READINESS FOR SELF-DIRECTED LEARNING AND ACHIEVEMENT OF THE STUDENTS OF UNIVERSITAS TERBUKA (THE INDONESIAN OPEN LEARNING UNIVERSITY)

by

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We accept this thesis as conforming
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ABSTRACT

Students in distance education institutions are expected to be self-directed in their learning. This basic notion leads to the two major purposes for conducting this study. The first major purpose was to obtain descriptive data regarding the readiness of the students of the Universitas Terbuka (the Indonesian Open Learning University) for self-directed learning. The second major purpose was to examine the relationship between the readiness of the students for self-directed learning and their academic achievement. Coincident with addressing the major purposes, the context of the study led to the development of several subsidiary purposes.

The data were collected through the use of the Self-Directed Learning Readiness Scale (SDLRS), which was translated into Indonesian. The translated version of the SDLRS was completed by 369 students of the Faculty of Social and Political Sciences in Universitas Terbuka at the beginning of the second semester of 1992 (92.2). The grade point averages (GPAs) of the students were obtained at the end of the same semester.
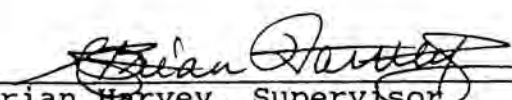
The findings revealed two major conclusions: (a) the students of the Faculty of Social and Political Sciences at the Universitas Terbuka showed average readiness for self-directed learning (M= 215.5); (b) a positive correlation (r=

.24) was found between the SDLRS scores and the GPAs at a probability level of .001.

Subsidiary analyses of the data resulted in a number of further conclusions. Firstly, female students showed higher readiness for self-directed learning than did the male students. However, there was no significant difference in GPAs between females and males. Secondly, there were no significant differences in the SDLRS scores among the levels of education (freshman, sophomore, and senior). An additional finding was that there was a significant correlation (r= .24) between the GPAs and levels of education at a probability level of .001. Further analyses found that there were significant differences in GPAs between freshmen and sophomores, and between freshmen and seniors. However, there was no significant difference in GPAs between sophomores and seniors. Thirdly, there were no significant differences in SDLRS scores and GPAs among students' study programs within the Faculty of Social and Political Sciences (Public Administration, Business Administration, and Development Administration). Finally, there were no significant differences among students from different occupational statuses regarding either their readiness for self-directed learning or their GPAs.

Implications of the present study were addressed, and recommendations for further research were provided.

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CHAPTER 1

INTRODUCTION

Background

The spread of the distance education system throughout the world, in both the developed and developing countries, has been a consequence of one or more of three trends discussed by Perry (1990). The first of these trends concerns developments in the provision for adult education; the second concerns the growth of educational broadcasting; and the third concerns the political objective of promoting the spread of egalitarianism in education.

As a result of these trends , the distance education system is viewed as a new form of education which is different from conventional, that is, face-to-face education. It is often the case that something new cannot always be accepted immediately. Therefore, it is understandable that the concept of distance in education would become an object of debate since, traditionally, education is viewed as face-to-face activity between teachers and learners.

In Indonesia, the distance education program is also still regarded as a new concept of learning. There are only a few institutions which use a distance education system as a method of delivering an educational program. Universitas Terbuka, established in 1984, is the only distance education or open learning university in Indonesia. In 1991,

Universitas Terbuka had a student population of some 116,693 students and a population of some 42,134 active students (Computer Centre of Universitas Terbuka, December 1991). This population of students is considered to be the largest population of any university in Indonesia.

As a distance education institution, Universitas Terbuka must also face the issue, associated with distance education, of the lack of a face-to-face educational transaction between teachers and learners. Students are expected to learn by themselves through modules which are designed as distance learning materials. Thus, the ability to learn independently becomes an important factor for the student to obtain a university degree. On the other hand, it should be realized that students may be unfamiliar with the process of learning in distance education, especially with the process of studying independently, since they are used to a passive engagement of 'past schooling' (Kasworm, 1992).

According to Willen (1984), knowledge about self-directed learning can help to develop distance education in a useful direction, both for the students and for the organizations. Willen suggests the possibility of using self-directed learning to get valid and reliable knowledge about the learners' own methods of planning their learning, the learning process and the outcomes. Students can use this knowledge to improve their approaches to learning

activities. On the other hand, institutions can use this knowledge to plan and improve services to the students.

Furthermore, Paul (1990) points out that much of the success of open learning institutions can be attributed to independent learners who would probably succeed in almost any system. Ideally, the students of open learning institutions are independent learners, who are able to motivate themselves and to become teachers for themselves (Bagnall, 1989). A study which was conducted by Harring-Hendon (1989), at the University of Wisconsin- Green Bay, found that approximately 72 percent of the distance learning participants scored above average on the Self-Directed Learning Readiness Scale (SDLRS), an instrument which was developed by Guglielmino (1978) to measure the degree level of readiness for self-directed learning. Savoie (1980) used the same scale to determine how possible it would be to predict success in continuing education courses for nurses where learners were expected to assume a high level of self-direction. Administering the SDLRS to 152 subjects, Savoie found a positive relationship between SDLRS score and course grade. Paul (1990), however, maintains that large numbers of students do not cope effectively with the demands for independence, time management and self-direction that are posed by open learning.

Statement of The Problems

The students of distance education are expected to be self-directed learners in their study with or without utilizing educational resources, such as media and tutorial, in their environment. They are expected to be self-educators (Bagnall, 1989). These expectations illustrate why the ability to learn independently in distance education is important as one predictor of success, not only for the students themselves but also for the distance learning institutions as organizations. The higher the success rate of students in a distance education institution, the higher the graduation rates of that institution. This also means that the institution is better able to promote their success rate and better able to absorb more students to study in distance education institutions.

To determine the criteria for measuring the success of the students is difficult. However, perhaps the most frequently cited measure of success of the student is educational achievement, that is the grade point average (GPA). In fact, even though numerous studies have been conducted on self-directed learning, the relationship between the readiness of the students to be self-directed learners and educational achievement in distance education has not been adequately examined. Only two studies (Long, 1991; Savoie, 1980), identified by this author were designed

to study the relationship between the readiness for self-directed learning and the course performance.

Moreover, there have been only a few studies on self-directed learning conducted in a distance education setting (Harring-Hendon, 1989) and only a few studies in cross cultural settings (Kazeem, 1991; McCune & Guglielmino, 1991). Most of the research on self-directed learning has been conducted in Western settings. Additionally, there has never been any study on the self-directed learning of students in Universitas Terbuka in Indonesia. Therefore, research in this area is necessary to improve Universitas Terbuka as a distance education institution, to understand students' success and to contribute to the small but growing body of academic literature on self-directed learning.

Purposes of The Study

A large amount of research has been conducted in distance education. Still, more studies are required for the development of distance education, especially at the Universitas Terbuka, since Universitas Terbuka, the only university using a distance education method in Indonesia, is continually seeking to find an appropriate system of distance education for Indonesia.

The major purposes of this study were twofold. One major purpose of the study was to obtain information about the readiness of Universitas Terbuka students to engage in self-directed learning. The second major purpose of the

study was to examine whether or not there was a relationship between the self-directed learning readiness of the students of Universitas Terbuka and their academic achievement. Coincident with addressing the major purposes, the context of the study led to the development of several subsidiary purposes which will be presented with the major research questions.

The present study was conducted as an exploratory study, since there has never before been this kind of study conducted in Universitas Terbuka. The results of the study may contribute to an understanding of the self-directed learning of students. The results of the study may also possibly provide information for improving student support services at Universitas Terbuka.
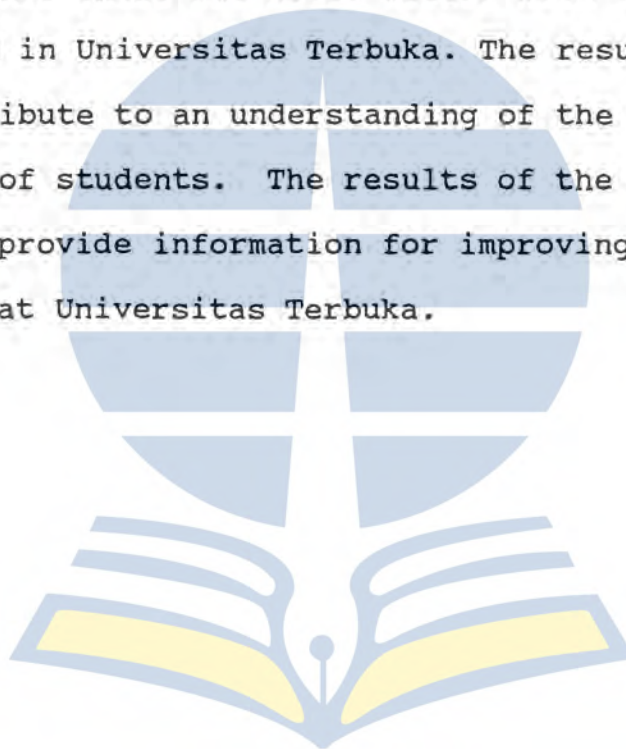
CHAPTER 2

REVIEW OF THE LITERATURE

Distance Education

Definition of Distance Education

Keegan (1990) proposes that distance education is a form of education characterized by:

- the quasi-permanent separation of teacher and learner throughout the length of the learning process (this distinguishes it from conventional face-to-face education);

- the influence of an educational organization both in the planning and preparation of learning materials and in the provision of student support services (this distinguishes it from private study and teach-yourself programmes);

- the use of technical media - print, audio, video or computer - to unite teacher and learner and carry the content of the course;

- the provision of two-way communication so that the student may benefit from or even initiate dialogue (this distinguishes it from other uses of technology in education); and

- the quasi-permanent absence of the learning group throughout the length of the learning process so that people are usually taught as individuals and not in groups, with the possibility of occasional meetings for both didactic and socialization purposes.

According to the Open Learning Agency of British Columbia (1989), distance education refers to those approaches in the open learning spectrum that involve the development of specially designed instructional materials and their structured delivery to individuals separated from the institution by space and/or time. Communication between the two, learner and institution, need not be contiguous in a distance learning situation.

As an additional explanation, Garrison (1989) asserts that there is nothing uniquely associated with distance education in terms of its aims, conduct, students or activities that need affect what we regard as education.

Another view of distance education comes from Verduin and Clark (1991) who propose that distance education may be characterized as a form of adult education which includes:

1. Time and place. The choice of time and location in distance education appeals to working adults. If time and location are fixed in distance education, they generally reflect the preferences of a majority of potential students, usually adults who prefer evening or weekend study.

2. Traditional affiliation. Distance education has traditionally been offered through the continuing education and extension units of colleges and universities as a part of the outreach programs of these institutions. These off-campus units generally

provide services for adults, not children. Most students of proprietary institutions who learn at a distance are adults as well.

3. Literature. Articles, books, and other documents about distance education largely concern programs in which adults are the principal market.

4. Learner traits. Successful study at a distance requires certain traits that are more typical of adult than of pre-adult learners. The ability to be self-directed and internally motivated can affect a learner's satisfaction and likelihood of completing a program. However, children may possess these traits as well, and adults preferring pedagogical teaching may adapt to distance education.

In summary, distance education can be viewed as a form of education which is characterized by the distance between teachers or institutions and learners. Since the majority of students are adults, distance education can also be viewed as a form of adult education.

Issues of learning in Distance Education

Distance education institutions have to face many issues which emerge because the concept of distance education is different from conventional, face-to-face education, which has been the standard of education for a long time. Holmberg (1987), who wrote *Distance education: A survey and bibliography* in 1977 and who has more than 30

years of experience in distance education and mixed-mode teaching and learning, deplores the view that, very often, distance education is assummed to be inferior to conventional education. In fact, most of the issues in distance education are the consequence of the comparisons between distance education and conventional education (which is based on face-to-face education).

Perraton (1987) proposed a structure to examine issues in distance education institutions by analyzing three systems: teaching system, administration system and assessment system. These three systems are inter-related. One cannot work without the others. However, this present study emphasizes the first system --- that is, the teaching system.

In discussing the teaching system, Perraton suggests that we can start with a broad question, such as how do people learn at a distance? This question emerges due to the traditional assumption that education always involves teachers and teaching processes as the focus of attention. Garrison (1989) adds that the important problem associated with distance education is concerned with the educational transaction; that is, with the process of two-way communication between teachers and students.

In other words, it seems that there is uncertainty as to how learning can take place without teachers. The

following discussion attempts to analyze these issues in distance education institutional setting.

Learning process in distance education

Definition of learning

The theory of learning can be viewed from two major psychological approaches: the behavioral approach and the cognitive approach. The behaviorists assume that human beings are **passive** or **reactive**; and the cognitive-interactionists assume that human beings are **interactive** in relationship with their environments (Bigge & Shermis, 1992). However, although the two major psychological approaches contrast in most respects, a majority of learning theorists in both approaches agree that learning is a process that causes the behavioral changes (Hergenhahn & Olson, 1993). B. F. Skinner might be the only theorist who stated that behavioral changes are learning and no further process need be inferred (Hergenhahn & Olson, 1993).

As a process, learning cannot be studied directly; instead, its nature can only be inferred from changes in behavior (Catania, 1984; Good & Brophy, 1990; Hergenhahn & Olson, 1993). However, every change does not qualify as learning. According to Good and Brophy (1990, p. 125), **"learning is a relatively permanent change in capacity of performance, acquired through experience"**. Here , learning implies a relatively permanent change produced by experience. It does not include temporary phenomena, such

as the effects of drugs or fatigue. It also does not include change produced by physical growth, maturation, or senility.

In approaching learning, an individual who is interested in learning may use any of the approaches suggested by Hergenhahn and Olson (1993). One can either choose the theory that best satisfies him/herself and concentrate exclusively on it, or one can sample from all of them. Sampling from many theories might be useful for individuals who prefer to select different theories as different problems emerge. As a third approach, one might develop one's own theory, if the theories which have already be developed prove unsatisfactory.

In summary, in the present study, learning is viewed as a process that causes the relatively permanent behavioral change in capacity for performance as acquired through experience.

Concept of learning in a distance institution setting

Most of the time, education is viewed as the meeting between teachers and learners in a face-to-face educational setting. In other words, learners come to classes where teachers give lectures. The process of two-way communication between teachers and learners is always assumed to occur in class.

Moore (1986) offers an explanation that the meeting of teachers and learners, or a "meeting of minds", still occurs

even where there are no physical meetings. Garry and
Kingsley (1970) add that learning is not going to occur
without a learner or a task, but it can occur without a
teacher. According to Garry and Kingsley (1970), sometimes
it appears that the main function of teachers, at least as
far as factual learning is concerned, is both to tell the
students where to look and to provide a schedule for
looking.

In accordance with Moore (1986), Garry and Kingsley
(1970); Bagnall (1989) suggests a change in perception of
educational distance from one which is based on a dependent
process (traditional analysis) to one that is based on an
autonomy activity (the alternative analysis which Bagnall
proposed). According to Bagnall (1989), besides having a
teacher as an external educator, the learners can be
teachers for themselves as internal educators.

Furthermore, Bagnall differentiates between the terms
"distance education" and "educational distance". The term
distance education refers to both "distance teaching" and
"distance learning". On the other hand, the analyses of
educational distance clearly reveal the importance of
certain types of distance in those educational situations
embraced by the distance education label.

Bagnall (1989) espouses that educational distance may
arise in either (or both) of two primary ways: between the
learner as a learner, and as an internal educator; and (2)

between the learner (as either the learner *per se* or the internal educator) and educational elements external to the person of the learner, as an external educator, such as teachers and peer group.

The educational distance can be distinguished as **psychological** distance and **perceptual** distance. The term psychological distance constitutes various types of intrasubjective incongruence. Psychological distance may arise under purely internal direction - fully self - directed education - or it may arise under any degree of external direction, except that which is fully heteronomous.

The perceptual distance includes two types - **environmental** and **communicative** distance. Environmental distance, which may be either **spatial** or **temporal,** is distance that arises between a learner and his or her perceived key environmental elements, excluding the external educators as such, which includes educational 'resources materials', 'content', 'curriculum', and 'subject matter'. Communicative distance is that distance which arises between the learner and the external educator.

Moore (1990) offers the observation both that learning can occur in the distance institution setting and that learning should be seen as a family of transactions between teachers and learners in a distinct educational mode rather than the traditional mode of education. Similarly, the

transaction between teachers and learners occurs in a way different from traditional education.

According to Bagnall (1989), teachers have functions as the sources of the content or knowledge to be learned. Distance education institutions can fulfill the functions of teachers through the use of media and support groups, such as tutors or fellow students, as resources needed for learning.

Actually, whether or not distance education is a 'good thing' depends both on the needs of learners and on their ability to benefit from a distance education program (Moore, 1990). Extending this view, Paul (1990) argues that the success of an open learning institution depends upon independent learners who would probably succeed in almost any system.

In summary, learning can occur in distance institution settings. The concept of learning in distance education institutions is similar to the concept of learning in conventional institutions, except that the concept must be viewed in a different way. For example, the teacher, as a source of knowledge, may be someone who is an external educator or the learner himself/herself who may be is as an internal educator. In fact, whether or not the learning process can occur in a distance education institution depends on independent learners who are able to use their abilities to benefit from distance education institutions.

