

THE UNIVERSITY OF CALGARY

NATIVE AND NON-NATIVE SOCIAL WORK STUDENTS
AND THEIR LEARNING STYLES

by

Grace E. Elliott

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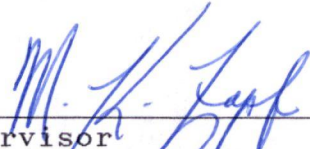
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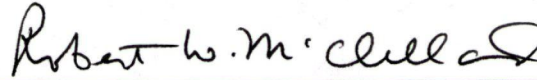


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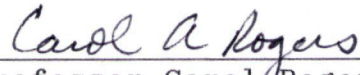
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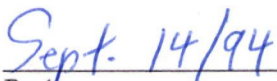
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ABSTRACT

The purpose of this quantitative-descriptive study was to examine the expressed learning style preferences of Native social work students and their non-Native counterparts. Data collection involved administration of the Gregorc Style Delineator, a widely-used learning style instrument. Two classes of first-year social work diploma students from an Alberta community college, (a mainstream class and a Native outreach class), completed the inventory. Statistical analysis indicated that the overall pattern of learning style scores between the Native and non-Native groups was highly similar, with the two groups, contrary to suggestions in the literature, appearing indistinguishable.

Warnings about overgeneralizing and stereotyping are discussed and implications for social work education are addressed. It is suggested that what is required on the part of social work educators is a culturally sensitive approach, and greater understanding of the learning needs of adult students in general and Native students specifically. It is recommended that further investigation be undertaken, using both quantitative and qualitative methodologies, in order to develop further understanding into the important and under-researched area of Native social work education.

ACKNOWLEDGEMENTS

I extend thanks to my first advisor, Dr. Nick Coady, for his assistance, feedback and support. I also want to express my gratitude to Dr. Michael Kim Zapf for taking over the responsibility as thesis advisor at the 'eleventh hour'. His patience, flexibility, and tolerance of my 'Abstract-Random' approach were much appreciated. His expertise and lucidity helped provide the structure and clarity often lacking.

I would be remiss if I did not mention the people from Grant MacEwan Community College's Social Work Program. Kay Feehan, Alan Knowles, and the rest of the faculty shared so generously their time, energy and resources as did the students who enthusiastically completed the inventories. I also want to acknowledge the late John Hutton who, although part of the beginning of this academic journey, departed early in the process. I regret not being able to share the conclusion with him, but smile as I reflect on conversations that we shared on Native social work education, on the challenge of completing dissertations, and on life...

Last, but certainly not least, thanks to Ken and David. Their unfailing humour and enduring support helped to sustain me in a way which words cannot address.

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NATIVE AND NON-NATIVE SOCIAL WORK STUDENTS
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CHAPTER ONE: INTRODUCTION

There is a growing body of literature addressing the notion of culturally influenced learning styles, with recent theory emphasizing the significance that North American Native culture plays in determining Native students' learning styles (More, 1990; Fiordo, 1988; Swisher & Deyhle, 1989; Swisher, 1991). Concern is expressed in the literature that Native students' learning styles may not be congruent with mainstream educators' instruction styles (Skinner, 1991; Swisher, 1991; Wauters, Bruce, Black & Hocker, 1989). There is a need for educators to gain a better understanding of both the process of Native learning and the means to more effective teaching of Natives.

Most social work educators begin to teach without any specific training in teaching and with little more than their experience and practice wisdom to guide them (Solas, 1991). The concern of this study is the perceived need for increased sensitivity on the part of social work educators to students' differing learning styles, specifically in relation to Native student populations. This quantitative-

descriptive study will compare the expressed learning styles of Native and non-Native Social Work students through administration of the Gregorc Style Delineator to the two groups: Native social work students in a community college outreach program, and their non-Native counterparts taking the same courses on campus.

Background and Rationale for the Study

Post secondary educational institutions attempt to both attract and retain Native students, who are described in the literature as having high academic failure rates (Swisher & Deyhle, 1987; Skinner, 1991). North American Natives have invariably been recognized as the most underrepresented of all minority groups in American colleges and universities (Crossland, cited in Wauters et al, 1989; Astin, 1982). Currently in Canada, "more Native adults are actively involved in formal educational pursuits than at any other time in recent history" (Foreman, 1991, p. 75). Similarly, at the present time, more Natives in Canada are receiving formal social work training than ever before. Personal communications with several instructors indicate a differentiation between their teaching experiences in mainstream and in Native outreach social work classes. Particular students in a community college Social Work

outreach program have articulated a need, while attempting to learn Social Work methodology, to flip "between their Indian mind and their western mind" (Zapf, 1993-b, p. 101). The Social Work Program of Grant MacEwan Community College, sensitive to a perceived difference in Native students' learning needs, allots extra hours of instruction to courses delivered in their Native outreach programs. It is evident that the perceived differences warrant further examination, and that the area of learning styles is an avenue worth pursuing in an effort to interpret the perceived differences. Increased knowledge of learning styles in relation to Native students may aid instructors in further understanding the perceived difficulties identified in some outreach Social Work classes. Increased knowledge about students' learning styles may be helpful in planning teaching strategies and learning experiences and has the potential to improve learning outcomes for students and instructors.

Wauters et al. (1989) describe research on learning styles of Native students as "still very new and technically unrefined" (p. 53). More (1990) points out disparities in the existing limited research. The gap in the current literature on Native learning in general, particularly in relation to Social Work Education, suggests a need for further study and knowledge development.

Native outreach education in Social Work is described

as "a relatively new endeavour" (Zapf, 1993-b, p.95). As Zapf suggests, there is a need for careful consideration and more understanding of what is involved in order to develop more suitable programs for Native communities.

Organization of the Study

The remainder of this thesis reports on the study introduced in this chapter. The second chapter reviews the literature pertaining to Native learning styles. It also addresses the limited body of knowledge regarding Social Work Education with Native populations. The third chapter presents the conceptual framework. The fourth chapter delineates the methodology while the fifth chapter comprises the results of the study. The sixth and final chapter includes discussion, recommendations and implications of the study's findings for Social Work Education.

CHAPTER TWO: LITERATURE REVIEW

Review of the Literature

Historically, much of the learning styles literature has been focused on children. More recently, the Adult Education literature has been applying the theory to adults and directing attention to a need for awareness on the part of educators of the relevance of learning styles. Available research on learning styles of Native students is relatively new and not yet an adequate foundation for planning programs (More, 1990; Wauters et al, 1989). The social work education literature has acknowledged the necessity for educators to have sensitivity to how students learn (Kruzich, Friesen & Van Soest, 1986; Solas, 1991). This study, while drawing from learning style theory in general, will concentrate on the literature pertaining to Native learning styles. It will also address the specific, yet very limited body of knowledge regarding Native Social Work education. In order to examine themes, and for greater ease of discussion, the literature review has been divided into four main categories: Learning Styles; Native Students and Learning Styles; Social Work Education; Summary.

Learning Styles

Definition

Learning styles is a construct which essentially describes the different ways people learn. Learning styles are defined as "the accustomed pattern used to acquire information, concepts, and skills" (Swisher, 1991, p. 2). The concept of 'learning style' originated in the study of individual differences (More, 1989). Learning style research emerged with the understanding of individual learning preferences and strengths, and with the recognition of a variety of approaches to the learning process.

An additional synopsis of how 'learning styles' is defined in the literature will help to clarify the meaning of the term. Della-Dora & Blanchard (cited in Kruzich et al, 1986) define learning style as "a personally preferred way of dealing with information and experience that crosses content areas" (p. 23). Keefe (cited in Hilgersom-Volk, 1987) defines learning styles as "characteristic cognitive, affective, and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment" (p 3). Hilgersom-Volk (1987) briefly defines learning styles as "unique internal processes that guide how we take in information from our environment" (p.3).

Major Theorists

The existing body of learning style research is unwieldy and defies immediate and concise classification. Those theorists discussed here will be limited to those cited most often in the literature: Kolb, Gregorc, Butler, Dunn & Dunn, and Hunt.

One useful framework for analysis of some of the theory, as proposed by Lawrence (1982) is based upon Carl Jung's description of personality types. Jung's work "calls attention to subtle variations in people, yet keeps focused on simple concepts of personality", and while learning style is far less fundamental than personality type, its "constructs are much more intelligible and useful" (Lawrence, 1982, p. 98). Lawrence offers the following summary of Jung's concepts as they are represented in the Myers-Briggs Type indicator:

Psychological types are patterns in the way people prefer to perceive and to make judgments. In Jung's theory, all conscious mental activity can be classified into four mental processes--two perception processes: sensing and intuition; and two judgment processes: thinking and feeling. What comes into consciousness, moment by moment, comes either through the senses or through intuition. Perceptions must be used to remain in consciousness. They are used, sorted, weighed, analyzed, evaluated and assigned into action by the two judgment processes: thinking and feeling. (p. 93)

Two renowned learning styles theorists, David Kolb and Anthony Gregorc, both of whom have devised learning style instruments, rely upon Jung's quaternary design to represent the tensions at work in the learning process. Both openly

acknowledge their debt to Jung. Kolb (1984) and Gregorc (1982) identify traits or ideas which must then be interpreted for application to learning situations. A more direct and highly prescriptive approach is taken by Dunn, Dunn and Price (1986, 1987), using self-reporting instruments that emphasize preferred perceptual mode. In contrast, Hunt's semi-projective instrument measures conceptual level, the factor determining the amount of structure required in a student's learning environment. Butler's (1984) work has involved building on Gregorc's research by translating it into specific applications.

