

# *Self-Directed Learning: Teacher And Computer Technology Assist*

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**Abstract**— This paper is to review self-directed learning (SDL) and becoming a self-directed person. In self-directed learning (SDL), the individual takes the initiative and the responsibility for what occurs. Individuals select, manage, and assess their own learning activities, which can be pursued at any time, in any place, through any means, at any age. In schools, teachers can work toward SDL a stage at a time. Teaching emphasizes SDL skills, processes, and systems rather than content coverage and tests. For the individual, SDL involves initiating personal challenge activities and developing the personal qualities to pursue them successfully. The revolution is that computer technology makes everything we want to learn available to us.

**Keywords-** *self-directed learning; computer technology*

## I. INTRODUCTION

Depending on the wealth and health of the nation, confidence, creativity and flexibility of workers, good teamwork and knowledge-based workers, most efficient production to solve the new problems that are often mentioned only in accordance with standard procedures do not fit the bill in the world today. In today's world, we live in a knowledge-based society. According to the United Nations Organization for Education, Science and Culture, [1] otherwise known as UNESCO, the value of a knowledge-based society to create and share new knowledge so that knowledge can be used for the new prosperity of the people and the destruction of the environment and global poverty solutions. Recently, our society is rapidly changing, multi-racial, multi-cultural, multi-religious, can be attributed to high liquidity and relationships between people. Different social and cultural characteristics of the knowledge-based society requires that people have a strong adaptation. In addition, social media, such as Facebook and blogs that help to encourage people to break the boundaries of space and time, the interaction between the peoples of rapid development. As a result, many people in modern society is becoming a global village. Interactive and social media has also given more autonomy and self-fulfilling characteristics of lifelong learning. Continue to learn different cultures, languages, customs and beliefs of the people, we see that this is not enough. It can be said that the claims of globalization, it is necessary for our students to become more conscious control, independent and active in their learning. Convinced that the general public in order to develop our students in today's knowledge-based society is the access to education, to learn, and the configuration for lifelong learning ability, knowledge-creating activities such communications

and collaboration capabilities to be a growing participation important social and cultural diversity in the world. Learning, to enable our students to adapt to changing conditions, in our work life, personal life and social life in the society of knowledge. Therefore, it is no longer enough to help students achieve the learning objectives of the national curriculum requirements. Instead, learning should be expanded to promote the ability of students, in learning how to learn, which may include the identification, management and resource mobilization learning, the ability to monitor their progress in learning ability. Including our students, we need to foster critical inquiry, they have intrinsic motivation, understanding things around them. In this way, we will develop students' active learning, and they learn in formal institutions, and to seize every opportunity, engage in lifelong learning. Needless to say, in our globalized world, technology is essential. Develop students' ability to use information and communication technology (ICT), their participation in the knowledge society is very important. Many departments or ministries of education in countries that are more advanced planning action plan, whose purpose is the development of ICT skills, to provide students with the necessary skills, knowledge and personality, to become the people's confidence in the global world. [2]

Malaysia Ministry of Education supplied software package Microsoft Office '97 / 2000 to all schools and educational institutions. It was the first level of Information Technology Skills Use of Software Packages Microsoft Office '97 / 2000, Teachers and students need to learn and appreciate the software contained in the package. Teacher Education Division has strived to provide smart learning modules include all software available in the package:

- Introduction to Windows '95 / '98
- Introduction to Word '97 / 2000
- Introduction to Excel '97 / 2000
- Introduction to PowerPoint '97 / 2000
- Introduction to Access '97 / 2000
- Integration of MS Office '97 / 2000

Second level was introduced MultiMedia, Networking and Internet. This level introduced users to the basic construction of the Multimedia software is easy. Because the computer lab supplied to schools and educational institutions in the form of a network, then this level of explanation on the concept of

computer network system. In addition, users are exposed to methods, the role and use of the Internet in education like;

- Introduction to MultiMedia
- Introduction to Networking System
- Introduction to the Use of the Internet

The third level was computer maintenance. Computer users, particularly the teachers (in schools and educational institutions) need to have some knowledge in easy maintenance of computer systems, with the hope that there is a system of personal computers in the computer labs in schools and colleges can be used with good, perfect and continuous. Personal Computer Maintenance Module divided into introduction of computer system, operating system, and utilities maintenance.