Distance education students

The demographic profiles of students in distance education have been remarkably consistent. They are working adults and homemakers, the majority of whom are between 25 and 40 years of age (Paul, 1990). For example, a study which was conducted in the National Open University of Venezeula by de Freitas and Lynch (1986) found that, in one of its courses, its students' ages varied between 23 and 30 years of age.

Hiola and Moss (1990) conducted a study of the characteristics of distance learners at the Universitas Terbuka of Indonesia. According to their findings, the students covered a wide range of ages, but the majority were between 21 and 30 years of age, which when combined, accounted for 48% of the total enrollment. In the Universitas Terbuka study, almost 42% of all students were unemployed (20% of all women students were not in paid employment), and only six per cent were from private industry and commerce.

Based on the findings of the above studies, it can be concluded that the majority of distance education students are adult learners who cover a wide range of ages between 21 and 40 years.

Distance education in Indonesia

Indonesia consists of 13,000 islands, and it is one of the most populated countries in the world. The growing

population in Indonesia, as in other Asia and Pacific region countries, demands appropriate access to education (Setijadi, 1986). In fact, one of the major problems for the goverment is to provide educational opportunities to this large and growing population, especially, since the formal education system provides only limited access to education. In Indonesia, the problem of access to education is exacerbated by the fact that the population is spread over 6,000 inhabited islands. A form of education which is capable of reaching all Indonesian citizens, therefore, is necessary.

Historically, distance education in Indonesia was first started in 1955 with the establishment of a correspondence course for the upgrading of teacher competence. Later, the course was abandoned due to a lack of funds; however, this was the beginning of the establishment of distance education in minds of the people of Indonesia (Setijadi, 1986). After several trials and errors, the government decided to launch the Universitas Terbuka, the Indonesian Open Learning University, in late 1983. The decision was made as a way to overcome the problems that were faced by the government at that time.

According to Setijadi (1988), at that time, primary and secondary schools were growing very quickly, while tertiary-level institutions were growing at only a marginal rate. This condition made access for increased numbers of

secondary-schools graduates to tertiary-level education increasingly more difficult. Private higher education institutions demanded high fees, while the government higher education institutions could only absorb about a third of the demand for higher education. For that reason, the Universitas Terbuka was created to provide better access to higher education, especially for the recent graduates of the senior high schools.

The second important role of Universitas Terbuka was, and continues to be, to train increasing numbers of students in areas demanded by the economic and cultural development of the country. This role is aimed at meeting the need for more university graduates because of economic expansion. In 1983, the participation rate of the 18-to-25 age-group in higher education was estimated at about 5 per cent, and the target to be reached by the end of the fourth Five-Year-Plan (1979 - 1984) was 8.5 per cent. It was necessary, therefore, to increase the participation rate at the tertiary level.

The third role of Universitas Terbuka was, and remains, to upgrade the qualifications of secondary-school teachers who had graduated from short-term programmes in order to enable them to obtain the full teacher-training degree. The need for this role was due to the rapid expansion of secondary schools which in turn increased the demand for more and more teachers which the existing regular programmes

could not meet. It was, therefore, decided by the government in the late 1970's to have short-term teacher training for secondary school teachers, with the intention of upgrading their skills at a later stage.

The instructional system. There are several media used by Universitas Terbuka to convey instruction; these include print, video, television, radio and audio-cassettes. However, the most important medium is print, due to the fact that print is considered cheaper to produce than any of the other media. Other media are used as a complement to printed materials. As primary materials, printed course materials, or modules, are designed to be of the same standard as courses at other government universities. The format of course materials is designed in such a way that it is systematic and self-instructional. Course writers and test item writers are qualified lecturers from established and prestigious universities in Indonesia. In fact, Universitas Terbuka's modules are also even widely used in many conventional universities.

The instructional method. Distance education is the instructional method employed at Universitas Terbuka. The method of learning in Universitas Terbuka is independent learning or self-directed learning (in Indonesian it is "belajar mandiri") which will provide students with choices about registration, time of study, method of learning, and

time of examinations (Universitas Terbuka Catalog, 1990).
Students study using 'self-instructional' learning materials
which are specifically designed to enable them to study on
their own, attending study groups and tutorials, writing
letters to the tutors, listening to the radio, watching
television, doing a practicum such as a computer practicum,
and using other relevant learning resources. All those
activities are expected to be carried out through students'
initiative and responsibility.

In summary, Universitas Terbuka, which was established
in 1984, is the first distance education university in
Indonesia. There are three roles of Universitas Terbuka;
firstly, to provide better access to higher education,
especially for the recent graduates of the senior high
schools; secondly, to train increasing numbers of students
in areas demanded by the economic and cultural development
of the country; and thirdly, to upgrade the qualification of
secondary-school teachers who graduated from short-term
programmes, to enable them to obtain full teacher-training
degrees.

Adults in distance education
Developmental stages of adults

Generally, every human being experiences the process of
development. Salkind (1985) explains development as a
progressive series of changes that occur in a predictable
pattern as the result of an interaction between both

biological and environmental factors. In addition, Perlmutter and Hall (1985) define development as any age-related change in body or behavior from conception to death. The direction of that change can be positive (toward improved functioning), negative (toward deterioration), or neutral (showing neither improvement nor deterioration, but simply a difference).

Human development can be viewed from the perspective of chronological age, but this is only one way of looking at development (Perlmutter & Hall, 1985). Developmentalists sometimes use estimates of a person's development in various areas, such as:

1. Biological age. This refers to an individual's potential life span, and it is closely connected with physical health.

2. Psychological age. This refers to a person's adaptive ability, and it reflects intellectual skills, emotion, and motivation.

3. Social age. This refers to a person's roles and habits relative to those expected by society for particular ages.

4. Functional age. This refers to a person's ability to function in society, and it probably reflects or includes biological, psychological, and social age.

In fact, there are general trends that all humans share as part of the development process. Development progresses

from general, or global, systems of responding to specific, or discrete systems of responding. This progression would result in individual differences (Salkind, 1985).

Developmentalists propose different theoretical perspectives to describe the phases of the life cycle and the developmental stages of growth and maturity. However, there is general agreement among developmentalists that normal adults should grow and change along the lines indicated by the goals of each developmental stages in each phase of life.

Actually, in the "Webster's Ninth New Collegiate Dictionary", an adult is defined as one that is adult, as an adjective, or grown up. Perlmutter and Hall (1985) define an adult as one who has reached maturity in biological, psychological, social and legal terms.

In adulthood, autonomy becomes a concern. Adults become psychologically independent of their parents. Independence becomes not only an adult characteristic but also a goal of the developmental task. Independence differentiates adults from children and adolescents.

In summary, adults are different from children and adolescents. They have different developmental tasks that should be accomplished by normal adults in their lives. One of the characteristics which distinguishes adults from children and adolescents is that adults should direct themselves to accomplish the goals of each developmental

stage, instead of being directed as children and adolescents are by parents, teachers, or other significant people in their lives.

Adult needs of learning

Adults as learners have different reasons for learning. A study conducted by Waniewicz (1976) found that the learners stated their reasons for learning as follows: personal growth, development, or fulfillment-35%; employment requirements, job advancement, financial benefits, status enhancement- 33%; receiving credit, degree, diploma, certificate, or other similar educational credentials or honours-10%; desire to know more (about a specific subject matter or without referring to specific subjects), for the sake of knowing without any particular functional orientation-9%; as a means of escaping boredom, annoyance, emptiness, of everyday life, or as an opportunity to socialize with other people-6%; desire to fulfil a need related to family life-3%; desire to achieve social and religious goals each constituted 1% of all answers.

In general, slightly fewer than half of all answers given by learners can be classified as reflecting reasons that are not directly functional (such as curiosity, inner development, and knowledge acquisition as a desirable end in itself). Slightly more than half the answers referred to some kind of practical purpose.

In order to understand adults' needs for learning, one should also consider that adult learners are different from younger learners. Verner (1964) explains that adult learners differ from younger learners in two significant ways: (a) they enter an educational activity with a greater amount of experience from which they can contribute and to which they can relate new experiences; and (b) they enter with more specific and immediate plans for applying newly acquired knowledge.

To satisfy their needs for learning, adults can decide to learn by themselves. In other words, many prefer to learn in an informal setting. On the other hand, adults can also decide to learn in a formal setting. Sharp (1990) categorizes those who decide to return to a formal setting into two groups; those people who have a need to learn more and those who have a need for a paper qualification. Moore (1983, 1986) adds that there are adult learners who decide to learn in a formal learning setting to satisfy their need for dependence.

The present study focuses on adults who prefer to learn in formal settings or choose education institutions to satisfy their needs for learning. Actually, most discussions about adults in formal settings are presented under the topic of adult education which will be discussed in the following section.

Adult education

Adult education is concerned with the education of the adult. However, adult education should be differentiated from adult learning. Adult learning has a broader meaning than does adult education since learning can occur from virtually any adult experience.

According to UNESCO (in Barrer-Stein and Draper, 1988), the following definition of adult education has gained wide-spread acceptance throughout the world:

> The entire body of organized educational practices, whatever the content, level and method, whether formal or otherwise, whether they prolong or replace initial education in schools, colleges, or universities, as well as in apprenticeships, whereby persons regarded as adult by the society to which they belong, develop their abilities, enrich their knowledge, improve their technical or professional qualifications or turn them in a new direction and bring about changes in their attitudes or behavior in the twofold perspective of full personal development and participation in balanced and independent social, economic and cultural development (*Occasional Paper 34, Canadian Commission for UNESCO, Ottawa, 1980, p.3*).

This UNESCO definition implies that adult education is any form of education participated in by persons regarded as adults in the society to which they belong.

Andragogy and pedagogy

As mentioned previously, adult learners are different from younger learners. Therefore, education for adult learners should be differentiated from education for younger learners.

Knowles (1980) proposes a model of adult learning which is called an andragogical model. According to him, andragogy is the art and science of helping adults learn. Actually, Knowles does not judge one learning paradigm to be better than any other (Dalellew & Martinez, 1988); they all occur on a continuum, one paradigm for children, the other for adults.

Knowles (1975) compares the basic assumptions of the pedagogical model to those of the andragogical model as shown in Table 1 in the following:

Table 1
A comparison of assumptions of pedagogical and andragogical models

Assumption	Andragogical	Pedagogical
Concept of the learner	increasingly self-directed organism	dependent personality
Role of learner's experience	a rich resource for learning	to be built on more than used
Readiness to learn	develops from life tasks and problems	varies with levels of maturation
Orientation to learning	task or problem centered	subject centered
Motivation	internal incentives, curiosity	external rewards and punishments

Note: From "Self-directed learning: A guide for learners and teachers" by M. S. Knowles, (1975), p. 60.

As a matter of fact, andragogy in a formal setting can be applied to many forms of adult education. One of these forms is distance education. A discussion about adults in a distance education follows.

Adults in distance education

Adult learners who prefer to learn in formal settings might choose to participate in either conventional or distance education. Those who seek out a distance education program might find that the distance education program meets their learning needs, and, yet, it allows them to remain in the work place (Garrison, 1989).

Elton (1988) points out that adult learners have found that a distance education program has many advantages for them, such as flexibility of time, flexibility of place, the permanence of written dialogue, and life and work experience. These advantages are supported by both andragogical assumptions and the assumption of adult psychological developmental stages that adults are self-directing. Adults are able to use the flexibility of time and place to direct themselves toward learning. Moreover, adult learners can use not only the permanence of written dialogue but also themselves, institutions, teachers and their fellow students as rich resources for learning. Because of this, the lack of communication which has become an issue in distance education may not be problematic for adult learners. Additionally, their readiness to learn,

orientation to learning and intrinsic motivation to learn can help them to cope with other learning problems in distance education.

However, not all adult learners see the advantages of distance education. Many feel that the lack of communication is a disadvantage in distance education, especially if the learners are used to depending on their teachers or if the learners are teacher-directed or other-directed. Distance education settings make these learners confused because no one directs them.

Moore (1983, 1986) proposes that there are three kinds of adult learners in distance education institutions. Firstly, there are the self-directed learners who have decided that the teaching programs of the institution meet their learning goals. It is possible, however, that only part of the program meets peoples' goals, and then they might drop out before completion. Secondly, there are the learners who are motivated by the need for a degree or some other formal accreditation which can only be obtained by following the teaching program offered by the institution. These individuals might not be self-directed learners, but they are self-directed in pursuit of their non-educational goal. For example, they are self-directed persons in pursuit of their careers in their working life. Finally, there are the students who use the educational institution to satisfy an emotional need for dependence.

In summary, there are many reasons for adult learners to prefer to learn in distance education settings. Adult learners can gain advantages from distance education if they view distance education from the perspectives provided by both the andragogical model and by the developmental stages of adulthood. Even assuming that adult learners are self-directed in their learning, not all adult learners are able to take advantage of the distance education program. Those adults who are able to obtain the most advantages from distance education are those adult learners who are self-directed learners and who have also decided that the teaching programs of the distance education institution meet their learning goals.

Self-Directed Learning

Definition of Self-Directed Learning

An examination of the definition of self-directed learning should be preceded by an examination of the term, learning. As discussed previously, the term learning, in most learning theories, means a process that causes relatively permanent behavioral changes in capacity for performance; learning is acquired through experience. Here, the term learning functions as a verb (Long, 1990). This definition of learning implies the activity involved in acquiring particular skills or knowledge (Brookfield, 1984).

Based on this definition of learning, the term self-directed learning can be considered to be a type of learning which is based on self-directed activity and not other-directed activity, for instance, teacher-directed activity. As a type of learning, self-directed learning implies a process that causes behavioral changes. Moreover, self-directedness itself implies that the subjects regulate, control or conduct their own learning (Jarvis, 1990).

The definition stated by Knowles (1975) might be able to explicate the term self-directed learning. According to Knowles, self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. This definition is further clarified by Guglielmino and Guglielmino (1991) in their diagram of the process as presented in Figure 1 (see page 31).

According to Long (1990), it would be beneficial to agree that self-directed learning is a verb. To restrict learning to being a verb may also help us to differentiate between the self-directed learning and the self-directed learner. The one refers to an activity, whereas the other refers to a person.
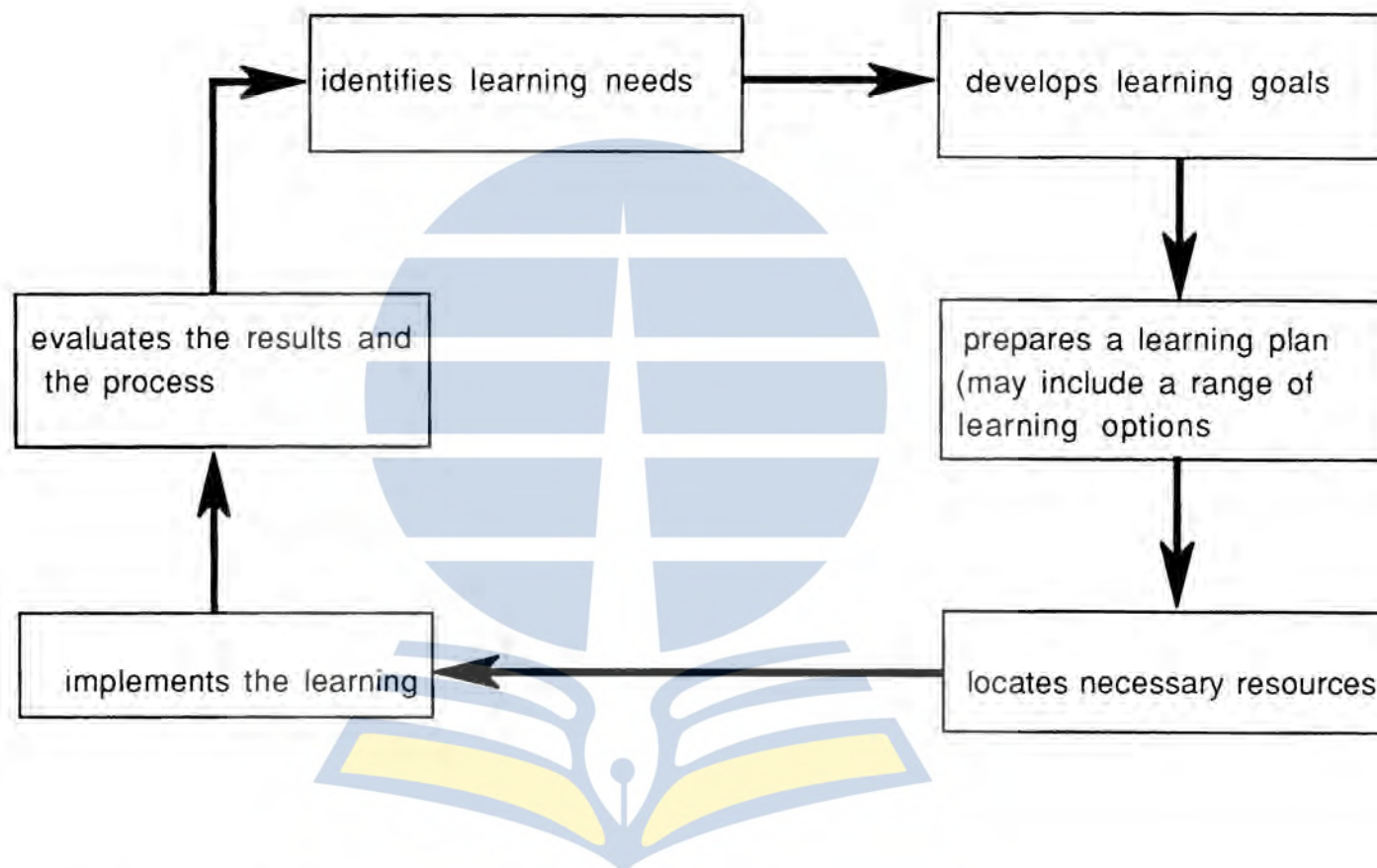
Figure 1. The process of self-directed learning
(Adapted from "Expanding your readiness for self-directed
learning" by L. M. Guglielmino & P. J. Guglielmino, (1991), p. 10).