Kolb. Kolb's Learning-Style Inventory (1985a), used largely within industrial organizations, relies upon the interactions among four basic adaptive modes (concrete experience, abstract conceptualization, active experimentation, and reflective observation) to identify four kinds of learners: accommodators, assimilators, convergers and divergers. Accommodators are "action-oriented, hands-on" learners who grasp experience concretely and transform it through active experimentation; their decisions are based on intuition rather than analysis (Kolb, 1985a, p.7). Assimilators are idea rather than people oriented; they prefer working with information and theory. These learners grasp experience through abstract conceptualization and transform it reflectively or intentionally. Convergers are interested in the practical

application of theory and excel at technical problem solving. They grasp experience through abstract conceptualization and transform it through active experimentation. Divergers are happiest when observing concrete situations, and considering all possibilities, but they are often reluctant to act. They grasp experience concretely and transform it reflectively (Kolb, 1984, 1985b).

Gregorc. Gregorc's Style Delineator (1982), and its predecessor, the Gregorc Transaction Ability Inventory (1978), were designed to "reveal two types of mediation abilities: perception and ordering" (Gregorc, 1982a, p. 5). Perceptual abilities are the means whereby individuals grasp information. This occurs either through 'abstractness' or 'concreteness'. "Concrete" refers to the immediate experience of new information, no matter how it is dealt with, while "abstract" refers to the mental representation of the experience (Bokoros, 1990). Ordering abilities ('sequential' or 'random') describe the ways in which information is arranged. The inventory, through measuring preferences, identifies four learning styles: Abstract Sequential, Abstract Random, Concrete Sequential, and Concrete Random. Out of a total of 100 points in all four quadrants, a learning style (or 'mediation channel') is considered dominant if the score is between 27 and 40 points, intermediate if between 16 and 26 points and low if

between 10 and 15 points (Gregorc, 1982). Davenport's (cited in Bokoros, 1990) findings suggest that there are many more concrete sequentials in the general population than there are other classifications. Butler (1984) provides a more in-depth discussion of Gregorc's work.

Butler. Butler (1984) has taken Gregorc's theory and has transplanted it into the classroom. In her work she has, in a detailed and practical way, illustrated the four different types of learners, including the instructional strategies and techniques preferred by each category (see chart, p.11).

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A STYLES SUMMARY CHART

Kathleen A. Butler, Ph.D.

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CONCRETE SEQUENTIAL *

The natural abilities of CS types are to:

- carry out tasks in a step-by-step way
- plan or organize their time
- follow directions, get correct answers
- work within structured conditions
- be accurate, precise, particular
- perform according to standards
- look for facts and information
- focus on detail and specific results
- create real, practical products
- look for useful, reliable results

CS learners work best when they:

- have an orderly, quiet environment
- know the accepted way of doing things
- have exact directions, examples
- can be consistent and efficient
- face limited change in predictable situations
- are given approval for specific work done
- can apply ideas in a practical, hands on way
- can answer, "How does this work?"
- trust others to follow through
- have guided practice with an organized person

CS types may have difficulty:

- choosing from many options
- acting without specific direction
- not having full explanation for change
- taking new approaches
- dealing with opposing views
- interpreting abstract ideas
- understanding feelings
- waiting, sitting still
- answering "what-if" questions
- using imaginative expression

To stretch their style, CS learners need to:

- step back to see the forest
- not react to first impression
- express their own feelings
- consider process in achieving products
- work with an organized divergent thinker
- hold back the need for immediate answers
- request explanations of others' views
- set reasonable limits on expectations
- accept that their "advice" may go unheeded
- value self-worth in addition to accomplishments

ABSTRACT RANDOM *

The natural abilities of AR types are to:

- reflect upon feelings
- be flexible and adaptable
- relate to others
- have sensitivity
- appreciate the arts, beauty, nature
- personalize information
- use imagination to create
- see a holistic view
- be part of a social group
- interpret feelings and ideas

AR learners work best when they:

- can work and share with others
- have assignments requiring interpretation
- get personal attention and emotional support
- have social activities to balance work
- can answer, "How can we interpret this?"
- have freedom from control by others
- have a personally satisfying environment
- use personal, individual, or artistic expression
- have open communication with others
- have a noncompetitive atmosphere

AR types may have difficulty:

- giving details and exact answers
- memorizing
- working alone for long periods
- working step-by-step
- working within time limits
- being corrected
- competing
- organizing plans
- concentrating on one task at a time
- working with authoritarian personalities

To stretch their style, AR learners need to:

- see the trees in the forest
- be aware of and focus on critical time limits
- react less emotionally to sequential demands
- look before they leap
- attend to important details, assignments
- explain fully before assuming others understand
- include objective data in decision making
- accept responsibility for products within time limits
- stick with a decision and follow through
- expect less emotional response from others

ABSTRACT SEQUENTIAL *

The natural abilities of AS types are to:

- debate points of view
- organize ideas in a logical way
- gather information and analyze ideas
- think in a structured way
- be patient learners
- judge value or importance
- examine key points and form theories
- research information
- concentrate on finding answers
- strive for intellectual recognition

AS learners work best when they:

- have reading references and expert sources
- are sure of themselves
- follow traditional procedures
- have time to learn material thoroughly
- can work alone
- are respected for intellectual ability
- ask, "Why is this?"
- write analytical essays
- rely on lecture notes and written materials
- do library research

AS types may have difficulty:

- expressing emotions constructively
- working in group discussion cooperatively
- writing creatively
- discovering unusual ways of doing things
- playing games and simulations
- making or creating physical products
- convincing others diplomatically
- being criticized
- taking a risk or facing the unpredictable
- experimenting with open-ended problems

To stretch their style, AS learners need to:

- see the lighter or humorous side of situations
- "take time to smell the flowers"
- be less concerned with perfection or itself
- place grades in perspective
- consider alternatives in a nonjudging way
- explore personal feelings
- try new experiences
- worry less
- listen rather than argue
- consider the results of nontraditional approaches

CONCRETE RANDOM *

The natural abilities of CR types are to:

- experiment to find answers
- discover new information and processes
- find possibilities, create change
- be independent
- consider solutions
- take calculated risks
- create unusual and varied approaches
- investigate "why"
- have a high degree of curiosity
- search for a variety of options

CR learners work best when they:

- can try new approaches and solve problems
- are self-directed
- are competitive
- create their own answers
- ask, "How many different ways can I...?"
- use trial-and-error approaches
- do brainstorming and open-ended activities
- produce real, but imaginative, products
- have options to prove their way works
- have hands-on experiences

CR types may have difficulty:

- pacing and meeting time limitations
- finishing projects when a new idea hits
- choosing one answer
- keeping detailed records
- doing formal reports
- being graded only on products
- having no variety, options, or choices
- working in a controlled environment
- following a lecture without being able to interact with speaker
- showing how they arrived at an answer

To stretch their style, CR learners need to:

- learn to prioritize
- follow through to complete products
- ask how their needs for change affect others
- integrate information with experiences
- ask others to provide reasonable deadlines
- learn pacing techniques
- delegate responsibility
- not make well-intended, but not possible, promises
- accept others' ideas without need to show another way
- realize the limitation of a situation and know when change is impossible

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Reference: Butler, Kathleen A. *LEARNING AND TEACHING STYLE IN THEORY AND PRACTICE*. Columbia, CT: The Learner's Dimension.
 *Chart interpreted from the original research of Anthony F. Gregorc, Ph.D.

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The degree to which learners are able to express their dominant learning styles depends in part upon the environment. "Environment may not always accommodate our needs or our desire to use our preferred, natural style but instead may call for one style of behaviour" (Butler, 1984, p.27).

In her interpretation of Gregorc's theory, Butler pays close attention to the notion of teaching style. She believes that teachers' learning styles determine how they translate curriculum objectives into classroom practice. She complains that too often learning is impaired by a learning style mismatch which affects academic achievement and student self-esteem. However, she does not believe, as do Dunn & Dunn (1978) that teaching and learning style should always be matched. She implies that consistent matching will lead to increased academic achievement and an improved self-concept, but may block personal growth and awareness. Consistent mismatching may lead to impaired academic achievement, low self-esteem and dropping out. Guided mismatch, however, may lead to students gaining new insights about themselves. For example, if a dominant Concrete Sequential instructor teaches an Abstract Random student, there may be conflict. However, the student's natural learning style may out of necessity adapt to the learning environment in order to be more compatible. Conversely, this theory allows teachers a starting point

from which to understand individual differences and to therefore begin to meet the needs of individual students. Using the example above, the dominantly Concrete Sequential instructor might show more flexibility with the Abstract Random student, encouraging them to flex their style rather than judging them as lazy, negligent, or a poor student. Butler suggests that it is possible and desirable for students and instructors to flex into nondominant learning styles in relation to the following aspects of the learning process: knowledge, comprehension, and application. However, she suggests that flexing and therefore mismatching styles is not effective in the synthesis and evaluation aspects of learning.

Dunn & Dunn. Dunn & Dunn (1978), acknowledge auditory, visual and tactual/kinesthetic perceptual modality strengths. They define learning style as "the manner in which at least twenty-one different elements of five basic stimuli affect a person's ability to absorb and to retain information, values, facts, or concepts" (Dunn & Dunn, 1978, p. 25). They conclude that learners are affected by five specific areas: immediate environment (sound, light, temperature and design), own emotionality (motivation, persistence, responsibility and need for structure or flexibility), sociological needs (self, pair, peer, team or varied), physical needs (perceptual strengths, intake, time and mobility), and psychological needs (analytic/global and

cerebral preference). Their research found that individuals' abilities to concentrate will vary depending upon their different reactions to levels of sound, light, temperature and type and arrangement of furniture. Some students may concentrate more efficiently and feel less anxious if they are allowed to eat, drink, chew gum or move around in the classroom setting. Not all students learn equally well at all times of the day. Students respond differently to the sociological dynamics of learning. While some students become anxious in an instructor-dominated environment, others may be unable or unwilling to learn from their peers. Students will vary in the amount of structure they require for efficient learning (Dunn & Dunn, 1978).