Concerns are shared by Singapore, the key information and communication technology in education overall planning concept should continue to predict the needs of the community and work for the future, in order to meet this requirement. [3] In the the third ICT master plan in Singapore, it is said, the Ministry of Education, the purpose of the development of Singapore students to become "self-directed learners for their own learning, who who is responsible, embodies the pursuit of learning and stick"through the use of information and communication technologies. [4] Finland, Hong Kong, Singapore, United Kingdom, United States and other countries have implemented national policies, the use of information and communication technology in education, and in fact, many of them are national ICT plan their second or third master . Keep in mind, the purpose of the knowledge society and globalization is the support of the Ministry of Education of Singapore, through the use of information and communication technology development, self-directed learning objectives, the purpose of this article is extracted self-directed learning (SDL), which is compatible with the cultural concept of Malaysia. This study was designed to preview the SDL can occur teachers familiar with Malaysia's education programs. Researcher has also made clear the principles it is necessary to consider going to SDL design Malaysia in their teaching methods, classroom teachers.

## II. SELF-DIRECTED LEARNING (SDL): PROCESS OF LEARNING

The researchers emphasize the need to go beyond the immediate school learning objectives, provide Malaysian students in the knowledge society is global and pluralistic society and culture to flourish. Researchers to explore different concepts, SDL, and to determine which implemented the concept of Malaysia. It has been widely acknowledged that the purpose of education is no longer easy production staff to fill existing vacancies, but to predict future demand and ready to work, and to set up in the new economy. [5] The researchers argue that, SDL is an important life skill that young people today. It allows a person aware adapt the new situation and environment, pooling of resources and learn quickly, so to solve new problems, new tasks they encounter. SDL is a natural process. [6] In Md Nor and Saeednia [7] study, they

reported that children showed various degrees of self-discipline, curiosity, independence, perseverance, goal oriented, responsibility, and enjoy their learning. For example, they run. They believe that children as young as 9 years old can learn directly. Children in the world they so want to know, it is not surprising to see how they found a way to learn new things, whether it is on the road leaves or rubber door wedge, they will go all the senses to explore new objects. Take a look at the following example plot. It shows how babies learn to drink a glass of water with a straw. In our daily lives, it is common to see some of these qualities in children.

SDL is a natural process of learning development from a young age, who just turned one. [8] A mother bought baby girl, Grace, cute little baby cup with a straw attached to the lid. Previously, she was drinking a bottle silicone nipple. She is very curious about the cup, he shook, and able to laugh making the sound of water. At first, he used the same method to drink bottles - biting straw, it was like a whirlwind and tilt the cup, drink a glass of water. If you drink the water, and he plays like a toy. One day, Grace sat down next to a girl who use the same cup, drink some water. She watched the girl, a concentrated period of time. He must have realized that he could drink a glass of water, but do not drink from the bottle in the same way. Days later, he was at home when she finds out her suction straw, he said, in the same way. She spent a few attempts, he was doing was right. She was so happy, she drank a cup of water. For example, the purchase of new technology tools, we learn how to use a variety of ways, small tools and their application. Some people like to learn, explore applications, through trial and error, while others prefer to read the instruction manual, or search on YouTube and other sites. Other examples in our daily life, many of us are familiar with SDL fill tax returns, including a web-based car for a new shopping center, the best place to know the car was parked in the new shopping mallor learn how to operate the camera new. The main point here is this: we are not only in school, but in our daily life and work, learning the native development experience, we can learn. SDL is in adolescents and adults, but also more effective.

SDL is a natural tendency, as some research suggests, [6] why is worth to study it as a special area of work? What can be a better understanding of SDL for teachers who are interested in the context of formal school education, to improve their teaching? The researchers attempted to study the history of the development of SDL, basic adult education.

### A. Historical Development of SDL

Has been identified as professional practice in the field of adult learning in the 1920s. Before this, the pattern of adult education, in the same time, the child learns. Researchers and practitioners feel that there is a need to distinguish between the way children and adults lessons. This task differentiation, and thus gave rise to the development of two theories [9] - Adult Education and SDL - we will describe below. This is at the beginning of the 20th century, SDL system, partly due to the development in the field of adult education. Adult learning theory as a unique field has developed in Europe, Malcolm

Knowles Adult Education is necessary to determine [10] popularised the term, andragogy, in the United States in the 1960s. According to Knowles [10], andragogy is “the art and science of helping adults learn” [10] and it is distinctive from pre-adult schooling. According to Merriam, Mott and Lee [8], Some assumptions about the jet to Adult Education students, ie, students

- are reliable and responsible, they are learning.
- gather a lot of experience, learning basic
- study involved changing needs, social and learning needs of the problem, and quickly used to create
- to learn the internal motivation

