been our experience. In fact, we have seen the opposite. They are very anxious to get back to James Bay!

The Ministry of Education

The Quebec Ministry of Education determines the parameters (constraints) within which the CEGEPs work. These parameters influence each of the nested systems. Entrance requirements, course objectives and content, required courses, length of the semester and teacher/student ratios are all variables over which the nested systems have no

control. This can mean that Cree students are obliged to take courses that are not necessarily suited to their needs. One example illustrates this point. All students in English CEGEPs must pass two French courses in order to graduate. This is a formidable task for those Cree students who have studied English as their second language in James Bay schools (the JBNQA allows for the choice).

In the long term, the Cree people hope to set up their own CEGEP. If they follow a pattern similar to the one they have chosen for primary and secondary schooling, they will use the model of the CEGEP system already in place and will modify it to suit the needs and aspirations of the Cree. The JBNQA offers the potential for a fair degree of latitude in this endeavor.

The James Bay and Northern Quebec Agreement

The JBNQA influences the behavior of all the systems nested within it because it defines who has the responsibility for Cree education. As described in chapter 1, the situation of education in the communities has changed during the 20 years since the agreement was signed. There is an increased number of graduates from secondary 5 because primary and secondary education has been extended to all the communities. This change has generated a need for more funding for postsecondary education as well as major questions about how to implement and manage appropriate postsecondary programs and training.

Ongoing discussions and negotiations between the provincial government and the Crees have yet to clarify the

issues of funding and management of postsecondary education. Section 16 of the JBNQA (1976) has three references to postsecondary education. It defines the responsibilities of the Quebec and Canadian governments in regard to funding. It also outlines the Cree School Board's role in providing postsecondary education services. Subsection 16.0.9 states that the Cree School Board shall have the power "to make agreements with universities, colleges, institutions or individuals to provide training for the Cree School Board's teachers and prospective teachers" (p. 270). Subsection 16.0.24 states that "Quebec and Canada shall jointly ensure the continuation of existing education services and programs presently available to the Native people (p. 273). Funding responsibility is covered in subsection 16.0.27 which states that the budget of the Cree School Board shall provide for, among other items, "the development of a special curriculum provided for in paragraph 16.0.9" (p. 273). Section 16.0.22 also refers to funding in its statement that "there will be no decrease in the quality and quantity of educational services presently available to Native persons for their education and the operational and capital funding necessary to ensure services will be provided by Québec and Canada" (p. 272). There is no reference to the idea of creating a CEGEP in James Bay. When the Crees took over responsibility for education under the JBNQA, they could not have anticipated what their educational needs would be in the 1990s.

Even though they have jurisdiction over education, the Crees are working within an educational system they have

inherited from outside their culture. Technically they are governed by the Quebec Education Act but because of the JBNQA, they have a high degree of independence.

Thus the JBNQA has a significant amount of influence over all the systems that are nested within it because it creates the potential for creative program planning that is not burdened by the constraints of an inflexible bureaucracy. There is room for interpretation of the provisions of the JBNQA by the focal system, the college, the CSB in James Bay, the Cree communities and the Ministry of Education. These systems are in a position to influence the direction that Cree postsecondary education takes. The efforts of these systems may also produce some different approaches to education that could be used effectively in mainstream educational institutions.

Feedback loops

Cybernetics offers the notion that all outputs that are important to the system will have associated feedback loops. Therefore, if the focal system is missing feedback loops for its desired outputs or has inappropriate feedback loops, it is not functioning optimally.

Two distinct types of feedback processes are described in systems theory. Positive feedback promotes growth or decline. On the other hand, stabilizing (balancing or negative) feedback tends to resist disturbances that displace it from its goal state (Clemson, 1991; Senge, 1990). Related

to feedback is the concept of delay that occurs when the consequences of an action take place long after the action has been taken. Senge cautions that delays can lead to instability because they may tempt us to use overly aggressive measures that lead to undesired consequences.

The concepts described above are useful for discovering patterns of behavior in the focal system, some of which are desirable, others which are not. These behaviors have been alluded to other sections of this study. They are isolated for discussion here.

Although the main purpose of the Cree student support program is to produce Cree graduates, other desired outputs have been identified through the process of concept analysis. The next step in this system modelling, therefore, is to determine whether or not these desired outputs have associated feedback loops and whether or not inappropriate feedback loops are leading to undesired outcomes. For practical purposes, the following discussion is organized under two headings that derive from the major desired outcomes that have been identified for the support program.

Increased retention and academic success

The initial momentum for the support project arose from the increased presence of Cree students in the college and a recognition that, for the complex mix of reasons previously identified in this study, these students would require more support than was available from the usual college resources.

As the retention of the Cree students (a range of 60% to 100% over 15 semesters), surpassed that expected for Native

students in postsecondary education (roughly estimated at 30%), the support system justified its existence to its funding sources (initially the Ministry of Education and later the CSB) and continued to receive funding (see Table 2 for complete retention/dropout data). Furthermore, due to the variety of activities it carried out, the support program gained a higher profile in the college. For example, ongoing communication among the students, the students' teachers and the college support program staff clarified the students' academic strengths and difficulties so that appropriate interventions could be implemented.

Personal communication between the support program and the communities also influenced the recruitment and retention of Cree students. This communication took the form of meetings with the Cree Health Board (CHB) and the CSB in James Bay, liaison committee meetings, and interviews with CBC North (radio). As well, the CHB sponsored the production of a video about nursing in James Bay which included coverage of the support program activities. The students themselves provide a vital link between the focal system and the communities.

Thus the support program's links to the systems in its environment have accelerated its growth and movement toward the goal of increased student numbers, persistence, and academic success. Student numbers have ranged from an initial input of 10 to a high of 25 in a semester (see Figure 3). The overall pass rates for each semester since 1989 have ranged from a low of 33% in the winter semester, 1989 to a

high of 78% in the winter semester, 1996. The graph (see Figure 4) shows a general upward trend in the percentage of courses passed. These pass rates are derived from compilations of the total number of courses taken by all Cree students. To date, eight students have graduated, five of these from the nursing program.

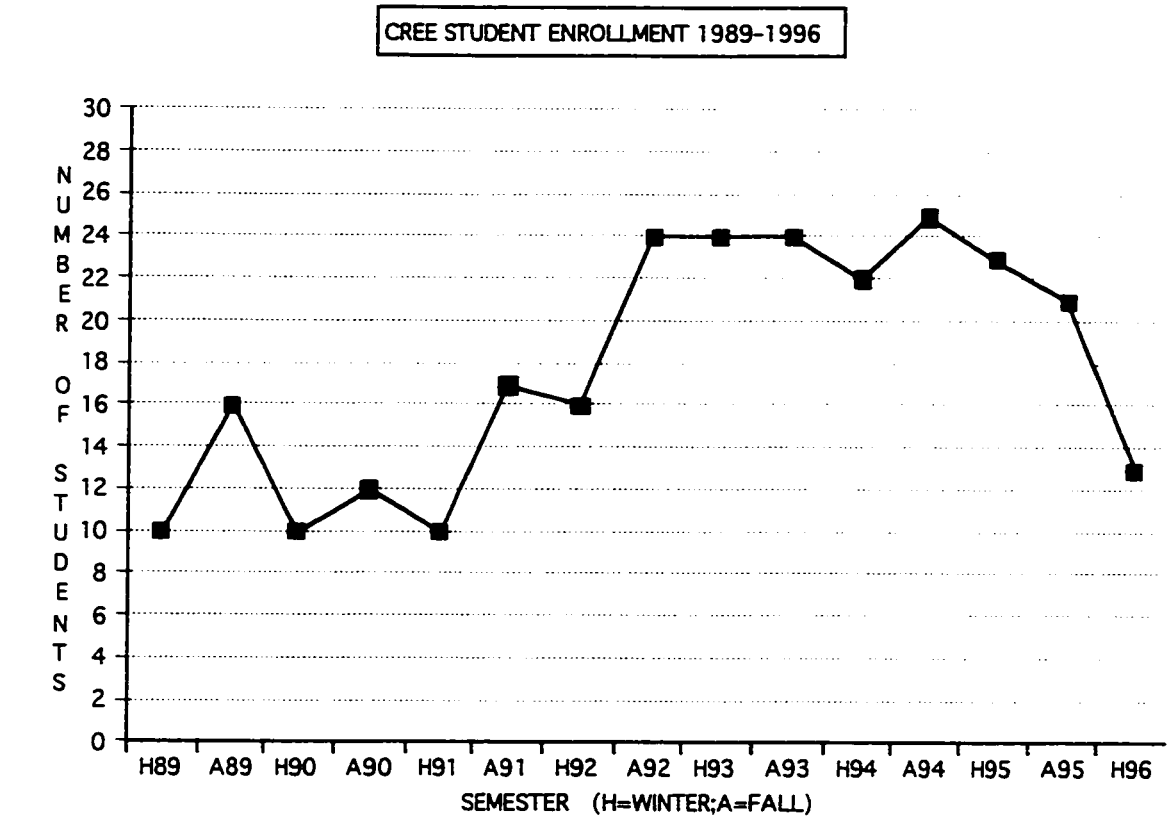
Increased retention and academic success suggest a reinforcing circle of growth. This desired output from the focal system is associated with positive feedback loops that form around the focal system and other systems in its environment (the college, the Cree communities, the CSB in James Bay and the Ministry of Education). The circle of growth looks as if it might continue to amplify and in some ways it has. However, as Senge (1990) points out, a common pattern exists in any system; that is, the growth levels off due to some limiting factor which may or may not be obvious.