Dunn and Dunn, who with Gary Price developed the Productivity Environmental Preference Survey (1986), link diagnosis with prescription of specific teaching approaches. They believe that an individual student's learning style should be matched with the environment as much as possible. Their research found significantly increased academic achievement when individual traits were matched with complementary resources and environments. They suggest ways in which teachers can begin attending to their students' learning styles. One alternative is to modify the classroom environment by allowing for differences in sound, light, temperature, and design. Many practical suggestions are

given for "effectively redesigning any classroom in one hour and with no money" (1986, p. 42). Another alternative suggests that teachers can begin working with students by paying attention to modality strengths. Students are introduced to new information through their dominant modality (auditory, visual or kinesthetic). The concept is reinforced through a secondary modality and reviewed again through the weakest one.

Hunt. Hunt (1981) emphasizes the need to match learning style theory with teaching strategies. He sees learning style as describing students in terms of "those educational conditions under which (they are) most likely to learn" (Hunt, 1979, p. 27).

Hunt's strategies for matching learning style with environment differ from those of other learning style theorists in that they are based on the principle of compensation rather than preference. His system classifies learners as needing very much structure, much structure and less structure. He focuses on the notion of "conceptual level" (1979, p. 28), emphasizing increasing self-responsibility as the primary variable in determining a student's needs in an educational environment. The instrument designed for assessing conceptual level is the Paragraph Completion Method (PCM) (Hunt, Butler, Noy & Rosser, 1978). Learners with a low conceptual level (CL) are "categorical, dependent on external standards and

incapable of generating their own concepts" in contrast to high conceptual level learners who are "capable of generating new concepts, having a greater degree of internal standards and taking on different perspectives" (Hunt, 1971, pp.43-44). Students who are low in CL will learn most effectively in a "highly structured environment," while those with a high CL may learn best in a "low structure environment, or learn equally well in a variety of environments" (Hunt, 1982, p. 89).

Despite Hunt's contention that teachers are the best assessors of learning style, he does point out that they often equate learning style with ability. Hunt notes that students who require structure will have a "wide range of ability" (1979, p. 30) and, in fact, many students with high ability need structure. Low ability students are less likely, however, to function well with little structure. "Therefore, learning style and ability show a low, but significant relation, yet they are distinct from one another. Further, the relation decreases as students grow older" (Hunt, 1979, p. 30).

The PCM is unique in that it is semi-projective rather than self-reporting, based upon Hunt's objective to assess Conceptual Level by determining how people think. Adults are expected to respond in two minutes to each of six paragraph completions. Scoring the PCM is a complex process wherein markers are constantly expected to look beyond

content and to consider the answer's thought structure.

Connection Between Teaching Style and Learning Style

Teaching style has been described as "a set of distinctive behaviours which places mediation demands upon the mind qualities of both the learner and teacher" (Butler, 1984, pp. 51-52). An extensive body of research has suggested that if teaching style and the instructional environment are matched with student learning style, learning will be enhanced (Dunn, 1982; Butler, 1984; Kreuze & Payne, 1989; Wauters, Bruce, Black & Hocker, 1989). Swisher (1991) calls teaching style "the other half of learning style" (p. 3) and believes that it is essential for teachers to know their own learning style strengths and related teaching style proficiencies. She suggests that instructors observe students' preferred ways of learning and plan learning experiences accordingly, thus providing an appropriate match.

Corlett (1993) discusses the implications of learning styles research for the training of teachers. She sees it as crucial to teach future teachers to identify their learning style and subsequently to "flex their (teaching style) to meet the needs of future students who learn differently" (p. 62).

Kreuze & Payne (1989) contend that students learn most effectively when the teaching methods used fit their

preferred learning styles. They assert that when there is a mismatch between teaching style and the learning style preference of students, "students can experience feelings of insecurity, frustration, anger, anxiety, alienation, and futility" (p. 167). They believe that instructors should recognize that students do learn differently, and that what may be the best teaching method for some students might actually discourage others. They allege that "by teaching to the particular learning styles of students, learning outcomes have been found to improve" (p. 167).

Gregorc (cited in Hilgersom-Volk, 1987) believes that teachers must learn to honour their own individual learning styles and emphasizes the responsibility of teachers to attempt to facilitate the true ability of the learner. He emphatically addresses what he sees as serious implications in not doing so, stating that "to purposefully cause mental distress by presenting materials in ways that they (learners) cannot truly fashion and handle, is indeed a moral issue" (p.5).

Not all learning style advocates share Gregorc's extreme position regarding individualizing instruction for students. McCarthy (cited in Hilgersom-Volk, 1987) takes the stance that students should learn how to adapt to a variety of different learning styles rather than expecting instructors to individualize. She states that "the real meaning of learning style theory lies in the process

required to move all learners through a cycle of learning that encompasses all four styles while still honoring and developing the uniqueness of each style" (p.5).

While most of the learning styles literature related to adults implies the importance of a match in style between instructor and student, a study by Thompson & O'Brien (1991) actually had contradictory findings. They used the Gregorc Style delineator to determine the dominant styles of both teachers and students in a community college. Contrary to what the majority of the literature suggests, their data analysis implies that students whose learning styles were mismatched with the styles of their instructors tended to obtain higher course marks. It could be argued that whether there is a match or mismatch between student and instructor, the actual awareness of learning style preferences is important in order to provide effective teaching. For instance, an instructor who is aware of a mismatch between his/her teaching style and students' learning styles can utilize "bridging techniques" (Lundstrom & Martin, 1986, p. 273) to enable students to adapt to the learning environment.

Related Variables

Several studies support the belief that culture influences learning (Griggs & Dunn, 1989; Wiesenbergs, 1990; Rosin, 1993; Zhang, 1994). Other research has suggested

additional variables that may also be related to differences in learning styles. These include age (Griggs & Dunn, 1989; Bokoros, 1990; Kruzich et al, 1986; Wiesenberg, 1992; Zhang, 1994), gender (Griggs & Dunn, 1989; Belenky, Clinchy, Goldberger & Tarule, 1986; Wiesenberg, 1990; Rosin, 1993; Zhang, 1994), work experience (Kruzich et al, 1986), and levels of education (Belenky et al, 1986).

Native Students and Learning Styles

"Native", for the purposes of this study, refers to people who are indigenous to North America and who identify themselves culturally as one or more of the following: Aboriginal, Indian, Indigenous, Native or Metis. The term is used interchangeably with the term "Aboriginal" throughout this study.

Native Students

The unique characteristics and needs of Native students have been discussed and debated in the literature. There has been considerable attention paid in the literature to right and left hemispheres of the brain, promoting the belief that Natives are 'right-brained' (Browne, 1990; Chrisjohn & Peters, 1986-a, 1986-b). Proponents of the right brain theory have "neurological support for

specialized forms of processing in the right and left hemispheres of the brain" (Bokoros, 1990, p. 12). Bokoros discusses the work of several theorists supportive of hemispheric specialization. The linear, logical left hemisphere could be paralleled to Gregorc's 'Concrete' descriptor and the more holistic, relational right hemisphere with his 'Abstract' delineation. Chrisjohn & Peters (1986-b) refute all the right-brain defenders, pointing out the potentially harmful effects of over generalizing.

Some research (Kaulback, 1984; Kleinfeld & Nelson, 1991) identifies two distinctively different child-rearing practices. This difference,

one stressing observational learning and another emphasizing learning through verbalization - has fostered the development of very different styles of learning among Native and white children (with white children) oriented toward using language as a vehicle for learning... Native children have developed a learning style characterized by observation and imitation. Such differences in learning styles have far reaching consequences in the formal education of Native students, particularly in view of the fact that the formal educative process almost always favours those who are highly verbal. (Kaulback, 1984, p. 34)

Similarly, Kleinfeld (1991) hypothesizes that Native American children would do better if instruction were not verbally saturated and drew more on visual and spatial abilities.

Diessner & Walker's (1986) study suggested that there are common factors in 'cognitive style' among Native learners. It found statistically significant patterns

demonstrating that spatial ability was indicated to be greater than sequential ability which was indicated to be greater than verbal conceptual ability. From these results, they concluded that instructors of Native students should "search for curriculum materials that use a spatial, visually presented format" (p.99). Kleinfeld (cited in Sawyer, 1991) disagrees:

While acknowledging that Native learners may indeed have a visual learning preference, for instance, she examines several studies that failed to demonstrate increased learning on the part of Native students when the information was bolstered by visual materials. While the studies she cites are few, sketchy and suspect (only still visuals were used to reinforce narrow, very possibly irrelevant content), she argues persuasively that the real value of research into Native learning patterns "does not lie... in telling teachers to 'match' instruction to high/low verbal ability patterns. It lies rather in helping teachers understand the cultural context in which they are working so that they can respond with better judgement. (p.101)

This view lends support to theories emphasizing cultural sensitivity in the study of Native education and learning styles. Swisher (1991) points out that "in many Native societies, the humility of the individual is a position to be respected and preserved. Advancing oneself above others or taking oneself too seriously violates this key value" (p.2). She concludes that natives learn best cooperatively, and "will experience discomfort and conflicts in classrooms that are too competitive or in which the competition is unfair" (p. 2). This view is compatible with Gregorc's description of how Abstract Random learners best learn (i.e.

in a non-competitive environment) (see chart, p. 11).

Skinner (1991) emphasizes the importance of incorporating Native culture and language in the classroom. She suggests that programs need to be "relevant to the present lives and future goals of students" and "reflective of their ancient and dynamic contemporary cultures and their diverse languages" (p.27).

