EFFECTS OF USING SELF-DIRECTED LEARNING TO FOSTER LIFELONG LEARNING ATTITUDES OF FUNCTIONAL LITERACY FACILITATORS

Mrs. Leakhena Orn

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

A Thesis Submitted in Partial Fulfillment of the Requirements
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By	Mrs. Leakhena Orn
Field of Study	Non-Formal Education
Thesis Advisor	Associate Professor Dr. SUWITHIDA CHARUNGKAITTIKUL

Accepted by the FACULTY OF EDUCATION, Chulalongkorn University in Partial Fulfillment of the Requirement for the Master of Education

..... Dean of the FACULTY OF EDUCATION
(Associate Professor SIRIDEJ SUJIVA, Ph.D.)

THESIS COMMITTEE

..... Chairman
(Associate Professor Dr. WIRATHEP PATHUMCHAROENWATTANA)

..... Thesis Advisor
(Associate Professor Dr. SUWITHIDA CHARUNGKAITTIKUL)

..... External Examiner
(Associate Professor Dr. Archanya Ratana-ubol)

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Chulalongkorn University

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การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาอิทธิพลการเรียนรู้ด้วยการนำตนเองต่อเจตคติการเรียนรู้ตลอดชีวิตของผู้อำนวยความสะดวกในการรู้หนังสือแบบเบ็ดเสร็จ และ 2) นำเสนอข้อเสนอแนะการใช้การเรียนรู้ด้วยการชี้นำตนเองเพื่อส่งเสริมการเรียนรู้ตลอดชีวิต การวิจัยครั้งนี้ใช้ระเบียบวิธีการวิจัยเชิงปริมาณโดยใช้แบบแผนการวิจัยกึ่งทดลอง กลุ่มทดลองประกอบด้วยผู้อำนวยความสะดวกในการรู้หนังสือแบบเบ็ดเสร็จ 37 คน ซึ่งเป็นครูในโครงการการรู้หนังสือแบบเบ็ดเสร็จในประเทศกัมพูชา เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลได้แก่ แบบทดสอบก่อนเรียนและหลังเรียน สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ ค่าเฉลี่ย และ t-test กลุ่มเป้าหมายในการให้ข้อมูลเกี่ยวกับข้อเสนอแนะการใช้การเรียนรู้ด้วยการชี้นำตนเองเพื่อส่งเสริมการเรียนรู้ตลอดชีวิต ได้แก่ นักการศึกษาผู้ใหญ่ จำนวน 5 ท่าน เก็บรวบรวมข้อมูลด้วยการสัมภาษณ์ และวิเคราะห์ข้อมูลด้วยการวิเคราะห์เนื้อหา

ผลการวิจัยพบว่า

1. การเรียนรู้ด้วยการนำตนเองมีผลทำให้ผู้อำนวยความสะดวกในการรู้หนังสือแบบเบ็ดเสร็จมีเจตคติต่อการเรียนรู้ตลอดชีวิตใน 5 ด้าน 1) การแสวงหาความรู้ 2) การวางแผนการเรียนรู้ 3) ทักษะการเรียนรู้ 4) การรู้สารสนเทศ และ 5) ความเชื่อในการเรียนรู้เป็นประโยชน์ต่อการพัฒนาวิชาชีพหลังการทดลอง ($\bar{X}$=4.2734) สูงขึ้นกว่าก่อนการทดลอง ($\bar{X}$=3.3475) อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.00

2. ข้อเสนอแนะการใช้การเรียนรู้ด้วยการนำตนเอง ประกอบด้วย 1) บทบาทที่เหมาะสมของผู้อำนวยความสะดวก 2) การกำหนดบรรยากาศของความไว้วางใจและความเคารพ 3) การวินิจฉัยความต้องการ 4) กำหนดเป้าหมายการเรียนรู้ 5) วางแผนทรัพยากรในการเรียนรู้ 6) วางแผนกลยุทธ์การเรียนรู้ 7) ติดตามกระบวนการเรียนรู้ และ 8) การประเมินผลการเรียนรู้ นอกจากนั้น การวิจัยยังบ่งชี้ว่าการเรียนรู้ด้วยการนำตนเองที่มีประสิทธิภาพต้องอาศัยการอ่านออกเขียนได้ ความสามารถทางภาษาอังกฤษ ความเข้าใจในรูปแบบการเรียนรู้ ทักษะด้าน ICT การสื่อสารที่ดี และการมีผู้ให้คำปรึกษาสนับสนุนการเรียนรู้ตลอดกระบวนการ

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This study aimed to 1) investigate the effects of self-directed learning on lifelong learning attitudes of functional literacy facilitators; and to 2) propose recommendations for using self-directed learning to foster lifelong learning. The research used quantitative method by employing quasi-experimental design where pre-test and post-test are employed to explore whether self-directed learning activities would foster lifelong learning attitudes of functional literacy facilitators in the five aspects. With subject group consisted of 37 functional literacy facilitators who were working as teachers in functional literacy programs in Cambodia. Moreover, an in-depth interview with 5 adult educators has been employed to propose recommendations on using self-directed learning according to their practical experiences. The recommendations were significant to adult educators, trainers, or mentors who were interested to apply self-directed learning in their practice.

The research findings were as follow:

1. Self-directed learning significantly enhanced functional literacy instructors' attitudes towards lifelong learning on the five aspects as 1) inquiring mind, 2) setting learning plan, 3) learning skills, 4) information literacy, and 5) belief in learning benefit professional development. With one group paired sample t-test, the result indicated that the pre-test score of the participants' inquiring mind to learn ($\bar{X}$ =3.3475) was lower than the post-test ($\bar{X}$ =4.2734), with p=0.00, which indicated that it was perfectly different. The result of the study revealed that self-directed learning activities positively affected lifelong learning attitudes and had positive impacts on the professional development of functional literacy facilitators.

2. Recommendations on using self-directed learning were proposed by the adult educators based on practical experiences such as 1) the crucial role of facilitators, 2) setting climate of trust and respect, 3) diagnosing learning needs, 4) setting learning goals, 5) planning resources, 6) planning learning strategies, 7) monitoring the learning process, and 8) evaluating outcomes. Moreover, the research also indicated that effective self-directed learning required literacy, language proficiency, understanding of learning styles, ICT skills, and good communication, with a supportive mentor to guide learners through the process.

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จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

TABLE OF CONTENTS

Page

ABSTRACT (THAI) iii

ABSTRACT (ENGLISH) iv

ACKNOWLEDGEMENTS v

TABLE OF CONTENTS vi

CHAPTER I INTRODUCTION 1

1.1. Background information 1

1.2. Research questions 6

1.3. Research objectives 6

1.4. Definition of Research Key Terms 6

1.5. Scope of study 8

1.6. Significance of the Study 8

CHAPTER 2 LITERATURE REVIEW 9

2.1. Non-formal Education 11

2.1.1. Background of Non-formal education 11

2.1.2. Importance of Non-formal Education 11

2.1.3. The goals of non-formal education 13

2.1.4. Characteristics of non-formal education 14

2.1.5. Types of non-formal education 15

2.2. Non-formal Education in Cambodia 17

2.2.1 National policies on Non-formal education in Cambodia 17

2.2.2 Programs used in Non-formal Education in Cambodia 4

2.3. Functional Literacy Program 7

2.3.1. Goal of Functional Literacy Program 8

2.3.2. Government policies and goals on Functional Literacy 9

2.3.3. Role of Non-formal administrators in functional literacy program 10

2.3.4. Functional Literacy Learners....10
2.3.5. Types of Functional Literacy classes....10
2.4. Functional literacy facilitators....12
2.4.1. Roles of functional Literacy facilitators....13
2.4.2. Training for Functional Literacy Facilitators....14
2.4.3. Barriers of Functional Literacy facilitators....14
2.5. Lifelong Learning....16
2.5.1. Lifelong Learning defined....16
2.5.2. The role of lifelong learning in the twenty-first century....16
2.5.3. Benefits of lifelong learning....17
2.6. Andragogy....20
2.6.1. Concept of Andragogy and Education....20
2.6.2. Six assumptions of andragogy....21
2.7. Self-directed learning....22
2.7.1. Self-directed learning defined....24
2.7.2. Goals of self-directed learning....25
2.7.3. The process of self-directed learning....26
2.7.4. Self-directed learning models....27
2.7.5. Awareness of a need for learning....27
2.7.6. Self-directed learning activities....28
2.7.7. Barriers to self-directed learning....30
2.7.8. Characteristics of self-directed learners....30
2.7.9. Benefits of self-directed learning.....35
2.7.10. Roles of self-directed learning facilitators....37
2.7.11. Factor effects self-directed learning....37
2.7.12. Grow's Self-directed Learning Stages....38
2.7.13. Learning Contract....39
2.7.14. Relationship between self-directed learning and lifelong learning....40
2.7.15. SWOT Analysis....41

