

The Assessment of Self-Directed Learning
Among Pre-Service Students in an Ontario Faculty of Education

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ABSTRACT

The study determined students' perceptions of self-directed learning in their courses. Tests to assess perceptions are not being used in many programs. Assessments such as the Self-Directed Readiness Scale (SDLRS) and the Oddi Continuing Learning Inventory (OCLI) have weaknesses that may have affected the use of tests. In this study, the creation of the Self-Directed Learning Test (SDLT) monitored students' perceptions by addressing what students were told before registration, how much input students had in developing the structure of the course, how much input students have in determining the evaluation for the course, what style of learning is taking place, and the characteristics of learning found among students. Fifty-one students in the pre-service program at Brock University completed the SDLT. Results showed that 47.1% of the sample liked self-directed learning. Several students who stated that they did not like self-directed learning did not know what self-directed learning was. Results supported Brookfield's (1986) claim for more education on what self-directed learning is. The study did not support Knowles' (1980) assumption that adult students know and want to follow self-directed approaches to learning. The SDLT is a good method for monitoring self-directed learning and how students perceive their courses.

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CHAPTER ONE

INTRODUCTION

Self-directed learning has been suggested in the literature to be the most appropriate adult learning strategy. Learning characteristics of adults using this method of learning may be a determinant of the success these adults will experience. Current research outlining instruments used to determine self-directed learning traits appears to concentrate on educated middle-class adult students. This pattern may exist because adult education in the past was directed toward students at the post-secondary level. Continuing education programs for adults in the secondary schools were not as popular as they are today. As a result, instruments such as the Self-Directed Learning Readiness Scale may not be effective tools for assessing self-directed learning characteristics. The literature suggests a definite need for some assessment to take place for self-directed learning to be effective. How many adult programs are using some type of assessment?

The area of adult education will only expand as the population ages and the pace of changing technology increases. Educators have a commitment to our students to give them the most rewarding education possible. Determining the needs of individual students must take place and to do this, the most effective method of teaching needs to be discovered. Without preliminary identification of an individual's learning characteristics, the best teaching method cannot be

determined. The intent of this study is to determine:

- 1) the extent to which self-directed learning is taking place;
- 2) if the aptitude for self-directed learning is being monitored.

Problem Statement

In the present investigation, the researcher will attempt to determine if self-directed learning is perceived by students as being implemented. If students believe self-directed learning is not taking place and instructors believe it is, some modifications need to be made. Possibly tests need to be used to decide if the self-directed learning style is appropriate for individual adult students. If tests are not currently being used, the possibility of implementing such evaluations will be discussed.

The purpose of this research is to generate a test which will determine the extent and nature of self-directed learning within an educational context. Specifically, the study will address the following questions, using an instrument developed for this purpose:

- 1) Had the students been led to believe the course was self-directed before registration?
- 2) Did the students have input in developing the structure of the course?

- 3) Did the students have input in determining the evaluation of the course?
- 4) What style of learning is actually taking place in the course?
- 5) What are the characteristics of learning among students?

Rationale

The purpose of this thesis is to confirm the need for the assessment of learning characteristics in our adult education programs. There is a discrepancy between the propositions in theory and what is taking place in our educational system. This discrepancy between theory and practice was discussed, based on certain defensible criteria from the literature review and through a comparison with existing practices being used to monitor adult learner characteristics. Specifically, courses using self-directed learning at Brock University were examined. The study determined if self-directed learning was being used, and if so, whether the characteristics of the individual students were considered before embarking on the program.

From the study, suggestions were made that may assist educators with their assessment of adult self-directed characteristics. The creation of the Self-Directed Learning Test took place. Once the actual usage of self-directed courses is determined, the SDLT can be used to help educators assess their students.

Assumptions and Limitations

Assumptions were made before this study took place. Self-directed learning is a good teaching technique. Questionnaires are capable of measuring perceptions of self-directed learning. The assumption that undergraduate students are adults is also made. As Knowles (1980) predicted, this study assumed students wanted to be self-directed learners. Instructors can facilitate self-directed learning to some degree.

Limitations of the study included the fact that data were collected at the end of the semester. Students and instructors were anxious to complete work as the semester drew to a close. This may have affected the time and care taken to respond to the questions.

The sample size could have been larger. A convenient sample was chosen rather than a random sample. There was a reluctance by instructors to view their courses as self-directed. This situation caused difficulty in obtaining a sample. In the future, a larger sample may affect the results obtained.

The Self-Directed Learning Test (SDLT) was an instrument adapted by the researcher and, therefore, to make the study more valid, further tests using the SDLT need to be conducted.

Students appeared to have difficulties defining self-directed learning. Self-directed learning is an important concept and more teaching may need to take place, to help students understand what self-directed learning involves. Results from studies using the SDLT may be affected by increased awareness on the students' part of what self-directed learning is. The effect of these limitations will be discussed in Chapter Five.

Definition of Terms

An adult is an individual who possesses the self-concept of being responsible for his or her life. Adults are self-directed. In this study, participants are adults and the definition of an adult becomes important.

The andragogical model is the art and science of teaching adults. Self-directed learning and the adult student are part of the andragogical mode.

The pedagogical model is the art and science of teaching children. Observing comparisons between the andragogical and pedagogical models and being aware of the differences between the two becomes important.

Self-directed learning is an approach to learning in which individuals determine their priorities and choose from various resources available. To a large extent, people are

responsible for the success of their education.

Chapter Summary

Chapter One has outlined the problem statement, rationale, assumptions and limitations, and definition of terms for this study. Chapter Two will discuss a literature review addressing self-directed learning and the adult student. Chapter Three will provide an overview of the methodology followed in the study. Results for the instrument as a whole and each individual section of the survey will be presented in Chapter Four. Chapter Five will discuss implications and conclusions drawn from the study.

CHAPTER TWO

THEORETICAL FOUNDATIONS

By administering a questionnaire, the study will attempt to determine if assessment of students for self-directed tendencies is taking place. To understand more clearly the implications of such a study, the theoretical background of self-directed learning needs to be reviewed. Existing measures of self-directed learning will also be reviewed.

The teaching style for working with adults may differ from that used to teach younger children. Adult students often use self-directed learning. Adults may not respond to the traditional teaching techniques used by teachers. Adults have many characteristics that differ from those of younger students. Many adults have families and cannot attend all classes. Teachers must adjust their schedules to meet these different needs. Self-directed learning allows the learner to assume primary responsibility for planning, implementing, and evaluating a learning experience (Brockett, 1985). Therefore, self-directed learning becomes a very practical and efficient method for an adult class.

When attempting to investigate self-directed learning for adults, it is very important to define an adult. People become adults by degree as they move through childhood and adolescence. This rate of becoming adult increases if people

live in homes, study in schools, and participate in youth organizations that foster taking on increasing responsibilities.

To present his model of adult learning, Knowles (1980) discusses the pedagogical model. Pedagogy can be defined as the art and science of teaching children. This model assigns the teacher full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned. Using this teacher-directed approach places the learner in the submissive role of following the teacher's instructions. Knowles claims that as individuals mature their need and capacity to be self-directed, to utilize their experience in learning, to identify their readiness to learn, and to organize learning around life's experiences, increases from infancy to pre-adolescence. During adolescence there is a rapid increase. The American culture does not nurture the development of abilities for self-direction while the need for self-directing continues to develop organically. The resulting gap between need and the ability to be self-directing produces tension, resistance, and often rebellion in an individual. The learner's experience is of little worth when using this pedagogical model of learning. Students also tend to become very subject-oriented. Experiences are organized according to the logic of the subject-matter content instead of organizing experiences in a

way that is best for the individual student. Pedagogy is not the most effective way, Knowles agrees, to teach all adult students.

Knowles outlines a model of adult learning that he calls andragogy. Educators have sought for some time an integration of their diverse institutions, clientele, and activities into some sense of unity. With the andragogical model a unifying theory or model may be possible.

Knowles (1980) makes six assumptions about adult learners in his theory which are as follows:

1. The Need to Know

Adults need to know why they need to learn something before undertaking to learn it. Educators need to become aware of the "need to know".

2. Learner's Self-Concept

Adults have a self-concept of being responsible for their decisions and for their lives. They have a deep psychological need to be seen and treated by others as capable of self-direction. Often, adults harken back to their conditioning in previous school experience, put on their dunce hats of dependency, fold their arms, sit back and say "teach me". This can be difficult to comprehend when these same adults can be very self-directed in other aspects of their life.

3. Role of the Learner's Experience

There is a wider range of individual differences among adults. There needs to be more attention placed on self-direction because of varying learning styles, motivation, needs, interests, and goals. This leads to a need to emphasize experiential techniques. Adults have a greater tendency to have developed mental habits, biases, and presuppositions that close minds to new ideas, fresh perceptions, and alternative ways of thinking. Educators must acknowledge their experience because ignoring it is seen as a personal rejection.

4. Readiness to Learn

Adults become ready to learn those things they need to know and can do to cope effectively with their real-life situations.

5. Orientation to Learning

Adults are life-centred (task-centred, problem-centred). They are motivated to learn to the extent that they perceive learning will help them perform tasks or deal with problems they confront in life situations.

6. Motivation

The most potent motivators are internal pressures such as increased job satisfaction, self-esteem, and quality of life.