In the 20th century's, researchers began to question described Knowles Adult Education [10], does the adult learner who is truly unique. Children, like adults, have an intrinsic motivation to learn. If the problem is the interest of the child, he will solve the knowledge needed in order to try to solve this problem. For instance, Hanson [11] Describing the characteristics of adult learners has also been found to be a child. In fact, in some cases, children suffer more than adults rich, this experience provides the foundation of learning about them. [11] These studies suggest that SDL appears to be dependent on the student to write the content and context of learning, rather than the older students. Learning is aware not only focus on mature students, but also to understand what is happening. For example, some adult learners may need their teachers to manage their own learning, some children are better, if they have the opportunity to guide their learning. Along with the development of adult education, in continental Europe in the 20th century, SDL in the United States, to help to understand the regional adult education as formal. Tough, [12] SDL conducted pioneering work, found that the typical adult to spend about 500 hours a year who are interested in learning outside the formal education projects. Since then, researchers have focused on instructional design for adult learners, learner analysis, identifying relevant sources to select teaching methods and assessment of learning outcomes. Beginning in the 1980s, researchers have begun to pay more attention to the learning process, that the characteristics of the students, the learning environment and the nature of the learning process itself. Staged of self-learning mode (SSDL). According to the needs of students and teachers to provide appropriate scaffolding and study guides to help them learn more effectively. Matrix in this model, ready SDL students to determine their own level.

### B. *SDL As A study Skill*

Interestingly, a number of reports on K-12 education as we crossed into the new millennium,– such as “enGauge@21st Century Skills: Literacy in the Digital Age” and “Results that matter: 21st Century skills and high school reform” [14] – Began to question whether there are enough schools to prepare students to face new challenges in the 21st century, leading to recommendations for the 21st century skills of our students. SDL is also closely related to lifelong learning, has been listed as UNESCO and the Economic Cooperation and Development

(OECD) and other international organizations, the needs of modern society. In short, it is widely recognized as an important 21st century skills, self-direction for our trainees. Attendant, there is a growing body of research, including K-12 students towards themselves. SDL is listed as an essential part of 21st century skills.

Amongst these diverse perspectives of SDL, we find the definition proffered by Gibbons [6] most useful for our formal education in Singapore. According to Gibbons [6], SDL is “any increase in accomplishment, skill, knowledge, or personal development that an individual selects and brings about by his or her own efforts using any method in any circumstances at any time”. [6] Gibbons’ [6] SDL concepts, emphasizing the development of learning, because it will motivate the students in the learning process in order to achieve the learning goals, and stressed the importance of ownership. SDL concept of resonance with the Singapore Ministry of Education goal is to achieve through the third ICT master plan. In particular, we believe that it will lead to the self learning brings three important aspects: (a) ownership of learning, (b) self-management and self-monitoring, and (c) to continue learning. According to his view, the SDL including personally challenging activities and the development of personal skills and knowledge to successfully continue the challenge.

### III. OWNERSHIP OF LEARNING

The learner’s personal or characteristics attributes are important to SDL, particularly possessing personal responsibility in learning. Learners who take personal responsibility in learning have ownership of their learning, accept the consequences of their set learning outcomes, and actions and thoughts. Brockett and Hiemstra [15] argue that personal responsibility is the “cornerstone of self-direction in learning”. [15] Candy [16] Show that personal responsibility SDL development can occur in institutional environments, such as schools, students have some control of their own learning or personal development decision-making autonomy. Development of a sense of ownership of learning is closely related to motivation. According to Garrison, [17] It is influenced by many factors, for example, whether the goal of learning, in order to meet the needs of students, whether they can achieve the target, as well as how they treat relationships goals sense of their own effectiveness. There is a difference between the input and task motivation motivation. Enter the motivation is how to draw student learning goals and commitments. Provide opportunities for students to learn goal setting and control, can increase their motivation to enter. When you choose to enter the motivation of student learning goals, positive impact student learning objectives work going concern. Therefore, it is important for students of management, control and supervision of their learning opportunities and help develop their capabilities in this regard. By external rewards, the more important is the inner workings of active duty.

Around spirit of students, to jointly develop personal qualities and external environmental factors. This interaction

between the internal and external factors are more obvious to the management and monitoring of the learning process. For example, the experience was a good learning environment, their success may be expected similar success in the future, the past students will achieve the same learning objectives, to enter higher motive.

#### A. Self - Management and Self - Monitoring

Brockett and Hiemstra, [15] seen SDL as a teaching needs assessment of students, to determine the learning resources, learning activities and learning outcomes assessment process related to the objectives of the negotiations between student and teachers, teaching methods, use of resources, and evaluate the results. It focuses on teaching-learning transaction in an institutional setting that is almost akin to individualised instruction. Candy[16] and Garrison[17]; self-management term used to describe the behavior of the control tasks and the management of learning activities. In addition, they also proposed a cognitive aspects of internal student thinking and learning, known as self-monitoring monitoring garrison. Should pay attention to the external task and resource management, capacity management, self-monitoring includes internal thought process, to reflect and improve the learning process. Self-cognitive and meta-cognitive aspects of learning, the focus of internal control students. Cognitive processes (eg, thinking, meaningful information, integrate new knowledge into existing knowledge structures) in the learning process is necessary. Thinking metacognitive thinking or learning to learn, which relates to the ability of students to reflect their learning. This aspect of self-regulated learning SDL. [18] [19] For instance, Bandura's [18] Recommendations for control of their own learning observation, self-judgment and self-learning and performance responses. Self-monitoring involves the cognitive processes of internal and external factors, such as teachers or other people's opinions will affect student reflection.