Indeed, student numbers dropped from 21 in the fall semester, 1995 to 13 in the winter semester, 1996 (2 of the 21 graduated). The course pass rate in the fall semester, 1995 was 50%, the lowest pass rate since the winter semester, 1989. However, it rose again to 78% in the winter, 1996.

There are a variety of possible explanations for the decline in the fall, 1995. First of all, it is possible these results were aberrant and are unlikely to reoccur. However, it is prudent to consider other scenarios so that appropriate measures can be taken to reduce the incidence of attrition and academic failure. One possibility is that some students are choosing to go to college before they are ready

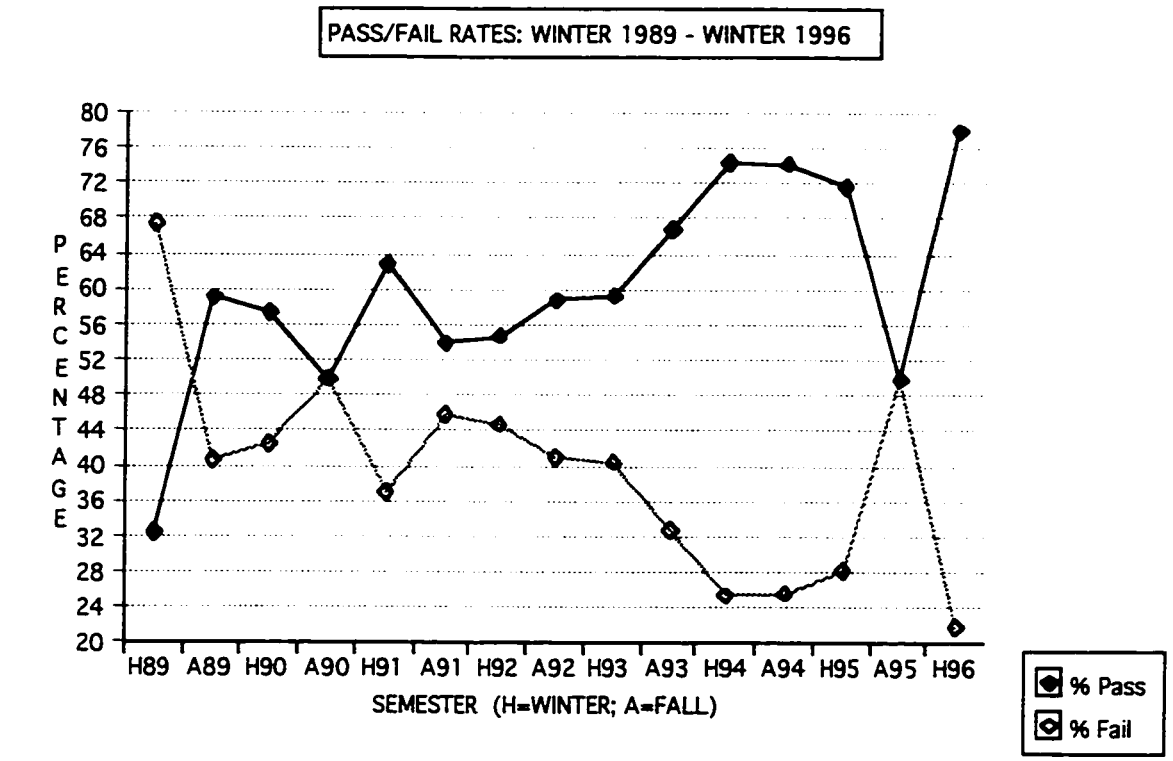
SEMESTER	TOTAL	NEW	RETURNING		DROPS		GRADUATES
H=Winter	Students	Students	Students	(%)	Students	(%)	
A=Fall							
H89	10	10	0	(-)	0	(-)	
A89	16	7	9	(90.0)	1	(11.1)	
H90	10	0	10	(62.5)	6	(37.5)	
A90	12	2	10	(100.0)	0	(-)	
H91	10	0	10	(83.3)	2	(16.7)	
A91	17	11	6	(60.0)	4	(40.0)	
H92	16	0	16	(94.1)	1	(5.9)	
A92	24	10	14	(87.5)	2	(12.5)	
H93	21	0	21	(87.5)	3	(12.5)	
A93	24	7	17	(80.9)	4	(19.1)	
H94	22	2	20	(83.3)	2	(8.3)	2
A94	25	7	18	(81.8)	4	(18.2)	
H95	23	2	21	(84.0)	4	(16.0)	
A95	21	6	15	(65.2)	4	(17.4)	4
H96	13	0	13	(61.9)	6	(28.6)	2

Table 2. Retention and attrition data for Cree students
Winter 1989 to Winter 1996



N.B. The James Bay Nursing Project began in the fall, 1990 and expanded to become the Cree Student Support Services in the fall, 1993.

Figure 3. Cree Student Enrollment 1989 - 1996



Percentages based on total number of courses taken by Cree students per semester

Figure 4. Pass/Fail Rates: Winter 1989 - Winter 1996

(either academically, emotionally, or socially). Project data indicate, on the average, low levels of English vocabulary and comprehension. Different from the original intake of nursing students, many of the new students are younger, frequently do not have career goals, and in general have graduated from a different type of school program. Where many of the nursing students had attended residential schools and then had done upgrading to complete the prerequisites for nursing, the newer students have completed a regular high school curriculum in their own communities. Moreover, many of the students seem to be unaware of career opportunities that are available to them, unlike the students who entered the nursing program.

Another problem that may affect the growth of the focal system is that personal communication between the support project and its environment has not kept up its original momentum. Trips to the North by college personnel, frequent in the early years of the project, have been limited due to budget concerns. Project personnel are dealing with problems and challenges at the local level. The CSB in James Bay is preoccupied with numerous projects, activities and problems such as primary and secondary curriculum decisions, ongoing negotiations with the government regarding the terms of the JBNQA, and the needs of postsecondary students in numerous different institutions across Canada. Also on their agenda is discussion with the Ministry of Education about the CEGEP reforms. French courses at the CEGEP level are now compulsory for all students. This presents a difficulty for

Cree students who have not studied French at the secondary level because they have chosen English as their second language of study. Geographic distances between the communities is another variable that complicates the work of the CSB. Meetings of representatives from all the communities require a great deal of organization and money.

A continued input of students from the communities via the CSB, James Bay tends to maintain the system's goal. In systems terminology, this stabilizing feedback loop will resist any disturbances that displace the system from its goal state. The overall goal of the system is to increase the number of Cree students who enter and succeed in postsecondary education programs. In practical terms, this means that disturbances such as increased failure rate and decreased persistence are resisted. The enthusiasm that encourages as many students as possible to go to college may tempt us to overlook the fact that some are not ready for college, either academically or socially. A sustained input of students ensures the justification for a support program. However, some of the consequences of this action, failure, leaving school before graduation, and increased costs become evident only several semesters later. The tendency to implement short term solutions to alleviate the immediate problems can result in unintended outcomes. These are discussed in detail in the section which describes internal feedback loops.

Senge (1990) suggests that amplifying feedback loops be balanced with delays because "aggressive action often

produces exactly the opposite of what was intended" (p. 91). He uses the term leverage to describe the result of using small, well-focused actions (such as assessment of readiness for college in this case) to produce enduring improvement. He explains that leverage lies in the balancing, not the reinforcing loop. Perhaps a delay needs to take the form of accepting students only after assessment of motivation, English language skills, and drug and/or alcohol addictions (this was a recommendation in the fall 1993 Cree Student Support Services report but to date has not been followed up). This does not mean that students who have passed secondary five will be prevented from going to college. It may mean that they are offered a college preparation course in James Bay as well as counselling if needed before they are sponsored for postsecondary schooling away from home.

Thus it appears that some feedback loops associated with this desired output are appropriate and others that were present in the early years of the project are now missing. As well, it seems that an inappropriate loop around the focal system and the CSB in James Bay may account for the semesters where failure and attrition are increased (Figure 5 provides a visual depiction of the feedback loops described in this section).