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

2.8. Context of Tboung Khmum province....42
2.9. Relevant studies....43
2.10. Conceptual Framework....46
CHAPTER 3 METHODOLOGY....47
3.1. Research Methods and Designs....47
3.2. Phase1: To investigate effects of using self-directed learning approach to foster lifelong learning attitudes of functional literacy facilitators....47
3.2.1. Population....47
3.2.2. Instrument....47
3.2.3. Data collection....48
3.2.4. Data analysis....51
3.3. Phase 2: To propose recommendations of using self-directed learning to foster lifelong learning....51
3.3.1 Sampling Design....51
3.3.2 Instrument....52
3.3.3 Data collection....52
3.3.4 Data analysis....53
CHAPTER 4 RESEARCH RESULTS....54
CHAPTER 5 CONCLUSION, DISCUSSION, RECOMMENDATION....77
5.1. Conclusion....77
5.2. Discussion....82
5.3. Recommendations....89
APPENDIXES....92
REFERENCES....2
VITA....10

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

List of table

Table 1 Paired sample test of lifelong learning attitudes on inquiring mind 54

Table 2 Paired sample test of lifelong learning attitudes on setting learning plan 56

Table 3 Paired sample test of lifelong learning attitudes on learning skills 57

Table 4 Paired sample test of lifelong learning attitudes on information literacy 59

Table 5 Paired sample test of lifelong learning attitudes on Belief in Learning Improve Professional Development.....60

Table 6 Paired sample test of all components of lifelong learning attitudes 62

Table 7 Compare weight average index.....63

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

CHAPTER I
INTRODUCTION

1.1. Background information

The Functional Literacy program is designed to offer essential literacy and numeracy skills, along with other fundamental life skills, to young people and adults who did not have the chance to receive basic education. This enables them to read, write, perform calculations, and apply various life skills in their daily lives (MoEYS, 2019b).

Non-formal education programs provide literacy, numeracy, and essential life skills to out-of-school youth and adults. These programs offer numerous advantages for the individuals and their families, including increased family income, improved health outcomes, attainment of their children's education, and efficient utilization of local natural resources. An effective functional literacy program can contribute significantly to poverty alleviation within communities (MoEYS, 2019b). At-risk individuals, particularly impoverished women and girls, are encouraged to participate in functional literacy programs. These programs not only supplement primary education, but they also lead to increased parental support for their children's primary education when adults enroll in basic education courses (MoEYS, 2019b). Addressing the need for adult basic education in areas with illiterate parents has been found to enhance the conditions for community participation in formal educational institutions (Klugman, 2002).

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In Cambodia, functional literacy serves as a lifeline for young people and adults who have missed out on essential education due to various circumstances in their personal lives. This form of literacy not only imparts fundamental reading and math abilities, but also equips individuals with practical life skills related to everyday living. These skills are targeted at enhancing the overall well-being of individuals and their communities (Rosenbloom, 2004).

Literacy and numeracy serve as the initial steps towards continuous learning. Enhancing literacy is a global concern, impacting all regions and income levels. Its importance in achieving the Sustainable Development Goals (SDGs) within the 2030 Agenda for Sustainable Development is widely acknowledged. In today's world, literacy is essential for success and regarded as a basic human right. It lays the

groundwork for lifelong education. Literacy offers numerous societal and economic advantages. It fosters economic growth, alleviates poverty, encourages democracy, bolsters civic participation, and inhibits diseases. Protecting the environment, fostering social progress, and ensuring overall sustainable development hinge on having solid literacy skills (MoEYS, 2019b).

Adults lacking adequate literacy and numeracy abilities encounter numerous disadvantages due to societal and environmental shifts. After departing from school for several years, they come to understand that a majority of job opportunities require at least rudimentary literacy skills. A literacy program is the only viable pathway for them to resume their education, particularly in literacy, numeracy, and 21st-century competencies. Literacy lays the groundwork for learning throughout one's life (Rashid, 2004).

“The effectiveness of adult literacy and basic education is primarily determined by the instructors, and their proficiency is reliant on the education they receive” (Rashid, 2004). Numerous assessment reports suggest that the inability of functional literacy programs to accomplish their anticipated outcomes is frequently attributed to the untrained or insufficiently trained literacy instructors (Moja, 2000).

In Cambodia, as in other developing countries, facilitators serve as instructors in functional literacy classes. Typically, these individuals come from the communities where the classes are held. The majority are literate youths or adults who have completed at least primary education, and many are retired teachers from within the community. Those currently employed as teachers or education administrators at formal schools are not permitted to be functional literacy facilitators. Finding qualified instructors for these programs is often a challenge, as there are usually only a few individuals in a community with literacy skills at the ninth-grade level. The scenario involves technically inexperienced individuals instructing those with similar limitations, resulting in minimal advancement possibilities for the students (Rosenbloom, 2004).

Tboung Khmum Province was formed when Kampong Cham Province was split in two by a royal decree signed on 31 December 2013 by King Norodom Sihamoni on the recommendation of Prime Minister Hun Sen. The province was officially announced the province’s administrative administration on May 9, 2017

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Chulalongkorn University

(Administration, 2019). In Tboung Khmum, there are different kinds of functional literacy classes in this province, they are; functional literacy class in Buddhism pagodas, Muslim mosques, national correction center, prison, factory and local community, this study stated sampling method and the province was chosen in this study (MoEYS, 2018b).

Contract-teachers for the Ministry of Education, Youth, and Sport (MoEYS) in Cambodia serve as functional literacy facilitators. MoEYS is in charge of their salary payments (Rosenbloom, 2004). The National Report on Education in Cambodia (MoEYS, 2020), states that there are 958 functional literacy facilitators (39.56% females) under MoEYS: 889 facilitators (39.15% females) and 69 facilitators (44.93% females) working with development partners. Among these, 915 facilitators (39.56%) have been trained by MoEYS, including 846 facilitators (39.13% females); additionally, 15 facilitators (46.67% females) teach in factories and companies, 30 facilitators (20% females) work in prisons, and 6 teach at correctional centers. Development partners have trained the remaining 69 facilitators (44.93% females).

Before beginning their classes, facilitators must first participate in a training program to gain an understanding of functional literacy, adult psychology, and various adult teaching techniques, including lesson planning and learning assessment. The program's trainers are education administrators from the Department of Non-formal Education in each province. However, a one-week training period is insufficient to effectively prepare new facilitators, particularly those without prior teaching experience. Common issues among facilitators include poor content design, a lack of learning materials, and a deficiency in participatory and learner-centered approaches (MoEYS, 2020).

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Low education levels and insufficient training have left adult literacy facilitators ill-equipped to effectively address the complex issues inherent in their programs (Oluoch et al., 2014). This inadequacy has led to participants' inability to gain functional skills from the programs – a clear indication of internal inefficiency within the literacy sub-sector. The essential ingredient for improving learning outcomes – education quality – has been severely compromised due to the facilitators' inadequate capacity. Additionally, staff shortcomings and lack of motivation have stifled learners' creativity and capability to function effectively. Consequently, it is

crucial for facilitators to receive comprehensive in-service and induction training to address their skill deficiencies. This necessity led to the involvement of non-adult educators who employed unsuitable methodologies in attempts to bridge the capacity gap (Oluoch et al., 2014).

Recommendations for enhancing adult literacy programs in Cambodia include providing teachers with training on assessing learners' literacy skills, knowledge, needs, and interests; teaching them to develop their own materials; and instructing them on networking with local organizations for resources. Furthermore, consistent follow-up visits by program implementers should be conducted to monitor women empowerment leaders and observe lessons. Providing constructive feedback and modeling effective lessons would also contribute significantly to overall improvement (Rosenbloom, 2004).

Furthermore, prior research on Non-formal Education for Garment workers indicated that for an effective training program to be offered to learners, facilitators must constantly update and expand their knowledge and skills. Facilitators have a significant role in creating a conducive learning environment for both the physical and mental aspects of the learner (Kheang, 2013).

Training is necessary to turn these facilitators into effective ones, but the government has a limited budget allocated for such training. Professional development in teaching should not be restricted to teacher education programs or early stages of teaching careers. Instead, experienced teachers can still learn new aspects of teaching, with commitment to continuous growth being a key factor (Gebhard, 2006).

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Lifelong learning is vital for individuals to refresh their knowledge and expertise while also enhancing their capabilities (Sinanovic & Becirovic, 2016). It is important to remember that nurturing lifelong learners can only be achieved with lifelong learning educators (Hursen, 2016). This is why it is crucial to find out the attitudes of teachers toward lifelong learning. Hence, understanding teachers' attitudes toward lifelong learning is crucial.