Fiordo (1988) emphasizes the importance of traditional wisdom, which has been "devalued as primitive"(p.25) and encourages the use of traditional Native teachings such as ceremonies, stories and legends. This view is compatible with Gregorc's description of how abstract sequential learners benefit from following traditional procedures (see chart, p. 11). In the same vein, Kawagley (1990) discusses traditional ways of acquiring knowledge in a native culture, emphasizing use of myths, intuition, visions, dreams, and spiritual interaction. He sees elder participation as critical to learning, and suggests beginning with the environment, "which insures cultural sensitivity and relevancy because it is something elders are most intimately in tune with" (p. 15). His description also fits most closely with Gregorc's Abstract Sequential learning style (i.e. relying on 'experts' such as elders).

Tijerina & Biemer (1988), in their work on Native higher education, contend that Native adult students tend not to ask for assistance. They say that these students

"have responded well to peer tutors of the same background, and appreciate being intentionally invited... rather than having to seek it out and ask for help" (p.93). This fits with Gregorc's suggestion that Abstract Random learners work best when they can work with others (see chart, p. 11).

The literature suggests that there are a number of factors working against the success of Native students in the classroom. For example, Collier (1993) suggests that non-Native educational institutions "emphasize time and time management in a way foreign to many Natives" (p. 115). This is congruous to Gregorc's Abstract Random learners, who are described as viewing time as artificial and restrictive (Gregorc, 1982) and as needing to become aware of and focus on critical time limits in order to stretch their style (Butler, 1984).

Educators and researchers have attempted to understand the complexity of the causes of disproportionately high academic failure rates among Native students (Swisher & Deyhle, 1987; Skinner, 1991; Tate & Schwartz, 1993). In response, Native learning style research has evolved by focusing on cultural orientation as one possible aspect that might affect an individual's approach to the learning process (More, 1989).

Native Learning Styles

A review of the Native learning style research suggests

differences in learning styles between Native and non-Native students (More, 1987, 1990; Kaulback, 1984; Swisher & Deyhle, 1989; Swisher, 1991). Although a distinctive Native learning style is not clearly evidenced in the research, the descriptions in the literature appear to correspond most closely to Gregorc's Abstract Random learning style. There are also similarities, as mentioned, to his Abstract Sequential classification. The results of the various studies can be used as a basis for recommendations for developing more effective learning environments for Native students.

The literature on Native learning styles is described as providing varying and inconsistent explanations of the term 'learning styles' (More, 1990; Sawyer, 1991). Sawyer (1991) complains that the Native learning style literature offers conflicting definitions of learning styles and is critical of what he perceives as "the inclusion of cultural and personal factors beyond the usual view of learning style as cognitive patterns, dangerously generalized conclusions, and a confusion between student learning styles and teacher behaviours" (p. 102). In an attempt to gain greater understanding into what conditions, qualities and circumstances might facilitate more effective learning, some theorists appear to have broadened the original definitions of learning style to incorporate cultural considerations and personal elements. Some theorists, convinced of the

imperative match between learning style and teaching style, seem to have blurred the distinction between the two. These trends may not be problematic, but Sawyer obviously reacts with discomfort.

In his discussion of the existing literature on Native learning styles, Sawyer (1991) reports that "the most commonly accepted and widely publicized Native learning style characteristic is the often reported preference for visual (as opposed to verbal and kinesthetic) learning" (p.99). Kaulback (1984) refers to several studies that suggest a visual learning preference. He attributes this visual orientation to child rearing practices emphasizing observation and imitation. Since Gregorc does not discuss the notion of visual, verbal and kinesthetic approaches to learning, it is difficult to draw parallels. However, his description of Abstract Sequential learners' might be interpreted as fitting with observation and imitation of expert elders, which is compatible with, if not analogous to, a visual approach.

In examining the notion of Native learning style characteristics, Swisher & Deyhle (1989) conclude:

The body of research which examined learning styles of American Indian students, although small, does present some converging evidence that suggests common patterns or methods in the way these students come to know or understand the world. They approach tasks visually, seem to prefer to learn by careful observation which precedes performance, and seem to learn in their natural settings experientially.... What is clear from the research is... that American Indian students come

to learn about the world in ways that are different from mainstream students. (p.5)

Although there has been much discussion in the literature about a visual learning preference on the part of Aboriginal students, Kleinfeld (cited in Sawyer, 1991) disagrees. She suggests that educational institutions examine approaches to teaching that instructors have found effective with Native students and asserts that such approaches "rarely include visually based instructional techniques" (p.101).

Guilmet (cited in Sawyer, 1991) concludes that Native students learn primarily through nonverbal means. He further suggests "that Indian students' tendency to be less verbal in the classroom is also attributable to 'interference theory'--Indian students speak less because classrooms are not structured to allow Native students to display their verbal competence" (p.100). Further support for this theory comes from Dumont (cited in Sawyer, 1991) who states that "classrooms that emphasize teacher dominance, formal lecturing, spotlighting, and low tolerance for dialogue produce ... 'the mask of silence' " (p.100). These theorists suggest a need for reexamination of how training is delivered to Aboriginal students.

Swisher (1991) cites several studies showing that in some Native tribes, "observation, self-testing in private, and then demonstration of a task for approval are essential

steps in learning. Indian children often hesitate to participate in large and small-group recitations, but are talkative during interactions with the teacher or student-led group projects" (p.1).

There is concern expressed in the literature that undue attention is paid to perceived learning inadequacies in Native students. More (1984) asserts that efforts to ameliorate educational achievement of Native students have "too frequently emphasized a 'deficit approach' concentrating on overcoming weaknesses" (p. 1). He acknowledges that "learning style has the potential for emphasizing strengths" (p.1). In a similar vein, Swisher & Deyhle (1987) discuss "culturally congruent educational practices" and believe that "an environment which communicates that cultural differences are strengths and not deficiencies, is the first step in addressing the educational problems of... Canadian Indian students" (p. 357).

While not specifically using More's 'deficit approach' terminology, Skinner (1991) is critical of the "commonly held belief that the 'inability'" (p.1) of Native students to fully benefit and excel academically is largely due to their cultural background. She equates this to 'blaming the victim' which she sees as compounding the problem. She goes on to quote Deloria (1990) who suggests:

If we now...redefine Indian education as an internal Indian institution, an educational process which moves

within the Indian context and does not try to avoid or escape this context, then our education will substantially improve. (p.1)

Learning and Instruction - Cultural Congruence

The literature suggests that a contributing factor to the poor academic achievement of Native students is a lack of fit between education and culturally based Native learning styles (Foreman, 1991; Skinner, 1991; Swisher, 1991; Wauters, Bruce, Black & Hocker, 1989; Tate & Schwartz, 1993; McAlpine & Taylor, 1993).

Kleinfeld et al. (cited in Swisher & Deyhle, 1987) state that "cultural discontinuities found in value patterns, participation structures, (and) communicative styles are some fundamental causes of low academic achievement on the part of many American and Canadian Indian (students)... and the remedy is to develop culturally congruent approaches to schooling" (p. 357).

Although the current study does not address actual academic achievement of the participants, there seems to be a need for further research into the relationship between what Swisher & Deyhle (1987) term "culturally congruent schooling" (p. 357) and academic performance. However, as Kleinfeld et al (cited in Swisher & Deyhle, 1987) warn :

research supporting the cultural congruence hypothesis must show: (a) when teachers use a culturally congruent approach, learning (or any other positive outcome) increases; and (b) the approach believed to be culturally congruent has more of an effect for the

cultural group in question than for other groups for whom the practice is not culturally congruent. In other words, the practice is not simply "good teaching". (p.358)

The literature refers to the process of teaching to the learning style strengths of the students. Fiordo (1988) suggests that "educators should teach Native students in a style in which they are accustomed, when presenting new information. Once the new information is familiar to the students, presentation may be given in a different way" (p.26). Pepper & Henry (1986), and Henry & Pepper (1988) advocate a holistic approach such as is found in Adlerian theory. They suggest presentation of classes, exercises and tests in the Native students' learning style at least two thirds of the time and in a different manner at least one quarter to one third of the time "to encourage growth and adaptation while diversifying the teaching strategies..." (1986, p.26).

Kleinfeld (cited in Sawyer, 1991) in her "seminal study" (p.101) concluded that "effective instructors of Native students displayed two primary characteristics: personal warmth (vs. professional distance) and active demandingness (vs. passive understanding)" (p.101). She suggests:

learning for Native students tends to be more of an interpersonal activity (as opposed to goal-oriented, impersonal activity), establishing close personal relations with Native students is essential if an instructor is to be effective. On the other hand, if the instructor is not actively demanding -expecting and pushing for excellence- students whose school

experiences have been negative and whose self-esteem has been battered may avoid academic situations and work below their capacity. (p.101)

According to Foreman (1991), the research on Native learning styles suggests "that some of the problems experienced by Native learners... are culturally based" (p.74). More (1984) contends that in the past, "attempts to bring cultural relevance to Indian students... have focused (sic) largely on curriculum--the content, rather than on instruction--the process" (p. 1). Swisher (1991) describes Native cultural styles of learning which "do not match the learning environment of the typical classroom" (p.1) and encourages teachers to create a fit by observing students' preferred learning styles and adjusting their teaching accordingly.

In their research into educational conflicts experienced by American Native youth, Swisher & Deyhle (1987) distinguished between "learning style, the way in which knowledge is acquired, and interactional style, the way in which knowledge is demonstrated" (p. 346). They state that teaching styles have not been adapted to students' existing styles of learning and interaction, and that Native students are required to change their learning style to fit that of the institution. They further complain that "those who do not change do not fit. It has not occurred to educators until recently that the school can adapt and change... without sacrificing quality" (p. 346).