Negotiated integrated support program

The second major desired output is the formation of a support program that reflects a balanced, negotiated, integrated approach. According to the beliefs and assumptions that were clarified in the concept analysis,

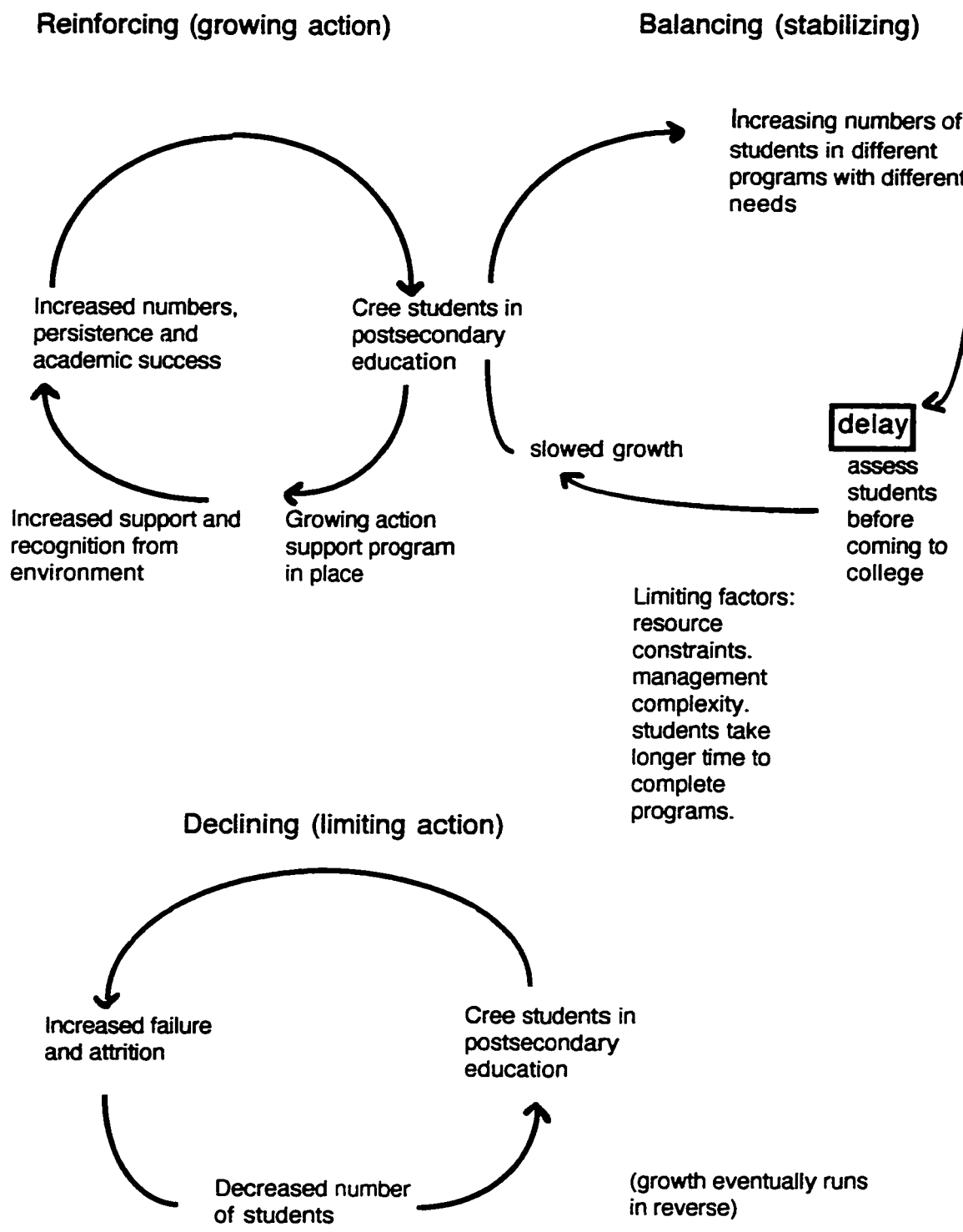


Figure 5. External Feedback Loops

this outcome is achieved when: (a) the support program provides support that helps both the students and the college staff achieve a level of bicultural understanding, (b) a value for the Cree language and culture is present, (c) there is a commitment to the Cree communities, and (d) people from all the systems are free to contribute to the focal system's behavior by moving across multiple roles.

The Cree Student Support Services annual report (August 1995 - June 1996) describes numerous activities which contributed to the achievement of these goals. Apart from the work done directly with the students and the CSB Montreal office, the focal system maintained links with the college, the CSB in James Bay, and the Cree communities. The information in this report indicates that the effort to attain a balanced, integrated program continued; that is, the project had not lost its original focus. The concept of feedback loops is applied to the following discussion of some of the activities.

Communication between the support project and the college system generated the interest and support of teachers, college professionals, and administrators. Workshops for faculty and other college staff, personal communication with the students' teachers, and cultural sensitization activities contributed to this heightened awareness of the Cree presence within the college. For example, the support program staff and students held an "Open House" for the college staff. The visitors sampled traditional foods, interacted with the students, and had the

opportunity to see and purchase crafts. Once again, everyone was welcomed into the teepee. The crafts, traditional foods, and the teepee all came from the Cree communities. A reporter from CBC North attended and relayed to the communities both his own and the students' stories and comments about the event and the college experience in general.

The project reached out to the college community by making its physical space on campus available as a resource centre. This area was also visited by the students' families and friends. As well, the project personnel submitted articles to various college publications. In a meeting with the James Bay CSB counsellors, the college project staff demystified the CEGEP application and registration procedures and policies.

The behaviors described above suggest that positive feedback loops are leading to desirable outcomes (see Figure 6). The loops that form around the focal system, the college and the communities generate trust and cultural awareness. Community members play a role in making this happen. The Cree language and culture is visible in the college and the communities are becoming more aware of the culture of the college. These are essential steps toward the long term goal of balanced integration.

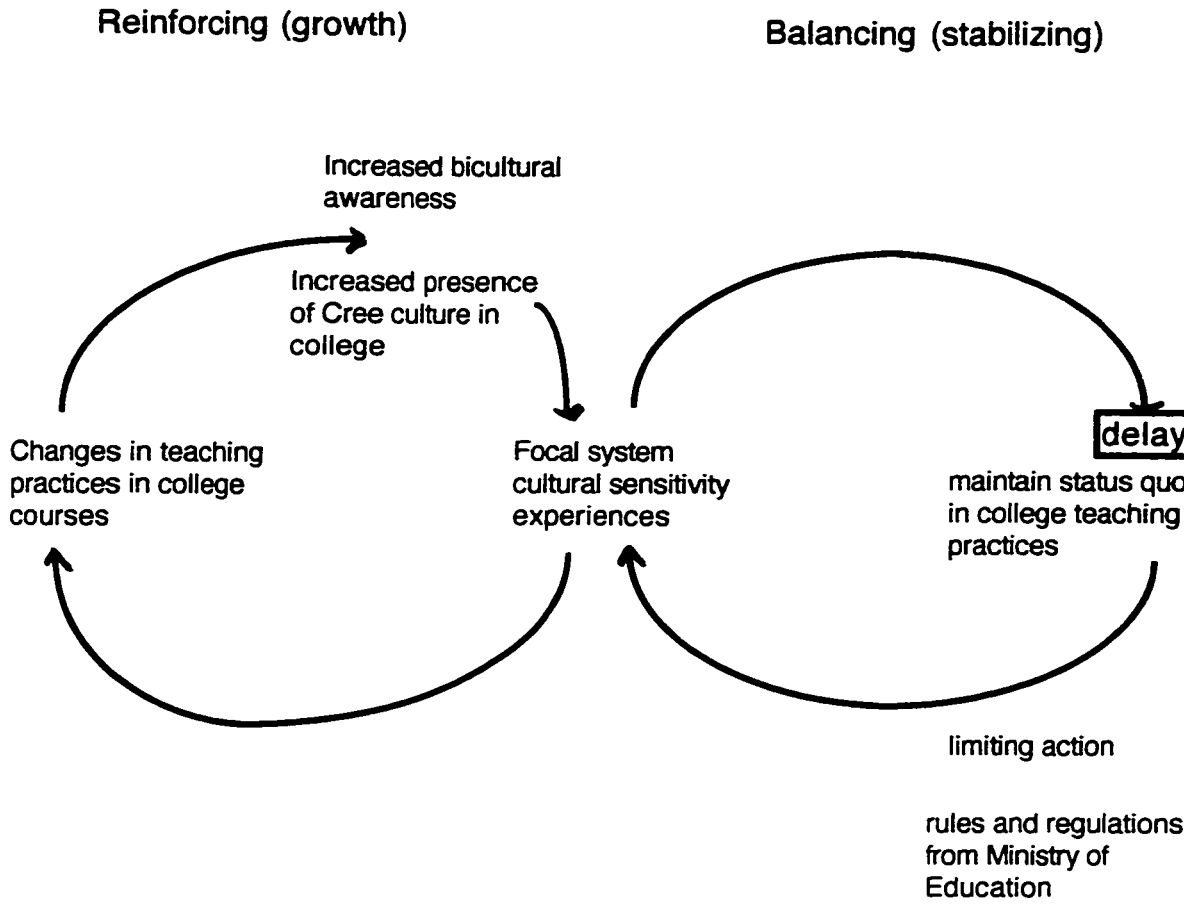
Interestingly, the project report makes no reference to the focal system's links with the Ministry of Education or the JBNQA. If the focal system wishes to develop programs that meet specific needs of the communities, it will need to

form feedback loops around these systems and strengthen those with the CSB in James Bay and the Cree communities. As the focal system tries to amplify the presence of the Cree culture in college courses, the rules and regulations of the Ministry and the Euro-Western values and beliefs that are ingrained in college educational practices form a negative or balancing loop that tends to maintain stability (the status quo) in the college system (Figure 6). The support program will be able to continue its growth toward a balanced integrated approach when and if the all the systems are committed to shared goals. The possibility of conflict of system goals is discussed in more detail in subsequent sections.