As such, facilitators need to enhance their teaching knowledge and skills by utilizing self-directed learning as an appropriate method. Lifelong learning is established as an ongoing learning process. The objective for adult learners can be

summed up as a need to become independent, self-guided, and self-controlled individuals who understand the importance of incorporating strategies into their lives to adapt to ever-changing situations (Boyer et al., 2014).

Self-directed learning entails planning, organizing, managing, and evaluating one's own learning process first identified by Tough as "self-teaching". It enables adults to learn in various contexts such as the self-directed learning approach empowers adults to link their requirements or issues with their education while encouraging critical, creative, deep, and analytical thinking, as they draw from their vast knowledge and experiences to better understand the world around them. In self-directed learning, individuals establish their own goals, strategies, resources needed, potential settings, timeframe, and expected outcomes (Merriam & Bierema, 2013).

Self-directed learning is essential for creating diverse contexts in which lifelong learning takes place while facilitating adult learners' personal and professional growth. Engaging in self-directed learning activities allows adult learners to acquire and develop the appropriate skills necessary for lifelong learning and progress. This form of learning encourages adult learners to partake in lifelong education by cultivating various competencies that enhance their ability to apply knowledge and skills in problem-solving (Murray, 2015b).

Similarly, the role of a facilitator extends beyond merely helping individuals acquire literacy and numeracy skills. Facilitators must also develop, organize, promote, negotiate, and advocate. Comprehending group dynamics and how groups function is vital. The success and quality of any adult education program hinge upon those who execute the program - managers or facilitators (Terehoff, 2002). As facilitators are crucial to the overall management efficacy in educational programs, capacity building guarantees the production of high-quality facilitators to manage such programs.

Furthermore, no studies have focused on functional literacy facilitator's lifelong learning using a self-directed learning approach in Cambodia. This research would be the first to concentrate on applying a self-directed learning strategy for adults employed as contract teachers in functional literacy classes.

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Teachers possessing a lifelong learning mindset can keep up with advancements (Day, 2002). Therefore, it is imperative to identify teachers' attitudes towards lifelong learning.

According to data and prior research above, facilitators are crucial in ensuring adults learn effectively and thoroughly in literacy. In addition, efficient facilitators must receive training and continuously develop themselves as effective facilitators should be lifelong learners; consequently, there is a study on "Effects of Using Self-directed Learning to Foster Lifelong Learning Attitudes of Functional Literacy Facilitators."

1.2. Research questions

The essential questions in this study include:

1. What are the scores of lifelong learning attitudes of functional literacy facilitators before the training course?
2. What are the scores of lifelong learning attitudes of functional literacy facilitators after the training course?
3. What are the differences in comparison between pre-test and post-test score on lifelong learning attitudes of functional literacy facilitators?
4. What are the proposed recommendations of using self-directed learning to foster lifelong learning?

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1.3. Research objectives

The purposes of this study are to:

1. To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators.
2. To propose recommendations of using self-directed learning to foster lifelong learning.

1.4. Definition of Research Key Terms

Functional Literacy Program: a program provides literacy, numeracy and other life skills to young people and adults who are illiterate to be able to get another opportunity to continue studying or able to use literacy basic skill to improve standard of their living.

Functional literacy facilitators: teachers or instructors who responsible for facilitating literacy class for young people and adult in Cambodia who are out-of-school or have no opportunity to participate in formal school because of different reasons. The facilitators are trained and supported by Department of Non-formal Education.

Adult learner: youths and adults who continuing learning or enroll in any adult learning program. In this study adult learner refers to functional literacy facilitators who continue learning and developing themselves to bettering their teaching for functional literacy learners.

Lifelong learning: continuing learning or developing knowledge or skills in everyday life of functional literacy facilitators no matter in formal, non-formal or informal learning method.

Self-directed learning: a learning approach that is controlled by the learner. In self-directed learning, leaners 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 those learning outcomes. There are six steps of self-directed learning approach; (1) climate setting, (2) diagnosing learning needs, (3) formulating learning goals, (4) identifying human and material resources for learning, (5) choosing and implementing appropriate learning strategies, (6) evaluating learning outcomes. Learning contract is an agreement document negotiated between a learner and facilitators to ensure that certain activities will be undertaken in order to achieve an identified learning goal, specific evidence will be produced to demonstrate that goal has been reached.

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Lifelong learning attitudes: behaviors, feeling or opinion toward inquiring mind of learning, setting learning plan, awareness of oneself learning skills, information literacy, and belief in learning benefit professional development.

Self-directed learning activity: refers to learning process which learners plan their own learning goal, resources, strategies and evaluation by using learning contract to plan their learning activities with support from mentor.

Proposed recommendation: proposal of suggestions based on the synthesis of lesson learned from the field research process as practical remark for those

involving or interested in achieving the use of self-directed learning concepts to foster lifelong learning.

1.5. Scope of study

The studied population was 37 functional literacy facilitators who are working as contract teachers in functional literacy class in Tboung Khmum Province, Cambodia. All the 37 functional literacy facilitators were participated in self-directed learning activities for 12 weeks in this study.

Lifelong Learning attitudes scales was used to measure the scores of functional literacy facilitators' attitudes toward lifelong learning on the aspect of (1) inquiring mind, (2) setting learning plan, (3) learning skills, (4) information literacy, and (5) belief in learning benefit professional development.

1.6. Significance of the Study

There are essential values embedded in the investigations of using self-directed learning toward lifelong learning attitudes, which could be described as following:

1. The self-directed learning activities will be beneficial to teachers in order to develop their capacity building both for personal and professional development.
2. The investigation on functional literacy facilitators' attitudes toward lifelong learning between before and after training course by using self-directed learning approach will be valuable for increasing understanding for policy maker or other stakeholders to consider in choosing self-directed learning as strategy in training program for fostering lifelong learning.
3. The proposed recommendations of using self-directed learning will be significant to adult trainers or educators who wish to implement or study related to self-directed learning.

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CHAPTER 2
LITERATURE REVIEW

Documents and related studies in this research are divided as part as following:

Part 1: Non-formal Education

1.1. The background of Non-formal education

1.2. Important of Non-formal education

1.3. The goal of Non-formal education

1.4. Characteristics of Non-formal education

1.5. Types of Non-formal education

1.6. Non-formal education in Cambodia

1.7. National policy on Non-formal education in Cambodia

1.8. Programs used in Non-formal Education in Cambodia

Part 2: Functional Literacy

2.1. Goal of Functional Literacy Program

2.2. Government policies and goals on Functional Literacy

2.3. Role of Non-formal administrators in functional literacy program

2.4. Functional Literacy Learners

2.5. Types of Functional Literacy classes

2.6. Functional literacy facilitators

2.7. Roles of Functional Literacy Facilitators

2.8. Training for functional literacy facilitators

2.9. Barriers of Functional literacy facilitators

Part 3: Lifelong Learning

3.1. Lifelong Learning defined

3.2. The role of lifelong learning in twenty-first century

3.3. Benefits of lifelong learning

Part 4: Self-directed Learning

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Chulalongkorn University

4.1. Andragogy

4.2. Concept of Andragogy and Education

4.3. Six assumptions of Andragogy

4.4. Self-directed learning

4.5. Self-directed learning defined

4.6. Goals of self-directed learners

4.7. The process of self-directed learning.

4.8. Self-directed learning models

4.9. Awareness of a need for learning

4.10. Self-directed learning activities

4.11. Barriers to self-directed learning

4.12. Characteristics of self-directed learners

4.13. Benefits of self-directed learning

4.14. Roles of self-directed learning facilitator

4.15. Factor effects self-directed learning

4.16. Grow's Self-directed learning Stages

4.17. Learning contract

4.18. Relationship between self-directed learning and lifelong learning

4.19. SWOT Analysis

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Part 5: Context Tboung Khmum Province

Part 6: Relevant studies

Part 7: Conceptual Framework

2.1.Non-formal Education

According to UNESCO 2001, education serves as the ultimate instrument for unlocking an individual's full potential and fostering their lifelong learning journey. This process is founded on four essential pillars: learning to know, learning to do, learning to coexist, and learning to be. Non-formal education intervenes to bridge the gaps left by conventional schooling, providing a vital support system for those who have missed out – comprising out-of-school individuals and vulnerable populations.

2.1.1. Background of Non-formal education

Non-formal education serves as an essential supplement to conventional schooling, enabling lifelong learning for all through a more straightforward and captivating approach (Raggatt and Peart 1996). As formal education often struggles to accomplish its objectives, non-formal education proves to be a vital alternative for fostering functional literacy and ongoing education. This encompasses children, adolescents, and adults who have missed out on primary education, including nomads, migrants, individuals with disabilities, and other groups – particularly young girls and women. Non-formal education presents a feasible solution for individuals who didn't complete secondary education. Furthermore, those who have finished formal education can also benefit from non-formal education as a means to enhance their knowledge and capabilities beyond their present competencies (Bhola, 1983).