They go on to state:

Many Indian students come to school with a learning and interactional style that is very different from the style of learning and interaction they encounter in the classroom. Not only are Indian students faced with learning new concepts, but they must also become participants in a new cultural context; a context whose social organization is often not in congruence with their cultural and/or community norms. It seems paramount to remind (instructors)... that effective classroom learning styles and the context in which they exist need to complement or overlap with the learning styles and context present in the (student's) non-school environment" (Swisher & Deyhle, p. 357).

Skinner (1991) emphasises that "educators must learn how to respectfully incorporate learning within a Native context, and Native context within the learning structure"(p.26). She acknowledges that Native students are "most often forced to grow up experiencing at least two very different, and usually conflicting views of the world in which they live" (p.26). She contends that:

Educators must come to understand the difficult, and often traumatic cultural and linguistic conflicts that Native students undergo as they attend schools of the dominant society. Because of the incongruity of the conflicting cultures, insecurity, ambiguity, and alienation are common results....Alienation leads to failure, anger, hopelessness, confusion, and in many cases directly to dropping out of school altogether. (p.27)

Social Work Education

Related Learning Style Research

The social work education literature has paid little

attention to learning styles and related teaching styles. Solas (1991) calls adult learners and their educators "neglected species in social work education" (p.19). He complains that the basic process of teaching and learning has not received the attention it deserves and that "only infrequently...have educators undertaken to advance more comprehensive analysis of teaching and learning in social work education and practice" (p.19).

Rennison (cited in Solas, 1991) is critical of social work educators for not paying sufficient attention to student learning. She states that they "do not recognise sufficiently the expertise of educationalists or consult them, or learn from their research. They use traditional and discredited ways of university teaching, then fall back on counselling to remedy the resulting deficiencies in the student" (p. 19).

One study which does address this neglected area is Kruzich, Friesen and VanSoest's (1986) research using Kolb's Learning Style Inventory to investigate learning styles in social work students, faculty and field instructors. Their results described faculty as a group to be most often Convergers (preferring abstract conceptualization to concrete experience) in contrast to a majority of field instructors and graduate students being Divergers (emphasis on ideas and a tendency to be more emotional and imaginative). They emphasize that a knowledge of learning

styles and of the strengths and weaknesses of each style can have the consequence of greater acceptance and openness to learning from the styles of others "rather than becoming a source of tension and misunderstanding" (p. 29). They point out that the same could be true for the differences their study found "between direct practice faculty and policy faculty, between faculty and field instructors, between faculty and students, and between field instructors and students" (p. 29).

If little attention has been paid to teaching and learning styles in social work education in general, there has been even less research in this regard in social work education with Native students. In the limited available literature, the notion of learning styles and teaching styles is rarely mentioned.

Experience From Native Programs

The profession of social work employs a person-in-environment perspective (Compton & Galaway, 1989). Thus social work education with Native students cannot, in good conscience, ignore the Native cultural context of the students. Too often, social work programs have consisted exclusively of western, urban oriented curriculum, texts and instruction. Paziuk (1992), in emphasizing the importance of maintaining community connections, recognizes that delivery of programs must be accomplished differently from

mainstream social work programs.

Tate & Schwartz's (1993) study explored the factors associated with Native students' lower graduation rate from social work schools and other professional programs. They identified three categories of difficulties for Native social work students: "difficulties in acculturation, problems associated with being a non-traditional student" (p. 21), and lack of faculty support. Their suggestions for improving Native social work student achievement include introducing Native student support groups, cultural awareness for non-Natives, and the use of faculty and peer mentoring activities.

There has been frequent mention of spirituality with regard to Native social work education (Feehan, 1993; Colorado, 1993-b). Feehan asserts that "Western instructors must recognize the spiritual significance of the many concepts and beliefs they will encounter in the teaching process (with Native students)" (p. 20), acknowledging that "many social work educators, however, ignore the spiritual aspect and remove themselves from the experiences of their students" (p. 21). She points out that the American Council on Social Work Education is amending its accreditation standards "to re-instate references to spirituality as a valid topic for social work educators" (p. 20). This is compatible with a culturally sensitive approach, and represents an area requiring further attention

and investigation in Social Work education of Native students.

Colorado (1993-a) criticises a tradition which permits instructors "to teach from a monocultural paradigm while being in a bicultural setting" and ignores "the spiritual/metaphysical aspects of causality (the essence of Native Mind) because the western belief is that spirituality can be separated from physicality" (p. 71). She speaks of the opportunity to try to fit "the western mind with the nature-based mind of Native Americans" and addresses the complicated challenge of Native outreach education, with "two sets of social rules" and "historically antagonistic ways of thinking (p. 67). She describes Western protocols as "quite clear" (with rules based on a teacher-student relationship) and Native protocols as "not nearly as simple," with the classroom representing "the convergence of western, linear thought and its hierarchical pedagogical form, with the holistic processural knowledge system of the global indigenous family" (p. 67). Colorado emphasizes the necessity of teaching social work from a Native perspective while respecting Western social work curriculum.

DeMontigny (1992) describes student complaints of one social work program violating Native values:

First the problem of individual grading and competition tends to violate many Native students' sense of 'collective' resolution of tasks. Second, the constant demand by faculty that students question, probe, and

doubt violates their attitude of 'respect' for elders, authority, and spirituality. Students experience the demand for detailed questioning as 'disrespectful'. (p. 80)

This suggests the need for a culturally sensitive approach to Native social work education. The cooperative (versus competitive) nature described by DeMontigny fits with Gregorc's Abstract Random Learner.

Feehan (1993) describes the challenging goal of training Native people for the social work profession "in harmony with the culture and values of the aboriginal people while maintaining the integrity of the curriculum" (p.8). The experiences of Zapf (1993-b) and Colorado (1993-a) suggest merit in a team teaching approach with a 'Western' instructor responsible for 'Western' social work content and a Native instructor responsible for Native awareness and relevant social work content. Students would be active partners in such a "two-way process" (Zapf, 1993-b, p. 95). Demontigny (1992) also emphasizes the necessity of a reciprocal rather than a one way exchange in such a setting. This is compatible with Kelly & Nelson's (1986) "non-traditional educational model" (p. 42) for Native social work Education, stressing the principle of 'mutuality' between social work educator and Native student. Similarly, Brown's (1992) "interface teaching model" for Native social work education features a collaborative approach to instructor-student teaching and learning, involving "discovering with students" (p. 52) rather than lecturing to

them.

One student, who had worked as a social worker for her band prior to having any formal training, speaks of the positive impact of a culturally sensitive approach in the classroom (Beaulieu, 1993). She describes the class 'morning circle' as "a vital part of the students' academic life" and indicates that Native rituals in the class gave back "faith and hope in ourselves and others" (p. 195). From a student perspective, she makes an argument for emphasis on the cultural component of Native social work education.

Another student account supports inclusion of an element involving Native culture and spirituality. She describes the involvement of Native elders and spiritual advisors as a component which balanced the two worlds in which Natives lived and learned (Peacock, 1993).

Wright (1993) suggests that instructors of Native students seek out real understanding of students' behaviour, claiming that too often "instructors judge students on their behaviour, which emphasizes the power difference and causes resentments that can lead to difficulties in learning" (p.61).

Macias (1989), in her study of Native M.S.W. students, discusses how Native students are described by researchers. She asserts that "it is imperative that higher education acknowledge that... grammatical and vocabulary deficits are

superficial indicators of verbal ability which often camouflage the more fundamental skills of knowledge synthesization and analytic reflection characteristic of the Indian students ... studied" (p. 51). Her findings contrast with those theorists proposing that Natives learn best visually and have difficulty with lectures and assigned readings (Diessner & Walker, 1986; Kleinfeld, 1991; Guilmet, 1981). In acknowledging a strong ability to synthesize knowledge as a cognitive skill identified by researchers as characteristic of aboriginal people, Macias (1989) suggests that multiple choice testing is inappropriate for Native students and that essay questions fit with their cognitive strengths. Her description of Native social work students' strong ability to synthesize knowledge is compatible with Gregorc's description of Abstract Sequential learners (see chart, p. 11).

Summary

Learning Styles and Native Social Work Education

Learning Styles appears to be a useful construct for examining the different ways people learn. There is evidence in the literature that Native students learn differently from their non-Native counterparts, as well as some empirical support using learning styles research.

The Gregorc Style Delineator is a popular learning style instrument, widely used in post secondary education in Alberta. The literature suggests that the majority of the general population is dominantly what Gregorc terms Concrete Sequential (Davenport, 1986; Bokoros, 1990). Meanwhile, existing research has described Native students as learning in such a way that fits most closely with Gregorc's Abstract Random classification. Also, the research suggests some parallels to Gregorc's Abstract Sequential categorization. Gregorc (1982) suggests that most people are naturally predisposed to function best using one or two mediation channels. The literature seems to suggest that the perceptual abilities of Native learners (the means by which they grasp information) would be more likely to be 'abstract' (relating to the abstract world of feeling, emotion and intuition) than 'concrete' (relating to the concrete world of facts, figures and structure) (Gregorc, 1982) and that the two primary styles or mediation channels of Native learners would likely be Abstract Random and Abstract Sequential rather than Concrete Sequential and Concrete Random.

Although Native social work programs are currently being developed, the use of learning styles has not been explored in Native social work education. Since the existing knowledge in the area is so limited, it is an appropriate focus for investigation.

A Final Caution

Butler (1984) cautions against using Gregorc's learning styles labels in a way which might "confine identity... by insisting on simplifying a person's being to a series of characteristics" (p.43). In relation to this study, this warning could be broadened to a caution not to use information about learning styles in a way that would pigeonhole, overgeneralize or narrowly categorize Native students.