Inputs from the environment and outputs to the environment

The output of the focal system is dominated by the feedback. However, it is also important to recognize crucial inputs in the form of people, money, and material resources from the environment. Reference to both inputs and outputs has been made in previous discussions. This section describes them in more detail in order to highlight the transformation of the inputs and to attempt to ascribe some measure of the value of these variables (the transformation of inputs is illustrated in Figure 7).

The Cree communities, the Cree School Board in James Bay, and the college are the source of people in the



The positive (reinforcing) feedback is moving toward the goal of a bicultural integrated program in the college. This can upset stability. A balancing loop resists change; that is, status quo is protected in the college (perhaps the implicit goal is to maintain Euro-Western educational processes).

Figure 6. External Feedback Loops

focal system. The Cree communities are the source of students and people who provide information to the focal system. The CSB in James Bay supplies the people who work in the postsecondary office in Montreal. The project teachers and the coordinator are hired from college staff.

As described in previous chapters, the people in the focal system are complex human beings who have diverse values, beliefs, and ways of knowing. The interaction of Crees and non-Crees has the potential to produce people who are changed in both quantifiable and unquantifiable ways. Those people who enter the system as students exit as graduates who offer their skills to the communities to which they return. Those people who enter the system as support staff are capable of sharing what they learn with others who are outside the system. Potentially both Crees and non-Crees gain insight into different ways of seeing the world. This bicultural understanding is an important desired output.

Immediate and obvious outputs include Cree graduates and changes in teaching approaches in the college. Long term and not-so-obvious outputs are the changes that occur in the Cree communities as a result of the reintegration of graduates. Increased Cree control of education, health, and socioeconomic issues is a major potential output as is the emergence of a third cultural reality.

Money from government sources is an essential input. The low student to support staff ratio, the extended time for program completion, the financial resources required to support students who must study far away from their

communities, and the special needs of students who are forced meet the educational objectives of a different culture demand a continued, guaranteed source of funding. Money is also needed to buy teaching materials and equipment which can be shared with the college. The money that is spent on communication with the communities (telephone, fax, airline travel) is essential for fostering intercultural ties.

The focal system is dependent on the environment to provide material resources. The importance of a designated physical space in the college cannot be underestimated. It provides a sanctuary for students who may feel overwhelmed by the size and sounds of the college. Resources such as books, journals, magazines and articles produced by Native people, project photographs of celebrations and visits to the north, and a teepee all contribute to the special nature of this focal system. The way in which these inputs are organized and used ensures that they transform into outputs to different parts of the environment. The teepee's function at the college illustrates this point.

Traditional feasts in the teepee that the focal system has on campus have introduced college faculty, students, and support staff to the symbolism of the circle in Native cultures. The teepee experience (the serenity of sitting in a circle around the fire, storytelling, and the sharing of geese and bannock cooked in the teepee by the Cree students) has provided what no amount of reading or hearing about a culture can do, a shared cultural experience. A biology teacher learned from a student how to string a goose to

prepare it for cooking! Non-Crees learned some Cree words. The learners became the teachers, the teachers became the learners. The students, their friends, and families demonstrated their cultural gifts in an environment distant from the distractions of the dominant society.

Support project reports and data about retention and pass/fail rates for the Cree students are important outputs to all the systems in the environment. This information can be used to determine and justify the special needs of Cree students and their teachers in the mainstream institution. It might also be used to support the Crees' quest for a Cree CEGEP.

There are also undesired inputs and outputs. The most obvious undesired inputs from the environment are the demands made upon the students by the communities. As community and family members, the students remain involved with ongoing life events such as problems with childcare, illness, death, and a variety of social problems associated with communities undergoing rapid change. The negative effect of these inputs is exacerbated by the geographic distance from the college. Going home usually means missing a least one week of school not just one day. Racism is another undesired input. It comes in a variety of forms from overt racism to the more subtle, unintentional exclusion of Cree (or Native) culture in academic courses.

A less obvious undesired input is the confusing and/or unclear messages that are communicated to the focal system from the environment. These messages derive from a nation

that is in transition, whose goals and how to reach them are unclear and for which there is not yet consensus in the communities. Frequent changes in Cree administrative personnel with whom the focal system works causes interruptions in communication patterns. Lack of congruence between the CSB and the college's deadlines for making decisions for the next academic year also leads to uncertainties in the focal system's planning and funding.

Poor or failing grades and incompleted studies might be considered an undesired output, especially if the student returns home with low self esteem as a result. However, there is another way to view these variables. Even though they might not persist in their college studies, some students acquire useful skills and knowledge at the college and others benefit from professional counselling services not readily accessible in the Cree communities. Students who are helped may return to their communities more able to be helpers themselves.

The fostering of dependency is another potential undesired output. If the support system neglects to teach people to function independently, then it is contributing to the cycle of dependency that it is trying to eliminate. Finally, students may have difficulty with reintegration into their communities due to confusion about their cultural identities. Some may experience a loss of cultural values rather than an expanded view of life.

The potential for undesired outputs exists. This suggests a need for strong links between the focal system and

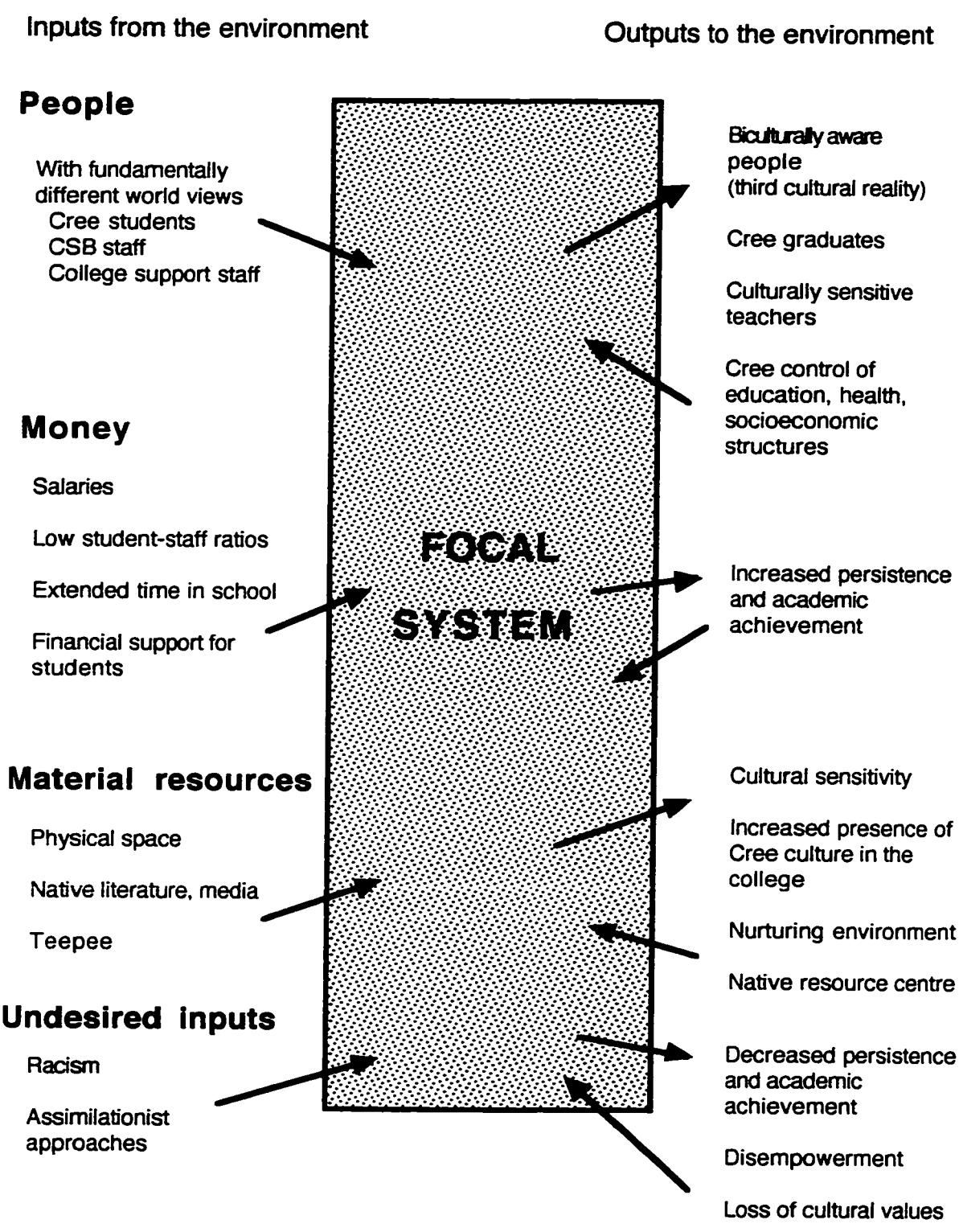


Figure 7. Transformation of inputs

the Cree communities (for example, the elders, parents, educators, and political decision makers). The insights derived from this examination of the focal system's outputs, associated feedback loops, and relationship to the environment, will be discussed further in chapter 5.