These assumptions appear to be true of most adult learners. Adults are life-centred and learning must be relevant to them. The connection between learning and self-esteem is important. The relevance of the materials adults learn makes learning more meaningful. The problem-solving skills learned in the classroom can be applied to everyday life. At times the teacher may have to take responsibility for making decisions concerning what will be learned and how it will be learned. Perhaps a modified pedagogical approach may be necessary for certain subject areas. A beginning adult computer student may have no idea of what a word processor is or how to follow a sequence of instructions to initiate a piece of software. Some direction is needed by the instructor to help the adult discover what is to be learned. The student cannot possibly be expected to "innately" know what he or she must learn. The andragogical model is a system of alternative sets of assumptions, including the pedagogical assumptions. Educators have a responsibility to check out which assumptions are realistic in a given situation. If the students walk into a computer class and do not understand how to start their program, they may need some guidance in the form of a mini-

lecture. If a pedagogical assumption is realistic for a particular learner regarding a specific learning goal, then the pedagogical strategy is appropriate as a starting point. Educators need to be flexible with our adult learners and try combinations of various teaching techniques.

Jarvis (personal communication, 1989) presented another position on the concept of self-directed learning. He was keenly interested in the area of self-directed learning and had made many trips to North America studying adult education. Jarvis commented on Knowles work extensively. He labelled self-directed learning to be a myth and strongly questions Knowles' assumptions, as he has in many of his publications. Knowles has not developed his ideas fully and often is descriptive rather than analytical or critical. He focuses on the self-concept of the learner but no evidence is produced to prove his claim that adults see themselves as self-directed. Knowles might not be correct when he claims something dramatic happens to the self-concept when people define themselves as adults (Jarvis, 1989). Not all adults may have a problem-centred orientation to learning (Jarvis, 1989). Is the position Knowles holds a psychological position based on research, or is it a philosophy of adult education based on his humanistic ideals? Andragogy may be Knowles' own ideological exposition rather than the art and science of helping adults learn (Jarvis, 1987).

Despite his criticisms, Jarvis has great respect for Knowles. His formulation of andragogy was the first major attempt in the West to construct a comprehensive theory of adult education. It may not be as comprehensive a theory as he would have anticipated, but has provided a foundation upon which such a theory might eventually be built. As a teacher, writer, and leader in the field, Knowles has been an innovator, responding to the needs of the field as he perceives them. He has been a key figure in the growth of the theory and practice of adult education throughout the Western world in this century (Jarvis, 1989). As Jarvis summarizes, Knowles treats people as though they are willing to learn and as a result, they do. (Jarvis, personal conversation, 1989).

Jarvis' own thoughts on education still emphasize the learner as both Knowles (1980) and Brookfield (1986) do. Education is a learning process where the learner, and not the subject studied, is of most importance. Education is really about the learner and is a process that has a humanistic basis.

The assumption Knowles makes that adult learners are self-directed is questioned by Brookfield. Brookfield defines field independent learners as those who exhibit the single-minded pursuit of specified learning goals. His research has found that successful self-directed learners appear to exhibit characteristics associated with field dependent learners.

These findings contradict earlier studies suggesting that educators cannot say self-directed learners exhibit uniformly identifiable characteristics.

There are further problems with the studies involving self-directed learning. Brookfield (1986) addresses many of these difficulties. Samples used are not diverse enough. The samples appear to be primarily from advantaged, white, middle-class populations. Research into self-directed learning has used structured interview schedules and questionnaires. This may be very intimidating for some adults. The use of tests may cause working-class adults to regard the researcher with suspicion. These weaknesses affect the quality of the results.

In addition to difficulties with the methods used there are contextual problems that may affect the effective implementation of self-directed programs. Faculty may be untrained for using self-directed techniques. Learners are often at different stages of readiness for this kind of activity. The amount of time commitment needed for this style of learning is greater. Contact between facilitator and learner increases and, therefore, the learner and instructor must be compatible. There is also no reliable instrument available to screen applicants. These contextual problems need to be addressed to help implement effective self-

directed adult programs.

The assumption that adults are self-directed individuals may not be valid. As Brookfield states, the internal disposition necessary for self-directed learning must exist. Adults need to possess an understanding and awareness of a range of alternative possibilities. When adult students enter a self-directed program, they may not have this understanding and may not be able to set objectives, locate resources, and design learning strategies. Students need to be taught to be self-directed in the classroom. Educators cannot assume adults will be self-directed when they enter the doors of our schools.

From his studies, Brookfield (1986) proposes themes that need to be investigated:

- 1) The use of learning contracts is the most effective technique for helping students to diagnose their learning needs, plan learning activities, and to identify and select resources that are relevant and appropriate.

- 2) People need to be prepared for self-directed learning. Learners and teachers will initially face frequent ambiguity, uncertainty, problems of planning and directing learning. Explaining the rationale behind self-directed learning to both

educators and students needs to take place.

3) Peer learning groups are an important part of self-directed learning. These groups provide support, information exchange, stimulus through new ideas, and help in locating relevant resources. Exercises may need to be undertaken to assist group interaction.

4) Time commitment is another theme that arises. Faculty must give up time from research, scholarly pursuits, and publishing and commit this time to developing self-directed programs.

Knowles and Brookfield appear to agree that adults are self-directed, but Knowles may have an unrealistic view of adult learners. Assuming that adults know what they want to learn and that they want to follow self-directed learning may be too strong an assumption. Knowles is aware of this difficulty and suggests that educators need to structure programs leading adults to realize the potential of their self-directed learning skills. Brookfield is aware of the need for modification of programs and training for educators. Opposition to self-directed programs may be the result of instructors who do not fully understand the concept of self-directed instruction. Development of networks for educators may be needed. As Brookfield states, peer networks need to be

developed. Teachers need to develop networks for themselves as well. Educators and students need to commit an enormous amount of time to develop programs and train instructors. Adult students themselves need to become aware of the objectives of self-directed learning. The apprehension toward this approach may not be as adverse if students are aware of the aims of the program. Advantages of progressing at individual rates can be beneficial. Teachers can be facilitators instead of "spoon feeders". Knowles and Brookfield have provided a challenge to educators. The challenge needs to be met by taking the initiative to learn more about self-directed learning and in turn, showing students that self-directed learning is an effective way to learn.

Self-Directed Programs

When attempting to determine the degree of implementation of tests to assess self-directed learning, programs that claim to have a self-directed nature need to be reviewed. Do programs use these tests or some type of screening for self-directed learning? How do students perceive programs claiming to be self-directed? If there is a reluctance toward using these tests in particular programs, what can be done to decrease this resistance?

In both Canada and England, programs incorporating self-

direction are emerging. Some are more self-directed than others, but they do have an element of progressing at one's own rate of study. To understand how these programs operate the structure of the program and how students may perceive the program have been observed and compared.

McMaster Medical School

McMaster University's M.D. Program has been a forerunner in attempting to adapt medical evaluation to the changing needs of today and to remedy the perceived deficiencies in the traditional teaching styles. Since the inception of the program in 1969, there has been an unchanging commitment to a basic model including problem-based, small group, and self-centred learning. There are new challenges presented from a rapid advance in knowledge and technology in biological, behavioral, and medical sciences. Consumers are becoming more knowledgeable and demand more equitable distribution of quality care. The doctor's role is being questioned more. These are all challenges that the program tries to meet.

The program does include self-directed learning. Adult learners should take responsibility for their learning with some guidance. The more active students are in determining their learning needs and path, the more effective the learning is likely to be. Within broad guidelines each person can best determine his/her learning needs, how to set and meet

objectives to address those needs, which methods of learning suit best, where one learns best, how to select learning materials and know whether goals are being achieved (Brain, personal communication, 1989).

The program stresses the importance of self-directed learning, but is not a self-directed program. Tutorial attendance is mandatory. Students must be able to demonstrate that satisfactory progress is achieved through self, peer, and faculty evaluation. The faculty's role is to provide a suitable learning environment, select relevant health care problems, design appropriate learning resources, and facilitate and support learning. The process is greatly influenced by constructive feedback from students.

Admission requirements do not request that students complete screening for self-directed tendencies. Candidates are observed for group interaction but not specifically for the characteristics of an independent learning style. Students can find themselves frustrated because they were "told" what to learn before. A method of determining how a person views the course can be beneficial as a beginning point of transferring from an "other-directed" program to a "self-directed" program.

London Hospital Medical College - School of Occupational Therapy

The aim of the course is to provide an increased supply of occupational therapists with personal skills and qualities to meet the increasing demands for rehabilitation services and disability management. These demands are found in both the hospital and community.

The program is based on problem-based modules (Fraser-Holland, personal communication, 1989). Students are expected to meet in groups of approximately six to share their investigations on the topic of each problem-based module. Each module requires an initial meeting to establish the information to be sought and to allocate investigation areas to individual students. The group of students will plan the number of study groups meetings and study hours required. Tutors will be available to monitor progress and to offer guidance. Toward the end of the course, students will also select four modules from a series to extend the study of particular topics of the Core Curriculum. Students are given the central signs and symptoms only and must select the items printed around these central problems.

Applicants are not chosen solely on academic qualifications. Academic standing is considered in relation to vocational prerequisites. Postgraduate working experience is considered. However, self-directed tendencies are not monitored. Students may be told the program is self-directed, but do they perceive

the course to be self-directed? Applicants are also interviewed. Prospective students need to display motivation toward health care and should understand the need for people to be independent despite handicap or disability. An analytical and practical approach to problem-solving should be shown. Preference is given to candidates with previous experience in working with physically and/or mentally handicapped people.