Several Native learning styles theorists discuss the danger of stereotyping (Collier, 1993; Foreman, 1991; Kruzich et al, 1986; More, 1989; Swisher, 1991). Pepper & Henry (1986) emphatically deduce that since there is "no absolute Indian behavioral learning style" (p.58), instructors of Native students must "guard against stereotyping Indian learning style" (p.59). Although research suggesting accommodating Native learning styles is acknowledged, they respond as follows:

Perhaps there is another danger hidden in the exclusive use of such strategies. Could it be that the exclusive use of an ... (aptitude treatment interaction) approach may actually contribute to forcing our Indian students into another stereotypic posture (i.e. "Indians are non-verbal and visual, so don't expect anything from them verbally")? (p.60)

Native people come from a vast range of diverse and distinct cultures and tribes, making it inappropriate to generalize. Furthermore, Natives are described as "individuals who differ dramatically from one another, even

within their own communities" (Swisher, 1991, p.2). In her research into American Indian and Alaskan Native learning styles, Swisher (1991) warns that "although group characteristics may provide a basis for further investigation into individual characteristics, overgeneralizing group tendencies can have the ill effects of stereotypic notion, discriminatory practice, and inappropriate excuses for failure in teaching and learning" (p.1). While acknowledging that knowledge about group characteristics is important, she states:

Such knowledge, however, is not much help when it comes to individual learners. Diversity within cultural groups exists and reveals itself as differences among individuals in language use, child rearing, and formation of social networks. The degree to which members of a group absorb customs from the larger society ("macroculture") also determines diversity within the group. For this reason, assuming that a particular group will have a particular learning style is not a good idea. (Swisher, 1991, p.2)

Arbess (cited in Sawyer, 1991) warns against "stereotyping or making assumptions about Indian learning or behaviour patterns" (p. 101) without verification.

Similarly, McCarthy (cited in Hilgersom-Volk, 1987)

cautions:

We must exercise great care not to make our students objects in this enterprise. We could easily do this by embracing narrow definitions and prescriptive structures that do not move, grow, or evolve. Rather we need to use learning styles to lead our students to see the beauty of their own uniqueness. (p. 5)

More (1989) acknowledges the necessity of caution in over emphasizing learning style differences, recognizing

that it may:

lead to a new form of inaccurate labelling and stereotyping of Native Indian students, or, even worse, diagnoses of brain differences or genetic differences. Misplaced emphasis could result in a focus on the weaknesses of Indian students rather than on their strengths. The reader is reminded that the most effective application of learning style theory lies in the greater understanding and ability to adapt to individual differences, and in identifying and building on the strengths of Indian students. (p.25)

Chrisjohn & Peters (1986) discuss a variety of sources who claim that Native North Americans have right-brain dominance. They think that many of the 'right brain' theory advocates have relied on second hand interpretations rather than on actual research findings and argue that such an approach is "a quick fix method that fails to consider other aspects of the curriculum and education system" (p.62). They consider it invalid stereotyping which must be considered as "myth rather than a scientifically valid fact" (p. 62) and warn against the harmful repercussions.

While it is important to acknowledge the dangers of overgeneralizing and stereotyping, it is also necessary to recognize the possible value of learning style research for the design and delivery of Native outreach programs. This study in no way attempts to make conclusive generalizations or to assign Native learners to distinct categories. However, the literature does suggest certain patterns and implications of learning styles that appear worthy of study and may have relevance for the design of social work education programs for Native students.

CHAPTER THREE

Conceptual Framework

The problem under investigation is the perception, based on the literature, that Native social work students may have different learning style patterns from their non-Native counterparts. Unaware of the learning and teaching strategies which may be more effective with Native populations, social work programs may not be providing the most appropriate learning experiences for Native students. Consequently, Native students may not be meeting their learning requirements in a way that would best prepare them for social work practice. In other words, there could be a gap between conventional social work education and learning needs of Native students. Learning styles research is one of several possible ways of investigating the gap. This study investigates the potential differences in learning styles between Native and non-Native Social Work students in order to consider recommendations for social work education.

The independent variable in the study is cultural identity (Native or non-Native). The dependent variable in the study is the preferred learning style of the subjects, as measured by the Gregorc Style Delineator. While the literature did suggest that variables of age, gender,

education and work experience may also be associated with learning style patterns, previous findings were not conclusive enough to suggest directional hypotheses for this study.

Hypotheses

Hypothesis 1: Given that Native students have been described in the literature as having characteristics compatible with Gregorc's Abstract Random learning style, it is hypothesized that:

the Native students would display more dominance in the Abstract Random quadrant than in the other three quadrants.

Hypothesis 2: Given that Native learning style theorists suggest differences in preferred learning styles between Native and non-Native students (Wauters et al, 1989; Kaulback, 1984; More, 1989; Sawyer, 1991; Swisher & Deyhle, 1989; Swisher, 1991); and given that Native students are described as being particularly skilled at synthesizing knowledge (Macias, 1989), which is compatible with Abstract Sequential strength, and have a cultural

tradition of relying on the wisdom of elders which is parallel to Gregorc's (1982) description of Abstract Sequential learners learning best when they can rely on expert sources, it is hypothesized that:

the group of Native students would display greater dominance in the Abstract Sequential quadrant than their non-Native counterparts.

Hypothesis 3: Given that the general population is described as having a majority of Concrete Sequential learners; and given that non-Native social work students as a group have had more years of formal schooling than their Native counterparts, and therefore more time to learn Concrete Sequential skills such as working within structured conditions and performing according to specified educational standards (Gregorc, 1982), it is hypothesized that:

the group of non-Native students would exhibit greater dominance in the Concrete Sequential quadrant than their Native counterparts.

CHAPTER FOUR: METHODOLOGY

Overview

The purpose of the study was to examine the expressed learning style preferences of Native social work students and their non-Native counterparts. Since this is a relatively new area of focus, this study was at the quantitative-descriptive level, exploring three general hypotheses regarding learning style patterns. The literature simply did not support directional hypotheses concerning related variables at this time.

Population

The population for this study consisted of two classes of full time students in their first year of the two year Social Work diploma at Grant MacEwan Community College. The institution was chosen because it offered, in addition to its on-campus social work program, Native outreach social work education. The classes provided an accessible sample of Native and non-Native adult students at the same stage in their social work education. The class from Yellowhead Tribal Council's Grant MacEwan Community College Native

outreach program at Spruce Grove, Alberta, contained 33 students. The class from Grant MacEwan Community College's Social Work program at its Edmonton Mill Woods campus contained 30 students.

Instrumentation

The instrument selected for this study was the Gregorc Style Delineator (1982), a self-assessment tool used to determine learning style preferences. In looking for a standardized instrument to measure learning styles, several scales were identified as potentially appropriate for use in the current study. Kolb's Learning-Style Inventory (1985), comparable in many ways to Gregorc's inventory, has also been used extensively within a variety of settings, including social work education. Like the Gregorc Style Delineator, its major criticism has been its failure "to predict educational performance and career choices" (Kruzich et al, 1986, p. 25). It would have been another option for use in this study; however, the Gregorc Style Delineator was chosen because of its extensive current usage at the University of Calgary. The Faculty of Management has used it widely and has introduced it to other faculties for use with all first year students.

The Transaction Ability Inventory (1978), later revised

to become the Gregorc Style Delineator (1982) has been widely used and extensively tested. It is uncomplicated, quick to administer, self scoring and provides the participants with almost instant results. The instrument provides immediate feedback to participants, suggesting how they might "stretch" their style (Butler, 1984) in order to get more effective results. Alpha coefficients show a high degree of internal consistency, ranging from .89 to .93, for each of the four scales used. Test-retest reliabilities, over times ranging from six hours to eight weeks, show an alpha coefficient test-retest correlation ranging from .85 to .88.

Good concurrent validity is demonstrated in a study by Gregorc (cited in Lucas, 1989) involving 475 respondents who, after completing the Style Delineator, were given lists of characteristics fitting their particular classifications. They were asked to rank on a scale of one to five the accuracy of each characteristic. Thirty-one per cent (146) strongly agreed; 58% (278) agreed; 10% (47) were unsure: 1% disagreed and none strongly disagreed.

The Gregorc Style Delineator is an instrument to assess learning style preferences. The instrument was designed to "reveal two types of mediation abilities: perception and ordering" (Gregorc, 1982a, p.5) and identifies four distinct learning styles. It is a word matrix comprised of ten columns, each containing four words.

Respondents are asked to rank the words according to how well they describe their basic selves. A four indicates the word that is most descriptive; a one indicates the least descriptive. Since there are no correct answers, respondents are urged to "react to their first impressions" (Gregorc, 1982-a, p.9). Scores indicating dominance in the four styles (concrete sequential, abstract sequential, abstract random, or concrete random) are calculated by adding first horizontally and then vertically. Graphs are provided for charting individual profiles showing orientation in each of the four areas. A score of 27-40 indicates the most powerful or dominant mediation qualities, while a score of 10-15 shows those that are weakest. An intermediate score of 16-26 suggests, according to Gregorc (1982-a), a "moderate ability and capacity to transact in the channel indicated" (p. 14). Balanced scores in all areas usually reveal an equal distribution of ability in each of the four channels, with no one particular strength. For the purposes of this study, the important distinction is between dominant and non-dominant scores. For this reason, the categories of intermediate and low have been collapsed into the category of "non-dominant".

Butler (cited in Bokoros, 1990) describes Gregorc's four styles, as follows:

The concrete sequential learner is structured, practical, predictable, and thorough. The abstract sequential learner is logical, analytical, conceptual, and studious. The abstract random learner is

sensitive, sociable, imaginative, and expressive. The concrete random learner is intuitive, original, investigative, and able to solve problems. (p.5-6)

Data Collection

The Gregorc Style Delineator was administered to each of the students in the selected classes in February and March 1993. The testing process, with instructions and explanation, took approximately one half hour per group. Along with the standardized instrument, a demographic questionnaire was administered. Demographic questions included personal information (age, gender, education level and work experience). Students were not identified by name and responses remained anonymous.