Internal structure of the focal system

The three subsystems of the focal system (the support project) include the college personnel (project coordinator, two pedagogical counsellors/tutors), the Cree students, and the CSB Postsecondary Office in Montreal (in this section, the CSB refers to the Montreal office unless otherwise indicated).

Communication is most frequent between the students and the college personnel due to the nature of the relationship, time available, and the shared physical environment in which most of the project activities take place. Geographic distance between the CSB and the college (where the students spend most of their time during the week) accounts for the more limited amount of communication between the CSB and the students. The college personnel manage the project's budget, write the reports, and collect data. All three subsystems contribute to identification of students' needs. Changes in any one of these subsystems appears to be accompanied by a change in another subsystem. This observation is clarified in the following discussion (and illustrated in Figure 8 on p. 102).

In the first years of the project, communication between the CSB, the students, and the college support staff was frequent because all the systems were learning and had the energy that sustains new endeavors. As problems were identified, solutions were implemented following negotiation and collaboration. The 1991 project report identifies the projects' activities and problems that needed to be addressed for the next year (James Bay Nursing Project, 1991-92).

In 1991, the college project staff initiated the idea of an orientation program. In collaboration with the CSB, a two week orientation for new students prior to the start of the fall semester was implemented. During the year, the college project staff organized peer tutoring, a study skills course given by the college learning centre, individual tutoring sessions with the project staff, and counselling for students who asked for it. It was not compulsory for the students to avail themselves of these services and most did not.

Housing problems, medical and dental emergencies, drug and alcohol abuse, difficulties with budgeting, and inconsistent class attendance were identified as problems that interfered with academic success. Because of their proximity to the students and because no other supports were in place, the college project staff dealt with most of these issues and were on call seven days a week, 24 hours a day. Following negotiations with the CSB, changes were made.

The 1993 project report indicates that a three week orientation, tutoring, and study skills sessions with project personnel, and monitoring of class attendance were mandatory

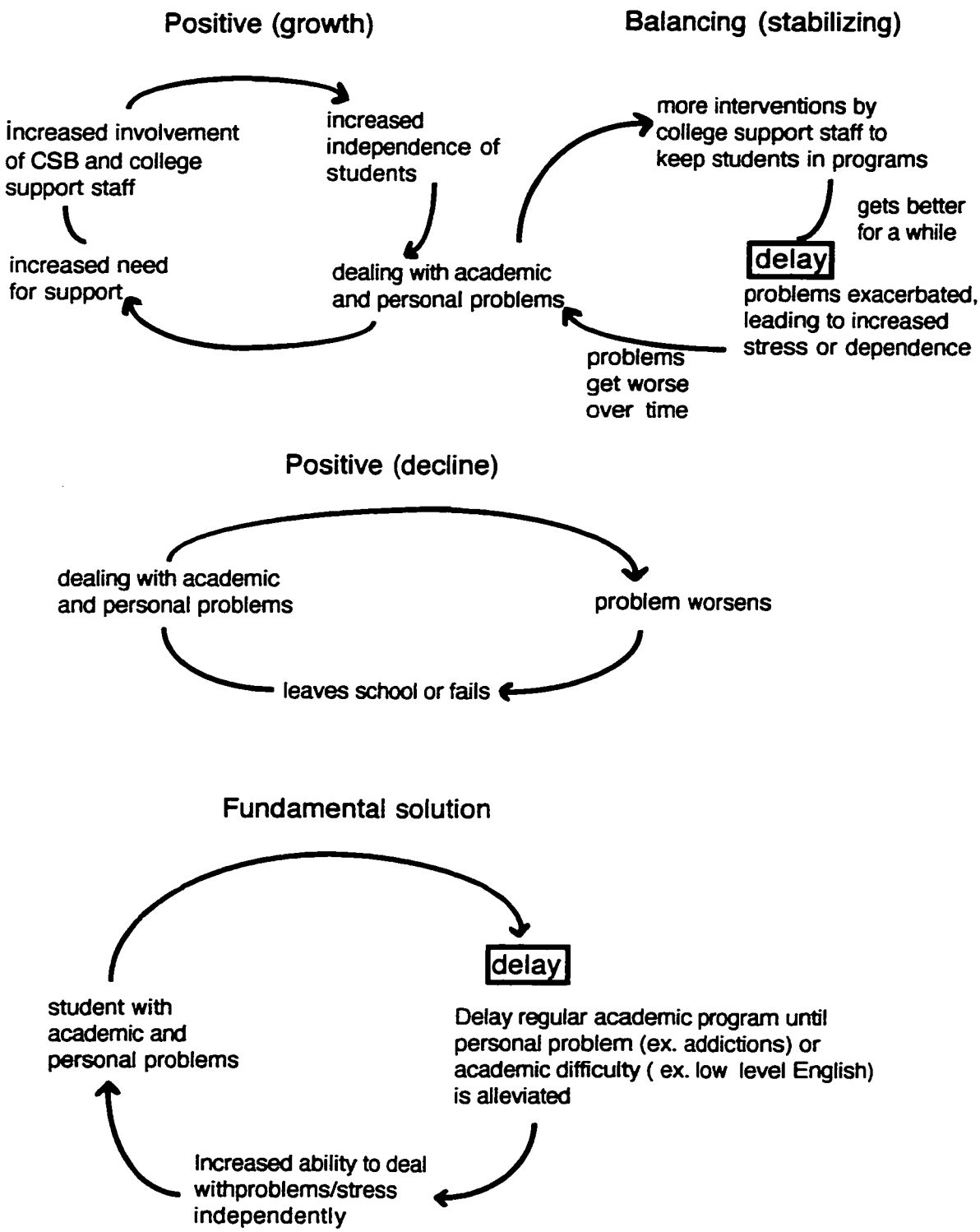


Figure 8. Internal Feedback Loops

(Cree Student Support Services, 1993). The students signed a contract with the CSB counsellor in which they agreed to these conditions in return for continued sponsorship by the CSB, James Bay. The CSB Postsecondary Office took on responsibility for assisting the students with housing, medical and dental care, budgeting, and counselling. However, the college project staff continue to be sensitive to both the academic and nonacademic needs of the students.

In the early years of the project, a reinforcing feedback loop was operating between the college staff and the students. As the student problems increased, college staff increased their hours of work beyond regular contract hours. Eventually, this arrangement became unmanageable. When the CSB took over or shared some of these responsibilities, a balancing loop was formed. In some parts of the system, growth has been sustained, with students passing courses, persisting and graduating. However, another phenomenon is worthy of consideration.

Some students have serious problems that interfere with their attendance at class. Some of the identified problems include drug and/or alcohol addiction, lack of confidence in academic abilities, racism, and family responsibilities. Not always aware of the cause of the erratic class attendance, the support staff intervened on behalf of the students and tried to help them catch up with class work or get extensions for assignment due dates. These interventions function to close a gap between what is desired (students passing courses and staying in school) and what exists (students missing

classes which can eventually lead to failure). In some situations, the action is effective. However, in the case of students with addictions, the interventions provide only a symptomatic solution that prolongs the problem. It encourages a circle of decline because as the student tries to keep up with academics in the presence of a severe personal problem, the addictive behavior and the stress are exacerbated.

The feedback loops that form around the tutor and the student with very low English language skills take on two patterns. Some students develop skills within time frames that allow them to become more independent during their program. With one-on-one tutoring (and remedial English classes) in the first few semesters, they develop language skills which are transferred across courses. Other students require a sustained, substantial amount of tutoring until the end of their program. A relationship of dependency is a possible undesirable outcome.

During the formative days of the project, the college support staff and their Cree consultants in James Bay recognized that the variables of trust and cultural learning played a vital role in the functioning of the system. If not present or present only to a limited degree, these variables were capable of delaying the work of the focal system. As a result, several actions were taken.

In the fall of 1990, college support project staff and a college administrator visited a Cree community for a week. Through interaction with their Cree hosts and the experience

of staying in the bush for a few days, the process of bicultural understanding began (this is when the "making of the bannock" experience occurred!). As well, the compulsory three week orientation program, developed and revised over five years, introduces the students to study skills, reading and writing for college level courses, and to the college environment. More importantly perhaps, it provides an opportunity for the staff and students to develop a personal relationship in a climate of emotional warmth and relative quiet before the other students arrive for classes (Smith, 1996). This is also one way to deal with the time constraint from the environment. With only 15 weeks in the semester and course work demands beginning the first day of school, there is little time to develop the symbiotic relationship that is crucial to the project's success.

Control (regulation) and communication

The cybernetic model is concerned with communication and control (regulation) in a goal-directed system. Any discrepancy between the system's goal and what exists is detected by a control system. Ackoff (1971) describes this control function which operates on a feedback principle. "An element or a system controls another element or system (or itself) if its behavior is either necessary or sufficient for subsequent behavior of the other element or system (or itself), and the subsequent behavior is necessary or sufficient for the attainment of one or more of its goals"

(p. 668). A word of caution must be added. As Churchman (1968) discusses at great lengths, a problem occurs when the subsystems and the suprasystems have different goals. This understanding is probably a crucial consideration in this systemic modelling of the support program. It will be addressed briefly in this section and more fully in the next chapter.