The Open University

The Open University is one of the most interesting innovations in education this century (Husen & Postlethwaite, 1983). The programs are designed for adults who cannot or do not wish to enter full-time study. There are no educational prerequisites.

The university has a very exhaustive system for counselling students and helping them progress in the program. The courses one chooses to take are very important and may appear especially difficult if students are not on a university campus. Even the introductory forms are structured to enable a person to obtain information on individual programs within the university. The literature appears very simple to follow, and a new student can easily receive the correct publication.

Students are not formally tested to identify self-directed tendencies (Robinson, personal communication, 1989). They do

have contact with a staff counsellor. The counsellor indicates possible problems to tutors. A survey may be helpful to counsellors because it could indicate the student's perception of self-directed learning that can be a starting point for helping the student become successful in the program.

Approximately one-quarter of students drop out. Possibly some form of assessing self-directed tendencies is necessary to prevent such high drop-out rates and help prospective students decide if this type of program is really what they want and what fits in with their learning styles.

The guidance currently being offered to Open University students is very good for self-directed individuals. A career booklet is offered to each student. It encourages long-term planning beyond university, which students often do not consider. Many students progress "blindly" through university, taking courses merely for credits and do not know what they want to do with themselves when they graduate. The list of contacts for queries is another excellent tool for students. It can be difficult knowing whom to approach with a problem and this extensive list is very helpful.

Programs such as the McMaster Medical School, the London Hospital Medical College School of Occupational Therapy, and

the Open University are representative of programs that may benefit from a survey to reveal students' perceptions of whether self-directed learning is taking place.

Identifying a Self-Directed Learner

When using self-directed learning as a strategy, it is important to be able to identify the amount of self-direction of which a student is capable. Programs with a high degree of self-directed learning have been studied to determine what type of learner benefits from this style of program (Hoffman & Waters, 1982). Suggestions have been made to help students who do not appear to possess the skills required for self-directed learning. Results indicate that certain dimensions of one's learning style can affect the completion rate of a training program and whether the program is completed at all. Individuals who favoured the self-directed approach appeared to have the ability to concentrate, to pay attention to details, have affinity for memorizing facts, and can stay with a single task until completion. Students who did not prefer this method of instruction liked variety and action, preferred theory to application, and tended to pay attention to broad pictures and not details. These students like harmonious group projects, team competition, and opportunities to create new ways of doing things. Students with more flexible, open-ended, perceiving-type learning preferences cannot be expected to account for their time, plan ahead, and always follow

through on tasks. These reasons may be why some adults have problems with computer-aided instruction format. By identifying some of these learning characteristics before adults begin a program that is highly self-directed, educators can modify the program to meet the specific needs of students. Instruction may be more varied by providing mini-lectures for clarification. More interaction among students can be encouraged, such as having two or three working at one computer terminal. Frequent question-discussion sessions can be included in the program. Quizzes to keep learners on task and promote competition can be implemented. Encouragement of greater planning and organization of time for learning can be considered. Provision for relaxation and quiet times scheduled before and during breaks also may help students who have problems following a highly self-directed program. To make any such modifications to a program, adults need to be identified as having self-directed learning characteristics.

Measurements of characteristics that show success at self-directed learning would be helpful for many reasons. Assessment would be helpful in counselling new students to decide if self-directed learning is the method of learning for particular students. Classes often have a mix of students in them with and without self-directed attitudes and skills. Determining self-directed characteristics would help teachers determine the number of self-directed students in a particular

class. Identification would help students who aspire to become more self-directed. Instruments designed to identify degrees of self-directed learning also would help educators to develop procedures to strengthen self-directed learning skills and attitudes. Determining characteristics that self-directed learners possess becomes very important. Two techniques designed to identify self-directed learning skills are Guglielmino's Self-Directed Learning Readiness Scale (1977) and Oddi's Continuing Learning Inventory (1986). These two techniques have some weaknesses and consequently, this study will implement a test that incorporates some concepts from these scales, but is modified.

Self-Directed Learning Readiness Scale (SDLRS)

The Self-Directed Learning Readiness Scale (Guglielmino, 1977) was developed from characteristics that the literature portrayed as descriptive of self-directed learners. These characteristics included intelligence, independence, confidence, persistence, initiative, creativity, ability to evaluate oneself, patience, desire to learn, task orientation, tolerance of ambiguity, ability to discover new approaches, prior success with independent learning, preference for working alone, knowledge of resources, ability to plan, and the ability to carry out a plan. Through factor analysis, Guglielmino identified a smaller list of characteristics. These included initiative, independence, persistence in

learning, acceptance of responsibility for their learning, viewing problems as challenges rather than obstacles, curiosity, self-discipline, organizing time, setting an appropriate pace for learning, developing a plan for completing work, deriving pleasure from learning, and being goal-oriented (Long & Agyekum, 1983). The final Self-Directed Learning Readiness Scale was a 58-item self-report questionnaire with Likert-type items. Subjects are expected to indicate how much they agree with each item on a scale from 1 to 5. To reduce the impact of a response set, 17 of the 58 items are scored on a reverse basis (Long, 1987).

Since the Self-Directed Learning Readiness Scale (SDLRS) was developed, many studies have determined the usefulness and validity of the scale. Does the scale accurately measure self-directed learning attributes? Is the format of the SDLRS appropriate to administer to all adult groups? The scale has been criticized for possibly excluding adults who do not place a strong emphasis on books as learning tools (Brockett, 1985). Many respondents in the sample commented that the format of the test was confusing. Double negatives such as "If I don't learn, it's not my fault" were difficult for the adults to respond to. The wording of the five response choices on the instrument was also misleading. Obviously, adults who were comfortable with reading and had used books as a source of learning would find the test easier to complete.

The SDLRS is very book-and-school oriented, which places less importance on the skills and attitudes adults develop in situations where books are unnecessary or do not play a dominant role.

Most studies that have been done appear to concentrate on adult students who have had a large amount of schooling and are from one culture. The scale may not be applicable to various cultures and educational backgrounds. The SDLRS directs researchers to study the somewhat educationally advantaged, making the measure of adult readiness for self-directed learning too simplistic. More studies need to be conducted with adults from different cultures and various income brackets (Brookfield, 1985). To meet the needs of as many adult students as possible consideration must be given to the adult who may have had learning problems or left school for various other reasons. These adults make up a large part of our adult secondary school programs. If the test used to identify self-directed adult learners has only been used with successful students with strong educational backgrounds and from one culture, adult students are placed in great danger of being misdiagnosed.

To determine validity studies have been conducted to address the issue of self-directed learning and the older adult student. Long (1987) attempted to study Brockett's work

further. Long used a larger sample in his investigation. Results contrasted with Brockett's work, suggesting that the two samples may be different and the SDLRS is not an appropriate scale to use with the sample Brockett used. On the other hand, critical characteristics identified with the SDLRS may not have been different between the two studies, suggesting that other characteristics may have varied. Many items were not correlated with age, suggesting that the internal validity of the SDLRS may be threatened by the older sample. Brockett's results may have been more sample-related than scale-related. Long's results support the findings that the SDLRS has adequate validity and reliability for use with young adults. But when using this test with other samples, additional research to address reliability and validity for that particular sample needs to be conducted. Educators must be aware of the limitations the SDLRS has when applied to various samples and must address these shortcomings to ensure the accuracy of the test when using it to evaluate our own students.

The format of the SDLRS is also questionable. Quantitative measures have primarily been used to study self-directed learning. Emphasis has been placed on structured interviews and pre-coded categories of response into which are fitted subjects' perceptions regarding their learning (Brookfield, 1984). The instruments used may become self-defining because

subjects may be concentrating on recalling characteristics that seem to meet the interviewer's expectations. The method of testing becomes inappropriate and decreases the validity of the scale. Alternatively, an open-ended conversational style of interviewing may be needed (Fingeret, 1983). Participant observation and unstructured open-ended interviews were used to study illiterate adults in New York state. The researcher spent 12 months engaged in fieldwork with illiterate adults. She spent at least two hours interviewing each individual adult. She supplemented this interview with additional interviews and participant observation. This open-ended conversational style of interviewing was also used to study successful independent learning conducted by adults of low educational attainment (Brookfield 1981,1982). The interviews were conducted in the subjects' homes and questions asked were related to previous remarks or to specific events already mentioned. Themes discussed in the later part of the conversation developed out of, and were related to, earlier elements of conversation. Instead of asking generalized questions, subjects were invited to talk about a particular event that the interviewer felt might give information on that general theme. The method of interviewing does not appear so structured and the personality of each individual is considered. When a subject is responding to the standardized test, the alternative responses from which he or she is to choose from may not be appropriate.

The adult may respond to the question inaccurately because he or she wants to answer the perceived "correct" way. There are shortcomings to this informal style of observing participants in research situations. Observer bias may exist. Comparison of results may be difficult to carry out because of the lack of standardized responses. However, these alternative methods of determining appropriate personalities for self-directed learning need to be considered.