However, the use of the definition of self-directed learning for the purpose of research must include the realization that there are many definitions offered by self-directed learning theorists. Understanding the other definitions would help the researcher to both avoid confusion and to gain a better understanding of self-directed learning, since the term self-directed learning is also used in a variety of conceptualizations. Candy (1991) adds that the term self-direction has been applied to a range of phenomena that, although they may be related, are not interchangeable. For these reasons, the following discussion will deal with the concept of self-directed learning.

The Concept of Self-Directed Learning

This section attempts to clarify the definition of self-directed learning by explaining in detail the concept of self-directed learning. Actually, the meaning of self-directed learning has a meaning that is similar to **self-determination** in psychological terms.

Deci (1980) proposes that self-determination involves the process of deciding how to behave. Deci adds that self-determination embodies/includes the term **will** to refer to people's capacity to decide how to behave and to have those decisions be causal antecedents of their behavior. In other words, both terms imply control over one's own behavior.

However, it is prejudgmental to equate the terms self-directed learning and self-determination.

The term self-determination is proposed here both as a way to clarify the concept of self-directed learning and because the term self-directed learning is rarely found in the psychological dictionaries. In psychological literature, the term self-directed is often used interchangeably with the term independence.

In fact, the idea of self-directed learning has existed since Socrates and even earlier. The term self-directed learning is a term which has evolved in adult education, teaching and research (Candy, 1991).

Knowles (1975) explains that the term self-directed learning has other labels in the literature, such as **self-planned learning, inquiry method, independent learning, self-education, self-instruction, self-teaching, self-study, and autonomous learning.** A number of theorists and researchers, especially in adult education fields, agree that these labels can be equated with self-directed learning. For example, Moore (1986) uses the terms autonomous learner, independent learner, and self-directed learner interchangeably. Others also use the terms independent learning and self-directed learning interchangeably (Bagnall, 1989; Gaskell & Mills, 1989; Gow & Kember, 1990). The concept of self-directed learning is

employed by Tough in his research to refer to self-teaching (Herman, 1982; Long, 1989).

The term self-directed learning itself became popular through the efforts of Knowles (1975) and Tough (1979) and, since then, has changed gradually over the years (Bonham, 1989; Long, 1990). However, the change seems to vary among theorists and researchers. Therefore, to avoid a certain conceptual confusion, a discussion will be provided to identify a number of the various uses and meanings of the term self-directed learning.

Actually, many authors use the term self-directed learning to refer to a goal of education (Dressel & Thompson, 1973; Garrison & Bayton, 1987; Gow & Kember, 1990; Kember, 1990; Paul, 1990; Sharp, 1990); or a goal of development toward which the adult learner should be moved Bonham, 1989; Schutz, 1991). For others, self-directed learning refers to a mode of instruction, a way of learning (Bonham, 1989; Brookfield, 1985; Moore, 1986; Universitas Terbuka, 1991) or a program of learning which uses distance education as a delivery system for remote learners (Dunning, 1987; Robinson, 1992). Other authors describe the term self-directed learning either as a process (Bonham, 1989; Brookfield, 1984, 1985; Guglielmino; 1978, 1991; Knowles, 1975) or as a personal quality or characteristic of learners (Bonham, 1989; Candy, 1991; Long, 1991). The different definitions of the term self-directed learning, therefore,

become problematic, not because of such broad definitions, but only when researchers begin to define the style alternatives or learning elements (Bonham, 1989).

In this study, the concept of self-directed learning refers both to self-directed learning as an educational method, technique or delivery procedure and to self-directed learning as a process as defined by Knowles (1975). For the purpose of measurement in this study, self-directed learning refers to the degree to which people prefer to be independent and to direct their own learning activities (Guglielmino, 1978; Guglielmino & Guglielmino, 1991).

Guglielmino adds that the degree of independence in any given learning situation will vary from teacher- or trainer-directed classroom learning settings to self-planned and self-conducted learning projects. Although some learning situations are more conducive to self-direction than others, it is the personal characteristics of the learners, including their attitudes, values, and abilities, that ultimately determine whether or not self-directed learning will take place.

According to Long (1989), adult self-directed learning has three conceptual dimensions. The first term, which is perhaps the most popular usage of this term, applies to the **sociological dimension**. As a consequence, self-directed learning is equated with independent learning, which also has two dimensions: (a) physical separation or isolation of

the learner; and (b) interpersonal power. According to the first of the conditions, the independent learner is a solitary learner. Long (1989) gives examples of learning that occurs in isolation, such as correspondence study and computer- assisted instruction. The interpersonal power refers to the independent learner as an autonomous learner (also often a solitary learner) for whom the parameters and learning activities are personally established. When problems are encountered, the learner may consult with some perceived expert and may consider the information free of any coercion to accept such information.

The second popular conception of self-directed learning is focused on a **pedagogical model**. Here, the degree to which learning is self-directed is determined by the freedom which the learner is given to set learning goals, to identify and use resources, to determine the effort and time to be allocated to learning, and to decide how and what kind of evaluation of the learning will take place. According to this view, the learner can be not completely autonomous. The self-directed learning may take place within group learning frameworks, institutionally sponsored or otherwise.

The final dimension is the **psychological dimension**, which is the one which will be emphasized in the present study. The main distinction between the psychological dimensions and the other two dimensions is the psychological variable, that is the degree to which the learner, or the

self, maintains active control over the learning process. This dimension will be emphasized in the present study.

In summary, there is still no agreement about the definition of self-directed learning. Self-directed learning can be defined in a variety of ways. However, the different definitions become a problematic when researchers begin to define self-directed learning for the purpose of research. In the present study, the concept of self-directed learning refers mainly to the process defined by Knowles (1975). However, to some extent, it also refers to an instructional method. For the purpose of measurement in this study, self-directed learning refers to the construct of self-directed learning as described by Guglielmino (1978).

The psychological dimension, as discussed by Long (1989, 1990), will be emphasized in the present study. To approach self-directed learning from this dimension, the following section will discuss the issues surrounding the concept of self-directed learning.

The issues in self-directed learning

There are two issues in self-directed learning which are important for understanding self-directed learning in the present study. These two issues are the concept of control in self-directed learning and the concept of independence in self-directed learning.

The concept of control

The issue of control in self-directed learning emerges from the fact that, to some extent, under highly structured conditions (conditions where everything is well organized, systematic, or highly rigid) learners are viewed as the ones who do not have control since everything has been controlled by the teachers. It is, therefore, necessary to understand the meaning of control.

The meaning of control, as defined by "Webster's Ninth New Collegiate Dictionary" (1991), is to have power over something or someone. This word functions as a verb. The other meaning of control comes from the psychological point of view. Research indicates that personal control can be viewed from two different perspectives. The first perspective is that personal control is viewed in terms of **locus of control**; and the other is that personal control is viewed in terms of **desire for control**. According to Burger (1992), locus of control deals with how much personal control people *perceive*. The desire for control refers to how much personal control people *prefer*.

Several researches have indicated that there is no significant relationship between locus of control and self-directed learning (Adams, 1993; Skagg, 1981). These research results support the view of self-directed learning that, to some degree, self-directed learners take the

initiative with or without the help of others. In this case, even highly self-directed learners who have high levels of internal locus of control, in that they perceive themselves to be the ones who control their own lives, might also have high levels of external locus of control. This means that they will ask help from others who are considered more knowledgeable than themselves. However, the fact that they seek help does not mean that learners depend on others. Rather, as Tough states (in Garrison, 1989), learners can receive a great deal of help without giving up any of their controls or responsibilities. Therefore, it might not be possible to relate the concept of locus of control to self-directed learning.

The issue of control in self-directed learning does tend to be related to the concept of desire for control. Unfortunately, there has not, so far, been any research conducted into this relationship. However, the concept of desire for control could be defined psychologically as implying motivation for personal control, as mentioned by Burger (1992). This motivation for personal control helps the learners to have control over both the learning process and the curriculum content. In this way, self-direction in learning can occur in a wide variety of situations, ranging from a teacher-directed classroom to self-planned and self-

conducted learning projects (Bonham, 1989). Therefore, self-directed learning can still occur even if the learners are in highly structured conditions.

Long (1989) gives an example of this type of condition. Under these conditions, where the instructor is well organized, systematic, or highly rigid, students with high psychological self-control may choose from among the course objectives, and, then may give relative attention and emphasis to those that are of most interest to them. They may supplement their reading by additional materials and engage in other "subversive" learning activities such as devising questions that challenge the authoritative resources. Brookfield (1984) suggests that this concept of control becomes the practical and conceptual heart of self-directedness in learning. Other authors have subsequently supported this idea (Brew, 1987; Candy, 1991; Long, 1989, 1990; Peter, 1989).

In summary, based on the psychological point of view, self-directed learning can occur even though an individual learns in an isolated place (based on the sociological dimension), and/or in highly structured conditions (based on the pedagogical dimension). The highly self-directed learners will be able to maintain control over the learning process under every learning condition.

The concept of independence

The issue of independence emerges because independence is defined as the quality or state of being independent without being influenced, determined by, or subject to another (Webster's Ninth New Collegiate Dictionary, 1991). Based on this definition, independent learners are assumed to be independent individuals who do not need anyone else involved in their learning. This definition describes self-directed learning in a way which is similar to the sociological dimension (Long, 1985, 1990).

The issue of independence also emerges when self-directed learning is related to cognitive style. Field-independent learners are characterized as analytical, socially independent, inner-directed, individualistic, and possessed of a strong sense of self-identity (Witkin in Brookfield, 1985). Field-dependent learners are deemed to be comfortable in highly regulated settings where norms are well defined and unchanging. Given this characterization, highly self-directed learners are assumed to be field-independent learners.

The concept of independence in self-directed learning in the present study is not meant to imply that self-directed learners do not need anyone else in their learning; rather, it implies that they are independent both in initiating and in deciding whether or not they need the help

of others. Some authors (Brookfield, 1984, 1985; Garrison,
1987; Knowles, 1975) explain independence in self-directed
learning not in relation to other people but in the
independence of learners to control the learning process by
themselves, as previously discussed in the concept of
control. In this sense, highly self-directed learners are
able to realize that the sources of learning will include
tutors, friends, relatives, travels, and media, such as
books, newspapers, radio, television and computers.

Further shaping this view, Brookfield (1985) mentions
that successful self-directed learners exhibit
characteristics close to those of the field-dependent
learning style in a number of significant ways. Brookfield
points out that successful self-directed learners appear to
be highly aware of context, in the sense that they place
their learning within a social setting in which advice,
information, and skill modeling provided by other learners.

In summary, independence in self-directed learning does
not mean that an individual does not need anyone else in the
learning process. The concept of independence, in fact,
might be better viewed as independent learners,
psychologically, controlling their learning process by
themselves --- and with the help of others.

The Characteristics of Self-Directed Learners

As discussed previously, control and independence are
two issues in self-directed learning which underlie the

characteristics of self-directed learners. Highly self-directed learners are individuals who have control over the learning process (Brew, 1987; Brookfield, 1984; Candy, 1991; Guglielmino & Guglielmino, 1991; Long, 1989, 1990; Peter, 1989). High self-directed learners also show higher independence than do low self-directed learners. Syahbuddin (1990), in his study, "Factors affecting students' success in Universitas Terbuka", reported that high achievement students felt their independence improved while studying at Universitas Terbuka compared to the lower feeling of independence of low achievement students.

In addition, there are several other characteristics of self-directed learners. A study conducted by Sabbaghian (1980) indicated a close positive relationship between adults' self-directedness in learning and their self-concepts. Highly self-directed adult students had more self-esteem and self-acceptance, and they were more effective in different aspects of life than were low self-directed adults.

Guglielmino and Guglielmino (1991) report lists of personal characteristics for self-directed learning and other-directed learning which were developed by several groups of workshop participants and graduate students in adult education; they are as presented in the following:

Table 2
Characteristics/action encouraged in the learner by self-
and other-directed learning approaches

Other-directed	Self-directed
"followership" - accepting someone else's decisions about what, when, and how to learn	self-reinforcement
	initiative
meeting expectations	"ownership" - acceptance of responsibility for one's own learning
dependence	independence
adherence to others' time schedules for learning	use of wide variety of resources
following directions	time-management skills
conformity	problem solving ability
passivity	creativity
memorization skills	innovation
listening skills	self-discipline
reliance on external validation	intrinsic motivation
compliance	planning skills
respect for authority	self-awareness
regimentation	critical thinking skills
reliance on external motivation	self-confidence
respect for grades and and academic credentials	use of internal criteria for evaluation

Note: From "Expanding your readiness for self-directed
learning" by L. M. Guglielmino & P. J. Guglielmino, (1991),
p. 12.

An interpretation of the description of characteristics in Table 2 should not be assumed to indicate that the characteristics of self-directed learners are better than those of other-directed learners. The individual needs some of the characteristics and actions from each side.

In summary, characteristics of self-directed learners consist of both components of control and components of independence. Those characteristics are differentiated from characteristics of other-directed learners; however, to some extent, an individual needs some of the characteristics and actions from each side.

The Readiness of Self-Directed Learning

There is very much involved in being an independent learner. A precondition for self-directed learning is the readiness of the students to engage in a self-directed learning program, such as a distance education program. According to Guglielmino (1989), the implications of the term 'readiness' are that (a) readiness for self-directed learning is a developable capacity in the normal individual to some extent; and (b) readiness for self-directed learning exists along a continuum and is present in each person to some degree.

Readiness for self-directed learning, as a human behavior, is measurable. In fact, an instrument has been developed by Guglielmino (1978) to measure this ability, called the Self-Directed Learning Readiness Scale (SDLRS).

According to Guglielmino, the instrument was developed for use by educational institutions or individual learning facilitators in their efforts both to select suitable learners for programs requiring self-direction in learning and to screen learners to determine their strengths and weaknesses in self-direction in learning; it represented an attempt to guide the learners into situations in which they could best utilize and develop their potential in this area.

In summary, based on the assumption that readiness for self-directed learning is measurable, the present study measures the readiness for self-directed learning as a precondition for self-directed learning by using the SDLRS (which was developed by Guglielmino [1978]).

Research on self-directed learning

Since the 1970s, research on self-directed learning has been carried out which can be divided into three major topics (Brocket, 1985). These topics are: (1) topics on the frequency and nature of learning projects undertaken by adults; (2) topics on building a greater understanding of the meaning of self-directed learning; and (3) topics on quantitative studies involving the use of SDLRS as an instrument of study (see Figure 2, page 47).