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2.1.2. Importance of Non-formal Education

Non-formal education is an essential element in both personal development and national progress. Its influence can be observed in the literacy levels of adults, young people, and out-of-school children, as it provides them with necessary knowledge and skills for societal improvement. By alleviating the difficulties faced by citizens and presenting opportunities to acquire new or enhance existing abilities, non-formal education increases productivity and propels national growth (Ololube and Egbezor 2012). Given the crucial role non-formal education serves in personal and national progress, it's crucial to acknowledge its connection to adult education in lessening gender inequality. Essentially, adult education stimulates more women to learn and cultivate skills, allowing them to participate in social activities and have a say in decision-making procedures. This enriches their individual lives while also

serving the communities they are a part of. Non-formal education encourages equal educational possibilities, fosters non-discriminatory learning for women, and particularly strengthens women's access to ongoing education, science, technology, and vocational training (UNESCO 2010). Moreover, non-formal education is invaluable in improving community health by enabling young women to learn about their physical well-being. Besides, it educates parents, especially mothers, on lowering infant mortality rates by adhering to critical guidelines. Simultaneously, child care receives a boost through these endeavors (Carron and Carr-Hill 1991). Furthermore, as parents become more educated, they are more likely to pass on that knowledge to their offspring. This removes any apprehensions surrounding education separating children from their traditional ways of life while also raising primary school enrollment numbers (MoEYS, 2019b).

Similarly important is the role non-formal education has in adult learning by fostering democratic awareness allowing adults to actively participate in initiatives that strengthen rural communities. This enables them to comprehend human rights better, raise gender consciousness, and acquire vital knowledge and skills necessary to combat poverty (Report 2004). Non-formal education empowers adults by boosting their self-confidence, motivation, and personal growth. As these adults become passionate readers and writers, they learn about the world and recognize their significant roles within society. This blend of theoretical knowledge and practical skills propels economic development. As self-directed learners, adults investigate various methods to encourage lifelong learning, fostering a sustainable society. Information Communication Technology (ICT) is instrumental in this undertaking since it provides solutions to inquiries previously addressed only by educators. Through internet access, adults can widen their perspectives even more. More crucially, this newfound curiosity motivates them to seek educational opportunities overseas or engage in exchange programs with other nations. This benefits not only national development but also tackles challenges and meets the learning needs of individuals in their daily lives (Openjuru 2004).

In conclusion, non-formal education is paramount in advancing human and national growth, shrinking wealth disparities, and lowering unemployment levels.

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Moreover, adult education within non-formal contexts addresses the issue of out-of-school children, ensuring societal stability and the continuous development of human capital.

2.1.3. The goals of non-formal education

Diverse adult and non-formal education programs serve to cultivate essential literacy, functional abilities, post-literacy support, and specialized education for underprivileged individuals, the visually impaired, nomadic populations, merged religious studies, women's empowerment, workforce growth, inmate learning, skills enhancement, and continual education. By accomplishing this, these initiatives can efficiently combat poverty and empower people to experience a high-quality, fulfilling existence (Aderinoye 2008).

Initially, our primary objective is to involve as many 9-14-year-olds who are not in school in non-formal education, helping us achieve a crucial constitutional objective. Secondly, we aim to equip these students with fundamental skills such as reading, writing, and arithmetic to foster independent living. Thirdly, we strive to increase their overall comprehension of local, state, and national matters so they can contribute to the discovery of fitting solutions. Furthermore, non-formal education seeks to expand knowledge and experience in assorted fields by utilizing both local and external resources. An additional goal pertains to the development of essential abilities for managing and repairing everyday devices that students are familiar with. Lastly, non-formal education focuses on fostering positive personal and social habits while encouraging a healthy regard for our nation's treasured ideals and principles. Moreover, another study identified the main objectives of adult or non-formal education as: a) presenting functional literacy and continuous learning for adults and young people unable to complete primary school - such as nomads, migrants, disabled individuals, specific groups of young girls and women; b) supplying hands-on and supplementary education for young people seeking further knowledge levels or pursuing graduation; c) offering on-the-job vocational or professional training aimed at enhancing skills for a varied selection of workers; d) guaranteeing that adult citizens acquire indispensable aesthetic, cultural, civic education required for public

consciousness - subsequently driving sustainable growth throughout the country (FRN) 2012).

In summary, although non-formal education's goals and aims may differ, it is irrefutable that they ultimately target the enhancement of human cognition and abilities, leading to a flourishing, sustainable existence within a stable society. In this regard, improving literacy rates and acquiring valuable skills serve as critical components leading to these favorable outcomes.

2.1.4. Characteristics of non-formal education

Non-formal education can be identified by these core, captivating features (Article 2013):

First and foremost, non-formal education prioritizes relevance. It caters to the requirements of learners and considers the target age group. Even though there isn't a fixed curriculum, it should differ based on aspects such as time, climate, culture, and surroundings.

Secondly, adaptability is a fundamental aspect of non-formal education. Distinct from formal education, it accommodates changes in timing, location, duration, attendance, syllabi, instructional approaches, and assessment – addressing learners' present needs and educators' comprehension.

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Thirdly, practicality is crucial in non-formal education. Programs must be operational and connect learners to real-world implementations of their recently obtained knowledge – producing immediate outcomes post-learning.

Fourthly, non-formal education exhibits shorter learning periods. Programs ought not to extend as lengthy as formal education structures to maintain students' ease with their coursework.

Lastly, non-formal education pays less attention to degrees and certifications. The primary goal for participants is not obtaining certificates or diplomas but gaining valuable knowledge and abilities for daily life.

In summary, non-formal education is pertinent, adaptable, pragmatic, features briefer learning periods, and puts less emphasis on degrees and certifications. It caters

to the learner's requirements, adjusts to changes, concentrates on real-world applications, and highlights the acquisition of beneficial knowledge and expertise.

2.1.5. Types of non-formal education

The 2006 UNESCO report explores non-formal education and its significance in fundamental education reform, classifying it into diverse categories.

Para-formal education is an innovative approach aimed at providing supplementary learning for individuals who may not reap the benefits of conventional schooling. These inventive programs encompass evening classes, formal literacy initiatives, distance education, private lessons, exclusive courses for street children, and a variety of vocational and technical training possibilities. It is an appealing method to extend education to all, irrespective of their situation. Positioned alongside the para-formal type, non-formal education is segmented into three primary classifications: popular education, personal growth activities, and professional training. Its principal characteristics emphasize meeting the demands of the underprivileged, adopting practical learning styles, providing considerable instructional flexibility, and persistently modifying teaching methods to accommodate the ever-changing needs of its participants. Personal growth revolves around advancing through non-formal education schemes, including distinctive adult learning opportunities that focus on a more individualized, private, and adaptable methodology. Options such as brief courses, self-improvement programs, educational tours, athletic clubs, fitness centers, and cultural sites aid individuals in making the most of their leisure time and finances. By examining formal, non-formal or informal educational approaches, people can attain a more profound comprehension of their life's objectives and develop in multiple ways (Carron and Carr-Hill 1991).

An alternative to non-formal education is vocational and professional training. Numerous adults consider this approach more efficient in achieving success and obtaining higher-paying employment opportunities. With a vast range of skills provided, non-formal education has earned recognition. Furthermore, skill-oriented training is regarded as a crucial instrument in fostering practical skill enhancement tailored to unique workplace needs (Atchoarena 1998). Presently, non-formal training frequently manifests as on-the-job mentoring wherein employees are motivated to

acquire new skills and knowledge to hone their capabilities and contribute to improved workplace performance. In this progression, mastery of Information and Communication Technology (ICT) is indisputably vital.

Addressing the increasing poverty levels is becoming difficult partly due to the rising population of underprivileged youth, those with limited or no schooling, and elevated dropout rates. Rather than trying to halt this issue completely, we can concentrate on decelerating it by accentuating non-formal education. This method entails providing fundamental literacy skills, life skill training, and support for self-employment and income generation. This initiative extends beyond merely transferring literacy and numeracy competencies; it also strives to fortify broader socio-economic and political growth endeavors. These consist of tackling civic and peace education, environmental concerns, poverty alleviation, HIV/AIDS awareness, and efforts to reconstruct communities (Thompson 2005).

To put it simply, supplementary non-formal education programs are established by governments, NGOs, or community-led projects to deliver additional assistance to children in need. These schemes offer personal counseling, nutritional support and food provision, childcare assistance, protection, shelter, and medical care. The potent fusion of conventional education with non-formal learning and comprehensive supporting services enables disadvantaged young people to attain academic success (Henry 2001). Additionally, cultivating supplementary abilities and life skills is essential for enhancing the education of diverse child groups confronted with challenges resulting from conflict, poverty, family issues, abuse, displacement, orphanhood, street life, abandonment, refugee status or the impact of HIV/AIDS.