Studies have also been conducted emphasizing ratings of the SDLRS by teachers. If the SDLRS is an effective predictor of self-directed learning personalities, teachers can use the SDLRS to identify these self-directed learners. Teachers rate students and students rate themselves using the SDLRS (Long & Agyekum, 1984). There is a lack of association between faculty ratings on self-direction and student scores on the SDLRS. Having faculty rate students may be inaccurate. Faculty may be influenced by characteristics of students having nothing to do with self-directed learning characteristics. Observer bias becomes an important issue again. More studies need to be conducted using alternative methods to establish self-direction in learning.

Oddi Continuing Learning Inventory (OCLI)

A second scale that has recently been developed to identify self-directed learners is the Oddi Continuing Learning Inventory (Oddi, 1986). Oddi compiled an extensive list of characteristics of self-directed learners from recurring themes in writings of experts and research findings. Logically related attributes were successively divided into groups and refined into three broad overlapping clusters that were hypothesized to be essential learning dimensions of self-directed learners. Each dimension was placed on a continuum having two poles. The three dimensions included the initiative and persistence in learning without immediate or obvious external reinforcement, openness to change, and the ability to find learning enjoyable for its own sake, and active participation in learning through a variety of modes. The three dimensions are assumed to be interrelated and mutually reinforcing. Together they show a trend of behavior toward increased growth and self-fulfilment through learning. Oddi conducted a pilot study on his inventory to identify improvements in format and directions to be taken to complete the instrument. He also wanted to determine the internal consistency of the instrument with a larger sample and revise or delete items according to the results of factor analysis. As a result of this pilot study, ten items were revised. Results of the study showed that the OCLI needs strengthening of the individual factor scores and clarifying of the

relationship of variables such as open-mindedness, involvement with others, and self-regulation. Further investigation is needed to establish construct validity of the test through a variety of measurement techniques. Studies need to be conducted with different samples since there appeared to be many self-directed learners in Oddi's group. Self-directed learning behavior related to sex and age needs to be studied. The OCLI is a useful test with a promising future. This test could possibly be used to screen continuing education students and for future study. Possible research topics may include clarification of the role of skills in self-directed continuing learning behavior and the effects of various types of feedback on learning efforts of adults. Since the OCLI is so new, more research is definitely needed to determine its effectiveness and accuracy.

One study attempts to estimate the criterion-related validity in predicting classroom behavior and the internal consistency of the OCLI (Six & Hiemstra, 1986). The study also addresses the development of the Classroom Learning Scale (CLS) that measures from a teacher's perspective a student's self-directed learning behavior in a classroom environment. If the OCLI has predictive validity, students should show self-directedness in learning that can be seen by the teacher. Therefore, an efficient method for teachers to monitor students' behavior is necessary. Results showed that both the

OCLI and CLS were consistent measures of their respective variables. However, for the study sampled, the OCLI was not a predictive measure of self-directed learning behavior in the classroom. If educators are to use the OCLI, they should first get an estimate of the inventory's predictive validity for their particular class of students.

Self-Directed Learning Test

The SDLRS and OCLI both have some drawbacks. The questionnaire developed for this study (SDLT) will attempt to prevent some of these weaknesses. The format of the SDLRS was questionable. There is a high emphasis on structured interview questions, so open-ended questions have been incorporated in this new test. There is a variety of both styles of questions included. The wording of the five response choices on the SDLRS was misleading. Wordings such as these have been eliminated on the new test. Instead, a scale has been used with less wording. The double negatives have been removed that previously had been confusing. Use of the OCLI alone was questioned. Teachers were advised to obtain an estimate of the degree of self-directed tendencies of the students in their class or other characteristics that would help them decide if the OCLI would be appropriate for their individual classes. The questionnaire in this study may fulfill this need. The questionnaire would allow teachers to see how students responded to this initial test, and this

would affect their decision to further test with the OCLI.

To include a measure of learning style, a small number of questions were adapted from a learning style instrument. This instrument is labelled the Inventory of Learning Styles, Conceptions, and Orientations (ILSCO) (Vermunt, 1987).

Chapter Summary

Chapter Two has presented a review of the literature. Studying the characteristics of adult learners and determining if adults are self-directed learners are very important aspects in the study of adult education. Studies have often neglected the dynamic nature of lifelong learning and tend to view learning as an episodic phenomenon rather than a dynamic process. Researchers need to move beyond the focus of learning as a set of activities in a self-instructional process to a study of the motivational, cognitive, and affective characteristics or personalities of self-directed learners.

As can be seen with the SDLRS and OCLI, there are both weaknesses and strengths with each instrument. Studies all stress that the particular population of adults with whom a teacher is working must be considered when implementing either of the two tests. The researchers admit that there are problems with the instruments. Studies are being conducted to

attempt to refine these tests (Landers, in progress). This continued interest in studying the role of learning characteristics indicates how important the area is and such studies should continue. A practical and efficient method of assessing self-directed learning characteristics needs to be determined. Chapter Three will present the methodology for the study.

CHAPTER THREE

METHODOLOGY

The study determined if students perceive themselves to be self-directed learners by administering the SDLT survey to a sample of students.

Sample and Population

The population consisted of undergraduate students at Brock University, St. Catharines, Ontario, Canada. The average age was approximately early 20's. The students were registered in the pre-service education program. The goal of the program is to prepare teachers to be capable and flexible, to be able to begin their teaching duties, and to be equipped with knowledge, skills and attitudes needed for success throughout their careers (Handbook for Faculty Associates and Students, 1989-1990). The Pre-Service program consists of thirty-two weeks, including ten spent in schools teaching under the supervision of a full time teacher. During the intervening weeks at Brock University, teaching theory is presented through lectures, counselling groups, discussions, and written assignments. The program has 300 students. Two instructors volunteered to distribute the survey to their classes. Fifty one students agreed to participate in the study. There was approximately an even mix between male and female participants, with the majority of the sample being white. Most of the students had a background in psychology or sociology. The group were training to become elementary

teachers at the primary, junior and intermediate levels. It should be noted that the sample was not randomly selected and may not be representative of the population.

Instrumentation

The instrument developed assesses the extent to which self-directed learning is taking place and if the aptitude for self-directed learning is being monitored (Appendix A). The scale used was a Likert scale. The stem included a value or direction that indicated the degree of agreement the respondent held. There were two parts. The first section listed 28 questions grouped according to the following headings: before registration, the role of the student in developing the structure of the course, the role of student input in evaluation, what is actually happening in the course, and characteristics of learning from the student's point of view. The second section contained two open-ended questions addressing self-directed learning. These items were developed based on the literature review. The questionnaire was then received by content experts, including five individuals involved with adult education. Revisions to the test were made based on these comments.

The structure of the instrument is portrayed in Figure 1. The instrument assesses the student's ongoing perception of self-directed learning throughout the program. Students may not be

perceiving self-directed learning occurring at various stages when it actually is. The SDLT encompasses different phases of the progression of the course.

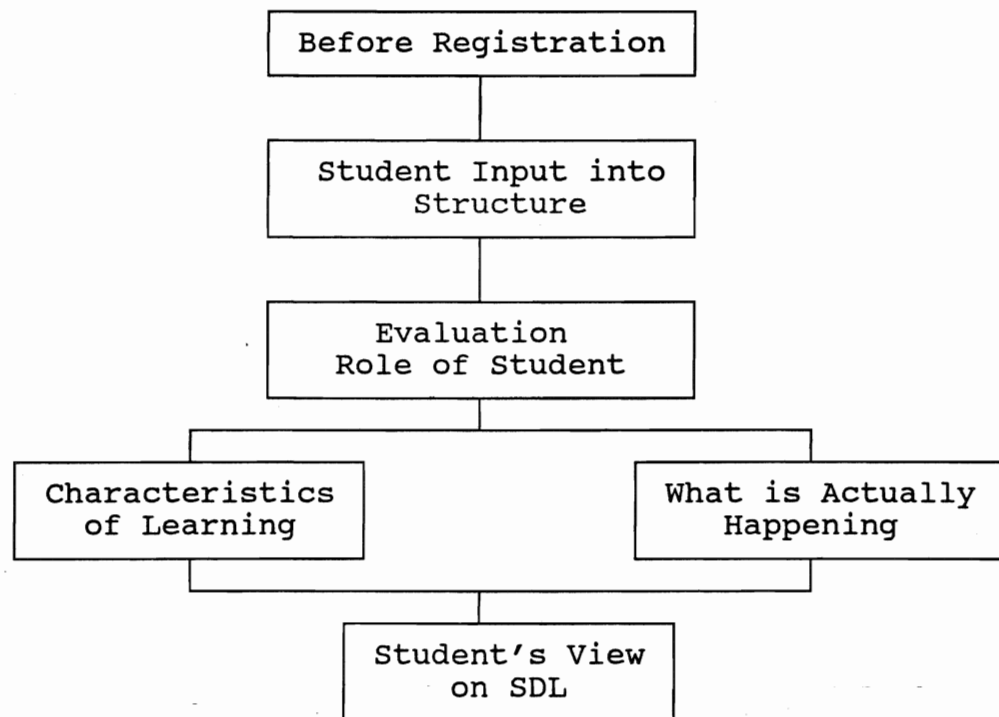


Figure 1. SDLT - Assessment throughout the Course.