The control hierarchy can be roughly established by considering the amount of input that people have into the control of the system. The college support staff subsystem appears to function as the main regulator of the system because it absorbs much of the variety (the number of possible states of the system). This statement is clarified in the following discussion and is illustrated in Figure 9.

This subsystem has responded to environmental disturbances. For example, it communicates with teachers when the students have difficulties with their course work and it provides orientation to college for high school students from James Bay in order to increase their awareness of the demands of college. It registers new students in reduced course loads to alleviate the difficulty that the students have with the demands of a full course load. This subsystem writes funding proposals and monitors the budget. It detects internal deviations from the goal state (missed classes, low level English language skills, failures, and early school leaving) and takes action to correct the behavior. This regulatory function is shared by the CSB Postsecondary Office (counselling and social services are

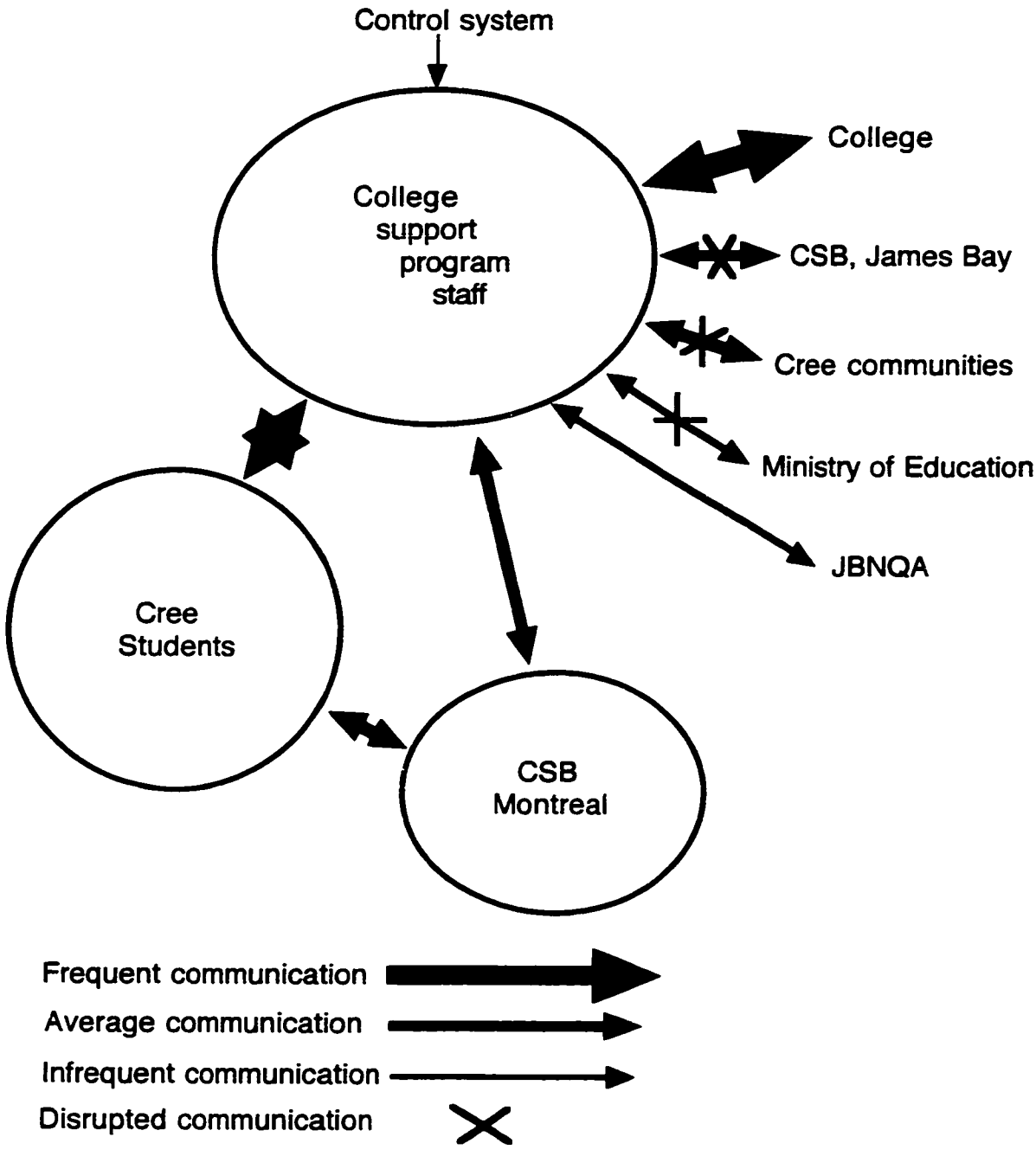


Figure 9. Control and communication

provided based on information obtained either directly from the students or from the college support project staff).

Thus, a cybernetic loop is functioning. The various kinds of information systems described above detect where deviations from the system's goal have occurred. Changes are implemented if appropriate. The focal system's explicit goals are to increase the number of Cree students in postsecondary education and to increase academic success and persistence. Missing in the documentation from the support program is evidence that the focal system, its subsystems, and the systems in its environment have agreed on how to measure this output. What is acceptable to one system may not be to another one. This is why the clarification and articulation of beliefs and assumptions is so important.

"A very critical aspect of a cybernetic loop is the determination of how quickly information should be transmitted" (Churchman, 1968, p. 47). This is certainly a major concern for the college support staff. Communication between the college support staff and the students has been facilitated by the presence of a welcoming physical environment as well as by the measures taken by both subsystems to establish trust and to achieve bicultural understanding. For example, the three week orientation for the new students starts the process of developing interpersonal relationships as soon as the students arrive at the college. Communication is interrupted or not established when the students and the support staff fail to interact for the variety of reasons previously described (for example,

lack of a trusting relationship, avoidance behaviors, personal problems). Contact between the CSB and the college staff is maintained on a regular basis. However, disruptions occur when there is a change in personnel. In these systems, with their limited number of personnel, the replacement of even one person slows the information flow because establishment of new relationships takes time. Furthermore, there is very little concurrent communication among all three subsystems; that is, the students, the college staff and the CSB postsecondary personnel rarely meet together. As a consequence, information that is critical to the focal system is sometimes either not transmitted (it gets lost or forgotten) or arrives late.

Communication between the college support staff and the college is ongoing and efficient because communication channels have few interferences. The flow of information is facilitated by physical proximity, limited cultural differences, and the variety of channels used (articles, reports, workshops, telephone, personal contact).

Communication between the control system and the James Bay environment is attained through telephone conversations, personal visits, and written reports and letters. Delays between the sending of the message by the college staff and its receipt in James Bay occur due to inaccessibility or unavailability of personnel (geographic distances, travel, change of personnel) and perhaps culturally different communication behaviors. As well, it is certainly time-consuming to deal with the government of Quebec (that is,

according to this systemic model, the Ministry of Education and those responsible for the implementation of the JBNQA). The complexities of communication among all these systems influence the ability of the control system to regulate effectively.

Requisite variety

The degree to which a system can be regulated depends on the variety of the regulator and the capacity of the channel (communication) between the regulator and the system. The regulator must have as much or more variety than the system it regulates (Ashby, 1964).

The college support staff subsystem functions to decrease the variety in the college classrooms as it takes on the responsibility of helping the Cree students with their course work (learning and understanding the course content, completing assignments). It functions to amplify the teachers' variety by sharing knowledge of Cree culture and raising awareness of the influences of the Euro-Western world view on educational practices.

The three people that function as the college support staff system appear to have the requisite variety to take appropriate action when there are disturbances in the college environment. Their learning from the Cree students and communities and their familiarity with college personnel and the college system (rules, policies, academic courses and issues, teaching) enables this group to behave in ways that

enhance goal attainment. Their willingness and ability to take on a variety of roles with the students (for example, teachers, learners, and advisors) is at times sufficient to deal with deviations from the system's goal. However, in a number of ways, this subsystem lacks the requisite variety to match the complexity of the system.

The staff of this control system are non-Cree. Although they have taken measures to develop a degree of bicultural understanding, they cannot assume that they understand fully the needs of the Cree students and their communities. As the number of students increases, the college support staff faces the task of dealing with more variety in the levels of preparedness for college (English language skills, social and emotional readiness). The Cree communities are changing. The Ministry of Education's ongoing efforts to reform CEGEP education (without regard to the needs of Cree and other minority groups), and the continuing discussions about the terms of the JBNQA complicate the work of the system's regulator. The project support staff are not capable of handling the variety of information that the system must process in order to continue learning and adapting.

Channels of communication between the regulator and the CSB Postsecondary Office, the CSB in James Bay, the communities, the Ministry Of Education, and the JBNQA are filled with interruptions and delays or, in some instances, seem to be blocked. In other words, the variety of the regulator and the capacity of the channel between the regulator and the system are less than optimal.