Lately, Early Childhood Care and Education (ECCE) has emerged as a crucial subject for nations across the globe. Concentrating on fostering the development of young children, this program has made substantial strides, particularly in urban regions of developing countries. Parents and community organizations frequently contribute to ECCE's success, with supplementary services ensuring the smooth and effective functioning of the program (UNESCO 2004).

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In summary, non-formal education entails para-formal education, popular education, personal growth activities, and professional training. It provides alternative learning approaches such as night classes, distance education, private tutoring, specialized programs for street children, and vocational training. The goal is to meet the requirements of underprivileged individuals through practical and adaptable methods. Non-formal education plays an essential part in advancing workplace skill development and boosting socio-economic development efforts. Governments, NGOs, and community-driven projects support additional non-formal education to empower underprivileged youth and address worldwide concerns like poverty and HIV/AIDS awareness. Lastly, Early Childhood Care and Education (ECCE) has received international recognition, concentrating on nurturing young children's development with assistance from parents and community groups.

2.2.Non-formal Education in Cambodia

Many laws and agreements within the education system focus on non-formal education over informal education. This is because informal education encompasses universal, independent, and even unintentional learning that occurs without any organization or management involvement. Therefore, it is deemed to play a less significant or even negligible role, as it can be effortlessly acquired through various sources like the environment, people, cultural diversity, information sharing, and other forms of learning without instructors or facilitators.

Nevertheless, informal education that takes place outside of a school setting offers extensive freedom in acquiring knowledge and skills anytime, anywhere. However, it fails to fully satisfy learners' needs since some concepts cannot be discovered independently, requiring assistance from resourceful individuals known as facilitators. These insights may or may not be found within the school curriculum.

Thus, the National Policy on Non-formal Education was established to ensure best practices in non-formal education and foster hopes of achieving Education For All by 2015.

2.2.1 National policies on Non-formal education in Cambodia

The national policy on non-formal education is a comprehensive approach that concentrates on lifelong learning and non-formal education as an integral component of the 2019-2023 education sector plan. In order to guarantee that every Cambodian citizen obtains a suitable, high-quality education, the government has instituted non-formal education as a supplementary educational scheme. This encompasses offering educational possibilities for all, augmenting access for citizens to acquire a well-rounded education throughout their lives, and cultivating a learning community that emphasizes morality, ethics, and social growth (MoEYS, 2018a).

The Cambodian government has formulated policy objectives for non-formal education such as: (1) providing each citizen the opportunity to access lifelong learning, (2) improving vocational and continuing education by linking it to financial aid and employment prospects for fruitful and respectable living, and (3) routinely updating citizens regarding life skills, technology, and science knowledge. In line with the 2019-2023 Non-Formal Education Sector Plan, three main objectives have been created: (1) expanding the number of participants and access to non-formal education programs for children, youths outside of school, and lifelong learners while ensuring all-inclusive services at all study stages throughout their lives with academic, vocational, and soft skills; (2) bolstering the implementation and management infrastructure based on non-formal education program results for effective performance; and (3) intensifying the capacity of non-formal education personnel at every level.

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To achieve the first objective, the Ministry of Education, Youth, and Sports has implemented various strategies such as: (1) advancing and refining extracurricular education programs, (2) strengthening lifelong human development initiatives, (3) converting community study centers into all-encompassing lifelong learning facilities, and (4) fostering private sector participation, non-government organization involvement ,and backing extracurricular educational endeavors engaging stakeholders in the realm of lifelong learning. The Ministry of Education, Youth, and Sports, along with other concerned entities, is dedicated to promoting community study centers and advocating for the shift to all-encompassing lifelong learning facilities that tackle societal, regional, and economic issues.

The national policy on lifelong learning strives to develop Cambodia's human resources by assuring access to quality education, expertise, information, and values for all its citizens. This policy aids in economic expansion and enhances the welfare of families and communities by offering lifelong learning opportunities at any time, any place, and via various methods. This national policy aspires to furnish chances and assistance for every citizen to attain education, cultivate skills and knowledge in diverse domains, and utilize them to boost productivity, quality, and efficiency in their work. This will lead to increased earnings and contribute to the economy's growth in tandem with progress in science, technology, communication, and society.

In order to realize the above objective, crucial strategies have been set in place such as: (1) establishing legal frameworks and implementing processes (2) providing lifelong educational services to all citizens (3) create an extensive and adaptable curriculum for lifelong learning tailored to the requirements of the students (4) establish suitable educational centers, infrastructure, and study amenities (5) professional Lifelong Program Coordinator Training (6) recognize, validate, and ensure the quality of lifelong learning in a transparent, fair, and consistent manner (7) urge the appropriate ministries and organizations to endorse lifelong education (8) encourage the mindset of embracing a worldwide citizenship lifestyle (9) encourage the advancement of technological education (10) promote involvement from the private sector, development collaborators, and non-government organizations in offering lifelong learning opportunities.

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In 1999, the MoEYS National Literacy Survey revealed concerning data, showing that 36.30% of the population was illiterate and the number continued to rise annually. Many individuals did not have access to education and dropout rates were increasing. As a response, the National Policy on Non-formal Education was established in 1999 to address this issue. The following strategies were adopted:

- Providing opportunities for lifelong learning to all people;
- Promoting literacy and continuous education through credit, employment, and vocational skills to improve the daily living standards of the population;

- Prioritizing vulnerable populations such as those living in dire circumstances, ethnic minority children and youth, adults aged 15-45 years old (specifically working children and out-of-school youth), with an emphasis on girls and women in order to establish and promote non-formal education in Cambodia;
- Encouraging responsibility among members of National Education For All to contribute to human resource development by involving stakeholder institutions, local authorities at all levels, village development committees, pagodas, religious establishments, business people, and private sectors in establishing community learning centers;
- Focusing on sustaining non-formal education and literacy classes through the Ministry of Interior;
- Requiring the Ministry of Cult and Religion to collaborate with Buddhist leaders in spreading education via preaching or campaigns in pagodas while also assisting with libraries, classrooms, and community learning centers for both non-formal and informal learning;
- Providing guidance from MoEYS to build teacher capacity;
- Encouraging the Ministry of Information to utilize social media platforms such as television, radio, newspapers etc., to foster continuous education for all citizens;
- Mandating managers of businesses and factories to provide employee training that benefits both employees and employers while complying with the labor laws set by the Royal Kingdom of Cambodia;
- Ensuring good non-formal education practices by MoEYS to achieve desirable outcomes in knowledge, skills, and attitudes (MoEYS, 1991).

2.2.2 Programs used in Non-formal Education in Cambodia

According to the 2009 Future Trend of Adult Education in Cambodia prepared by MoEYS, the following are some key programs designed to improve non-formal education in Cambodia.

Post-literacy Program

Fostering a literate population involves the expansion of reading centers within villages, libraries, sub-districts, and temples, as well as access to materials

relating to life skills. This includes knowledge about agriculture, health, HIV/AIDS, independent decision-making, and career development.

Re-entry program

The "re-entry program" is a remarkable initiative in non-formal and informal adult education that focuses on children who have encountered obstacles in their personal or family lives, leading them to drop out of school during grades 3, 4, 5, or 6. This program enables these students to return to education and continue their studies from grades 4, 5, 6, or 7 onwards.

Equivalency Program

For those looking to advance their basic education for the purpose of acquiring vocational training skills or pursuing higher education, the equivalency program is an excellent option. Although similar to the functional literacy program, with participants learning 2 hours a day or 12 hours a week, what sets the equivalency program apart is that it is taught by either state school teachers or retired instructors. The program features three levels:

At the first level, equivalent to grades 4 through 6, learners will receive a certificate upon completion, signifying that they have finished primary level education.

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The second level, corresponding to grades 7 through 9, requires participants to take an exam alongside grade 9 students from formal schools. If successful, they will earn a certificate and can use it for further education.

Lastly, the third level—equal to grades 10 through 12—mandates that learners take a national exam with students from formal schools in order to complete high school-level education.

Each of these levels requires two years for completion, allowing adult learners the flexibility to continue their education while simultaneously working and earning money.

Income Generating Program

An additional aspect of non-formal and informal education practices is income-generating programs. In reality, these programs are not just designed to enhance adult knowledge and skills, but also to facilitate earning a living by embracing readily applicable knowledge and skills that can boost revenue for trainers and improve living standards. This program provides vocational training for individuals eager to increase their income. Moreover, the program will be implemented in community learning centers (CLCs) or taught directly by locals to meet specific career needs. It is also worth noting that these programs can be widely implemented through media outlets like magazines, newspapers, and television to ensure they reach a vast audience seeking either singular or multi-dimensional skills that can serve as primary resources for finding suitable employment.