Procedures

The questionnaire was developed and given to the content experts, five adult educators, in the late Spring of 1989 in order to ensure content validity. Any necessary revisions were made then. The original questionnaire consisted of 30 questions with no open-ended items. There were no categories to group the questions. Questions which were unclear with respect to what the researcher was asking or in their relevance to the intent of the survey were identified. Many items appeared to be asking for a similar response. Some of these questions were discarded or reworded.

The proposal was presented to a committee of three adult educators at Brock University during November, 1989. Further suggestions were made, introducing the possibility of adding two open-ended questions to the test. These allowed students the opportunity to comment on their feelings toward self-directed learning. Categorizing the responses was suggested. These recommendations were incorporated into the final form of the SDLT.

The nursing program at Mohawk College in Hamilton was initially suggested for the sample. Contact was made in January. The nursing program was in the process of developing a committee to evaluate the research being conducted. There appeared to be a time constraint, involving the finalization

of the formation of the committee and its procedures. As a result, the researcher returned to the concept of studying an undergraduate education program. The chair of the department of pre-service education at Brock University was contacted and permission was secured to collect data in this program.

During early March, 1990, the researcher submitted envelopes of questionnaires to a secretary at Brock University to be distributed with covering letters (Appendix B) to the counselling group leaders of tutorial groups. The counselling group leaders refused to distribute the questionnaire. They did not perceive their students as being self-directed. As a result, the survey was issued to instructors in the Educational Psychology course. Instructors were asked to read the directions to their students, distribute the surveys, and collect the completed copies. Fifty-five students were chosen, using the convenient sampling technique and questionnaires were distributed to those students. The completed copies were deposited in a box found on top of the instructors' mailboxes. The box was sealed and a slot provided for inserting forms. Contact was made continuously with the secretary at Brock to ensure that the box was in place and being used correctly. The completed surveys were collected by the researcher during early April, 1990.

Data Analysis

The results were organized in several ways. Descriptive statistics were calculated. The frequency of responses was determined. This frequency was displayed using a frequency distribution, indicating the number of times each score was attained. The frequency distribution was useful for answering many questions. The most and least frequently occurring scores, the general shape of the distribution and whether any scores were isolated from others were quickly determined. To display the results pictorially, a histogram was used. Reliability coefficients were calculated for the whole test and the sub-scales. The correlation among items was determined and indicated whether there was a relationship, the direction of the relationship, and the strength of the relationship. These results will be presented in Chapter Four.

Chapter Summary

Chapter Three has outlined the methodology including the sample, instrumentation, procedures and data analysis. Chapter Four will present the results of the study.

CHAPTER FOUR

RESULTS

Before Registration

The normal distribution of question 1 suggests most people appeared to know what they wanted to learn before registering (Appendix C). However, the strong positive skew in question 2 (Appendix C) suggested they were not aware that there was a self-directed component to the course. This may suggest that the course was not portrayed as a self-directed course to the students prior to registration.

Role of Student in Developing the Structure of the Course

The correlation coefficients between items in this section were all above .3 (Table 1). The questions within this category appeared to be measuring the same characteristic, making this section appear to be a reliable and valid part of the survey. These findings would seem to suggest that students had input in developing the structure of the course.

Evaluation - Role of Student Input

There is a very strong correlation between questions 9 and 10 (Table 1), which both appear to be self-directed characteristics. Having the opportunity to evaluate one's progress and providing input in developing the marking scheme are both found in a self-directed program. Question

TABLE 1

CORRELATION COEFFICIENTS BETWEEN SECTIONS

Before Registration

Correlation of question 1 and question 2

Correlation of Q1 and Q2 = 0.479

Role of Student in Developing Structure of the Course

Correlation of question 3 - question 8

	Q3	Q4	Q5	Q6	Q7
Q4	0.421				
Q5	0.334	0.458			
Q6	0.645	0.422	0.328		
Q7	0.628	0.612	0.389	0.642	
Q8	0.316	0.527	0.347	0.483	0.565

Evaluation - Role of Student Input

Correlation of question 9 - question 11

	Q9	Q10
Q10	0.756	
Q11	-0.158	-0.289

What is Actually Happening in the Course

Correlation question 12 - question 17

	Q12	Q13	Q14	Q15	Q16
Q13	0.085				
Q14	-0.178	0.251			
Q15	0.349	0.361	-0.015		
Q16	0.169	0.370	-0.125	0.497	
Q17	-0.292	0.008	0.182	-0.243	-0.331

TABLE 1 (cont'd)

Characteristics of Learning

Correlation of question 18 - question 28

	Q18	Q19	Q20	Q21	Q22	Q23
Q19	0.648					
Q20	0.409	0.367				
Q21	0.293	0.331	0.263			
Q22	0.324	0.269	0.167	0.745		
Q23	0.287	0.178	0.269	0.536	0.559	
Q24	0.471	0.594	0.404	0.357	.0380	0.413
Q25	0.155	0.137	0.188	-0.005	-0.002	0.052
Q26	0.434	0.241	0.354	0.516	0.658	0.702
Q27	0.297	0.175	0.384	0.400	0.454	0.473
Q28	0.233	0.015	0.183	0.392	0.324	0.562
	Q24	Q25	Q26	Q27		
Q25	0.300					
Q26	0.383	0.041				
Q27	0.330	0.037	0.655			
Q28	0.033	-0.061	0.540	0.534		

11 (due dates) is not correlated with the other items in the section (Table 1), suggesting the question may have to be altered or perhaps the concept itself is not relevant to self-directed learning. These results would appear to suggest that more testing is needed to decide if students had input into determining the evaluation of the course.

What is Actually Happening in the Course

There appears to be a lot of group work taking place in the course as indicated by a high mean of 4.3725 (Table 2) in question 12. The correlations between all the items within the section are not unanimously strong. It may be that the teaching methods used do not determine the degree of self-directed learning. However, some modifications may be needed. "Instructors lecturing over half the class time", for example, does not appear to have a strong relationship with the other questions. Rewording of this item may be necessary. Results thus indicate that modifications may be needed to in order to determine what style of learning is actually taking place in the course.

Characteristics of Learning

Within this category, there are various strengths of correlations among items (Table 1). Question 25 (using the same study style) is not strongly correlated with other items in the section. The question may have to be altered. Using

the same study style for all sections of a course may not be a characteristic of self-directed learning and the question may not be valid. In general, questions 18, 19, and 20 are moderately correlated which indicates that they are fairly good descriptors of the degree of self-direction taking place in the program. Questions 20 and 24 are moderate scores which can reflect the popularity of self-directed learning. Questions 21 to 23 are strongly correlated with other items, indicating the importance of the concept of students checking their own progress. This checking may be a characteristic of self-directed learning. It is interesting to note that question 27, which is also related to self-evaluation, correlates more highly with questions 21 to 23. Evaluating learning progress by formulating the main points in the learner's own words and thinking of other examples not outlined in the course are both self-directed characteristics.

Open-Ended Questions

Responses to the open-ended questions about self-directed learning are interesting. Of the total sample (Figure 2), 25% did not respond to the second part of the survey. This may indicate some changes may be necessary to encourage students to respond to the second part. Almost half the students responding, 47%, said that they liked self-directed learning. This may reflect why these particular students responded to the second part of the questionnaire. The respondents were

asked to write out a response in their words which required some self-motivation. The questions are not as structured as Part I.

The specific responses to the first question were interesting (Appendix D). Students appeared to like self-directed learning because it gave them some kind of control over their

TABLE 2

MEANS, MEDIANS, AND STANDARD DEVIATIONS FOR SCORES ON THE SDLT

QUESTION #	MEAN	MEDIAN	STDEV
1	2.941	3.000	1.121
2	1.640	1.000	0.921
3	5.000	5.000	0.942
4	2.294	2.000	1.101
5	2.061	2.000	1.232
6	3.860	4.000	1.195
7	4.000	4.000	1.217
8	2.922	3.000	1.454
9	3.353	3.000	1.197
10	2.412	2.000	1.472
11	3.706	4.000	1.026
12	4.373	4.000	0.662
13	3.592	4.000	0.864
14	2.961	3.000	0.894
15	3.686	4.000	0.948
16	3.471	4.000	1.084
17	2.380	2.000	0.967
18	3.608	4.000	1.002
19	3.640	4.000	0.898
20	3.100	3.000	0.953
21	2.843	3.000	1.286
22	2.922	3.000	1.197
23	3.275	3.000	1.078
24	3.804	4.000	1.020
25	2.940	3.000	1.058
26	3.039	3.000	1.095
27	3.059	3.000	1.223
28	2.922	3.000	1.324

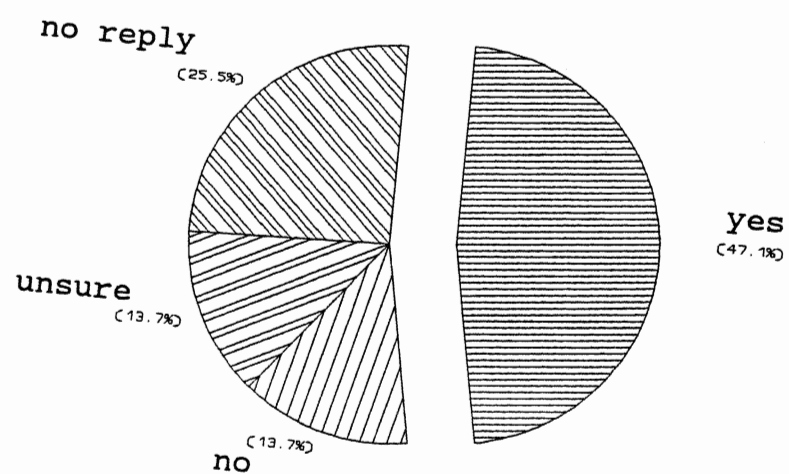


Figure 2. Percentage Response to Open-ended Questions.

learning. Respondents stressed responsibility for their learning as important. There appeared to be confusion over the definition of self-directed learning among the students who disliked it.