These topics could be further divided into two subtopics. The third topic, which is the focus of the present study, could be further divided into two subtopics, one which focuses on the SDLRS as an instrument (i.e, the
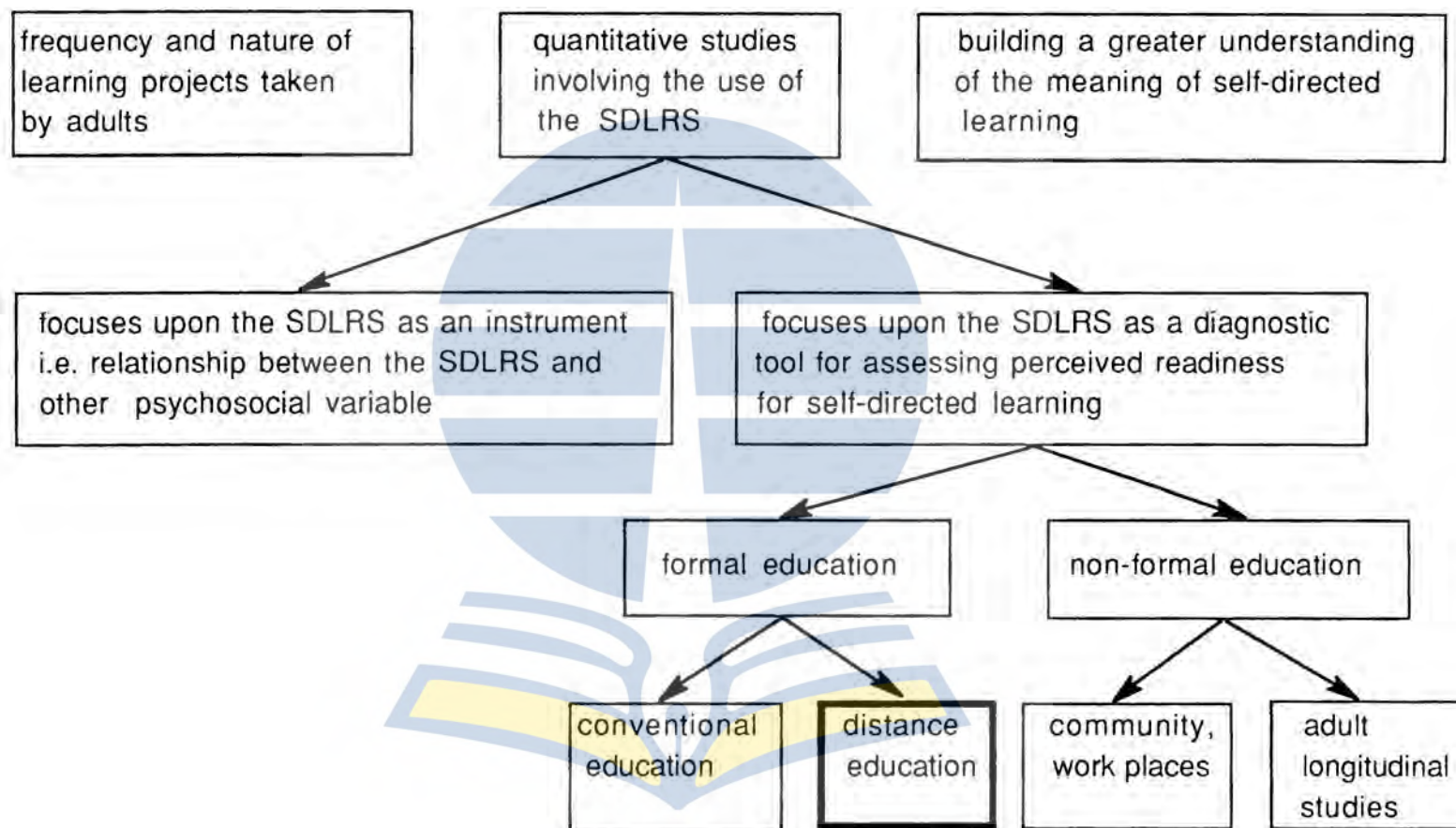
Figure 2. Research on self-directed learning (Modified from "Methodological and substantive issues in the measurement of self-directed learning readiness" by R. G. Brockett, (1985), Adult Education Quarterly, 36, p. 15-24).

relationship between SDLRS and other psychosocial variables) and a second subtopic which focuses on the SDLRS as a diagnostic tool for assessing perceived readiness for self-direction in learning.

Self-directed learning can occur both in the informal, or natural societal settings and in the formal institutional settings. The topics of studies in informal setting include those which focus both on community or work places and on adult longitudinal studies. On the other hand, the topics of studies in the formal institutional setting include those which focus upon conventional education and distance education.

The present study focuses upon the third topic --- that is, quantitative study involving the use of SDLRS as an instrument of measurement. Specifically, the study focuses on the use of the SDLRS as a diagnostic tool for assessing perceived readiness for self-directed learning in distance education as formal education.

Although numerous studies of self-directed learning have been conducted, in fact, there are only a few studies which have used distance education students as the population of the study. A study which was conducted by Harring-Hendon (1989) at the University of Wisconsin - Green Bay might be one of the few studies in distance education that could be identified as using distance education students as the sample of the study. In her study, Harring-

Hendon found that approximately 72 per cent of the distance learning participants scored above average as measured by the SDLRS. Her findings are presented as follows:

Table 3
Self-Directed Learning Readiness Score by Harring-Hendon

Score	Ranking	N	%
252 - 290	high	18	35
227 - 251	above average	19	37
202 - 226	average	13	25
177 - 201	below average	1	2
58 - 176	low	0	0

Note: From "Self-directed learning readiness in distance education" by J. Harring-Hendon, (1989), (ERIC Document Reproduction Service No. ED. 182 465), p. 170.

Unfortunately, she did not report the average of the SDLRS scores.

Guglielmino (1978) found that the average score for adults completing the SDLRS in Georgia, Virginia, and Canada is 214. Another study, conducted by Long (1991), found that the average score of 92 college students at two Georgia colleges is 229.9. Confessore (1991) found that the average score of 23 Early College Program students in Vermont is 244.

Course grades as indicators of educational achievement have received very little attention from researchers. Two studies which could be identified are those by Savoie (1980) and Long (1991). Savoie investigated 152 nurses who were

involved in continuing nursing education courses in Toronto. She reported a positive correlation between SDLRS score and achievement in one course. Long (1991) reported a positive correlation between SDLRS score and college GPA at two Georgia colleges in the U.S.

Another study in the self-directed learning area was conducted by Sabbaghian (1980). This study involved 77 adult students at Iowa State University as the sample of the study. The findings showed that level of education, sex, and age all had a significant impact on adults' self-directedness in learning. Freshmen were less self-directed than were senior adult students, and females had greater growth in readiness for self-directed learning than did males.

In conclusion, although studies conducted on self-directed learning could be categorized into several topics, the present study focuses upon the topic that involves the use of SDLRS as an instrument of measurement and focuses on distance education as formal education.

Achievement

Definition of achievement

In "Webster's Ninth New Collegiate Dictionary (1991), achievement is defined as a result brought by the effort or the quality and quantity of a student's work. This definition is similar to the definition of the Encyclopedia of Psychology (Eysenck, Wurzburg, & Berne, 1982) which

defines the term, achievement, in three ways: (1) the general term for the successful attainment of goal requiring a certain effort, (2) the degree of success attained in a task, e. g. solving a test, and (3) the result of a certain intellectual or physical activity defined according to individual and/ or objective (organizational) prerequisites: i. e. profiency.

Based on these definitions, it can be concluded that achievement is the related to student performance, especially in institutional settings.

Research on achievement

Coldeway (1986), in discussing learner characteristics and success, describes student achievement as being indicated by such things as course marks and final exams. Commonly, grade point average (GPA) is viewed as the students' achievement, or academic achievement is considered to be a result of student performance.

Many researchers use GPA as an indicator of academic achievement. Aseeri (1985) used GPA as an indicator of student academic achievement in his research which investigated the prediction of foreign graduate students' academic achievement at Michigan State University. Another researcher, Daluge (1982), who conducted a study on academic success and motivation of adult and traditional age college freshman, used GPA as an indicator of academic success. GPA is also used as an indicator of educational performance by

Long (1991) in his research which examined college students'
self-directed learning readiness and educational
achievement.

In summary, achievement can be defined as a result of
student performance, especially in institutional settings.
Usually, achievement is manifested in GPA. Studies show
that GPA is generally accepted as an indicator of student
achievement. Therefore, in the present study, GPA is also
used as an indicator of student performance in a distance
education institution, specifically the Universitas Terbuka.

Rationale of the study

Both the concept of andragogy (education for adults)
and the concept of adult developmental stages assume that
adults are self-directing in their learning. However, not
all adults succeed in their developmental tasks as well as
in their education. Some adults prefer pedagogy to
andragogy. Others depend on other people in their lives
and, sometimes, adults do not fully complete their
developmental tasks. These facts reveal that not all adults
are self-directing in their learning. For this reason,
then, it is questionable whether the concept of andragogy
and the developmental stages of adults can explain the
concept of adult self-directed learners.

Even though not all adults are self-directing in their
learning, the concept of andragogy and developmental stages
of adults might still be able to explain adult self-directed

learners. Based on these concepts, every adult is assumed to have the potential for self-directed learning which is a, to some extent, developable capacity in normal adults. Therefore, according to these assumptions, adults who prefer to study in distance education are also assumed to have the developable capacities of self-direction in learning. Harring-Hendon (1989), for example, found that approximately 72 percent of the distance learning participants scored above average as measured by the Self-Directed Learning Readiness Scale (SDLRS).

Some researchers suggest that the students who will succeed in distance education institutions are those who are self-directed learners (Long, 1991; Moore, 1983, 1986; Paul, 1990). These researchers support the results of Savoie's study (1980). Even though this study was not conducted in a distance education setting, the results of the study suggest that the ability to study independently is a key element of success, as indicated by course grades.

Although course grades as indicators of educational achievement have received little attention from researchers, the findings of studies in this area indicate a positive correlation between SDLRS score and academic achievement (Long, 1991; Savoie, 1980).

Eisenman (1990) explains that self-directed learning and cognitive ability are correlated with educational experiences. However, self-directed learning and cognitive

ability affect educational experiences in different ways (Eisenman, 1990). In his study, which involved 289 students in the Clarke County Georgia School District, Einsenman found that the capacity to be a self-directed learner was not associated with intelligence. These findings are in keeping with earlier results found by Chickering and Gunzburger (in Einsenman, 1990).

The success achieved by self-directed learners might result, in part, from the ability of the self-directed learners to control the learning process. This may be especially true in the distance education institution which has a highly structured instructional mode and which requires the students to learn independently, due to the physical distance between the students and the institutions. Theoretically, those who are more ready to engage in self-directed learning should achieve consistently better than those who are not ready to engage in self-directed learning.

The present study was conducted to determine both the level of readiness of the students of the Universitas Terbuka to engage in self-directed learning and whether or not there is any relationship between the readiness of students at the Universitas Terbuka to engage in self-directed learning and their academic achievement.

Research Questions

The research questions in this study consist of two major research questions and four subsidiary research

6. Are there any differences among students in the different study programs (Public Administration, Business Administration, and Development Administration) within Faculty of Social and Political Sciences and their academic achievement?

CHAPTER 3

METHODOLOGY

Sample

The 600 subjects for this study were randomly selected from the population of 29,474 active students of the Faculty of Social and Political Sciences who registered in the second semester of 1992 (92.2) (see Appendix A). Active students were defined as students who were freshmen, sophomores, and seniors; as students who registered regularly; and as students who had never been unregistered for more than four consecutive semesters.

The sample was drawn from 26 of a total of 32 regional offices throughout Indonesia (see Appendix B). Only the data from 26 of the regional offices were available at the time the study was conducted. These regional offices function as operational units of the Universitas Terbuka to provide student support service for students who live far from the central office in Jakarta.

Data collection

Collection of data was obtained both by questionnaires which were sent directly by mail to the students and by data records from the Computer Centre of Universitas Terbuka. The questionnaires consisted of two parts. The first part consisted of demographic data including the student's name, student's number, student's first registration, registration continuity, gender and employment status. The second part

was the Self-Directed Learning Readiness Scale (SDLRS), the instrument of this study, which contained 58 items translated into Indonesian. This instrument and its development will be described in the next section.

The study was conducted in the second semester of 1992. The period of registration for students of this semester was from July 1, 1992 to September 30, 1992. Since the registration process took time to send from the regional offices to the central offices in Jakarta, therefore, the list of the students enrolled in the second semester of 1992 was obtained at the end of September, 1992. Questionnaires were mailed to the 600 students at the beginning of October, 1992. A letter explaining the purpose of the questionnaire from the Rector and a pre-paid envelope for its return were included with the questionnaire (Appendix C).

At the end of the semester, the GPAs of the students were obtained from the Computer Centre. The different times for collecting the data, obtaining the SDLRS scores from questionnaires at the beginning of semester and obtaining the GPAs at the end of the semester, was expected to give predictive value to the SDLRS's measurement. In other words, the SDLRS scores which were collected at the beginning of the semester were expected to give predictive value to the GPAs of the students. The greater the readiness of students to engage in self-directed learning at

the beginning of semester, might result in the possibility of a higher GPA at the end of semester.

From a total of 600 questionnaires sent to the students, 417 were returned, the return rate was or 69.5%. However, not all the questionnaires could be processed since some students did not complete the questionnaires, and others did not take the exam at the end of the semester; therefore, their GPAs were not available. Table 4 shows the return rate of the questionnaires:

Table 4
Return rates of the questionnaires

	Freshmen	Sophomores	Seniors	Total
Number of questionnaires sent	200	200	200	600
Number of incomplete questionnaires	11	11	4	26
Number of incomplete GPA	16	6	2	24
Total number of incomplete data	27	17	6	50
Number of valid data	113	139	117	369
Valid return rate (%)	56.5%	69.5%	58.5%	61.5%

Forty eight cases could not be processed due to incomplete data. Those cases consisted of 24 cases of incomplete questionnaires, 22 cases of incomplete GPA, and two cases of both incomplete questionnaires and incomplete GPA. Therefore, the net return rate for the present study was

61.5%, which is generally considered to be a very high return rate for social survey research.

Instrument

The instrument used in this study was the Self-Directed Learning Scale (SDLRS), developed by Guglielmino (1978). It is a 58-item Likert scale designed to assess the degree to which individuals perceive themselves to possess skills and attitudes frequently associated with self-directed learning. To avoid respondent bias, Guglielmino suggests changing the title of the scale to *The Learning Preference Assessment*. The responses of the respondents are described as follows:

AAT = **Almost Always True** of Me (There are very few times when I don't feel this way).

UT = **Usually True** of Me (I feel this way more than half of the time).

ST = **Sometimes True** of Me (I feel this way about half of the time).

UNT = **Usually Not True** of Me (I feel this way less than half of the time).

ANT = **Almost Never True** of Me (I hardly ever feel this way).

Each response is scored from 1 to 5. The range of total scores is from 58 to 290. A higher score indicates a higher readiness for self-directed learning. The original study by Guglielmino found a mean score for the adults completing the SDLRS in Canada of 214, and a standard

deviation of 25.6 (Confessore, 1991; Guglielmino &

Guglielmino, 1991). Table 5 shows Guglielmino's

interpretation of the meaning of the score (Guglielmino &

Guglielmino, 1991):

Table 5
Self-Directed Learning Readiness Scale Interpretations

Score	Ranking
252 - 290	High
227 - 251	Above average
202 - 226	Average
177 - 201	Below average
58 - 176	Low

Note: From "The learning preferences assessment"
by L. M. Guglielmino, and P. J. Guglielmino,
(1991), p. 8.

According to Guglielmino and Guglielmino (1991), the

interpretation of the scores are as follows:

> People with high scores usually determine their own
> learning needs and prefer to take responsibility for
> planning and implementing their own learning. They can
> identify a variety of approaches and resources to meet
> their learning needs. They tend to be skillful self-
> evaluators.
>
> People with average scores are likely to successful in
> independent learning situations, but they are not
> completely comfortable with being responsible for the
> entire process of identifying their learning needs and
> planning, implementing, and evaluating their learning.
>
> People with below average scores may have difficulty in
> recognizing their needs for learning. Usually they
> prefer very structured learning options, such as
> lectures in traditional classroom settings where the
> decisions about what, when, and how to learn are made
> by someone else. Some people have a low level of self-
> directed learning readiness because they have
> consistently been exposed to other-directed

instruction. They are not aware of the possibilities or rewards of a more self-directed approach. (Guglielmino and Guglielmino, 1991, p. 8).

The instrument was developed through a three-round Delphi survey of 14 individuals considered to be experts in the area of self-directed learning. Those were Herbert A. alf, B. Frank Brown, Edward G. Buffie, Arthur W. Chickering, Patricia M. Coolican, Gerald T. Gleason, Winslow R. Hatch, Cyril O. Houle (first two rounds only), Malcolm S. Knowles, Wilbert J. McKeachie, Barry R. Morstain, Mary M. Thompson, Allen M. Tough, and Morris Weitman (Candy, 1991; Guglielmino, 1978). Upon revision, the reliability coefficient was .87. As described by McCune, Guglielmino, and Garcia (1990), the latest reliability estimate, based on a varied sample of 3,151 adults, was .94.

In addition to a total score for self-directedness, there are eight factors underlying the SDLRS: (a) openness to learning opportunities, (b) self-concept as an effective learner, (c) initiative and independence in learning, (d) informed acceptance of responsibility for one's own learning, (e) love of learning, (f) creativity, (g) future orientation, and (h) ability to use basic study skills and problem solving skills.

A study which was conducted by Torrance and Mourad (1978) supported the construct validity of the SDLRS. The researchers explored the correlation between the SDLRS and several other criterion measures. Product-moment coefficients of correlation between the total SDLRS scores

and the criterion measures were statistically significant for all three of the originality measures and the other of the criterion measures. The three of the originality measures were: (1) Sound and Images (rs = .52) , (2) Thinking Creatively about The Future (r = .38), and (3) Shaefer's Similes Test (r = .52). The other criterion measures were: Measure of Ability to Produce Analogies (r = .48), Creative Achievements and Experiences (r = .71), and the Right and Left Hemisphere Styles of Learning (rs = .43 and -.34, respectively).

In addition, self-directed learning readiness, as defined by the SDLRS, is very much oriented toward learning through books and schooling (Brockett, 1985). Therefore, the use of the instrument was considered to be appropriate for the purpose of this study. However, for this study, which was conducted in Indonesia, the instrument was translated into the Indonesian language.

Procedure of Translation

In this study, the original SDLRS was translated from the English language into the Indonesian language. Several steps were taken to find the essence of the translation for each sentence in the original SDLRS. The procedure of translation in this study combined several of the methods suggested by Brislin (1980) and Prieto (1992): a committee approach, a back translation, and a pre-test procedure or a

pilot testing of translation instrument. The procedure for translation was carried out as follows:

1. Each item of the original SDLRS was translated from English to Indonesian by the researcher a number of times to provide each item with many possibilities to minimize the possible bias. The totality of these translations was considered as a kind of first draft and was prepared to be discussed using a committee approach as is explained in the following.