Data Analysis

The hypotheses for this study were tested using t-tests to compare overall scores between the two groups and cross tabulations to examine the strength of the apparent relationships. At this quantitative-descriptive level, no more sophisticated data analysis techniques were justified or appropriate. Data analyses were conducted using the SPSS-PC system.

NOTE: Correlations were also run looking for associations between learning style scores and the demographic variables of age, gender, level of education and years of work experience. Since no directional hypotheses regarding these variables could be developed from the literature, and no significant relationships were found, these results will not be reported.

Limitations of the Study

This study examined only two community college level Social Work classes, with a total student population of sixty-three. This was a sample of convenience and not based on any randomization procedure. Here was a rare opportunity to examine parallel classes of Native and non-Native students at the same level of social work education. As this Native group was an intact classroom from one Alberta institution only, it is not possible to argue that it is representative of all Native community college social work students. The results, therefore, are neither generalizable to any larger social work student population, nor to all Native outreach students. There is no evidence to suggest, however, that this population differs from Native social work outreach students in other locations.

This study did not attempt to address cultural

diversity within the mainstream social work class. Non-Native students were lumped into one category, ignoring the potential for cultural differences within the group. The study did not attempt to explore any other factors that affect learning, such as intellectual ability, past learning experience, motivation or self concept. Academic performance was not addressed, nor were any course grades examined.

With regard to the instrumentation, Gregorc (1982-a) addresses some apparent weaknesses. He explains that the Style Delineator shows relative rather than absolute abilities and capacities, and that a high score in a given area may indicate abilities and capacities not yet developed or refined. Because the Style Delineator does not include individual goals, desires or motivation, it should not be the sole criterion for a particular educational diagnosis. There are, according to Gregorc (1982-a), no guarantees that academic or employment success will naturally follow matching one's environment to her/his dominant style. At the same time, scores may not be correct for reasons ranging all the way from simple arithmetic errors to candidates' responses that do not reflect how they actually are, but rather how they feel they should be.

Another potential limitation relates to mixed support of the notion that students' learning styles change over the course of their college studies (Geiger & Pinto, 1991). The

Gregorc Style Delineator was administered only once, to students in their first year of a two year program. A longitudinal study, which was beyond the scope of this research, might have added strength to the assumption (based on the literature) of long-term stability of students' expressed learning styles.

There are limitations in how the study can be interpreted. It is important not to turn identified learning styles into stereotypes. The learning style labels used with this instrument are not all-encompassing; they are merely one of several ways to "efficiently represent a complicated set of ideas" (Kruzich et al, 1986, p. 24). The concept of learning styles represents just one possible component of the complex process of social work education.

CHAPTER FIVE: RESULTS

Respondent Profile

There were 33 Native students and 30 non-Native students. The Native students ranged in age from 20 to 52 while the non-Native students ranged from 21 to 54 years. Both groups were predominantly female, with each group containing six male students. This gender imbalance is characteristic of social work student populations. In comparison, 29% of all registered social workers in Alberta are male (Alberta Association of Social Workers, 1994).

The major difference was in levels of education. The non-Native group had more experience with post secondary education than did their Native counterparts. 43% of non-Native students had education beyond the Grade 12 level in comparison to only 6% of the Native students. It is interesting to note that the males in each group had higher levels of education than their female counterparts.

Descriptive Results

Table 5.1 contains the mean scores of the two student groups on the four learning style dimensions: Concrete

Sequential (CS); Abstract Sequential (AS); Abstract Random (AR); and Concrete Random (CR).

TABLE 5.1

Mean Style Delineator Scores of Native and
Non-Native Social Work Students

	n		CS	AS	AR	CR
Natives	33	<u>M</u>	24.21	24.24	27.42	24.57
		<u>sd</u>	6.02	3.98	6.34	4.03
Non-Natives	30	<u>M</u>	26.16	21.13	26.66	26.03
		<u>sd</u>	5.28	4.96	4.14	5.86

Contrary to expectations from the literature, these scores were surprisingly balanced within groups and similar between the two groups.

Table 5.2 illustrates the pattern of dominant individual scores.

TABLE 5.2

Dominance and Non-Dominance in Style Delineator Scores of
Native and Non-Native Social Work Students

	CS		AS		AR		CR	
	Dom	Non	Dom	Non	Dom	Non	Dom	Non
Native	12	21	12	21	22	11	8	25
Non-Native	14	16	4	26	15	15	13	17

Table 5.2 illustrates the total number of dominant (27-40 points) and non-dominant (10-26 points) scores in each of the four learning style quadrants for both groups of students. An examination of the individual scores reveals that a majority of students in each group had dominance (scores falling between 27 and 40 points) in at least one, but often two of the quadrants, indicating predisposition to function best using one or two particular mediation channels (learning styles). Such tendencies are disguised by the lack of dominance depicted in the mean scores.

Both groups scored highest in the Abstract Random quadrant. The mean Native Abstract Random score (27.42) is the only one which qualifies as a dominant learning style. All of the other mean scores fall in the range of 'non-dominant' (10-26 points). The mean scores, which are quite

similar, mask the dominance evident in individual scores, and are not reflective of the variance in scores within the two groups. The majority of Native students (66.7%) had dominant Abstract Random scores. In comparison, half (50%) of non-Native students had dominant Abstract Random scores.

Tables 5.3 and 5.4 illustrate the associations between Native and non-Native students' Abstract Sequential and Concrete Sequential scores, respectively, as per the hypotheses.

TABLE 5.3

Observed Frequencies and Percentages for
Dominance in Abstract Sequential (AS) Scores

AS Scores	<u>Native</u>		<u>Non-Native</u>		<u>Totals</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Non-dominant	21	63.6	26	86.7	47	74.6
Dominant	12	36.4	4	13.3	16	25.4
Totals	33	100	30	100	63	100

²
X (1, N = 63) = 3.27, *p<.05 (using Yates Correction Factor)

TABLE 5.4

Observed Frequencies and Percentages for
Dominance in Concrete Sequential (CS) Scores

CS Scores	<u>Native</u>		<u>Non-Native</u>		<u>Totals</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Non-dominant	21	63.6	16	53.3	37	58.7
Dominant	12	36.4	14	46.7	26	41.3
Totals	33	100	30	100	63	100

²
 $\chi^2 (1, N = 63) = .329, p > .20$ (using Yates Correction Factor)

Results by Hypothesis

Hypothesis 1:

the Native students would display more dominance in the Abstract Random quadrant than in the other three quadrants.

Hypothesis one was supported. The majority of Native students had dominant scores in the Abstract Random quadrant and non-dominant scores in the other three quadrants. As a group, the Native students had a dominant mean score of 27.42. Within the group, dominance in the AR quadrant was characteristic of 67% of the Native students.

Hypothesis 2:

the group of Native students would display greater dominance in the abstract sequential quadrant than their non-Native counterparts.

Hypothesis two was supported. While t-test analysis of Gregorc Style Delineator scores revealed no significant differences between the Native and non-Native students on their Abstract Random, Concrete Random, or Concrete Sequential scores, it suggested a significant difference between the two student groups in their Abstract Sequential scores with the Native students scoring significantly higher ($t=2.75$, $p=.008$). While the descriptive statistics show greater variability among the AS scores of the non-Native students along with a lower mean score, the t-test does provide evidence that this difference is significant. A crosstabulation of categories based upon Native and non-Native dominant and non-dominant AS scores confirmed the statistical significance ($p < .05$) of the difference (see Table 5.3). Although statistically significant, the findings may not be of practical significance. Neither mean score falls within the dominant range, and only 36.4% of Native students and 13.3% of non-Native students showed dominance in the AS quadrant.

Hypothesis 3:

the group of non-native students would exhibit greater

dominance in the concrete sequential quadrant than their Native counterparts.

Hypothesis three was not supported. While more non-Native students (46.7%) had dominant CS scores than did their Native counterparts (36.4%), t-test and crosstabulation results indicate no statistical significance to the difference. Neither mean score is in the dominant range, reinforcing the lack of practical significance.

CHAPTER SIX: DISCUSSION

This quantitative-descriptive study was undertaken to examine the expressed learning style preferences of Native social work students and their non-Native counterparts. The findings suggest some implications for the educational process and some areas which should receive further study.

The overall pattern of learning style scores between the Native and non-Native groups was surprisingly similar and the groups, contrary to the theory, appear indistinguishable. There was not the expected variation in scores between the two groups as suggested by the literature, an outcome which warrants further investigation. Extreme caution must be used in the interpretation of these results to avoid making dubious conclusions that overturn the theory. The results of this study do not necessarily imply that the Native and non-Native social work students are identical in their learning needs. A vast range of literature and research has pointed to the importance of understanding the unique learning needs of Native students. Since the results of this study may be interpreted as contradicting the theory, it is imperative to examine the possible explanations.

As a starting point, one could seriously question the appropriateness of an instrument such as the Gregorc Style

Delineator for the population of Native students. If it is important to narrow the culture gap between Native students and social work education, using a such a Western instrument may not be a step in the right direction. It seems to lack the necessary cultural component. It also fails to address the often referenced visual as opposed to verbal characteristic attributed to Natives in much of the related literature. There may be alternative, more appropriate and relevant ways of understanding the learning needs of Native students.