CHAPTER FIVE

System performance

Evaluation of the system's performance is based on its ability to maintain the system's goals in a way that is congruent with stated beliefs and assumptions. According to the theoretical framework used for this study, a regulatory system and adequate channels of communication must be in place. The system exists to increase the number of Cree students in postsecondary education and to increase academic success and persistence. The concept analysis clarifies the conditions under which these goals are achieved. First, the system provides support to both the institution and the student in order to enhance bicultural understanding. Second, the Cree culture and language is valued within the context of the institution. Third, there is a commitment to the community as well as to individuals. Finally, support program staff, students, college staff, and community members take on a variety of roles.

Quantitative data

Interpretation of the quantitative data is difficult and somewhat arbitrary since there are no accurate statistics against which to compare them. Complete data on the postsecondary students is unavailable from the CSB. It is not known whether or not any Cree students were at the college prior to the winter of 1989. A total of 64 Cree

students have come to the college over the past 15 semesters. The numbers per semester have ranged from a low of 10 in the first semester to a high of 25 in the fall, 1995 (Figure 3, p. 85). The dropout rate has ranged from 0% to 40% and conversely persistence has ranged from 60% to 100%. These rates of persistence are well above the 30% estimated for Native students across the country (Archibald & Urion, Eds., 1995). As previously stated, accurate and complete data is difficult to obtain (House of Commons, 1995). The Cree students dropped out for a variety of known reasons including failure to meet probation requirements, pregnancy, personal and family problems or change of career goals. Some students left without giving a reason. The persistence data for the project includes students who dropped out for a period of time and returned to school. Some have done this more than once.

Overall pass/fail rates for each semester ((Figure 4, p. 86) show a consistent pattern of an increasing proportion of courses passed compared to failed for most semesters except the first in the winter of 1989 (before the project began). In two fall semesters, 50% of the courses were passed and 50% were failed. Once again, it is difficult to interpret these results except to say that they are encouraging since, with a few exceptions, there is a general increase in the percentage of passed courses over time. It is important to note that these numbers include results from courses that students abandoned before the end of the semester as well as results from courses taken more than once (due to failure the first

time).

To date, eight students have graduated from their programs (12.5% of the total number of students) and two more are expected to graduate in December, 1996.

This quantitative data reflects a pattern that seems to be reaching or moving toward attainment of the goal to increase the number, academic success, and persistence of Cree students at the college. Indeed, the students, their families and friends, and the project staff have had many celebrations to recognize the students' achievements. Framed photographs of the eight graduates stand proudly on the mantel of the fireplace in the Cree student centre. This row of portraits appeared in a CBC North television production that highlighted the experiences of one of the Cree nursing students.

The impact of the graduates is larger than the small numbers might indicate. As revealed in the systems analysis, the return of successful students back to their communities feeds back into the focal system when these students act as role models and motivators for potential college students (Figure 5, p. 90). The nursing graduates have already made an impact on the Cree health care system. For example, one graduate is working on mental health care programming for the Cree communities. Two of the graduate nurses were involved in the production of a video made for "young moms". The positive effects of these and other activities sustains the vision of a truly Cree-controlled health care system.

As deservedly exciting and rewarding as these outcomes

are for all the participants in the project, the modelling of the program has raised several important questions. I believe that for the program to stay viable, these questions must be addressed. A starting point is to direct some attention to the system's goals.

Churchman (1968) reminds us that the quality of the output has to be measured in terms of some objective and in some cases, the objectives may be very difficult to measure. The support project has functioned on the premise that its goal is to increase the success and persistence of the Cree students in their college programs. However, criteria for measurement of the effectiveness of the project's work have never been established. What proportion of pass/fail is desired? What percentage of persistence is acceptable? Is the amount of time the students take to complete a program an important variable? How many hours of tutoring are allocated to each student? In other words, given the costs (in general, measured in terms of the input), what output is desired or expected? And can all the systems agree on the system's goals and criteria for measurement of the quality and quantity of the output? If not, conflicting goals may impede the growth of the focal system. For example, does the CSB in James Bay feel that it is worthwhile to continue to fund this endeavor? Is the input of their scarce resources being transformed into outputs that they consider a high priority? Is there agreement between the communities and the CSB regarding allocation of funds?

The focal system's goals have not been clarified in

terms of numbers. Nor have they been clarified to reflect the meaning of success for this focal system. Does it mean that the students not only succeed in their academic work but also graduate with a value for their cultural heritage intact? Does it assume that the knowledge and skills learned in their programs are useful to the community? Are students who complete part of a program but decide to return home considered successful in some way? How do we measure (or do we measure?) the changes that take place in the college's teaching and learning processes? Is the Ministry of Education willing to accept the implications of the JBNQA and allow for creative programming that meets the educational needs of the Cree? Clearly these are questions which have not been fully addressed and which will have a great impact on the future of the support program.

System boundaries and control

Systemic modelling of the support project has revealed several behaviors that limit optimal functioning. The most important of these appear to be the limited variety of the control system (the college support project personnel) and less than optimal communication between the control system and the other systems. Restructuring of some formal arrangements in the system is needed if the support project is to continue learning and adapting.

Extension of the boundaries of the focal system could have a very powerful impact on its behavior. If

representatives from the communities and the Cree School Board in James Bay were part of the focal system, communication channels and requisite variety could be optimized. A regulatory system could be formed from a group of people that represent various subsystems, thus increasing the ability of the system to deal with the many variables that influence its behavior. These people have several essential tasks to accomplish if they are to act as an effective regulatory system.

First, the regulator requires a model of the system that includes explicit descriptions of the goals, values, and assumptions. Otherwise the focal system risks bypassing its commitment to bicultural understanding and community needs. It is possible that the systems now have (or have always had) conflicting goals. The impetus for the original project was the Cree's desire and need for Cree nurses in the James Bay health care system. When students began to enter programs other than nursing, academic success was an obvious desired outcome. However, it was not clear to the focal system what role these students would be expected to fulfil upon their return to the communities.

One possible source of conflicting goals is the idea of a balanced, negotiated, integrated support program. This type of program seems to be the most practical and the most congruent with the values of the focal system. It is possible that support of such a program is not a high priority for the CSB in James Bay, especially now that this system is making plans for a Cree CEGEP. At this time, it

is not clear whether or not the Cree CEGEP will replace or supplement the programs that Cree students currently access.

A second task for the regulatory system is to find ways to optimize communication channels. Without ongoing communication between the focal system and James Bay, feedback loops that form around the student and the college support staff may generate academic success through assimilationist behaviors. Ackoff (1971) explains this phenomenon in more generic terms. "In an imperfectly organized system, even if every part performs as well as possible relative to its own objectives, the total system will often not perform as well as possible relative to its objectives" (p. 661). If there is inadequate information sharing, each subsystem might be tempted to limit its focus to optimizing its own performance.

Third, the regulator needs a way to monitor the dynamics of the focal system. How is the system working? How are inputs being transformed into outputs? A model that conceptualizes the behaviors in terms of feedback loops offers an effective way to understand the system's dynamics. The focal system is missing feedback loops to the the CSB in James Bay, to the communities, to the Ministry of Education and to the JBNQA. As well, at times, an inappropriate loop is forming around the students and the support staff (when the help that students are given fosters dependence rather than independence). The regulator must also monitor the loops that form around the focal system and the college so that assimilationist behaviors are discouraged.

An issue related to control warrants further exploration by the regulatory system because it has implications for the processes that are implemented to achieve the system's goals. An aspect of regulation which has not been addressed in this study is the concept of the student as a regulator of his or her own behavior. Mitchell (1989) suggests that the "learners' ability to control themselves is essential to education" (p. 11). In his workshop presentation on Native education issues, Mussell (1991) emphasized that the learners must believe that they are capable of change and that they must be given the opportunity to become active, self-directed learners. Certainly, a number of the Cree students have developed these abilities during their college experience. The evidence for this is that some students have gained the self confidence to help other students either in their academic work or with social problems. Some of the students challenge tutors and teachers when they do not agree with what they read or hear. One student worked very successfully as a peer tutor in the college writing centre.

Another point about regulation or control is worthy of note. This concept describes control within a system, not control of a system. I point this out because the term might lead to confusion and apprehension. It may be misunderstood as an attempt by a group of people to control another group. This is not the intent. The intent is, however, to put in place a system that is able to detect changes that may lead to deviation from the goals and to take some kind of action to modify the system's behavior.

At the outset of this study, several questions were posed. The major question was, "what are the key ingredients of a support program for Cree students in CEGEP?" There is no one "right" answer to this question. However, the following summary of the findings of this study offers one way to elicit answers. It also highlights the variables that have or could have high leverage in this support program.

A guiding principle for the approach taken in this study is that the structure of the program influences its behavior. Therefore, identification of the structures that are controlling the behaviors and events enhances our ability to optimize the functioning of the support program.

Goals and assumptions

Explicitly stated goals and assumptions are a critical component of any program. If the participants are operating with conflicting goals and different assumptions, the program's survival is jeopardized. Systemic modelling revealed that conflicting goals may be causing some problems. However, this situation is probably inevitable in such a complex system, at least in the short term. The best that can be done, perhaps, is to encourage all the participants to articulate their goals in order to reach some agreement and/or compromise on expected outcomes and how these outcomes will be measured. As previously mentioned, this would be a task for the regulatory system.