2. A number of bilingual Indonesians, including 21 of Universitas Terbuka's staff members studying at UVIC and two Indonesians who have been living in Canada for more than 5 years, were asked to choose the clearest translation. They were also asked to give feedback or to add to the draft with the right translation. All of these people understand and speak both the Indonesian and the English languages. This method was a minor modification of the committee approach suggested by Brislin (1980). According to Brislin, the committee approach is an approach in which a group of bilinguals translates from the source to the target language. The mistakes of one member will tend to be caught by others on the committee.

3. The results of the committee approach were discussed in depth by the researcher and a colleague who is an Indonesian psychologist and who has conducted several

studies using translation instruments before. This
method could be considered as the second committee
approach which resulted in the second draft of the
Indonesian version.

4. The second draft of the SDLRS was pilot tested or pre-
tested. Prieto (1992) has suggested that pilot testing
of a translation instrument is of significant importance
in producing an accurate, usable translation. The sample
of pilot testing was 37 students of Universitas Terbuka
in Jakarta. They were asked to complete the
questionnaires, the second draft of the SDLRS, and were
interviewed to give feedback on the items which were not
clear enough either from the point of view of the
students and the researcher. The results of pilot
testing were analyzed per item based on item discriminant
and 15 items were revised. In analysis by SPSS/PC+^{TM}
4.0, the second draft of the SDLRS showed a reliability
which was estimated to be .87 (see Appendix D). As a
result of pilot testing, the third draft of the
Indonesian version was developed.

5. The third draft was back translated from Indonesian to
English. According to Brislin (1980), back translation
is a translation in which a researcher prepares material
in one language and asks a bilingual to translate into
another (target) language. A second bilingual
independently translates the material back into the

original language. The original and the back translation
of the SDLRS can then be examined for their similarity.
In order to complete back translation, the researcher
asked the help of two bilinguals. Both persons were
Indonesians and had graduated from English at their
respective universities (one graduated in English at the
Indonesian University, and the other graduated in English
in England). Both of them worked together in the
translation for the back translation.

6. The next step was to examine and make a sound judgement
about the quality of the original SDLRS and the back
translation of the SDLRS. To avoid bias due to the fact
that the researcher had done the first draft of the
translation before, the researcher asked an American
woman, who was considered capable by the researcher (she
speaks English and she has editing experience), to
compare the two forms of the SDLRS. This woman did not
know about the original SDLRS, and, thus, her comparison
of the two English forms of the SDLRS could be considered
objective. According to her, these two forms of the
SDLRS had equivalent meaning, even though, the word
'learning' was translated into 'study' in the back
translation. In Indonesian, the words learn and study
are translated by the same word, that is, 'belajar'.

Based on the procedure of translation outlined above,
the third draft of Indonesian version was regarded as

sufficiently reliable and an accurate translation of the SDLRS that it was appropriate to be distributed to the sample of 600 respondents. In the assembly of the questionnaire, the instructions clearly stated that the best answers were the student's first reaction to the statements, and that all the information obtained would be kept confidentially, in order to ensure that the students responded honestly.

Moreover, in order to ensure that the students would clearly understand the items clearly, **further explanations** for the students, in parenthesis, were included for item number 33 and item number 53. The statement of item 33 in the original SDLRS is as follows: "I don't have any problem with basic study skills", which was translated as: "Saya tidak memiliki masalah dengan keahlian dasar (contoh: memahami bacaan, meringkas pelajaran) yang dibutuhkan dalam belajar". Here, two examples of "basic study skills" were provided in parenthesis, due to the fact that the term basic study skills was not used commonly in Indonesian.

The statement of item 53 is "Constant learning is a bore". It was translated as: "Belajar secara konstan (ajeg) adalah membosankan". The word "konstan" was provided by the word "ajeg" in parenthesis to emphasize the meaning of "konstan", since this word was not clear if it stands by itself.

The internal reliability of the instrument, after it was revised, was also calculated after the SDLRS was completed by 391 respondents. The reliability coefficient was .91 which was higher than that of the pilot testing (see Appendix E).

Operational definitions

1. **Student** is defined as someone who was a student of the Faculty of Social and Political Sciences in Universitas Terbuka, registered in the second period of 1992 or registration period of 92.2, and was considered to be an active student.

2. **Active student** is a student who registered regularly and has never been unregistered for more than four consecutive semesters.

3. **Readiness of the student to engage in self-directed learning** is the score which the student received as a result of measurement by the Self-Directed Learning Readiness Scale (SDLRS) which was developed by Guglielmino (1978).

4. **Achievement** is the grade point average (GPA) of the student in the second registration period of the 1992 (the registration period of 92.2).

5. **Freshman student** is a student who enrolled as a student of the Faculty of Social and Political Sciences in Universitas Terbuka in the registration period of 92.1

(from January 1st, 1992 to March 31, 1992) or 92.2 (from July 1st, 1992 to September 30, 1992).

6. **Sophomore student** is a student who registered as a student of the Faculty of Social and Political Sciences in Universitas Terbuka during the period from the first semester of 1991 to the second semester of 1991.

7. **Senior student** is a student who registered as a student of the Faculty of Social and Political Sciences in Universitas Terbuka for more than 2 years while this study was conducted.

Data Analysis

Data of this study were analyzed by using SPSS/PC+^{TM} 4.0 (Norusis, 1990). The analysis employed to answer the two major research questions (the first and the second research questions) and four subsidiary research questions (the third, fourth, fifth, and sixth research questions) will be described in the following.

To answer the first major research question --- What is the level of readiness of the students of the Faculty of Social and Political Sciences at the Universitas Terbuka to engage in self-directed learning? --- the analysis was based on the original interpretation of SDLRS scores by Guglielmino and Guglielmino as presented in Table 5 (page 61).

To answer the second major research question --- Is there any relationship between the readiness of the students

of the Faculty of Social and Political Sciences at the Universitas Terbuka to engage in self-directed learning and their academic achievement? --- the Pearson product-moment correlations were calculated to examine whether or not there was relationship between the SDLRS score and the GPA.

To answer the third research question --- Are there any differences between the students' gender (males and females), students' levels of education (freshmen, sophomores, and seniors), and their readiness to engage in self-directed learning? --- the data were analyzed by the 2 x 3 Factorial Analysis of Variance. A t-test (Least Significant Differences test) was applied where necessary.

To answer the fourth research question --- Are there any differences between the students' gender (males and females), students' levels of education (fresmen, sophomores, and seniors), and their academic achievement? --- the data were analyzed by the 2 x 3 Factorial Analysis of Variance. A t-test (Least Significant Differences test) was applied where necessary.

To answer the fifth question --- Are there any differences among students in the different study programs (Public Administration, Business Administration, and Development Administration) within Faculty of Social and Political Sciences and their readiness to engage in self-directed learning? --- the data were analyzed by one way

Analysis of Variance. A t-test (Least Significant Differences test) was applied where necessary.

To answer the sixth question --- Are there any differences among students in the different study programs (Public Administration, Business Administration, and Development Administration) within Faculty of Social and Political Sciences and their academic achievement? --- the data were analyzed by one way Analysis of Variance. A t-test (Least Significant Differences test) was applied where necessary.

Delimitations of the study

There are three delimitations of the study. First, this study was conducted based both on the concept of self-directed learning by Knowles (1975) and on the construct of readiness to engage in self-directed learning by Guglielmino (1978). The concepts formed as the bases for determining the readiness of students of Universitas Terbuka to engage in independent study and for choosing the use SDLRS as an instrument of the study. In fact, this concept and construct are relatively new in social science research.

Secondly, the study was one of very few research on self-directed learning in a cross cultural setting. Therefore, some unique problems could be expected. For example, in this study, the concept of learning was assumed to be a universal concept. This means that the concept of learning in one country has the same meaning as in other

countries. However, it is possible that the sample would respond to the concept of learning in ways different from those for which the instrument (SDLRS) was normed. Therefore, efforts were made to control the bias that could be anticipated --- that is, the language variable. It is important to note Adenuga's suggestion (1991) about socio-cultural variables as follows:

> "To prevent the possible bias, particularly when dealing with culturally diverse groups, the SDLRS instrument may need to provide a guiding definition that better reflects the broader usage of the term learning in the context of self-directed learning" (Adenuga, 1991, p. 102).

Therefore, an effort to minimize the possible bias due to socio-cultural problems was made by translating the questionnaire from English into Indonesian.

Finally, due to the limitations of time and budget, the population of the study was limited to the Faculty of Social and Political Sciences. The sample, which was drawn from the Faculty of Social and Political Sciences, functions as the experimentally accessible population (Borg & Gall, 1989). The reason for drawing a sample from the Faculty of Social and Political Sciences was that its student population was the largest compared with other faculties.

CHAPTER 4

RESULTS AND DISCUSSION

Overview of the instrument

The findings of the present study show that the instrument of the study, the Indonesian version of the SDLRS, can be used effectively in the Indonesian culture. Its effectiveness was shown by: (a) the internal consistency reliability found in this study, as estimated by Cronbach's Alpha, at .91 (see Appendix E); (b) the construct validity, as assumed by Guglielmino (1978); (c) the item analysis, which can be seen in Appendix E; and (d) the descriptive results, which will be discussed in the following section, while compared with Guglielmino's study, the original study, which was conducted in culture different from Indonesia, those are, Georgia, Virginia, and Canada.

The descriptive results of the present study showed that the mean of SDLRS scores was 215.5 with a standard deviation of 21.9. Compared to this finding, the North America norms of the Guglielmino's study (Guglielmino, 1978) were a mean SDLRS was 214, and a standard deviation of 25.6. Findings of both studies resulted in similar SDLRS means. These findings suggest that students in Indonesia and those in North America responded to the instrument in almost the same ways. In other words, the instrument of the study seemed to be applicable in a cultural setting other than its original setting.

The findings of the Indonesian version of the SDLRS showed that the instrument performed in manner similar to the original version. It can, thus, be concluded that there is limited bias resulting from cross-cultural influences. Therefore, the findings of the present study can be regarded as reliable and valid use of the SDLRS.

Results

Students' self-directed learning readiness means

The SDLRS score of each student consisted of the total score on 58 items which was calculated by adding values of one, two, three, four or five as marked for each of the 58 items on the scale. The scores ranged from 58 to 290 (see page 60).

The SDLRS scores for the sample responding of 369 students had a mean score of 215.5 and a standard deviation of 21.9. Scores for the normative population, as studied by Guglielmino (1978), had a mean of 214 and a standard deviation of 25.6.

The mean score of the sample in the present study is one and a half points higher than the mean score of the normative population of Guglielmino's study. Further, the standard deviation of the sample in the present study is approximately four points lower than the standard deviation of the normative population.

The mean score in the present study also shows that students of the Universitas Terbuka have an average readiness of self-directed learning, which is similar to the

student readiness for self-directed learning in
Guglielmino's population (Guglielmino, 1978). A more in
depth discussion of the scores will be presented in the
discussion of the first research question.

Students' academic achievement

The grade point average (GPA) applied at Universitas
Terbuka ranges from 0 to 4, with A = 4 (very good), B = 3
(good), C = 2 (average), D = 1 (below average), and E = 0
(fail). The mean GPA of the students of the Faculty of
Social and Political Sciences at Universitas Terbuka was
1.6, and the standard deviation was .4.

Table 6 summarizes the means and standard deviations of
students' SDLRS scores and students' GPAs as grouped by
several variables.

Table 6
Summaries of means and standard deviations of SDLRS scores and GPAs as
grouped by several variables

Variables	n	%	Means of SDLRS	SD of SDLRS	Means of GPA	SD of GPA
Gender						
Males	281	76.2	214.11	21.75	1.67	.46
Females	88	23.8	219.76	22.04	1.63	.38
Educational level						
Freshmen	113	30.6	213.40	22.39	1.49	.41
Sophomores	139	37.7	215.33	20.84	1.71	.46
Seniors	117	31.7	217.60	22.70	1.76	.41
Study program						
Public Adm.	276	74.8	215.47	22.07	1.65	.42
Business Adm.	71	19.2	215.32	22.82	1.71	.50
Developmental Adm.	22	6.0	215.77	17.54	1.68	.51
Occupational status						
Goverment employees	224	60.7	215.63	21.32	1.69	.46
Private company employees	80	21.7	216.03	23.24	1.60	.44
Entrepreneur	15	4.1	217.20	27.43	1.57	.34

table continuous.....

Variables	n	%	Means of SDLRS	SD of SDLRS	Means of GPA	SD of GPA
Others	8	2.2	202.88	24.05	1.53	.35
Students	42	11.4	215.21	20.30	1.67	.39
Total	369	100	215.46	21.92	1.66	.44

Research Question # 1:

What is the level of the readiness of the students of the Faculty of Social and Political Sciences at the Universitas Terbuka to engage in self-directed learning?

The description of scores in the SDLRS is shown in Table 7. Approximately 25.5% of the students scored above average on the SDLRS; 44.7% of the students scored average on the SDLRS; and 29.8% of the students scored below average on the SDLRS. Appendix F shows the histogram of the SDLRS scores.

Table 7
Self-Directed Learning Readiness Scale scores

Score	Ranking	N	%
252 - 290	high	14	3.8
227 - 251	above average	80	21.7
202 - 226	average	165	44.7
177 - 201	below average	88	23.8
58 - 176	low	22	6.0

Compared to the findings of Harring-Hendon's study (1989) (the only study in distance education setting which can be identified), which found that approximately 72% of the respondents were above average (see page 49), the

findings of the present study show a lower percentage of students, 25.5%, with above average readiness for self-directed learning. Almost one half of the overall percentage of the students, 44.7%, scored average. However, the difference in the sample number in each study might be a factor to be considered. Harring-Hendon's sample consisted of 51 students of the University of Wisconsin-Green Bay distance education program, while the present study used 369 students as the study sample.

Research question # 2:

Is there any relationship between the readiness of the students of the Faculty of Social and Political Sciences at the Universitas Terbuka to engage in self-directed learning and their academic achievement?

The correlation between the SDLRS scores and GPAs are shown in Table 8 as follows:

Table 8
Correlation between the SDLRS scores and GPAs

	GPA
SDLRS	.24**

** $p < .001$, one-tailed.

The correlation is significant between the SDLRS scores and GPAs, even though low (r= .24). The correlation implies that the contribution of the readiness for self-directed learning on GPA is 6%. The plot of SDLRS scores and GPAs can be seen in Figure 3.
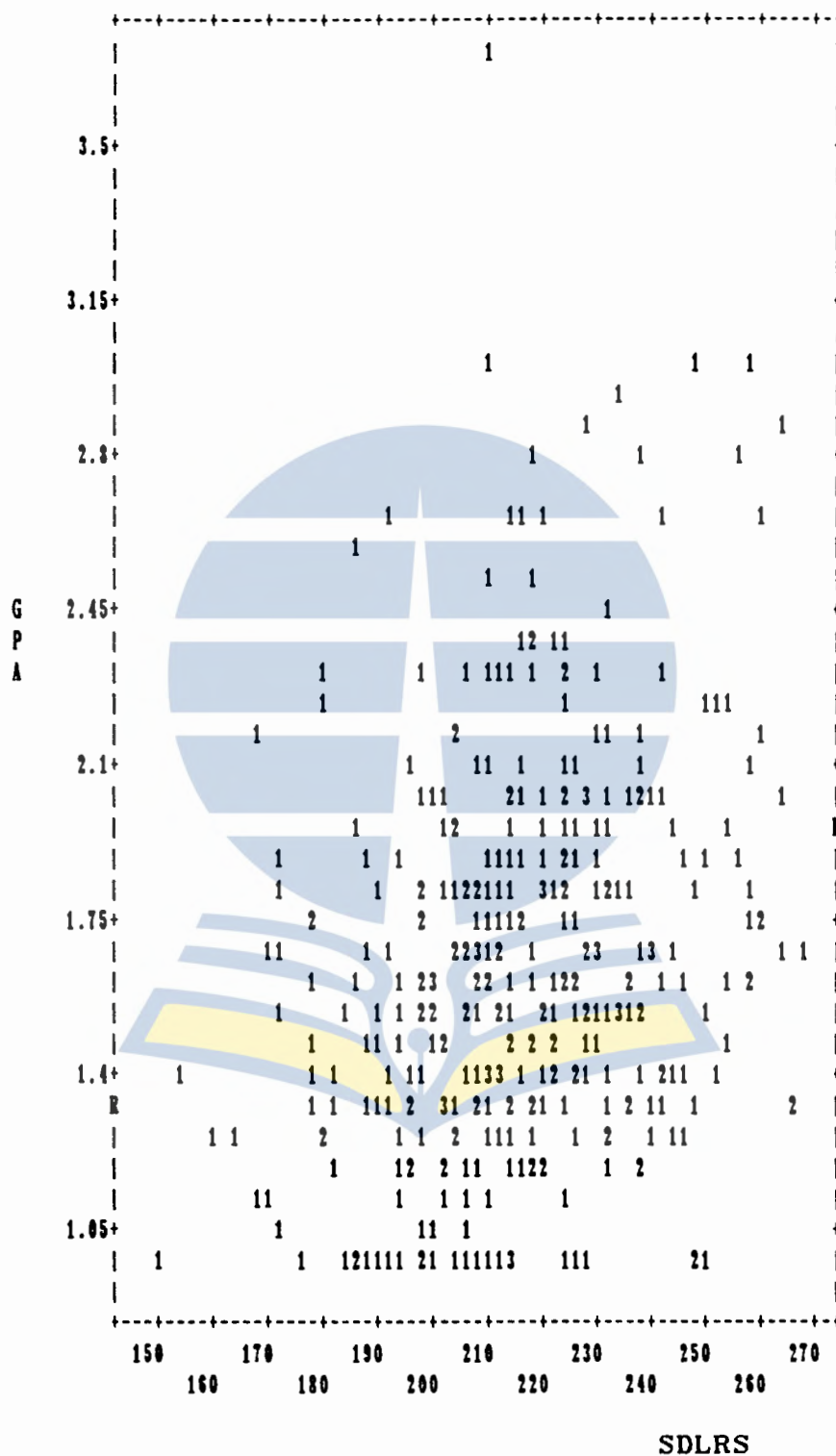
SDLRS

<u>Figure 3</u>. Plot of GPA on Self-Directed Learning Readiness Scale.