Analysis of the Instrument

The standard error of the mean is low in this study, ranging between .204 and .0927 (Table 3). As a result, there probably will be less of a sampling error in using the means calculated to reflect the means of the larger population.

Overall, the inter-item correlations indicate that there is one strong scale (characteristics of learning) which describes self-directed learning. Minor modifications need to be made in other scales (before registration, evaluation). One scale (what is actually happening in the course) shows no consistent pattern of relationships making the scale unreliable because it is not internally consistent. The validity of the scale cannot be determined from the present study.

The sections are strong according to the Cronbach-Alpha reliability coefficient (Table 4). These coefficients are an indication of the strengths and possible areas where changes may be required. The section "monitoring the role of the student in developing the course" is the strongest section

TABLE 3
STANDARD ERROR OF THE MEAN FOR SCORES ON THE SDLT

QUESTION #	SE MEAN
1	0.157
2	0.130
3	0.132
4	0.154
5	0.176
6	0.169
7	0.170
8	0.204
9	0.168
10	0.206
11	0.144
12	0.093
13	0.123
14	0.125
15	0.133
16	0.152
17	0.137
18	0.140
19	0.127
20	0.135
21	0.180
22	0.168
23	0.151
24	0.143
25	0.150
26	0.153
27	0.171
28	0.185

TABLE 4
RELIABILITY COEFFICIENTS

Overall Reliability Coefficient	0.74
Before Registration	0.48
Role of Student in Developing Structure of the Course	0.79
Evaluation - Role of Student Input	0.54
What is Actually Happening in the Course	0.73
Characteristics of Learning	0.78

with a score of .79, and this is probably because it is the most factual and objective and therefore likely to be most reliable. The low score of .54 on the evaluation section may suggest that more questions are needed to evaluate effectively the role of student input into evaluation. Similarly, the score of .479 may reflect a need for more items in the first section. The coefficients for the other scales were acceptable, ranging from .73 to .78. The overall reliability coefficient is .74, which indicates that the SDLT is a reliable survey.

Chapter Summary

Chapter Four has discussed the results from the study. Chapter Five will summarize the study, discuss the findings and offer suggestions for further study.

CHAPTER FIVE

SUMMARY, DISCUSSION AND RECOMMENDATIONS

Summary

The study determined students' perceptions of self-directed learning in their courses. Tests to assess perceptions are not being used in many programs. Assessments such as the Self-Directed Readiness Scale (SDLRS) and the Oddi Continuing Learning Inventory (OCLI) have weaknesses that may have affected the use of tests. In the present study, the creation of the Self-Directed Learning Test (SDLT) monitored students' perceptions by addressing what students were told before registration, how much input students had in developing the structure of the course, how much input students have in determining the evaluation of the course, what style of learning is taking place, and the characteristics of learning found among students. Fifty-one students in the pre-service program at Brock University completed the SDLT.

The results from the study can be summarized in a model of the assessment of self-directed learning (Figure 3). There are many factors contributing to a student's perception of self-directed learning. The instructor and methods of instruction used have a direct influence on self-directed learning in the classroom. The SDLT is a method of assessing the perceptions of learning and can often reflect the many influences on the instructor and student. The institution has constraints that may limit the amount of self-directed learning an instructor

is permitted to offer in a course. Both the learner and instructor bring characteristics to the learning situation. Not all people are comfortable with self-directed learning, and this will affect the methods used in class. The subject area will influence the amount of self-direction. For example, there may be more opportunities for self-directed learning in a computer class than a course for mechanics which requires students to face certification examinations. These influences can be assessed to some extent with the SDLT and this may help educators understand why self-directed learning is viewed as it is.

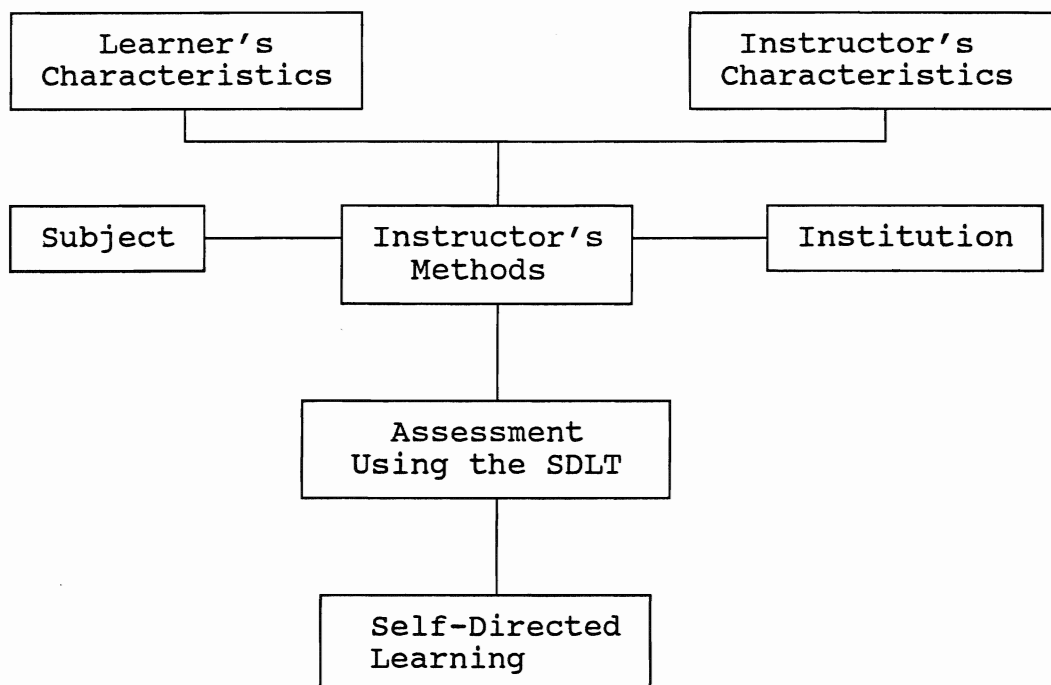


Figure 3. Assessment using the SDLT.

Results showed that 47.1% of the sample liked self-directed learning. Of the students who stated they did not like self-directed learning, many did not know what self-directed learning was. Results did not support Knowles' (1980) assumption that adult students know and want to follow self-directed approaches to learning. The study did support Brookfield's (1986) claim for more education on what self-directed learning is.

Discussion

Results from this study show that there is ambiguity and uncertainty among teachers and students concerning self-directed learning. Support may be found for the statement made by Brookfield (1986) that more education is needed to explain what self-directed learning is really about. Educators must be prepared for self-directed learning. The rationale behind self-directed learning needs to be explained to students and teachers. A network for both students and teachers may need to be developed.

The responses to the questionnaire may suggest that adults do not all know or want to follow self-directed learning approaches to learning. Knowles (1980) assumes that they do, but adult students may not agree. Clearly, this study does not support Knowles' assumption.

Rather, the results appear to support Jarvis (1989) who claims

that not all adults have a problem-centered orientation to learning. This means in essence that Knowles may have a philosophy of adult education based on his humanistic ideals, not research, as Jarvis suggests.

Recommendations for Future Research

There are many opportunities for future research based on the results of this study. There is the risk that the SDLT may be self-defining. Subjects may have concentrated on recalling characteristics that seem to meet the interviewers' expectations. The wording in the first section may have led students to believe that the course should be self-directed because the term "self-directed" is used in the question. The survey is titled "Self-Directed Learning". Students may change their own perceptions of the course to fit in with a definition of self-directed expected by the researcher. Suggestions were made (Fingeret, 1983) to make use of open-ended questions. Even though the SDLT does include open-ended questions, the test may still be self-defining. Future studies using the test may eliminate some of these weaknesses.

Some students do not appear to perceive self-directed learning to be taking place which is alarming for a university-level course. The people in this sample have already completed a university degree and still do not appear to take responsibility for any part of their learning. In fact,

instructors in the program do not perceive self-directed learning as a responsibility. The definition of self-directed learning appears unknown to 13.7% (Figure 2) of the sample. This group of people had almost completed their teacher-training when they were surveyed. At this level, taking some responsibility for learning is necessary. An expansion of the first section of the SDLT may help clarify how students really do perceive their courses before registration. Do they see the courses they are taking to be part of an overall educational plan for themselves? Studies may need to be undertaken to discover how courses can appear more self-directed.

Educators used some self-motivation and direction when choosing what career to enter and courses to register for. Blindly learning what is "fed" by professors and regurgitating for exams is a very ineffective way of learning. By structuring courses this way adult educators may be doing a major disservice to many adult students. Studies using the SDLT could give educators an indication of how active a role students play in their education. By participating in the development of the structure and evaluation of the course, students are directly involved in their education. Students should see the courses they are taking as relevant to their lives outside the classroom and be encouraged to incorporate all they learn into their ongoing education.