In this study, the thought that learning style preference may be a major determinant of a student's choice of field of study and career must be acknowledged in examining results such as students' Abstract Random scores. It is important to consider suggestions in the literature that indicate that there are clear learning style preferences among different academic majors (Hunt, 1979; Melton, 1990; Zhang, 1994). It is suggested that there is a tendency for students with structured learning styles (i.e. Concrete Sequential) to choose highly structured majors such as engineering and mathematics, while students who prefer less structure (i.e. Abstract Random learners) might be more likely to choose social sciences. Since all students in this study had the same academic major (social work), they may as a group have a tendency toward less structured learning style preferences. Abstract Random learners in

general, whether they are Native or non-Native, may tend to be more attracted to programs such as social work.

Examination of the individual scores showed the within group differences to be more apparent than the between group differences. While certain teaching strategies may be more appropriate for Native students, these results reinforce the view that there is much diversity within student groups in general, and within Native cultural groups. Individual student characteristics and differences in learning style preferences must be acknowledged and addressed when providing instruction, regardless of cultural background.

Implications for Social Work Education

In order to maximize the knowledge and skill level of students, social work educators must be sensitive to how students learn. The potential differences in learning needs between mainstream students and their native outreach counterparts requires further investigation, and may warrant a careful look at how social work programs are delivered to different populations. Learning style theory offers only one avenue of exploration into more effectively meeting students' learning needs.

It is appropriate and necessary for schools of social work to develop greater awareness of the characteristics of

adult learners, in general, and their individual preferred learning styles. More specifically, it is important for social work programs to increase cultural sensitivity and awareness of the learning needs of Aboriginal social work students. Efforts toward a culturally relevant approach to Aboriginal education have, as More (1984) complained, focused largely on content, rather than on process. This may be particularly true in social work education, where most instructors have a practice background which gives them some expertise in content, but lack training in how to teach (the process). It seems that many instructors, unaware of the process of teaching and learning, have, albeit unknowingly, put the responsibility on students to change or suffer the consequences. An alternative would be for instructors to take more responsibility for the learning interaction by discovering what they can do to enable or empower students to learn and work more effectively. Social work educators need to pay particular attention to the process whereby each student best learns.

A further implication involves the selection and training of instructors. An important question entails asking what kinds of approaches and training are needed to help instructors in social work programs develop optimum classroom learning climates for social work students in general and Native students specifically.

One way of addressing the process of Native social work

instruction involves the possibility of replicating the experiences of Zapf's (1993-b) and Colorado's (1993-b) 'Western'/Aboriginal team teaching approach. This approach warrants further consideration in the planning of social work education with Native populations and addresses the need for both culturally appropriate content and process. Implementation of such an approach implies a need for training and hiring of more Aboriginal instructors, who are dramatically underrepresented in social work academic settings.

The results of this study are not inconsistent with theories of learning which emphasize that learning is optimal when students rely on a variety of learning strategies. In order to make teaching and learning more effective, it seems that social work educators should, in general, make use of a variety of teaching methods and strategies to appeal to a broader range of learning styles. More specifically, instructors should make themselves aware of and take into consideration the different learning style preferences of individual students while planning teaching activities, in order to better meet their students' needs. This might involve flexibility in classroom approaches (eg. including highly structured activities which meet some students' needs for close supervision while allowing other students who are self-directed learners more student-centred strategies such as peer group work).

Awareness of learning styles can be used as a foundation upon which social work instructors can utilize effective instructional approaches to improve the quality of education for all categories of learners, making the social work classroom a more satisfying learning environment for both students and instructors. There is a vast amount of theoretical and practical knowledge for instructors to consider when attempting to incorporate learning style theory into their teaching practice. Learning style theory does have something to offer social work education (not exclusively with Native populations, but with all students). Integration of learning styles does not reject all traditional teaching methods, but it may require that instructors reevaluate their teaching methods. An awareness of students' predispositions to particular learning styles and of instructors' related teaching styles can facilitate more effective classroom learning. For example, a dominantly Concrete Sequential instructor taking an exclusively Concrete Sequential approach in the classroom could be teaching to less than half of the class. In planning courses, instructors can provide for opportunities for students to access and process content through different styles of learning. Effective instruction encourages students to 'match' learning styles some of the time and to 'flex' or 'stretch' styles some of the time (Butler, 1984). This approach encourages growth and development in students

by teaching them to strengthen non-dominant skills. An awareness of each student's preferred learning style, and thus of particular learning strengths and challenges, will better equip instructors to meet the needs of all students. Using a variety of teaching styles will respond to diversity within classrooms while encouraging students to develop new strengths and skills.

As Collier (1993) concludes, in attempting to articulate how best to teach Native students, all the strategies described as appropriate for Native students reflect good teaching practice in general. "By becoming more sensitive to the needs and perspectives of Native students, post secondary instructors will also become more sensitive to non-Native students" (p. 109). A variation of this theme, which could be used in Social work classrooms, is discussed by Rosin (1993), and involves "teaching to type" (p. 144). This consists of planning instruction to suit all of the individual preferences (i.e. abstract and concrete; random and sequential), without regard to which students fall in to which categories of learning styles. "Teaching to type facilitates learning for all students by engaging the students in their personal preferences and areas of strength while also giving them opportunities to develop" (p. 144). This approach is seen as contributing to a "more balanced development of the individual student" (p. 144), regardless of apparent cultural differences between

Native and non-Native students.

Rather than using learning style instruments to attempt to define attributes or characteristics of Native learners, what may be more meaningful on the part of social work educators is continuing to increase understanding of the cultural context in which they are working and to strive for a culturally sensitive approach to work with Native populations. A learning environment which conveys an attitude that cultural differences are strengths and not deficiencies is essential in order for social work educators to meet the needs of Native students. These research findings, as well as the small body of existing research, should be used only as starting points in attempting to understand the learning needs of Native social work students. There is a need for more research and understanding into this underdeveloped area. What is evident is that instructors benefit from learning about and being sensitive to students' cultural backgrounds, values and norms. Suggestions made in the existing research of possible differences in learning style preferences, communication patterns, world view, ways of processing information, and relating to one another must be, as Sawyer (1991) suggests, verified for themselves within the instructor-student interaction.

There is need for caution in executing a culturally sensitive approach. The cultural appropriateness of social

work education with Native populations has to be balanced with the need "not to create a seemingly 'inferior' program by straying too far from accepted standards of the social work education community" (Brown, 1992, p. 50). Some aboriginal social work students express a desire to have education that is "non-cultural" (p. 50) which is not seen as distinguishable from any other reputable program; they do not want to be treated differently from their non-Native counterparts. However, social work education must balance this need with careful avoidance of the common tendency to attempt to assimilate Aboriginal students into the dominant culture.

Furthermore, in teaching Native students, it is important to heed the final caution of avoiding a narrow and stereotypical approach to instruction, which "can be both misleading (in terms of the strategies used to design instruction for these groups) and ultimately harmful (in terms of the actual learning achieved by these groups) (Wiesenberg, 1992, p. 83). A more effective approach might be one that bypasses the temptation to stereotype by carefully considering the profile of the individual learner. Individual student characteristics and differences in learning style preferences must be acknowledged and addressed when providing instruction, regardless of cultural background.

In attending to the needs of individual learners,

however, social work programs must not neglect the important cultural component in Native outreach education.

Communities and educators can draw on the experience of programs which have already attempted to incorporate the cultural context and such programs should continue their attempts to develop and grow in ways which are responsive to the learning needs of Native students.

Recommendations for Future Research

There is a striking scarcity of literature examining the learning process in Native Social Work outreach education, and a need for further documentation in this area. What is apparent is a need to address the needs of Native student populations. The study results and related literature point to a need for further investigation of the specific learning needs of Native social work students.

More generally, the effect that coming from any non-dominant culture has on learning requires further study. This research was confined to the categories of Native Canadian and non-Native students. There is a growing awareness of culturally influenced learning needs and increased cultural diversity in social work classrooms in Canada. Therefore, it is timely for social work education to address and investigate the learning needs of students

from a wide variety of cultural backgrounds. Such a multicultural focus was beyond the scope of this study, but warrants attention in future research efforts.

In order to increase the potential for greater generalization, further studies could include larger samples from a wider range of respondents. Samples could be drawn from a number of social work programs across Canada offering outreach to Native communities. The current study involved two classes from the same Alberta community college. Since the majority of Canadian social work programs exist within university settings, it would be interesting to study Native and non-Native social work students at the university level. Results of such a study might give further meaning to the present findings and help broaden understanding of the learning needs of Native social work students.

Another suggestion for future research involves examining other ways of assessing learning styles of student groups with differing cultural backgrounds. A more culturally relevant learning style instrument could be developed.

Alternatively, attention could be paid to Sawyer's (1991) recommendation to "abandon the attempt to identify a definitive answer to the question "how do Native students learn?" and instead seek to find "what teaching accommodations have proven most effective in helping Native

students succeed in educational settings?" (p. 103). One way of doing this, aside from talking to experienced instructors, would be to ask the Native students themselves. If the goal is to understand and accommodate the perspective of the Native students on what their learning needs, an obvious method seems to be to talk to them about it.

Although this study has made some, albeit limited, progress in reinforcing general concerns regarding the learning needs of Native social work students, and makes some suggestions for more effective instruction, it does not fully address specific classroom applications. A logical next step would be the development of a study which would elicit detailed teaching strategies to enhance learning in Native outreach social work classes.

While learning style theory offers specific tools to examine the learning/teaching process, there is a need for educators to gain a better general understanding of both the process of effective learning and the means to more effective teaching of Natives. This could be done through methods other than quantitative learning style research. The scope of this study precluded attempts to elicit qualitative data. Much more information could be gained through a qualitative component. This might involve in-depth interviews with Native students, instructors, elders, social workers and community members in an attempt to better understand both the learning needs and the means to more

effective social work education of Native populations. Such community involvement is critical to developing culturally relevant social work education.

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