Additional correlational analysis were conducted as an inquiry. The findings show: (a) no significant correlation between SDLRS and levels of education (r= .08); and (b) a significant correlation between GPA and levels of education (r= .24, at p< .001).

Research question # 3:

Are there any diferences between the students' gender (males and females), students' levels of education (freshmen, sophomores, and seniors), and their readiness to engage in self-directed learning?

Table 9 shows the number of students in each variable, the means, and the standard deviations of the SDLRS scores.

Table 9
Numbers, means, and standard deviations of SDLRS scores by gender and levels of education

| | Gender | | |
Level of education	Males	Females	Total
Freshmen			
n	88	25	113
M	211.95	218.48	213.40
SD	22.92	20.01	22.39
Sophomores			
n	108	31	139
M	214.51	218.19	215.33
SD	21.02	20.25	20.84
Seniors			
n	85	32	117
M	215.84	222.28	217.60
SD	21.49	25.41	22.70
Total			
n	281	88	369
M	214.11	219.76	215.46
SD	21.75	22.04	21.92

Note: n = number
M = mean
SD= standard deviation

Using Factorial Analysis of Variance, the different
means were analyzed, as shown in Table 10:

Table 10
Factorial ANOVA of SDLRS as dependent variable by levels of
education and gender

Source of Variation	DF	SS	MS	F	p
Level of educ.	2	878.882	439.441	.918	.400
Gender	1	2001.289	2001.289	4.182	.042*
Interactions	2	120.636	60.318	.126	.882
Error	363	173732.050	478.601		
Total	368	176871.599	480.629		

*) p< .05.

The results of the analysis of variance show no
statistically significant interaction of SDLRS between
gender and levels of education. No significant differences
of SDLRS scores were found within levels of education.
However, within gender a significant difference was found;
the observed significance level was approximately .04. In
other words, there was a significant difference in SDLRS
scores between males and females at p< .05.

Research question # 4:

Are there any differences between the students' gender
(males and females), students' levels of education
(freshmen, sophomores, and seniors), and their academic
achievement?

Table 11 shows the number of students in each variable,
the means and the standard deviations of the GPA.

Table 11
Numbers, means, and standard deviations of GPAs by gender
and levels of education

| Level of education | GPA | | |
	Males	Females	Total
Freshmen			
n	88	25	113
M	1.46	1.60	1.49
SD	.40	.43	.41
Sophomores			
n	108	31	139
M	1.74	1.58	1.71
SD	.48	.35	.46
Seniors			
n	85	32	117
M	1.79	1.70	1.76
SD	.43	.37	.41
Total			
n	281	88	369
M	1.67	1.63	1.66
SD	.46	.38	.44

The differences of means were analyzed by using

Factorial Analysis of Variance as displayed in Table 12:

Table 12
Factorial ANOVA of GPA as dependent variable by levels of
education and gender

Source of Variation	DF	SS	MS	F	p
Level of educ.	2	4.742	2.371	13.009	.000**
Gender	1	.147	.147	.808	.369
Interactions	2	.980	.490	2.689	.069
Error	363	66.157	.182		
Total	368	71.972	.196		

**) $p < .0001$.

Levels of education showed no statistically significant
interaction with gender. The significant differences of

GPAs, however, were found within levels of education, F $(2,363)= 13.009$, $p < .0001$. A t-test (Least Significant Differences test) was then conducted to determine which group means were significantly different. The results showed that the GPAs of freshmen (mean= 1.49) were found to be significantly different from the GPAs of both sophomores (mean= 1.71) and seniors (mean= 1.76) at $p < .0001$. However, no difference between sophomores and seniors was found.

The GPAs of males (mean= 1.67) and females (mean= 1.63) showed no statistical difference. Therefore, it can be concluded that there was no difference in GPA between males and females.

Research question # 5:

Are there any differences among students in the different study programs (Public Administration, Business Administration, and Development Administration) within Faculty of Social and Political Sciences and their readiness to engage in self-directed learning?

There are three study programs within the Faculty of Social and Political Sciences at the Universitas Terbuka; those are Public Administration, Business Administration, and Development Administration. The number of students, means, and standard deviations of SDLRS scores of these programs are displayed as follows:

Table 13
Numbers, means, and standard deviations of SDLRS scores as
dependent variable by study programs

	SDLRS		
Study program	n	M	SD
Public Administration	276	215.47	22.07
Business Administration	71	215.32	22.83
Development Administration	22	215.77	17.54
Total	369	215.46	21.92

Table 14 shows the results of means' analysis by ANOVA:

Table 14
One way ANOVA of SDLRS as dependent variable by study
programs

Source	DF	SS	MS	F	p
Between programs	2	3.4795	1.7397	.0036	.9964
Within Groups	366	176868.1195	483.2462		
Total	368	176871.5989			

No difference in SDLRS scores was found between study programs, and, therefore, the students' SDLRS scores were not affected by the students' study programs.

Research question # 6:

Are there any differences among students in the different study programs (Public Administration, Business Administration, and Development Administration) within Faculty of Social and Political Sciences and their academic achievement?

Table 15 shows the number of students, means, and standard deviations of GPA as dependent variable by study programs:

Table 15
Numbers, means, and standard deviations of GPA as dependent variable by study programs

		GPA	
Study programs	n	M	SD
Public Administration	276	1.65	.42
Business Administration	71	1.71	.50
Development Administration	22	1.68	.51
Total	369	1.66	.44

Using One way ANOVA, the means of GPA were analyzed as presented in the following:

Table 16
One way ANOVA of GPA as dependent variable by study programs

Source	DF	SS	MS	F	p
Between programs	2	.2294	.1147	.5852	.5575
Within Groups	366	71.7421	.1960		
Total	368	71.9716			

There was no difference found among GPAs of the students from different study programs. Therefore, different study programs at Universitas Terbuka did not affect the GPAs of the students.

Additional data:

Additional data, that is occupational statuses, consisted of five categories: government employees, private company employees, entrepreneurs, others (such as farmer, nurse, part time worker), and full time students. Approximately 60.7% of the students in this study were government employees (see Table 6). Private company employees constituted 21.7%. Entrepreneurs were found to make up approximately 4.1% of the students. The other occupational statuses which were not included in the three occupational statuses mentioned above consisted of 2.2% of the total sample. Finally, approximately 11.4% of the students were full time students (see Appendix G).

To investigate whether or not there are any differences in SDLRS scores among the various occupations of the students, the means of the SDLRS scores (see Table 6) were analyzed by One way ANOVA and the results are presented in Table 17:

Table 17
One way ANOVA of SDLRS as dependent variable by occupational status

Source	DF	SS	MS	F	p
Occupational statuses	4	1347.3203	336.8301	.698	.5934
Within Groups	364	175524.2786	482.2096		
Total	368	176871.5989			

The findings were that government employees (n= 224, mean= 215.63), private company employees (n= 80, mean= 216.03), entrepreneurs (n= 15, mean= 217.20), others (n= 8, mean= 202.88), and full time students (n= 42, mean= 215.21) did not show significant differences in their SDLRS scores.

The different means of GPA between occupational statuses (see Table 6) were also analyzed by One way ANOVA as displayed in Table 18:

Table 18
One way ANOVA of GPA as dependent variable by occupational status

Source	DF	SS	MS	F	p
Occupational statuses	4	.7259	.1815	.9272	.4481
Within Groups	364	71.2457	.1957		
Total	368	71.9716			

No differences were found between the GPAs of government employees (mean= 1.69), private company employees (mean= 1.60), entrepreneurs (mean= 1.57), others (mean= 1.53), and full time students (mean= 1.67).

Discussion

Overview of the results

Two major findings concern the objective of the investigation. These findings reveal, first, the results of performance of the students on the SDLRS. Second, there was

a significant relationship between the students' SDLRS scores and their achievement as measured by GPA.

Moreover, subsidiary findings show that, first, there was no significant interaction between gender and levels of education in SDLRS scores. Significant differences within gender, however, were found. Females showed higher self-directed learning readiness than did males. No significant differences within levels of education were found. Second, there was no significant interaction between gender, levels of education and GPA. Significant differences of GPAs were found within levels of education. The GPAs of freshmen were found to be significantly different from the GPAs of both sophomores and seniors. However, there was no difference between sophomores and seniors. The GPAs of males and females showed no statistical difference. Third, no significant differences of SDLRS scores were found among students of different study programs. Fourth, no significant differences of SDLRS scores were found among students of different study programs. Finally, there were no differences of GPAs among students from different kinds of occupational status, and there were no differences of SDLRS scores among students from different kinds of occupational status.

Self-directed learning readiness of the students

The mean score of the SDLRS found in this study was 215.5, which was categorized as average readiness for self-directed learning. Unfortunately, as there has been no

previous research in a distance education setting, there are no means to compare to the mean score of the SDLRS in the present study.

A study by Guglielmino (1978) in a conventional education setting found that the mean of SDLRS was 214, which was also considered as average readiness for self-directed learning. Another study, conducted by Long (1991), found the mean of SDLRS to be 229.9, which was considered to be above average and a study conducted by Adenuga (1991) found a mean of 230.8, which was considered to be above average. The sample of Adenuga's study consisted of graduate students at Iowa State University, including 102 master's degree students (mean of SDLRS= 226.76) and 71 doctorate's degree students (mean of SDLRS= 236.21). Adenuga's findings show higher scores than those of the present study, which support the previous findings that level of education is significantly related to self-directed learning readiness since the sample of the present study was undergraduate students (Adenuga, 1991; Hasan, 1982; Sabbaghian, 1980). In other words, students in graduate degree programs are expected to show higher readiness for self-directed learning than students in undergraduate degree programs.

Accordingly, students of the Faculty of Social and Political Sciences at the Universitas Terbuka have an average readiness of self-directed learning which is similar to the readiness shown by the sample population in

Guglielmino's study which was conducted in a conventional education setting. These findings show that students in distance education institution and students from conventional institutions have a similar potential readiness for self-directed learning.

Moreover, the present findings also show that the students of the Faculty of Social and Political Sciences in Indonesia have readiness for self-directed learning which is similar to that of students from different cultures. These findings, however, are contrary to the findings of the study by Adenuga (1991), which found that American students were more ready than their counterparts from developing countries. More studies are needed to identify the variety of cultural variables which are involved.

In addition, the findings of the present study show that 25.5% of the students scored above average and 44.7% of the students scored average on the SDLRS. The study conducted by Harring-Hendon (1989), in a distance education program, found that 72% of the respondents scored above average. The different results might be explained by the number of students involved in the distance education program. Harring-Hendon (1989) studied 51 adult students enrolled in the Extended Degree Program at the University of Wisconsin - Green Bay. The number of students enrolled was small compared to the number of students who enrolled in the Faculty of Social and Political Sciences at the Universitas Terbuka, which were 29,474 active students (see Appendix A)

and 369 active students as the sample of this study. The small number of students enrolled in the Extended Degree Program might help students to develop their potential in self-directed learning readiness. The Extended Degree Program itself is perhaps a special program. It is possible that the students who enroll in the program have special qualities. The students might already have had a high self-directed learning readiness before they enrolled in the program, and it was their high level of self-directed learning readiness which motivated them to enroll in the program.

On the other hand, the large number of students enrolled in the Faculty of Social and Political Sciences at the Universitas Terbuka had SDLRS scores which tended to follow a normal distribution. Perhaps the students of the Faculty of Social and Political Sciences at Universitas Terbuka enrolled in the Universitas Terbuka for reasons that were different from those of the students of the Extended Degree Program at the University of Wisconsin - Green Bay.

A study, which was conducted by Suciati (1990) at Universitas Terbuka, shows four categories of students enrolled at the Universitas Terbuka: (a) high school graduates who were waiting to reapply for other public universities, (b) high school graduates who were still looking for jobs, (c) university students who were concurrently taking the Universitas Terbuka's program, and (d) working students in government and private sectors.

Based on the analyses of interviews, the data of Suciati's study show that students of the first category took Universitas Terbuka's program to spend their time usefully while waiting for the next national university entrance examination. The second category of students intended to get university diplomas or degrees to help them find jobs. The third category of students, already registered at other universities, wanted to complement their study with Universitas Terbuka's program. Suciati gives an example of a student majoring in civil engineering in a private university who also took the management program at the Universitas Terbuka. The student expected to combine these two areas of expertise. The fourth category consisted of both government and private sector employees. The government employees expected to improve their status after getting Universitas Terbuka degrees. On the other hand, students working in private sectors emphasized gaining knowledge as more important than obtaining a degree or diploma.

The findings of Suciati's study (1990) show congruency with Moore's explanation (Moore, 1983; 1986) that self-directed persons should be differentiated from self-directed learners. Self-directed individuals might be those who are self-directed in their lives but not always self-directed in their learning. This is especially true if the major reason for individuals to register at the Universitas Terbuka is to get a university diploma or degree. These individuals might

be self-directed in their own lives, able to direct themselves to accomplish their personal goals (that is, to obtain degrees from the Universitas Terbuka), but they only have ambition to obtain degrees which they think they could get without studying too hard.

The variety of reasons students have for registering in the Universitas Terbuka compared to the number of reasons students have for registering in the Extended Degree Program - University of Wisconsin provides, perhaps, an explanation for why the results of the present study are not consistent with the findings of the Harring-Hendon's study.

In summary, the findings of the present study reveal that students in a distance education institution (that is, Universitas Terbuka) have the potential for self-directed learning readiness which is similar to that of students from conventional institutions. The findings also reveal that students of Universitas Terbuka have a similar readiness for self-directed learning compared to students from different cultures. In addition, the variety of reasons students have for enrolling at the Universitas Terbuka might impact on the normality of distribution of the SDLRS scores. However, further study is needed to obtain a broader understanding of the possible explanations for these findings.

Readiness for self-directed learning and achievement of the students

The findings of this study show that there was a statistically significant, positive relationship between

self-directed learning readiness and the academic achievement of the students of the Faculty of Social and Political Sciences at the Universitas Terbuka: the correlation coefficient, however, was low (r= .24) .

These findings support several studies conducted by both Savoi (1980) and Long (1991). Savoi reported a positive correlation between the SDLRS and achievement of the nursing students in one course. As well, Long (1991) found a positive correlation between the SDLRS and GPAs at two Georgia colleges in the U. S. The coefficient correlation of the present study (r= .24) is slightly higher than either of these studies (the coefficient correlation in Savoie's study was .21 [p= <. 001], and the coefficient correlation in Long's study was .22 [p= <.04]).

Compared to the studies by Savoie and Long in conventional institutions, the findings of the present study show that the association between students' readiness for self-directed learning and students' academic achievement a distance education institution is similar to those in conventional education institutions in U. S. The findings of this study, thus, support Garrison (1989) who maintains that there is nothing uniquely associated with distance education in terms of its aims, conduct, students or activities that need affect what is regarded as education.

Moreover, the present SDLRS findings suggest predictive value for the academic achievement of the students. The SDLRS scores, which were obtained at the beginning of the

semester, show a correlation with the achievement of the students, which was measured by GPAs at the end of the semester. The correlation between SDLRS and GPA after a period of time shows that, even though many factors influence the students' GPAs, the correlation between them exits . The higher the students' readiness for self-directed learning, the higher the possibility of higher GPAs at the end of the semester.

As was discussed in the literature review, students who have a high readiness for self directed learning might be those students who can take advantage of the opportunities for studying at Universitas Terbuka. They might be the ones who are capable of rising above the limitations of student support services offered by Universitas Terbuka, such as the lack of tutorial services in some remote areas. They were able to control the learning process even though they were learning in very highly structured conditions. A study conducted by Syahbuddin (1990), at the Universitas Terbuka, supported this point of view. Syahbuddin reported that high achievement students felt their independence improved, on the other hand, low achievement students did not.

Unfortunately, the percentage of individuals with high readiness for self-directed learning at the Faculty of Social and Political Sciences at Universitas Terbuka was only 25.5. If the number of high readiness self-directed learners were increased, the number of high achievement students might also be increased.

In summary, the correlations between the SDLRS scores and academic achievement found in this study may have predictive value for the academic achievement of the students. The higher the students' readiness for self-directed learning, the higher the possibility that students achieve higher GPAs.