Self-directed learning is an important part of our education system. Destreaming is a major issue currently in the secondary schools. How are these newly trained teachers going to cope with basic, general, and advanced level students in one classroom when they are not even aware of self-directed learning as a learning technique? Surely some students will be self-directed, and teachers need to know how to teach these students as well as students learning under a more structured environment. Constant upgrading is needed to be an effective teacher in this world of constantly changing technology. How are teachers of the future going to provide the best education for students if they themselves do not know where they are going? Responsibility for one's learning is essential.

Other samples should be used to see if the results are similar. Given the small sample of the current study, generalization to a similar undergraduate program must be done with caution, within the parameters of the sample as described in sample section of this study. The program used in this study was a pre-service education program in a small college of education in Southern Ontario. Various programs using self-directed learning can be used to determine if the perceptions of self-directed learning are uniform across various samples.

The validity of the questionnaire may need to be verified in

order for future studies to be meaningful. This is the first study in which the SDLT has been used. Future studies using this test will help define problem areas. A measure of predictive validity may be needed. In this way, a valid and reliable test could be established.

In future studies, a pre-test to instructors may be helpful before the SDLT is administered to the sample. A short questionnaire to determine the perception of how much self-direction is taking place in specific courses would give a clearer comparison between the perceptions of adult educators and students.

Recommendations for Practice

The SDLT can be an important tool for committees making decisions concerning courses. If the committee plans to offer courses that produce self-motivated, self-directed learners, some form of assessment is needed to determine if the committee is meeting its goals. The SDLT offers a method of monitoring educators to see if these goals are being met. Are instructors providing opportunities for student involvement with the structure and evaluation of the course?

Pre-service educational committees may want to consider how their courses are being perceived by their students. Teachers are in a profession where constant upgrading is needed. Being

able to learn on one's own is particularly important. For instance, in the computer field, in-service programs are often not available and the teacher must locate relevant books and sources to learn the material. Someone is not always there to tell a teacher what needs to be taught or where to locate the information needed to teach a course effectively. Our university teacher education programs must be self-directed, and students need to know what self-directed learning is and how to use their individual gifts to become an independent, self-directed learner. The SDLT allows educators to monitor how students are developing as self-directed learners.

The section of the SDLT addressing what is actually happening in the course is extremely helpful to curriculum writers and adult educators. This section in part monitors what the instructor is doing in the course as perceived by the students. Discussions and group work probably will be an important part of some courses. The instructor should not be lecturing for over half the class time. The SDLT offers the opportunity to monitor these characteristics. The writers may want to modify the course or alter the way the educator is delivering the course.

The SDLT can be used for counselling purposes. In many programs observed there were no tests administered to evaluate a potential student's aptitude for self-directed learning.

Results from the SDLT may indicate areas of weakness. Characteristics of learning actually held by students can be determined. Counsellors would then have a starting point from which to begin counselling a student. A counsellor can then find methods of helping the student before the student experiences difficulty in the course.

This study may present the possibility of using the SDLT with other surveys. Teachers have been advised initially to obtain an estimate of self-directed tendencies before using the OCLI (Six & Hiemstra, 1986). The SDLT may be a way of determining whether students see themselves as self-directed.

The SDLT is a test that has the potential to be modified and used in various ways. This study may have had weaknesses similar to those described by Brookfield (1986). The sample used was from an advantaged, white, middle-class population. These characteristics generally describe the sample of university undergraduates used. Knowles had the same weakness in his study. The SDLT can address this problem by being modified to meet the needs of a non-academic group of learners. A different scale such as a "True - False" method may be more appropriate. The wording of questions may be altered with emphasis away from textbooks and marks for evaluation. The SDLT can be modified to evaluate programs other than university level programs. For example, a

religious education adult program may be assessed using a future version of the scale. Developing self-directed skills is important to many programs, and this test offers a valuable method of program evaluation for various types of educational programs.

The study can be used to assist adult educators. Information outlining how students perceive a course could help an educator confirm that the style of learning is what the students and teacher believe is taking place. Perceptions change over the course of the program, and it is important for instructors to be aware of these changes. The SDLT can provide feedback for instructors and administrators. Necessary modifications can be made after reviewing the results.

Curriculum writers or those responsible for program design could benefit from the SDLT. If a program is to be self-directed, it must be perceived by the learner to be self-directed. Writers can use the SDLT to receive feedback when a program is implemented. The section monitoring characteristics of learning will be very helpful as it stresses techniques often used by students when following a self-directed program. Writers can determine if students received feedback in each class, were presented with alternative solutions to a problem, and whether the student

has used information learned in the course in real-life situations. The applicability of the course outside the classroom becomes important. The SDLT offers the possibility of determining the appropriateness of the course or characteristics of the course.

Conclusions

Results from this study showed that self-directed learning was not being perceived by all university students who were tested. Adult educators should review the structure of their courses and include some element of self-direction to students. The SDLT can help educators decide where and if modifications may be needed. Adult students need to become aware of the objectives of adult learning. The apprehension of some educators and learners of the self-directed learning style may not be as adverse to some students if they are aware of the aims of the program. Education is an ongoing process throughout one's lifetime. Without knowing how to integrate and organize vast amounts of material into a meaningful structure, students may take courses just to collect credits without really thinking about what they are learning. Students can select items of knowledge that are meaningful for them and build on this knowledge. Both students and adult educators in higher education need to be educated about the rationale of self-directed learning.

To ensure self-directed learning is taking place to some extent, the SDLT offers the ability to monitor and provide feedback from the student's point of view. It is a valuable tool for evaluating an individual's perception of self-directed learning.

Future research needs to be done using the SDLT. There are various applications for this survey. Self-directed learning is an area with considerable potential. Advantages of progressing at individual rates can be beneficial. Educators can be facilitators instead of "spoon feeders". Self-directed learning provides a challenge to adult educators. Educators need to meet this challenge by taking the initiative to learn more about self-directed learning. There is also a need to determine if effective use is being made of self-directed learning with tests such as the SDLT. In turn, educators will be showing our students that self-directed learning is an effective way to learn.

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APPENDIX A

Self-Directed Learning Test

SELF-DIRECTED LEARNING**BACKGROUND INFORMATION**

No names please. All information will be held in confidence. Please circle the appropriate response.

	Not at all	Partly	Completely		
<u>PART I</u>					
<u>BEFORE REGISTRATION</u>					
1. I knew what I wanted to learn before I came to the course.	1	2	3	4	5
2. I heard that this course was self-directed before registering.	1	2	3	4	5
<u>ROLE OF STUDENT IN DEVELOPING STRUCTURE OF THE COURSE</u>					
3. An outline of topics to be covered was distributed by the instructor at the beginning of the course.	1	2	3	4	5
4. I have played a role in setting the objectives for the course.	1	2	3	4	5
5. A learning contract was developed at the beginning of the course.	1	2	3	4	5
6. The instructor provided a list of alternative resources.	1	2	3	4	5
7. A textbook has been assigned by the instructor.	1	2	3	4	5
8. The instructor explained the rationale behind self-directed learning.	1	2	3	4	5
<u>EVALUATION - ROLE OF STUDENT INPUT</u>					
9. I have had the opportunity to evaluate my progress as the course proceeds.	1	2	3	4	5

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 10. | I have had input in developing the marking scheme for the course. | 1 | 2 | 3 | 4 | 5 |
| 11. | Due dates have been determined by the instructor. | 1 | 2 | 3 | 4 | 5 |

WHAT IS ACTUALLY HAPPENING IN THE COURSE

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 12. | A lot of group work is done in the course. | 1 | 2 | 3 | 4 | 5 |
| 13. | The instructor is readily available outside of class hours. | 1 | 2 | 3 | 4 | 5 |
| 14. | I learn everything exactly as it is outlined in the course materials. | 1 | 2 | 3 | 4 | 5 |
| 15. | Discussions take up most of the course time. | 1 | 2 | 3 | 4 | 5 |
| 16. | Past experiences of students are integrated into the course as the course progresses. | 1 | 2 | 3 | 4 | 5 |
| 17. | The instructor lectures for over half the class time. | 1 | 2 | 3 | 4 | 5 |

CHARACTERISTICS OF LEARNING

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 18. | I have used information learned so far in the course in real-life situations. | 1 | 2 | 3 | 4 | 5 |
| 19. | Alternative solutions are presented for a problem. | 1 | 2 | 3 | 4 | 5 |
| 20. | I receive feedback in each class. | 1 | 2 | 3 | 4 | 5 |
| 21. | I check my learning progress by formulating the main points of a concept in my own words after I study it. | 1 | 2 | 3 | 4 | 5 |
| 22. | I evaluate my learning progress by trying to think of other examples and problems not outlined in the course. | 1 | 2 | 3 | 4 | 5 |

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 23. | When a section of the course is a problem for me, I try to determine why it is difficult for me. | 1 | 2 | 3 | 4 | 5 |
| 24. | I find the directions for assignments in the course are clear to me. | 1 | 2 | 3 | 4 | 5 |
| 25. | I use the same study style for all sections of the course. | 1 | 2 | 3 | 4 | 5 |
| 26. | I often try to express the material in a unit in my own words to determine if learning has occurred. | 1 | 2 | 3 | 4 | 5 |
| 27. | I create questions of my own to test my learning. | 1 | 2 | 3 | 4 | 5 |
| 28. | When beginning a new unit, I organize the topics in an order which is meaningful to me. | 1 | 2 | 3 | 4 | 5 |

PART II

1. Do you like self-directed learning? Why or why not?

2. Comments.

(C) Pilling, 1990

APPENDIX B
LETTER TO INSTRUCTORS

947 Glenwood Avenue
Burlington, Ontario
L7T 2K1

March 5, 1990

Dear Counselling Group Leader:

I am a student in the Master of Education program and am currently completing my thesis. The topic is self-directed learning and the adult student. I have prepared a questionnaire to attempt to determine how self-directed courses appear to the student. Patricia Cranton suggested that I approach members of the counselling groups to help me complete my study.