Quality of life improvement program

In fact, numerous methods can be employed to make education accessible everywhere, allowing people to foster human resource development. The Cambodian government commonly prioritizes improving the quality of life, which involves addressing the lack of schooling opportunities for those facing specific challenges. To gain valuable skills and knowledge for daily life, individuals can engage with different forms of media such as television, radio, and internet browsing. Through these platforms, Cambodians, especially adults, are encouraged to raise awareness about new issues, solutions, and essential information that they should share with others via radio or drama programs. Beyond mere entertainment, movies offer participants valuable insights into diverse cultures, societal norms, and beliefs. Consequently, the government collaborates with local and international organizations and utilizes mass media to promote significant enhancements in overall quality of life.

Basic Education Equivalency Program (BEEP)

In 2019, the Basic Education Equivalence Program (BEEP) is a collaborative effort among the Ministry of Education, Youth and Sports, the Ministry of Labor and Vocational Training, and UNESCO to enhance fundamental educational opportunities for Cambodian youngsters and tackle high school dropout concerns. This initiative enables young Cambodians to achieve basic education at their own pace through a versatile integration of two systems. Finishing basic education through BEEP assists

them in securing better employment or pursuing higher education to boost work efficiency and life skills. Catering to those who are not in school, BEEP presents a customizable educational solution that allows them to complete basic education up to Grade 9. The mobile learning program empowers Cambodian youth to pursue their educational aspirations while sustaining their careers. Created by Cambodia's Institute of Technology, these 11-engaging e-learning courses can be accessed via Moodle and have already been trialed at 10 locations across the nation (MoEYS, 2019a).

Functional Literacy Program

The literacy program presents three tiers of education: illiterate, semi-literate, and literate, addressing the diverse literacy requirements of participants. Each tier concentrates on progressively advanced reading, writing, and numeracy capabilities, ultimately culminating in self-guided learning for those who are literate. Furthermore, the program provides supplementary short courses on ICT, language lessons, and additional subjects/skills to bolster daily life abilities (MoEYS, 2019b).

2.3.Functional Literacy Program

This program aims to address the literacy needs of participants by offering a range of literacy programs from basic to advanced levels. The levels are categorized into three types: illiterate, semi-literate, and literate, with each type receiving tailored literacy programs at varying levels. At the first level, learners must acquire basic reading, writing, and numeracy skills. Those who complete the first level can advance to the second level, where they will learn medium-level reading and writing, enabling them to compose communication letters, words, and phrases in Khmer. Lastly, the final functional literacy level is offered to those who have already mastered simple reading and writing; these individuals are encouraged to engage in self-directed learning. As they are already literate, it is crucial that they continue to build their learning capacity to reach the highest level and become valuable human resources in the country. Additionally, those interested in enhancing their knowledge of ICT, language classes, or other subjects and skills may enroll in short courses tailored to their needs, as the program also seeks to develop life skills for daily necessities (MoEYS, 2019b).

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Functional literacy programs integrate reading, writing, numeracy, and essential life skills that are connected to income generation, health, and occupational goals of beneficiaries. The skills gained from these programs significantly contribute to promoting income-generating activities and improving living standards (Oluoch et al., 2014).

In Cambodia, like in other countries, adult literacy programs target out-of-school youth and adults in need of basic literacy and numeracy skills. The program merges basic literacy with livelihood skills to make adult learning meaningful and relevant to learners' needs. Learners acquire skills such as reading, writing, calculation, language, and communication not merely for personal improvement but also as means of addressing various societal issues.

According to the National Report on Education in Cambodia 2020, there are 941 literacy classes across Cambodia led by MoEYS (889 classes) and development partners (52 classes). MoEYS collaborates with UNESCO, SIPA, ILO, and some factories. Of these, 15 classes are in factories and two in brick workshops spread across 11 provinces and the capital city: Kampong Cham, Kampong Chhnang, Kampong Speu, Kandal, Koh Kong, Svay Reang, Siem Reap, Ratanakiri, Mondolkiri, Tboung Khmum, and Phnom Penh. Additionally, MoEYS partners with the Ministry of Interior to offer literacy classes in prisons, totaling 32 classes and 6 classes in Correctional centers (MoEYS, 2020).

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Typically, the program uses a teacher-centered approach for a class of twenty students who meet for two hours a day for six months. Students collaborate with the teacher to determine the optimal starting date, location, and schedule (MoEYS, 2015).

2.3.1. Goal of Functional Literacy Program

The objective of the program is not solely to enhance adult literacy skills, but also to equip learners with essential knowledge and practical skills for everyday life in various key areas of functional knowledge. There are four primary domains of functional knowledge identified: family life, economics and income, health, and civic awareness.

In response to the curriculum reform emphasizing learners' competence, the Department of Non-Formal Education developed a curriculum framework for the literacy program, serving as the core document for creating the literacy syllabus. This syllabus plays a crucial role in developing new literacy textbooks, replacing those published in the 1990s.

The literacy syllabus covers Khmer language and mathematics subjects, both consisting of two levels over an eight-month study period. The syllabus is unique in its focus on learner competency in language and mathematics skills. Additionally, it stresses the use of language and mathematics by literacy facilitators and learners to boost their critical thinking abilities, as outlined in Bloom's Taxonomy.

To aid in teaching these subjects, five topics relevant to learners are incorporated into the syllabus: 1) Culture, Traditions, and Religions, 2) Economic Activities (paid employment and entrepreneurship), 3) Health, 4) Citizens and Communities, and 5) Science and Life. Several expected learning outcomes have been crafted for each topic to instruct textbook authors to concentrate on what students can accomplish using language and mathematics.

Nowadays, literacy encompasses more than just writing, reading, and numeracy – it includes life skills as well. To uphold high standards in literacy education, MoEYS has provided a detailed outline of the literacy syllabus and is dedicated to ensuring ongoing education for all citizens. The syllabus goes beyond language literacy and numeracy by equipping learners with competencies in five areas: 1) Culture, Tradition, and Religion; 2) Economic Activities; 3) Health; 4) Citizens and Communities; and 5) Science and Life (MoEYS, 2018c).

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2.3.2. Government policies and goals on Functional Literacy

As stated in Strategy 4.1.3 of the Cambodian Education Roadmap 2030, enhancing the quality and pertinence of literacy, post-literacy, and lifelong learning opportunities requires improvements in literacy instructors' abilities and motivation through professional growth, increased incentives, and support (4.1.3b). Educators focusing on literacy will receive training adhering to national norms and standards Competent, motivated, and well-supported professionals facilitate high-quality education for learners (MoEYS, 2019b).

2.3.3. Role of Non-formal administrators in functional literacy program

Currently, the Department of NFE has a wide-ranging role that encompasses policy planning, participation in program design, oversight and administration of literacy programs, as well as some mentoring activities. A significant portion of the Department of NFE staff's time – both at the central and provincial levels – is reportedly dedicated to program management and administration. Conversely, the Department of NFE appears to allocate only a small amount of time to quality control and impact monitoring for programs administered by MoEYS and NDO.

2.3.4. Functional Literacy Learners

Functional literacy students are individuals aged 15 or older who aspire to enhance their reading, writing, and numeracy abilities later in their adult lives. These students typically come from a wide range of backgrounds and experiences, including those who may be considered marginalized, such as individuals who did not finish high school or experienced disruptions in their formal education. Some adults may face low literacy challenges due to learning disorders or restricted access to education during their early years. These people participate in functional literacy courses, which are crafted to accommodate different skill levels and provide tailored instruction addressing each student's unique needs. Adult literacy lessons frequently emphasize life skills, job preparedness, and civic education, with the goal of helping students become self-sufficient readers, writers, and analytical thinkers. Ultimately, these programs aim to provide adult students with the essential skills needed to effectively engage in contemporary society and the workforce. Functional literacy initiatives play a vital role in enabling adult learners to gain confidence and become fully involved in their communities.

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2.3.5. Types of Functional Literacy classes

To ensure universal access to education, MoEYS Cambodia organizes various literacy courses aimed at diverse groups of people, enabling adults to reap the benefits anytime and anywhere. The following list outlines the assorted types of functional literacy classes available.

Community functional literacy class

Typically situated in a village or community, this class welcomes all adults to attend and learn literacy at no cost. Additionally, some literacy classes also take place within Cambodian-Muslim communities. The facilitators are usually residents of the community or retired teachers.

Functional literacy class for factory workers

These classes typically take place within factories, primarily in the garment and brick manufacturing industries. Two kinds of instructors teach factory workers: contract teachers from MoEYS and educators affiliated with development partners.

Functional literacy class in prison

These functional literacy classes are situated within prisons, specifically targeting illiterate inmates. The facilitators for these classes are police officers who have undergone selection and training alongside other facilitators to effectively teach the prisoners.