Readiness for self-directed learning, achievement of the students, and gender

The findings of the present study showed that there was a significant difference in readiness for self-directed learning between females (mean= 220) and males (mean= 214) at $p<$ .05. Females showed higher readiness for self-directed learning than did males. This finding is consistent with the findings of the studies conducted by West and Bentley (1991), and Sabbaghian (1980).

There are several possible explanations for these findings. First, the findings suggest that females might have been more responsive to the instrument than males. In other words, females might have scored themselves higher than males did. Second, perhaps these findings suggest that females, in fact, have greater growth in readiness for self-directed learning than males because the reasons for studying at Universitas Terbuka differ according to gender.

In Indonesia, the concept that males are the head of the family is still strong (Guiness, 1986; Williams, 1990). Consequently, it is demanded that men be responsible for supporting the family. The major goal in a man's life is to

get a job to support his family. Becoming a government employee is the first choice out of many other occupational status choices (Guiness, 1986), as was also found in this study (Table 7 and Appendix G), with 60.7% of the sample being government employees.

Obtaining a degree from the Universitas Terbuka is expected to improve the income and status of the Universitas Terbuka's graduate (Suciati, 1990). Actually, the administrative path for government employees is as follows: persons with high school diplomas will start as II-a level employees, and they will automatically be promoted to II-b after four years and to II-c after another four years. After II-d they will be promoted to III-a, and so on. Therefore, to reach the third level takes about 16 years. On the other hand, with a university diploma, which normally takes four years to obtain, an individual could be promoted automatically to the third level.

Due to these reasons, perhaps male students tend to be self-directed persons in approaching life goals, as they must support their family, rather than self-directed learners in approaching their study in Universitas Terbuka.

Compared to males, there are fewer demands on females to support their families. This might help females to achieve greater growth in their readiness for self-directed learning while they study at Universitas Terbuka. To some extent, the data support these reasons. Male government employees made up 68.3% of the overall number of male

students in this study (see Appendix G). On the other hand, female government employees were 36.3% of the overall number of female students.

Only 5.7% of the overall male sample in this study were full-time male students. In comparison, full-time female students made up 29.5% of the overall female sample. One explanation of these data may be that getting a job after high school graduation is a higher priority for males than continuing education.

In addition, the findings showed that there was no significant difference in GPA between females and males, since the correlation between SDLRS and GPA was small. A possible explanation is that both females and males used the same opportunity and ability to obtain high GPAs.

In summary, the results showed that there was a different readiness for self-directed learning between females and males, due, perhaps, either to the way in which they responded to the instrument of the study or to the different gender role demands in society, especially in Indonesia.

Readiness for self-directed learning, achievement and level of education

The findings reveal that there were no significant differences of SDLRS among levels of education. There was also no significant relationship between SDLRS and level of education as defined in terms of freshmen, sophomores and seniors. In this study, a freshman was defined as a student

who was in the first year of study at Universitas Terbuka. Sophomore was defined as a student who was in the second consecutive years of study. Finally, a senior was defined as a student who had been studying at Universitas Terbuka for more than three consecutive years.

These findings are consistent with the findings of a study conducted by Long (1991). He found an absence of a relationship between SDLRS and educational achievement levels (years of schooling), which he regarded as quantitative of performance. However, according to Long (1991), the SDLRS tends to interact positively with quality of performance.

Research conducted by Adenuga (1991) support Long's explanation about the quality of performance. Adenuga differentiates the levels of education into master degree program and doctorate degree program. With this differentiation, Adenuga (1991) found that levels of education were significantly related to self-directed learning readiness.

Based on the studies by Long (1991) and Adenuga (1991), it seems that the term level of education can be viewed from two different perspectives. First, level of education can be viewed from the perspective of years of schooling (freshman, sophomore, and senior), as was the case in the present study. Secondly, level of education can be viewed from the perspective of degree program levels (bachelor

degree, master degree, and doctorate degree), as was the case in the study by Adenuga (1991).

In keeping with the findings of Long (1991) and Adenuga (1991), the findings of the present study showed that levels of education were not significantly related to self-directed learning if levels of education were viewed from the perspective of years of schooling (the quantitative of performance). On the other hand, levels of education were significantly related to self-directed learning if levels of education were viewed from the perspective of degree program levels. The different degree program levels, perhaps, tend to imply different degrees of quality of performance in the respective program levels. For example, students in a master degree program are expected to perform tasks which show a higher level of quality of performance than those tasks expected of students in a bachelor degree program. This expectation, perhaps, encourages the students in higher degree program to develop their self-directed learning readiness. Therefore, the higher the students' degree program, the higher their readiness for self-directed learning.

Furthermore, the findings of the present study showed that there were significant differences of GPAs between freshmen and sophomores, and between freshmen and seniors. However, there was no significant difference in the GPAs of sophomores and seniors.

Interestingly, the present study reveals findings consistent with those of the study conducted at the Universitas Terbuka by Indrawati (1993). Indrawati found that students who had studied for one year had lower grades than students who had studied for more than one year.

As in the case with the first year of study in conventional institutions, the first year of study in the Universitas Terbuka, particularly the first semester of college, is a transition period for freshman students. Freshmen experience significant changes in their formal educational life, especially compared to their past study experience of passive engagement in instructional courses (Kasworm, 1992). Becoming first year students in Universitas Terbuka, a distance education institution, requires a number of adjustments, such as an adjustment both to a new environment and to a new way of learning. For these reasons, it is possible that freshman students in the Faculty of Social and Political Sciences in the Universitas Terbuka achieved lower GPAs than the GPAs of both sophomore and senior students who were able to survive or to adjusts to the distance education system.

In summary, the findings of the present study showed that there were significant differences in GPAs among students from different levels of education. Freshmen showed lower GPAs than those of both sophomores and seniors. This is due, perhaps, to the problem of adjustment to the

new experience the freshmen faced in the distance education institution.

Readiness for self-directed learning, achievement, and students' study programs

There were no significant differences in readiness for self-directed learning among students from different study programs within the Faculty of Social and Political Sciences (Public Administration, Business Administration, and Development Administration). Moreover, there were no significant differences in GPAs among students from these different study programs.

One possible explanation of these findings is that, although students took different programs, they could take courses which often overlap each other among the programs. This might be because the programs are in the same faculty, that is the Faculty of Social and Political Sciences. For this reason, the findings showed no significant differences in either readiness for self-directed learning or GPAs among students from different study programs.

Readiness for self-directed learning, achievement, and students' occupational statuses

There were no significant differences in readiness for self-directed learning and GPAs among students from different occupational statuses. Unfortunately, there has not been a study which investigated the impact of occupational status on the growth of readiness for self-

directed learning and achievement which could be identified in this study. It is possible that readiness for self-directed learning can be developed in a variety of occupational statuses.

CHAPTER 5

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Conclusions

The present study used the Self-Directed Learning Readiness Scale (SDLRS) and showed that the instrument could be used effectively in a culture which is different from the original culture in which the instrument was developed. Accordingly, the findings of this study may be considered to result from a valid and reliable translation instrument.

Based on the data obtained for this study and the results of the statistical analyses, the following conclusions were drawn:

1. The students of the Faculty of Social and Political Sciences at the Universitas Terbuka had an average readiness for self-directed learning. This finding provides several possible explanations which could contribute to a better understanding of self-directed learning. Firstly, a comparison based on the system of education found that students from conventional education institutions and from a distance education institution had approximately the same average readiness for self-directed learning. Secondly, a comparison based on number of students shows that the institutions which offer programs for a small number of students seem to have students with higher readiness for self-directed learning than do institutions, such as Universitas Terbuka, which offer programs for larger numbers of

students. Thirdly, a comparison based on culture shows that students from Indonesian culture and those from North American culture had approximately the same average readiness for self-directed learning. Finally, a comparison based on the level of degree programs seems to indicate that the higher the level of degree programs, the higher the mean of students' readiness for self-directed learning. Universitas Terbuka's students at the undergraduate level, had average of self-directed learning readiness (mean= 215.46). Master's level students from Iowa State University had above average readiness for self-directed learning (mean= 226.76), and doctorate's level students from Iowa State University also had above average self-directed learning readiness (mean= 236.21) (Adenuga, 1991).

2. There was a significant positive correlation between the SDLRS and the GPA of the students of Faculty of Social and Political Science at the Universitas Terbuka; this correlation is supported by a number of research conducted by Savoi (1980) and Long (1991). These findings support the rationale of the present study that the success achieved by self-directed learners might result, in part, from the ability of the self-directed learners to control the learning process, especially in distance education which has highly structured conditions.

The findings of the present study also reveal that Universitas Terbuka students show a similar association between readiness for self-directed learning and academic achievement as do students in other conventional institutions. Furthermore, the present findings of the SDLRS gave predictive value to the GPAs of the students. The students who had higher readiness for self-directed learning than the others in the beginning of the semester tended to achieve higher GPAs by the end of the semester.

3. Female students had higher readiness for self-directed learning than did the male students. Several possible explanations for this finding are, firstly, the differences between females and males in response to the instrument of the study. A second explanation may be in the different gender role demands in society, especially in Indonesian society. Males might be demanded to be self-directed persons in their personal lives in supporting their families. On the other hand, since it is less demanded for females to support their families, they were better able to improve their readiness for self-directed learning while they were studying at the Universitas Terbuka.

Moreover, the findings show that there was no significant difference in GPA between females and males.

4. Levels of education (freshman's level, sophomore's level, and senior's level) did not show significant differences on the SDLRS nor a significant relationship with the

SDLRS. The present findings are consistent with the findings of Long's study (1991), which he regarded as quantitative of performance. The SDLRS tends to interact positively with levels of education if the levels of education are measured from quality of performance, such as number of learning projects conducted in a year which implies quality of performance. Research conducted by Hassan (1982) and Adenuga (1991) found a significant relationship between the SDLRS and level of education as measured from quality of performance.

The findings show significant differences in GPAs between freshmen and sophomores, and between freshmen and seniors. However, there was no significant difference in GPAs between sophomores and seniors. It is possible that the transition period, or the first year period, in which students move from the passive engagement of their past study experiences to the active engagement required by a distance education institution, caused an adjustment problem for freshmen which might affect their achievement.

5. The findings of this study show no significant differences in readiness for self-directed learning or GPAs among students from different study programs within the Faculty of Social and Political Sciences (Public Administration, Business Administration, and Development Administration).

6. There were no significant differences among students from different occupational statuses regarding either readiness for self-directed learning or GPA.

Limitations

The present study has limitations which should be noted. Generalizations to a larger population should be made with caution, considering that the sample of this study was limited to one faculty at the Universitas Terbuka, the Faculty of Social and Political Sciences. In fact, there are three others faculties at the Universitas Terbuka (the Faculty of Economics, the Faculty of Science and Mathematics, and the Faculty of Education). The considerations which limited the sample of the present study were the limitations of time and budget.

Accordingly, discussions concerning findings and conclusions are limited to the sample of the study.

Recommendations

Based on the results of the present study, some recommendations are suggested for further research as follows:

1. Although the sample of this study was drawn from Faculty of Social and Political Sciences, there are, in fact, three other faculties. Further study is, therefore, suggested which would enlarge the population of the study to involve the three other faculties at the Universitas Terbuka (the Faculty of Economics, the Faculty of Science and Mathematics, and the Faculty of Education).

2. A comparison study of the SDLRS and GPA among faculties is suggested to gain more information about the association between the SDLRS and the GPAs of the students. The results of this comparison study can help the institution improve its student support services.

3. A longitudinal study is recommended as a follow up to the present study. For example, several years from now, the SDLRS of the freshmen who were the sample of this study could be used to determine whether or not they had improved their readiness for self-directed learning after studying at Universitas Terbuka for several years. Another longitudinal study is also recommended, after students are helped to learn to manage their learning.

The results of this study can help the institution to plan activities to assist students in learning how to learn (as discussed in the implications, Appendix H), since learning in a distance education institution requires a different approach from the passive engagement required by the conventional education institution.

Kasworm (1992) reveals that many adult students enter learning environments with limited skills. The results of this study seem to support Kasworm's view, since 80.7% of the sample of this study were working students, and most of them enrolled at the Universitas Terbuka more than five years after finishing high school (Indrawati, 1993). Based on these facts, the institution can plan learning activities or a students' study skills handbook

which can assist students to prepare themselves to learn as self-directed learners in a distance education institution. Accordingly, a longitudinal study could be conducted to examine the readiness for self-directed learning of the students before and after the assistance from the institution to determine whether or not the readiness for self-directed learning of the students has improved.

4. Since there is a limited number of studies on the topic of self-directed learning which have been conducted in distance education setting, other studies in this area are recommended in order both to make comparisons with the results of the present study and to obtain a better understanding of the dynamics of self-directed learning in other distance education institutions.

5. A comparison of self-directed learning readiness between students at the Universitas Terbuka and a conventional university in Indonesia is recommended, since there has never been such a study. The results of the study might contribute to a more comprehensive understanding of the readiness for self-directed learning of college students in Indonesia.

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APPENDIX A

Number of students enrolled at Faculty of Social and Political Sciences (FISIP) in 92.2

Study program	Registered students	Active students	Active students %	sample
Public Adm.	53,325	22,530	42.25	276
Business Adm.	14,571	5,423	37.22	71
Development Adm.	4,190	1,521	36.30	22
Total	72,086	29,474	-	369

Note: Public Adm. = Public Administration
Business Adm. = Business Administration
Development Adm. = Development Administration

APPENDIX B

Distribution of respondents by regional offices

No.	Regional office	Code	Frequency	%
1.	Banda Aceh	11	3	.8
2.	Medan	12	18	4.9
3.	Padang	14	3	.8
4.	Pekanbaru	16	6	1.6
5.	Jambi	17	6	1.6
6.	Palembang	18	17	4.6
7.	Bengkulu	19	3	.8
8.	Bandar lampung	20	9	2.4
9.	Jakarta	21	163	44.2
10.	Bogor	23	13	3.5
11.	Bandung	24	38	10.3
12.	Purwokerto	41	17	4.6
13.	Surakarta	44	9	2.4
14.	Yogyakarta	45	15	4.1
15.	Palangka raya	48	2	.5
16.	Banjarmasin	49	4	1.1
17.	Samarinda	50	7	1.9
18.	Malang	74	6	1.6
19.	Jember	76	1	.3
20.	Mataram	78	3	.8
21.	Kupang	79	6	1.6
22.	Palu	82	2	.5
23.	Manado	84	5	1.4
24.	Ambon	86	1	.3
25.	Jayapura	87	8	2.2
26.	Dili	88	4	1.1
	Total		369	100.0

APPENDIX C

Research letter to the student
(English Version)

To: The student of Universitas Terbuka

This questionnaire is arranged as a part of a research about your attitude toward learning. The research is conducted by Tri Darmayanti, a staff member of UT who is studying at the University of Victoria, in an effort to improve support services for the students of UT.

We would like to ask your help to fill out the questionnaire honestly. You do not have to think twice about each item. Your first impression when you read each item will be your best answer.

For your information, your participation in this research is purely voluntary. All the information obtained will be kept confidential.

We understand that you need time to complete this questionnaire. However, please return your completed questionnaire in the enclosed envelope as soon as you can.

We will have a drawing from those who return the completed questionnaires to award ten special packages from Canada (the country which supports this research). Your entry number can be found in the top righ-hand corner of your questionnaire. We will send the packages to the winners in January, 1993.

Thank you for your participation in this research.
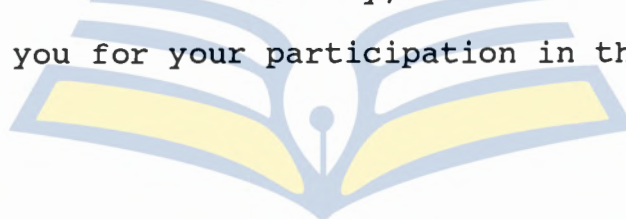
Rector,

signed,

Setijadi

Surat kepada mahasiswa
(Indonesian version of letter)

Kepada
Yth. Saudara Mahasiswa Universitas Terbuka
       di tempat

Kuesioner ini disusun dalam rangka penelitian mengenai
sikap Anda terhadap belajar. Penelitian ini
dilaksanakan oleh sdr. Tri Darmayanti, staf UT yang
sedang tugas belajar di University of Victoria, sebagai
usaha meningkatkan pelayanan terhadap mahasiswa UT.

Kami mohon kesediaan Anda untuk menjawab kuesioner ini
dengan sejujurnya. Anda tidak perlu terlalu lama
terpaku pada satu pertanyaan, karena kesan pertama yang
muncul pada saat Anda membaca pernyataan dalam
kuesioner ini adalah jawaban yang terbaik untuk kami.

Perlu Anda ketahui bahwa keiikutsertaan Anda dalam
penelitian ini adalah bersifat sukarela. Namun kami
menjamin kerahasiaan segala informasi yang Anda berikan
kepada kami.

Kami memahami bahwa Anda memerlukan waktu untuk
menjawab kuesioner ini. Apabila Anda telah selesai
mengisi kuesioner ini, mohon seluruh berkas kuesioner
di kirim kembali kepada kami dengan menggunakan amplop
yang telah tersedia. Sangat diharapkan Anda
mengirimkan kembali secepatnya.