#### B. Expansion of learning

Although Brockett and Hiemstra [15] focused SDL in the institutional environment, and recognize that this learning process, the external factors of the environment (such as the availability of structured learning activities and resources), Candy [16] extended that teaching philosophy SDL is a formal institution, not a day-to-day setting, which she called autodidactic domain. Own learning Autodidaxy literal meaning students complete control to choose what to study, where to study, how to learn, how to assess learning. An example is the understanding of the iPhone application, read the instructions, or to find an online presentation, she described in her book.

#### C. Behavioural Indicators for SDL

Teachers should know what SDL looks like, teachers encourage students to adopt SDL. Theoretical thinking, learning, self-management and self-monitoring, and to continue learning ownership is more useful when they are translated into a purpose-pointer can be observed in the classroom, even if we admit, SDL cannot be so naive as it

narrowed down to a basket. Use behavioral indicators, the teachers can monitor the students involved in the SDL and planning, teaching strategies, which can serve as a useful information. Important to pay attention to the behavior of the indicator is not complete, they cannot capture the internal meta-cognitive process. And approach to student ideas, explore, teachers must rely on other methods, such as think strong protocol or reflective journals. Listed below are three key areas that may be indicators of SDL behavior [20]:

- a) Ownership of learning
  - Students identify, determine and articulate their own learning goals
  - Students identify learning tasks to achieve the goals
  - Students chart their learning processes
  - Students challenge themselves and set the standards for the achievement of their learning goals
- b) Management and monitoring of own learning
  - Students formulate questions and generate relevant inquiries
  - Students explore a range of possibilities and make sound decisions
  - Students self-plan and self-manage their time
  - Students critically reflect on their learning and initiate gathering of feedback from teachers and peers to achieve their learning goal
- c) Extension of own learning
  - Students apply what they have learnt to new contexts
  - Students utilise the skills that they have acquired to learn beyond the curriculum contents

#### D. Extra Attention about SDL

SDL may appear confrontational collaborative learning, it involves two seemingly contradictory. However, it is clear that, although students, conducting meta-cognitive process internal, teacher and peer feedback to external factors, such as the use of resources reflects the regulatory process itself. Collaborative learning environment, students in interactive learning, to provide students with the opportunity, subject to public scrutiny and ask their opinion, and the process of negotiation or discussion of subjects studied, and get a better understanding. Actually, these principles include positive collaborative learning. [21] Interdependence among group members, personal accountability and responsibility, to achieve goals. A good example is Horace Mann Magnet Middle School in Arkansas use the environment and space technology, SDL students, students not only for development cooperation and other 21st century skills, service learning projects. [22] The main goal of SDL (self-study) autodidaxy play a key role for teachers inspire students to learn about the challenges, and help them to develop their capabilities, manage and monitor their learning. In order to promote SDL, it may be appropriate to set up a highly structured learning tasks and faithfully perform the duties of the need for students. Instead, set a theme, students conduct independent research or doing project work may not be appropriate for students not yet ready. The one hand, when there is too much control, will vigorously develop a sense of ownership of learning. On the

other hand, self-learning students may not have been ready. They can take a variety of coping mechanisms, rather than engage in SDL to get the job done. In the formative years of education, SDL design is like flying a kite. Teachers need to take full advantage of the wind to fly a kite, but maintain sufficient attraction and leadership pull the kite in the right direction. Student preparation work is an important factor to consider, as well as the role of teachers.

#### IV. CONCLUSION

In a nutshell, these indicators point SDL behavior to control the maximum level of their own learning experience. They plan their own learning, skills development inevitable trend upward to meet the challenges they set for themselves. Needless to say, the behavior is different according to SDL participation. Student auto think for themselves. They choose the intensity of the learning experience. They act by themselves instead of waiting acted upon by external forces. Teachers in independent learning is a mentor or coach. They advise students. You can also encourage them to try harder. Show options and resources and the possibility that students might not have been considered. But students are still responsible for the learning experience. So the self-study students not only learn the things they have chosen to study, they also reinforce the character and develop their ability to learn. They become those who are able to make decisions and lead their lives according to their own needs and interests. They actively participate in learning throughout life, not just when you are looking for a degree in the institutional environment.

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