Recently, I spoke with Ralph Connelly concerning my thesis and he suggested that I give each counselling group leader an envelope of questionnaires to be distributed and collected on Thursday March 8. I have placed a box on top of the mailboxes for leaders to return the completed questionnaires. I will collect the copies from there.

Thank you very much for your assistance.

Yours truly,

Jane Pilling

APPENDIX C
DISTRIBUTIONS

Histogram of Q1 N = 51

Midpoint	Count	
1	6	*****
2	11	*****
3	18	*****
4	12	*****
5	4	****

Histogram of Q2 N = 50 N* = 1

Midpoint	Count	
1	30	*****
2	11	*****
3	6	*****
4	3	***

Histogram of Q3 N = 51

Midpoint	Count	
1	2	**
2	0	
3	4	****
4	14	*****
5	31	*****

Histogram of Q4 N = 51

Midpoint	Count	
1	16	*****
2	11	*****
3	19	*****
4	3	***
5	2	**

Histogram of Q5 N = 49 N* = 2

Midpoint	Count	
1	24	*****
2	7	*****
3	11	*****
4	5	*****
5	2	**

Histogram of Q6 N = 50 N* = 1

Midpoint	Count	
1	2	**
2	6	*****
3	9	*****
4	13	*****
5	20	*****

Histogram of Q7 N = 51

Midpoint	Count	
1	3	***
2	3	***
3	10	*****
4	10	*****
5	25	*****

Histogram of Q8 N = 51

Midpoint	Count	
1	13	*****
2	7	*****
3	11	*****
4	11	*****
5	9	*****

Histogram of Q9 N = 51

Midpoint	Count	
1	3	***
2	11	*****
3	12	*****
4	15	*****
5	10	*****

Histogram of Q10 N = 51

Midpoint	Count	
1	22	*****
2	7	*****
3	6	*****
4	11	*****
5	5	*****

Histogram of Q11 N = 51

Midpoint	Count	
1	1	*
2	4	****
3	18	*****
4	14	*****
5	14	*****

Histogram of Q12 N = 51

Midpoint	Count	
1	0	
2	0	
3	5	*****
4	22	*****
5	24	*****

Histogram of Q13 N = 49 N* = 2

Midpoint	Count	
1	1	*
2	2	**
3	20	*****
4	19	*****
5	7	*****

Histogram of Q14 N = 51

Midpoint	Count	
1	2	**
2	13	*****
3	23	*****
4	11	*****
5	2	**

Histogram of Q15 N = 51

Midpoint	Count	
1	1	*
2	3	***
3	18	*****
4	18	*****
5	11	*****

Histogram of Q16 N = 51

Midpoint	Count	
1	4	****
2	3	***
3	17	*****
4	19	*****
5	8	*****

Histogram of Q17 N = 50 N* = 1

Midpoint	Count	
1	9	*****
2	21	*****
3	12	*****
4	8	*****

Histogram of Q18 N = 51

Midpoint	Count	
1	2	**
2	6	*****
3	9	*****
4	27	*****
5	7	*****

Histogram of Q19 N = 50 N* = 1

Midpoint	Count	
1	1	*
2	4	****
3	14	*****
4	24	*****
5	7	*****

Histogram of Q20 N = 50 N* = 1

Midpoint	Count	
1	1	*
2	13	*****
3	20	*****
4	12	*****
5	4	****

Histogram of Q21 N = 51

Midpoint	Count	
1	11	*****
2	8	*****
3	15	*****
4	12	*****
5	5	*****

Histogram of Q22 N = 51

Midpoint	Count	
1	8	*****
2	11	*****
3	12	*****
4	17	*****
5	3	***

Histogram of Q23 N = 51

Midpoint	Count	
1	3	***
2	8	*****
3	19	*****
4	14	*****
5	7	*****

Histogram of Q24 N = 51

Midpoint	Count	
1	1	*
2	5	*****
3	11	*****
4	20	*****
5	14	*****

Histogram of Q25 N = 50 N* = 1

Midpoint	Count	
1	4	****
2	14	*****
3	16	*****
4	13	*****
5	3	***

Histogram of Q26 N = 51

Midpoint	Count	
1	5	*****
2	10	*****
3	18	*****
4	14	*****
5	4	****

Histogram of Q27 N = 51

Midpoint	Count	
1	7	*****
2	9	*****
3	15	*****
4	14	*****
5	6	*****

Histogram of Q28 N = 51

Midpoint	Count	
1	8	*****
2	14	*****
3	11	*****
4	10	*****
5	8	*****

APPENDIX D
RESPONSES TO PART II OF THE SDLT

RESPONSES TO PART II, QUESTION 1Positive Responses

Opportunity to incorporate personal interests, abilities, and strategies into individual educational process.

It forces the student to become responsible for completing his/her work, setting objectives for his learning and for evaluating his progress in the course.

But with some guidelines.

I like to make my own decisions.

I like the aspect of choice. I like pursuing own angles and interests.

I can pace myself.

More flexible, more power over learning for me. New and enjoyable.

It places the responsibility of learning on the student, where it should be, and not on the teacher.

It gives me my own locus of control! I feel independent and responsible for my own learning.

It is important that people can learn in their most effective ways thus they will learn the most for themselves and will be more interested in the material.

You can put more effort into areas that your needs require.

It provides motivation and I tend to learn more. It is uncomfortable sometimes though because it brings in an element of risk of the unknown and personal responsibility.

I feel I learn more. There exists no useless testing.

I like the system of contracting for marks etc. Students should be allowed to study what they are interested in. They should then be allowed to evaluate their own progress. One problem is that a student must be self-disciplined so that he does not procrastinate and cram at the end.

I know that I need to learn. I've had lots of experience in teaching and need the freedom to achieve my goals.

It gives one independence over one's learning. I believe this creates independence and motivation and responsibility for ones own learning.

Element of independence and self-direction allows certain freedom.

I learn concepts in a way that they "stick" ... remain in longterm memory. You're learning how and what you want to learn. More relevant way of learning.

I am a self-motivated person and have a lot of self-discipline so this is up my alley.

More of it should be offered.

Can learn at own pace.

I have found that I have learned as much in this type of learning and I have not experienced the usual amount of stress.

Definitely at this point in my career.

I do like self-directed learning. I have learned to become an independent learner and enjoy it.

Negative Responses

I would hope that someone who is at the level to be an instructor of a course would know more than me what the important things to be learned are. How can I choose to learn something which I have never heard of?

This program is not really self-directed therefore not applicable.

This is not a self-directed program. Not applicable.

I don't get it. We're filling this out about our teacher's college program. I think you have the wrong class of people.

It takes a self-motivated person to be really successful and I question this aspect.

I didn't even realize that we were in a self-directed learning environment.

Self-directed. What exactly is this? We have never had this term used before.

In Between Responses

Yes and no. Depends on the subject matter. Self-directed learning is enjoyable when I'm interested in what is introduced. I'm unmotivated for self-directed learning if the course isn't as appealing to me. If expectations for assignments are clearly delineated and not left as a "hidden agenda", then self-directed learning is preferred.

Not sure. It seems O.K. It is humanistic, flexible, seems fair, and seems real.

Yes and no. I myself need direction in some areas. Guidelines that are flexible is the way I'd prefer to learn. Being able to do as I choose usually isn't what I'd usually like. I need that little bit of a push.

Usually. I prefer to learn that which is relevant to me. Occasionally, however, I require a push to get things done.

Sometimes.

Sometimes. I often find it difficult to trust my own opinions and ideas. I quite often need affirmation from others.

I do like self-directed learning but I would feel more comfortable if there were was a little more structure from the professor. I have a minimal to average amount of schemata in psychology. Thus it would be nice for more class discussions to be directly supplemented with theory from the readings.

RESPONSES TO PART II, QUESTION TWO

It doesn't appear to be substantially different from my other university courses. Were they also self-directed? Is not choosing your own topic, researching and then organizing into a final product self-directed learning?

I feel that more practical "on hands" experience should be integrated into the program. That means being in the schools most of the time and writing less essays/tests etc.

Need to be a motivated individual to use this approach.

I love this course as a medium for me to process my year.

I still need teacher-directed learning because I lack motivation in some subject areas and so need that exterior (external) push.

Difficult, since no teacher I've ever had has ever done this for me. Always had a traditional classroom eg. us in rows, learning exactly what teacher wants us to learn.

An interesting and well-directed course.

If something particularly sparks my interest I can learn it on my own time. I like a clear outline of the course at the beginning of the year.

I feel this is an important ability for students of all ages so that education is procured and facilitated through-out a lifetime.