Bagi Anda yng mengirim kembali berkas kuesioner yang
telah diisi dengan lengkap, kami akan mengikut sertakan
Anda dalam undian untuk memenangkan 10 paket hadiah
dari Kanada (negara yng mendukung penelitian ini).
Nomor undian Anda tertera pada pojok kanan atas
kuesioner. Bagi Anda yang beruntung, kami akan
mengirimkan langsung paket hadiah ke alamat Anda
sekitar bulan Januari 1993.

Atas partisipasi dan kerjasama Anda, kami ucapkan
terima kasih.

Rektor,

tanda tangan

Setijadi

APPENDIX D

Results of reliability analysis of the SDLRS (try-out)

Item-total statistics (n= 37)

	Corrected item-total correlation	Alpha if item deleted
ITEM1	.2321	.8734
ITEM2	.3593	.8720
ITEM3	-.0746	.8786
ITEM4	.3303	.8721
ITEM5	.5164	.8695
ITEM6	-.4502	.8820
ITEM7	.0737	.8757
ITEM8	.5478	.8690
ITEM9	.1982	.8742
ITEM10	.1755	.8744
ITEM11	.3020	.8725
ITEM12	.0784	.8765
ITEM13	.4372	.8706
ITEM14	.3944	.8710
ITEM15	.4784	.8716
ITEM16	.4152	.8710
ITEM17	.2489	.8735
ITEM18	.3536	.8717
ITEM19	-.1644	.8797
ITEM20	-.0630	.8788
ITEM21	.5390	.8681
ITEM22	-.2427	.8798
ITEM23	.3691	.8716
ITEM24	.5096	.8690
ITEM25	.5755	.8683
ITEM26	.3051	.8725
ITEM27	.3799	.8713
ITEM28	.4018	.8719
ITEM29	-.2521	.8824
ITEM30	.6868	.8681
ITEM31	-.2828	.8791
ITEM32	.2684	.8730
ITEM33	.4739	.8696
ITEM34	.4205	.8706
ITEM35	.0855	.8763
ITEM36	.2642	.8731
ITEM37	.5212	.8707
ITEM38	.5261	.8689
ITEM39	.6559	.8689

table continuous......

	Corrected item-total correlation	Alpha if item deleted
ITEM40	.4728	.8700
ITEM41	.6085	.8685
ITEM42	.5309	.8688
ITEM43	.5824	.8679
ITEM44	.2673	.8730
ITEM45	.5652	.8695
ITEM46	.5437	.8697
ITEM47	.5461	.8693
ITEM48	.0040	.8768
ITEM49	.3670	.8723
ITEM50	.2763	.8730
ITEM51	.4696	.8718
ITEM52	.3696	.8724
ITEM53	.2554	.8731
ITEM54	.6473	.8685
ITEM55	.5337	.8684
ITEM56	.1687	.8743
ITEM57	.6633	.8677
ITEM58	.3876	.8714

Reliability coefficient of 58 items:

Cronbach Alpha's coefficient= .8744

APPENDIX E

Results of reliability analysis of the SDLRS

Item-total statistics (n= 391)

	Corrected item-total correlation	Squared multiple correlation	Alpha if item deleted
ITEM1	.3709	.3849	.9078
ITEM2	.4372	.3844	.9072
ITEM3	.3995	.3686	.9074
ITEM4	.4581	.4274	.9069
ITEM5	.4851	.4992	.9070
ITEM6	.3575	.3761	.9078
ITEM7	.1662	.2851	.9104
ITEM8	.2518	.2879	.9086
ITEM9	.3691	.3778	.9077
ITEM10	.4005	.3333	.9074
ITEM11	.3747	.3201	.9076
ITEM12	.2505	.3074	.9089
ITEM13	.4594	.3656	.9067
ITEM14	.4553	.3356	.9068
ITEM15	.3586	.3573	.9078
ITEM16	.4328	.4250	.9071
ITEM17	.3014	.2608	.9089
ITEM18	.5074	.3769	.9063
ITEM19	.4425	.4077	.9069
ITEM20	.1631	.2537	.9101
ITEM21	.5064	.5051	.9064
ITEM22	.2470	.3130	.9090
ITEM23	.3573	.2920	.9078
ITEM24	.3141	.3158	.9082
ITEM25	.5377	.5127	.9060
ITEM26	.4444	.3952	.9071
ITEM27	.5187	.4917	.9062
ITEM28	.5289	.4074	.9063
ITEM29	-.0643	.1514	.9121
ITEM30	.5346	.4792	.9065
ITEM31	-.0635	.2300	.9118
ITEM32	.4640	.3712	.9067
ITEM33	.2604	.2575	.9090
ITEM34	.2058	.2580	.9093
ITEM35	.2288	.2539	.9095
ITEM36	.4725	.4798	.9066
ITEM37	.2699	.2970	.9085
ITEM38	.3203	.3571	.9081
ITEM39	.4872	.3958	.9068

table continuous......

	Corrected item-total correlation	Squared multiple correlation	Alpha if item deleted
ITEM40	.5344	.4620	.9064
ITEM41	.5236	.4865	.9064
ITEM42	.4000	.4085	.9074
ITEM43	.4945	.4776	.9065
ITEM44	.3056	.3440	.9083
ITEM45	.5422	.5843	.9062
ITEM46	.6339	.6004	.9057
ITEM47	.6157	.6114	.9058
ITEM48	.1454	.3110	.9099
ITEM49	.4642	.4768	.9073
ITEM50	.4115	.4820	.9076
ITEM51	.4200	.4430	.9075
ITEM52	.4289	.4344	.9073
ITEM53	.2844	.3340	.9086
ITEM54	.3450	.3447	.9080
ITEM55	.4944	.4116	.9064
ITEM56	.2627	.2579	.9087
ITEM57	.5531	.4775	.9059
ITEM58	.3234	.3472	.9082

Reliability coefficient of 58 items:

Cronbach Alpha's coefficient= .9091

APPENDIX F

Histogram of the SDLRS of Universitas Terbuka students

```
    0     139 |
    0     142 |
    0     145 |
    1     148 |XX
    0     151 |.
    1     154 |:X
    0     157 |.
    1     160 |X:
    1     163 |X:
    0     166 | .
    4     169 |XXX:XXXX
    5     172 |XXXXX:XXXX
    1     175 |XX     .
    8     178 |XXXXXXXX:XXXXXXX
    5     181 |XXXXXXXXXX .
    4     184 |XXXXXXXX      .
    8     187 |XXXXXXXXXXXXXXXX.
    7     190 |XXXXXXXXXXXXXX      .
   11     193 |XXXXXXXXXXXXXXXXXXXXXX .
   16     196 |XXXXXXXXXXXXXXXXXXXXXXXXXXX:XXXXX
   14     199 |XXXXXXXXXXXXXXXXXXXXXXXXXXXX .
   18     202 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:XXX
   16     205 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX      .
   24     208 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXX
   22     211 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:XXXXX
   21     214 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:XX
   21     217 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:XX
   15     220 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX          .
   24     223 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXX
   18     226 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX:
   14     229 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXX      .
   14     232 |XXXXXXXXXXXXXXXXXXXXXXXXXXXX .
   10     235 |XXXXXXXXXXXXXXXXXXX      .
   13     238 |XXXXXXXXXXXXXXXXXXXXXXXX:XX
   11     241 |XXXXXXXXXXXXXXXXXXX:XX
    6     244 |XXXXXXXXXXX     .
    7     247 |XXXXXXXXXXXXXX:
    6     250 |XXXXXXXXXXX:
    4     253 |XXXXXXXX.
    7     256 |XXXXX:XXXXXX
    5     259 |XXXXX:XXXX
    1     262 |XX .
    4     265 |XX:XXXXX
    1     268 |X:
    0     271 | .
    0     274 |.
    0     277 |.
    0     279 |.
              I....+....I....+....I....+....I....+....I....+....I
              0         5        10        15        20        25
   Count   Midpoint                    Histogram frequency
```

APPENDIX G

Students' occupational statuses

Frequencies and percentages

Occupational status	Female	Male	Total
Government employees	32 36.36%	192 68.33%	224 60.70%
Private company employees	21 23.86%	59 21%	80 21.68%
Entrepreneurs	7 7.95%	8 2.85%	15 4.07%
Others	2 2.27%	6 2.14%	8 2.17%
Full time students	26 29.55%	16 5.70%	42 11.38%
Total	88 23.85%	281 76.15%	369 100%

Note: Others= such as farmer, nurse, and part time worker.

APPENDIX H

IMPLICATIONS

The findings of this study present several interesting implications. These are as follows:

1. The SDLRS, which was developed by Guglielmino (1978) in North American culture, can be used effectively in a culture, that is Indonesian culture, which is different from the original culture. These findings support the use of the SDLRS, which is the best that is available in this area of study, even if it is not the perfect measurement tool as stated by Long and Agyekum (in Guglielmino, 1989). Furthermore, these findings also contribute to the enrichment of the research in the area of self-directed learning.

2. The correlation between the SDLRS and the GPA, found in the present study, suggests that the higher the readiness for self-directed learning at the beginning of the semester, the greater the possibility of higher GPAs that the students will be able to achieve at the end of the semester. Accordingly, the findings imply that if Universitas Terbuka can help students to improve their readiness to engage in self-directed learning, then, it might be possible that the students will achieve higher GPAs.

As revealed by Robinson (1992), in order to be self-directed learners, the students must know how to be self-directed learners. However, students need help and

direction to improve their learning skills (Paul, 1990; Stoane, 1985). Kasworm (1992) reveals that many adult students enter the learning environment with limited skills. Thus, it is an ultimate challenge for the institution to help students develop their capacity to be self-directed learners, which is further necessary for the purpose of lifelong learning.

The implication of this study may lead to the understanding that Universitas Terbuka can plan activities to assist students to develop their attitudes and skills to be self-directed learners, who are expected to be succeed in their study (Paul, 1990). However, in planning activities for students, Universitas Terbuka should realize that each support may be interesting and efficient only for some types of students, but never for all types because of individual differences.

Universitas Terbuka can offer many kinds of learning strategies to the student, since every individual has a different way of approaching the learning process. In this way, students can choose learning strategies with which they feel comfortable.

Several suggestions are proposed as a way to help students at the Universitas Terbuka to develop their capability to be self-directed learners:
- Introducing the use of learning contract and learning style.

- Improving the use of newspaper as a means of
communication.

- Developing a student study skills handbook and
introducing it to the students.

Learning contract and learning style

Knowles (1975) suggests the use of a learning contract
as a way to develop self-directed learners. The learning
contract provides a framework for describing what a student
will learn as a result of a specified learning activity.
The learning contract usually consists of four major
components: (a) learning objectives; (b) learning resources
and strategies; (c) evaluations of learning activities; and
(d) a time line for completion (Caffarella & Caffarella,
1986).

By using a learning contract, students can learn to
become more responsible for the completion of those
elements. However, studies in this area show inconsistent
findings. Several studies conducted by Caffarella and
Kasworm (Caffarella & Caffarella, 1986) found that the
students increased their competencies for self-directed
learning as a result of using the learning contract process.

On the other hand, a study conducted by Caffarella and
Caffarella (1986) found that the use of learning contracts
in graduate level adult education has no impact on students'
developing readiness for self-directedness in learning. The
inconsistency of the use of the learning contract may be
influenced by the learning style of the students.

Dunn and Dunn, who are perhaps the foremost researchers of learning style, describe learning style as the manner in which at least 21 different elements of five basic stimuli affect a person's ability to absorb and to retain information, values, facts or concept (Guild & Garger, 1985; Dunn & Dunn, 1992). The five basic stimuli are environmental, emotional, sociological, physical, and psychological, which are illustrated in Figure 4 (page 135).

Based on Dunn and Dunn's point of view, each person has a unique learning style. For example, in the emotional component, a person can have a structured learning style, which means that the person learns effectively if he/she plans the learning activities in a structured way. Using a learning contract, as suggested by Knowles (1975), might be an example of a learning strategy that will be preferred by a person who has a structured learning style. On the other hand, a person who has an unstructured learning style might not prefer to use a learning contract as a strategy of learning. Therefore, a learning contract tends to work for those who have structured learning styles, but not for those who have unstructured learning styles.

Since a learning contract tends to be compatible only for a specific learning style, it, therefore, might help students to decide whether or not they want to use the learning contract, if a knowledge about learning style is provided for them. Furthermore, it should be emphasized that knowing the individual styles will not make students

Stimuli	Elements			
Environmental	Sound	Light	Temperature	Design
Emotional	Motivation	Persistence	Responsibility	Structure
Sociological	Peers	Self	Pair	Team	Adult	Varied
Physical	Perceptual	Intake	Time	Mobility
Psychological	Global-Analytic	Hemisphericity	Impulsive-Reflective

Figure 4. The Dunn & Dunn's learning style elements
(Modified from "Marching to different drummers" by
P. B. Guild, & S. Garger, [1985], p. 45).

more intelligent, but by approaching learning more efficiently, students can better cope with the demands of school by knowing how to maximize the intellectual gifts available to them (Guild & Garger, 1985).

In summary, introducing a learning style and a learning contract (as suggested by Knowles [197]) to the students might be a way to help them approach learning in better way. By helping students to maximize their ability to find an effective way to learn, Universitas Terbuka might be able to help them in improving their potential to be high self-directed learners.

Newspaper

As mentioned by Garrison (1987), external assistance is a necessary component in self-directed learning to facilitate the critical analysis of existing values, perspectives, and ideas as well as to help to identify alternative sources of information. Garrison adds that self-directed learning is best achieved and facilitated through interaction, not through isolated learning. In other words, Garrison (1987) explains that self-direction is highly dependent upon quality interaction and collaboration between a learner and facilitator.

Accordingly, Universitas Terbuka, as a distance education institution, should be able to function as an external assistance or a facilitator that assists students in being high self-directed learners. In fact, Universitas Terbuka is facing a communication problem between the

institution and students, since communication means, such as telephones, are still regarded as expensive. This communication problem becomes a barrier for an effort in facilitating interaction between Universitas Terbuka and students, especially students who live in remote areas.

Understanding the problem that Universitas Terbuka has to face, the use of newspaper as a means of communication is proposed in the present study. There are some considerations in proposing newspaper as a means of communication between the Universitas Terbuka and students:

- Newspaper is less expensive compared to other communication means in Indonesia.
- Newspaper is an effective way to reach mass media in a short-time (Setijadi, 1989).
- Newspaper can be read anywhere and at anytime by students (College Marie - Victorin, 1984).
- Newspaper allows a better way of increasing access for more students than, for example, individual correspondence-based distance education. Moreover, support by the tutor to students in the newspaper is not only for one student but also for any student who has the same problems.
- Newspaper is a potential market for publishers.

The utilization of the newspaper as a way to develop the self-directed learning of the students can be improved as per the following examples:

1. The student's need for guidance and support can be improved by information about the general bank of advice, as suggested by Kember (1990). He suggests that the general bank of advice might include reading skills, such as locating main ideas, recognizing organizational patterns, reading for inference, summarizing texts and questioning; together with planning, researching and organizing essays.

2. The older students might need encouragement. Many older students think that distance education meets their learning goal but do not know what to do because of the length of time since leaving school. Kelly, Cutress and Palmer (1988) discuss that older students may be worried about memory, meeting the academic requirements and examinations, but many of their fears are also shared by most adults returning to study, often after a gap of many years. Therefore, for older students, Universitas Terbuka can use the newspaper to provide support, advice, and encouragement. For example, Universitas Terbuka can do this by interviewing older graduate students as models for other older students, and providing information about memory.

3. The younger students might need guidance and encouragement in a way different from older students. According to Paul (1990), one of the biggest problems faced by both first time students and younger students in distance education is the absence of peers. To help them

cope with this problem, Universitas Terbuka can provide encouragement for younger students to contact each other, guidance to cope with their adjustment problems, and allow them success which they can build upon as they gain confidence in their own ability to do college level work.

In summary, newspaper can be a means of communication between the institution and students if Universitas Terbuka can use it in appropriate way. Universitas Terbuka can use newspaper in providing the opportunity and access for adults to engage in learning and also help them become more self-directed in their learning activities.

Student study skills handbook

According to Stoane (1985), home learners need to acquire skills, which fall into three categories:

1. Information processing skills which include:

    - reading and listening skills,

    - review skills,

    - learning and remembering skills,

    - recall and exam presentation skills.

2. Personal skills which include:

    - note taking,

    - revision strategy,

    - summarization skills (including flow diagrams, meshes, and maps),

    - questioning comprehension.

3. Support strategies which include:

    - organizing effective use of time,

- concentration skills,

- maintaining attention.

By understanding students' needs, Universitas Terbuka can improve the student study skills handbooks which has recently been published by Universitas Terbuka.

An effort for introducing the student study skills handbooks is important, since this kind of handbook is often unpopular to students. The handbook could be promoted by advertising in the newspaper, in pamphlets placed in the every regional offices and in the Universitas Terbuka's catalog (concerning the student study skills handbook).

In summary, improving the student study skills handbook, based on the students' needs, might be a way of assisting students in understanding how to learn in distance education institution by increasing their level of self-directed learning.

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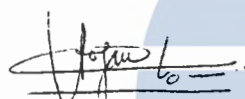
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