It would seem prudent to build on what has been

accomplished over the past six years because the system's behavior is generally congruent with the conditions outlined in the concept analysis. The project works with college staff to enhance their understanding of cultural influences on teaching and learning processes. The students are encouraged to develop skills that allow them to function successfully in their academic courses and at the same time respect for their culture is demonstrated. Cree culture is visible in the college. Although the Cree language is not taught as a college course, the support staff have attempted to gain some understanding of the language's structure and how this affects the students' writing in English.

The project's ability to be attentive to the communities' needs is limited and this is one area that must be targeted for improvement. As well, participation of community members such as elders and parents of students needs to be augmented. The postsecondary education system must be explained to parents so that they can be involved in educational decision making.

Inputs and outputs

Inputs of money, people, and material resources are critical to the program. These are transformed into outputs that feed back into the system (Figure 7, p. 99). The quality and quantity of these inputs determine in large part how well this support program can adhere to the value for bicultural understanding and how effectively it can respond to community needs. Not only cultural differences but also geographic distances separate the focal system from the CSB

in James Bay and the communities. Money spent on travel so that participants in the system can meet together makes the difference between a system that works to the benefit of all and one that benefits only a few.

Uncertain funding is now a major problem for the project. The focal system must look for alternative sources of funding and explore ways to use money efficiently. For example, the orientation for new students and/or a one year college preparation program might be offered in James Bay. Teleconferencing may be a way to maintain communication between the support program and the communities. I would not advocate the substitution of communication technology for direct, personal contact. Lack of personal contact limits the degree to which personal relationships develop. These are key to the success of this bicultural program. However, communication technology could be an adjunct to the other methods of communication that are already used by the support program.

Regulatory system

A third critical component of a support program is a regulatory system that recognizes influences and constraints from the environment and that monitors feedback loops. This structure is missing in the Cree student support program. The regulatory system could take the form of a research team that monitors changes in the system and generates corrective actions (for example, they could address the important issue of English, French, and Cree language skills). A group composed of representatives from the college, the CSB in

James Bay and in Montreal, students, and community members could develop a method for tracking Cree students' progress in postsecondary education. They could also carry out culturally appropriate research projects. The following suggestions for research and related activities arise from the insights gained in this study.

The research group might conduct a study to investigate the factors that influence Cree students' persistence and academic achievement. It would be interesting to determine if they are consistent with those identified in the literature. The literature review identified three broad perspectives that attempt to explain low academic achievement and persistence for Native students in mainstream education. Systemic modelling of the program revealed behaviors that respond to certain student characteristics (for example, personal problems, low level English language skills). I suspect that the fact that the more recent students have academic and social backgrounds that are different from those of the original group of nursing students could be a significant variable for this focal system.

Other behaviors of the focal system relate to the problems that are created for the students because of institutional characteristics (for example, culturally insensitive teaching practices and racism). The beneficially amplifying feedback loop between the focal system and the college is constantly resisted by deeply embedded Euro-Western approaches to educational practices. Recognizing that change is often resisted and can lead to both creative

and uncomfortable tension, the focal system must find ways to continue its movement toward the goal of balanced integration. Workshops and presentations for college personnel and students need to be offered by the focal system on an ongoing basis. Social gatherings in the teepee also lead to significant and enduring changes.

Culturally different communication styles are variables that cause deleterious delays in feedback. Several behaviors attempt to help with this, such as the orientation for new students which provides time for development of personal relationships with the support staff before school begins. Visits to the communities by college support project staff and other college personnel also promote more effective communication. The experience of the focal system has shown that both these activities have high leverage; that is they lead to significant improvements.

The focal system is aware of the socioeconomic and political structures that influence the students' progress in postsecondary education. It has made efforts to raise awareness in the college of different world views and of the rich cultural heritage of the Cree students. This support program most closely resembles Charleston's (1994) quasi Native classification in that it is situated in a mainstream institution and the students follow programs designed and implemented by non-Natives. I believe the classification of the program is a key variable. The focal system is making small gains toward heightening the presence of the Cree culture in the college. However, if the focal system does

not alter some structures, there will be a long delay before the Cree people are directly involved in program planning. Once again, the research team could facilitate this process.

Collaborative research might add strength to any funding proposals sent to the Ministry of Education. The research team could be instrumental in enhancing the students' alternatives at college by developing culturally responsive curricula. Attentiveness to the provisions of the JBNQA could facilitate this endeavor. For example, Cree language and First Nations history courses could be developed and provided by First Nations teachers.

Partnership

The most important function of the regulatory group would be to maintain a true partnership between the Cree and the non-Native educational institution; a partnership where data and information is interpreted and interventions are designed through negotiation and collaboration.

Institutions in the Western world tend to handle complex activities by dividing them up into smaller, more manageable parts. The danger is that no one has an overall understanding of how the parts interrelate. Well-intentioned subsystems may work hard to achieve their own goals. The outcomes may not benefit those for whom the whole system exists. Systems thinking provides a way to observe and monitor the student support project so that it can learn and adapt and continue to meet the needs of the participants in this educational challenge.

CHAPTER SIX

The Circle

In the opening chapter of this thesis, I indicated that the perspective was entirely my own. I hope that I have not misrepresented the history, culture, and aspirations of the Cree people. My understanding has evolved from my interpretation of the literature (both academic and non-academic) and the many experiences I have shared with the Cree students, their families, and other community members over the past six years. I am convinced that the work of this unique educational program has already made a significant contribution to the building of a bridge across the cultural divide. But I also recognize that many questions remain unanswered. Whether or not we can ever reach a "third cultural reality" remains to be seen.

It strikes me that the theoretical model of systems analysis fits very well with the Native holistic approach to life (and education). Our understanding of the short and long term effects of events and behaviors is limited by reductionist approaches. If we wish to nurture a broad, balanced and creative learning experience, we must perceive the educational institution not as an isolated system that imparts a specified repertoire of knowledge but as an environment that embraces the physical, spiritual, and intellectual potential of people and nations. In many ways, the college support program is a small-scale model for a holistic approach.

"Unto itself, the intellect is a sacred gift of the Creator, but equally, without an open, visionary and creative heart, there is no wisdom...Both are inseparably connected" (Lane, 1995, p. 21). Indeed, the intellect is only one of the four directions in the circle of life. When the intellect connects with the emotional, physical, and spiritual, the circle is complete. Throughout the writing of this document, I have attempted to model a process that blends standard academic practices (intellect) with storytelling (heart). My focus on concept analysis and systems theory has often been interrupted by my own and the students' lived experiences.

As I struggle with the design of feedback loops, the telephone rings and it is a student telling me that there has been another suicide in the community. Another student comes to my office in tears because she has just been called a savage who should return to where she came from. Or a note has been slipped onto my desk and it is a thank you for "all those little conversations of support and understanding". Te Hennepe (1993) explains her own difficulty with applying theory to her research into First Nations students' experiences in postsecondary education. "The theory collapses because the anguish the students felt at that moment cannot be captured in theoretical analysis" (p. 227).

The reflections of Marie-Louise Niquay offer some wise advice to those of us who are attempting to understand the educational needs and aspirations of First Nations people. Niquay shares the insight she gained from her conversation

with Kokomino Judith Kawiasiketct, an elder of the Atikamekw nation. "During my first conversation with her, Kokomino Judith ignored my first question and spoke about the people who used to live in the various sectors of Manawan. This information, which I at first thought was irrelevant, soon led me to understand that everything has a starting point and, if we ever hope to get somewhere, the beginning must never be ignored. That is the road to real power" (Niquay, 1995-96, p. 8).

I hope this thesis has illustrated how both cultures can be enriched when we listen to each other's stories and attempt to understand how our history, language, ways of knowing, aspirations, and lived experiences create circles of influence. The path to change is long and sometimes painful. It is also exciting - if one's perspective allows it to be!

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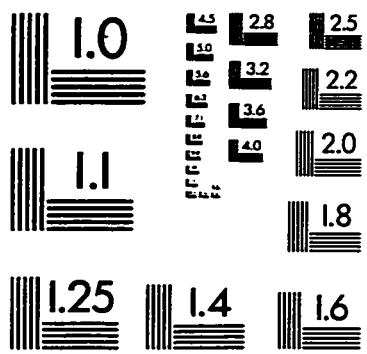

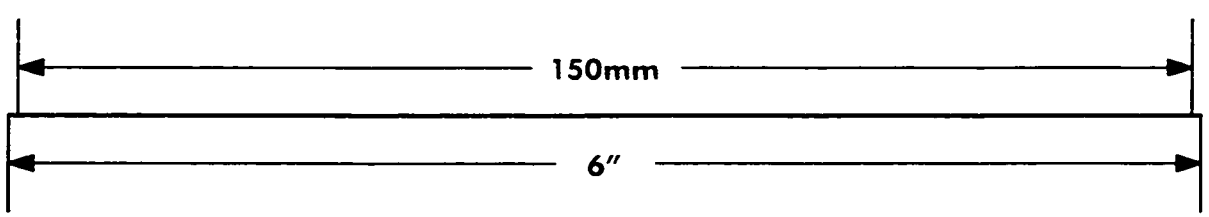

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