Functional literacy class in correctional center

Functional literacy courses are provided at national correctional facilities, specifically targeting illiterate inmates. A police officer, who has been carefully chosen and trained with other facilitators, leads the prisoners through this educational journey.

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Chulalongkorn University

Functional literacy class with minorities

This course is designed for minority individuals living in different areas of Cambodia. The literacy program not only teaches them the Khmer language but also their native languages, using Khmer alphabets to express their own dialects. Generally, the instructors of these classes are from minority groups themselves and are skilled in communicating in their respective languages.

Functional literacy class among Cambodian-Muslim

In this course, the majority of students are of Cambodian-Muslim origin, and the instructors also belong to the Muslim community. Some lessons are conducted within a mosque.

Functional literacy among minority group

In this type of functional literacy class, the adult learners learn do not only learn how to read and write but also how to write their own language in Khmer. They are usually the group of people in Ratanakiri and Mondulikiri province which are at the northeast of Cambodia (Rosenbloom, 2004).

2.4.Functional literacy facilitators

In Cambodia, like many other developing countries, functional literacy facilitators serve as contract teachers and are chosen from the communities where they conduct functional literacy classes. These individuals are either literate community members or retired teachers. However, teachers currently working in formal schools cannot become functional literacy facilitators.

Before they can start teaching, these facilitators must attend a training that covers adult psychology, adult teaching techniques, evaluation methods, and lesson plan creation for courses lasting 10 days or less. Even though retired teachers have prior teaching experience, their expertise lies in teaching children rather than adults. For individuals who aren't retired teachers, many have no experience in teaching at all. This brief training period is insufficient for their needs and no other professional development programs are offered to them.

The Ministry of Education, Youth, and Sport (MoEYS) hires literacy teachers as contract workers and handles their salaries (Rosenbloom, 2004).

The National Report on Education in Cambodia (MoEYS, 2020), states that there are 958 functional literacy facilitators (39.56% females) under MoEYS: 889 facilitators (39.15% females) and 69 facilitators (44.93% females) working with development partners. Among these, 915 facilitators (39.56%) have been trained by MoEYS, including 846 facilitators (39.13% females); additionally, 15 facilitators (46.67% females) teach in factories and companies, 30 facilitators (20% females) work in prisons, and 6 teach at correctional centers. Development partners have trained the remaining 69 facilitators (44.93% females).

2.4.1. Roles of functional Literacy facilitators

The competency of facilitators plays a significant role in determining the overall efficiency of any educational program. Capacity building is essential to ensure the production of top-notch facilitators to manage these programs, as workforce limitations can majorly impact educational changes by restricting the caliber of individuals who can serve as facilitators. This may even negatively affect the quality of education, as there is a direct correlation between a facilitator's qualifications, the education offered, and learner achievements (Pillay, 1998).

In addition to helping learners develop literacy and numeracy skills, facilitators need to enhance their skills in cultivating, organizing, promoting, negotiating, and advocating. It is essential for them to comprehend group dynamics and effective group functioning. The success and efficiency of any adult education program heavily depend on those who administer it–whether they are managers or tutors. Monitoring and evaluation should be incorporated into programs from the onset so that learning from experience can be optimized for continuous improvement and accountability to others. Monitoring and evaluation are frequently seen as processes conducted for external entities such as funders or governments, rather than as a means for everyone involved in a program to gain insights and ideas for action. Evaluating what learning has occurred and its impacts on people's lives is vital for improving programs. There is a growing interest in participatory evaluation among funders and governments—aiming to involve learners, volunteers, and staff at every level to make use of lessons learned from their experiences. Encouraging learners' self-recognition is an integral part of assisting them in becoming independent and reflective learners.

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Chulalongkorn University

Monitoring and evaluation also help counteract social inequalities perpetuated by factors such as class, gender, ethnicity, etc., throughout various programs. Good planning, exceptional staff training, efficient administration, and consistent monitoring are necessary elements regardless of which model is adopted. However, tutors must be competent, confident thinkers capable of performing well on their own. Tutor support may come in various forms, from training to mentoring (McCaffery et al., 2007).

It is essential to acknowledge that excellent facilitators contribute significantly to the development of outstanding learners. An inspirational and knowledgeable facilitator is a crucial factor that influences learner-achievement. As a result, it is vital to focus on training and supporting both new and experienced facilitators (Staff, 2008).

Adult literacy should be regarded as an integral part of adult education—comprising any educational activities designed for adults intending to foster changes in knowledge, skills, and attitudes. This concept is particularly important since literacy can supply the requisite knowledge, skills, attitudes, and behaviors for learners to make a positive impact on their community. Additionally, literacy enables individuals to perform more effectively in various aspects of life, such as economic, political, social or cultural transactions (Oluoch et al., 2014).

According to the 2015, the qualifications of these teachers consisted of 265 teachers (100 females) who completed primary level, 1,630 teachers (557 females) who finished lower secondary level, 1,550 teachers (540 females) who accomplished upper secondary level, 114 teachers (28 females) who obtained undergraduate degrees, and 2 additional teachers who reached graduate level (NFE, 2015).

2.4.2. Training for Functional Literacy Facilitators

Upon choosing facilitators from the community for the functional literacy classes, these new facilitators must participate in a training program lasting 10 days or less. The Non-formal Education administrators, who are in charge of each Cambodian province, provide this training. The curriculum covers adult psychology, teaching techniques for adults, lesson plan creation, and student evaluation methods. However, there is no additional professional development offered to the facilitators after the initial training. Instead, Non-formal Education administrators maintain contact with them through online communication and occasionally visit their in-person classes (MoEYS, 2015).

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Chulalongkorn University

2.4.3. Barriers of Functional Literacy facilitators

Certain facilitators lacked both prior experience in facilitation and professional growth within the field. They possessed less experience and professional development in facilitation compared to literacy. For success in adult literacy programs, it's crucial

for facilitators to be well-prepared, as literacy teaching is often impeded by inadequately qualified instructors, subpar content design, insufficient learning materials, and a lack of participation and learner-centric focus.

Due to the importance of literacy, the country has integrated various functional topics into the curriculum, which learners must acquire to become functional. Hence, the remaining responsibility for facilitators is to help learners acquire these essential functional skills. (Pillay, 1998) stated that facilitators ought to be proficient, skilled, highly competent, experienced and specialized in facilitating adult literacy learning. Continuous upgrading of their skills through staff development programs is necessary since education agents largely determine the quality of adult literacy learning.

However, facilitators were lacking in their capacity to foster creative and critical thinking and generate understanding and awareness about the challenges learners faced or propose potential solutions. Thus, training is vital for building facilitators' abilities in assisting learners to acquire functional skills.

Additionally, facilitators were found lacking teaching and learning materials essential for guiding them on connecting adult literacy programs with real-life societal issues and enabling acquired skills to become functional. This issue was exacerbated by the fact that facilitators solely decided what would be taught. It is worth noting that what facilitators considered essential might not have been relevant to the learners' needs.

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

Furthermore, training sessions were infrequent, sporadic, and irregular due to funding limitations. The World Bank (2001) identified similar situations in most developing countries where a large percentage of unqualified facilitators managed adult literacy programs due to financial constraints affecting training or hiring properly qualified personnel (Oluoch et al., 2014) . Owing to inadequate training, facilitators agreed that they had limited capacity to participate in the program effectively. Consequently, they had to involve external experts to facilitate areas where they felt deficient. If facilitators had conducted sessions adequately, learners would have acquired sufficient skills and engaged in various entrepreneurial and income-generating activities, which was not observed (Oluoch et al., 2014).

2.5.Lifelong Learning

2.5.1. Lifelong Learning defined

Douglas' (2010) research indicated that the concept of lifelong learning holds various meanings in the literature, is associated with ongoing education and training, and features an interdisciplinary character. Lifelong learning, as defined by Lewis and Whitlock (2002) encompasses "all learning activity undertaken throughout life, aiming to enhance knowledge, skills, and competence within a personal, civic, social, and/or work-related context" (p.15). Consequently, education is a lifelong journey that encompasses various circumstances in a person's life and career. In the last 60 years, ongoing scientific and technological innovations have greatly influenced how people learn and their learning preferences. Consequently, education is not confined to classrooms or workplaces, as individuals continuously gain new information in this era of technology – often without realizing it. Adult learners thrive in different environments and methods, excelling (a) when they recognize the necessity to learn and (b) when they take charge of their own learning experience in terms of content, goals, and techniques. (Brookfield, 1986). No single theory comprehensively explains adult learning; instead, each theory highlights a specific aspect of how an adult learns and contributes to their overall development. Adult learners possess limitless developmental capacity and potential as they continue to learn through various dimensions.

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Chulalongkorn University

The concept of ongoing education and continuous learning is vital for personal growth in the era of information. In today's world, advanced education primarily functions as a driving force for career enhancement, economic advancement, skill acquisition, and global competitiveness.

2.5.2. The role of lifelong learning in the twenty-first century

Lifelong learning plays a crucial role in enabling individuals to cultivate a fulfilling career or profession while achieving their long-term objectives. In the 21st century, it has become a vital element for survival (Love, 2011). (Douglas, 2010) reinforced Loves' (2011) concept of lifelong learning by identifying eight specific contexts.

Traits essential for lifelong learners to embody:

1. Assume responsibility for charting their professional career trajectory.
2. Comprehend the significance of professional organizations in lifelong learning.
3. Pursue certifications relevant to their chosen profession.
4. Conduct self-evaluations, seek feedback from others, reflect, and engage in learning activities based on assessments and reflections.
5. Stay up-to-date in their field and be responsible for identifying gaps in knowledge and potential learning opportunities (e.g., formal courses, workshops, professional roles, mentorship relationships, self-paced programs, reading).
6. Be aware of the criteria utilized to measure performance and professionalism.
7. Develop a multiyear strategy for professional growth and education.
8. Possess interests beyond their chosen field and actively pursue them with enthusiasm.

Lifelong learning often requires people to take charge of their own education. By honing self-assessment skills, they can develop a tailored plan for professional advancement that helps in acquiring essential knowledge and abilities, ultimately thriving in their chosen fields, occupations, or pursuits.

2.5.3. Benefits of lifelong learning

Lifelong learners possess the ability to learn and adapt through reflecting on their understanding and striving to expand their knowledge. Dunlap (2005) argued that a tendency for continuous learning allows adults to develop a specific range of abilities, such as: (a) determination, (b) autonomous learning, (c) advanced reasoning, (d) metacognitive understanding, and (e) a willingness to explore uncharted territory. Those possessing metacognitive understanding deliberately manage their own learning by utilizing relevant previous knowledge, assimilating new data, and supervising, assessing, and modifying their learning techniques through self-evaluation and introspection. Dunlap (2005) clarified that individuals who lack advanced metacognitive capabilities have difficulty identifying when they haven't adequately met learning goals or finished tasks. On the other hand, those with well-

honed metacognitive abilities engage in effective problem-solving, logical thinking, and continuous learning activities. Furthermore, it's impossible for learners to become self-sufficient or lifelong learners without having solid metacognitive skills. Metacognitive awareness encompasses the self-regulating abilities that allow students to distinguish their current knowledge from what they still need to learn, anticipate results, choose and adapt learning strategies, and monitor their progress (Ainley & Patrick, 2006).

In today's world, lifelong learning revolves around the constant growth and distribution of information, as it is continually developed and employed in new ways. Consequently, modern societies can be described as centered on information, driven by knowledge, or concentrated on learning. The proliferation of information across these communities is facilitated by Information and Communication Technology (ICT), which serves as an essential tool for promoting lifelong learning by bridging the gap between technology and education. Lifelong learning empowers individuals to achieve continuous success in their professional and personal lives, due to the fundamental link between education and innovation. To address the pressing needs of our times, it is vital to implement educational reforms that will strengthen individuals' ability to adapt to the ever-changing nature of society, especially since traditional educational systems no longer meet current workforce learning requirements. A transition from teacher-focused to learner-focused approaches is required to enable learning styles that encourage self-growth in this new era. E-learning platforms and online tools provide efficient means for advancing lifelong learning objectives and workplace training while also supporting inventive learning techniques and producing new learning environments. Before this century, laborers in the industrial economy primarily had fixed manual skills with minimal learning aspects for work that often entailed physical effort. In contrast, today's information economy—or information society—calls for skill sets that are heavy on knowledge with extensive learning components due to swift changes requiring continuous acquisition and development of new abilities. Fundamentally, a knowledge-centric society emphasizes the creation and application of knowledge rather than relying solely on physical skills, presenting both opportunities and challenges for the contemporary workforce (Demirel, 2009).

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

Lifelong learning involves all purposeful educational activities undertaken throughout an individual's life, aiming to enhance the abilities of everyone engaged in these endeavors. Currently, this approach encompasses a wide spectrum of formal, non-formal, and informal education from early childhood to post-retirement, reaching well beyond conventional educational systems. Encouraging adult learners to actively engage in their own education makes the learning process more captivating and pertinent, allowing them to better understand and absorb the principles being taught. This ultimately leads to enhanced overall academic achievements for adult students (Schraeder et al., 2007). Individuals committed to lifelong learning exhibit a continuous drive for self-education and take accountability for their own learning experiences. In today's knowledge-driven society, there is no shortage of learning opportunities available at any given time. Education is now recognized as an ever-present and ongoing journey throughout one's life. The contemporary method of acquiring knowledge, exemplified by the concept of lifelong learning, focuses on "engaging in learning activities throughout one's lifetime aimed at enhancing knowledge, abilities, and aptitude from personal, civic, social, or professional viewpoints." (TO, 2001) p. 9). Lifelong learning is a crucial approach in addressing the demands and obstacles of the modern era by promoting an economy driven by persistent progress in science and technology. The focus of lifelong learning lies in its ability to tackle unforeseen circumstances and strengthen workforce capabilities, enabling both employers and employees to adapt to changes. Lifelong learning represents a continuous educational journey. As a result, the goal for adult learners can be simplified to the ambition of becoming self-sufficient, autonomous, and self-controlled individuals who acknowledge the significance of incorporating tactics into their lives to adjust in scenarios characterized by constant transformation (Tuijnman, 2004).

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

In conclusion, lifelong learning encompasses all educational activities undertaken throughout an individual's life, aiming to enhance their abilities. This approach includes formal, non-formal, and informal education from early childhood to post-retirement. Engaging adult learners in their education makes the learning process more captivating and relevant, leading to improved academic achievements.

Lifelong learners take accountability for their experiences in a knowledge-driven society with continuous learning opportunities. Emphasizing lifelong learning is crucial in addressing modern demands and challenges by promoting an economy driven by continuous progress in science and technology. The focus of lifelong learning is on adaptability, helping both employers and employees adjust to changes while striving to become self-sufficient individuals who embrace strategies for constant transformation.

2.6.Andragogy

Andragogy and self-directed learning emerged as the initial, most comprehensive conceptualizations of adult learning's nature and attributes. While andragogy focused on the assumptions and traits of adult learners, self-directed learning centers around the process that occurs when adults partake in their own education.

2.6.1. Concept of Andragogy and Education

The concept of learning encompasses numerous aspects, such as acquiring knowledge and skills, developing competencies, altering behavior, personal transformation, shifts in consciousness, expansion, and realizing one's potential (Brockett & Hiemstra, 2018). Systematic research into adult learning began in the 1920s (Merriam, 2001). initially exploring whether adults could indeed learn. As studies confirmed adult learning capabilities, the focus shifted to distinguishing adult learning from childhood learning (Merriam, 2001).

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

Knowles (1980) identified a gap in the adult education field: “a coherent theory to justify…treating adults as adults” (p. 38). Adults have unique learning capacities (Houle, 1961) and more advanced faculties than children – attributes that foster a deeper understanding, appreciation, insight, and significance (Houle, 1961). Yet adult educators employed teaching methods typically used for children, impeding their effectiveness. Knowles (1980) proposed an adult learning theory called andragogy – a term adapted from nineteenth-century German educational concepts – defining it as “the art and science of helping adults learn” (p. 38), differentiating it from pedagogy or “the art and science of teaching children” (p. 37).

Andragogy has its foundation in a humanistic approach to personal development (M.S. Knowles et al., 2005; Tusting & Barton, 2003). (Sparling, 2001) clarified that “humanists believe in the individuals' capacity to develop and grow throughout life,” with adult learners able to identify their own learning needs and solve their own problems. Two central factors – boundless human potential for self-improvement and the willingness to take personal responsibility for learning – “form the core of adult education as a discipline and practice” (Brockett & Hiemstra, 2018).

2.6.2. Six assumptions of andragogy

Andragogy is founded on six key assumptions about adult learners' characteristics (M. Knowles et al., 2005; Knowles, 1975).

1. Need to know: Before deciding to learn, adults need to understand why they should learn something. When they perceive the importance of learning particular information before engaging in an activity, their motivation becomes significantly heightened.
2. Self-concept: Having developed a self-concept of independence, adults have both the need and ability for self-direction.
3. Role of experience: Adult learners possess a wealth of experiences that shape their self-identity and serve as invaluable resources for learning activities such as discussions, role plays, simulations, field experiences, problem-based learning, case studies, and various projects.
4. Problem-oriented: Adult learners primarily engage in learning activities to enhance their capabilities in addressing life challenges or tasks and are interested in applying their newfound knowledge immediately.
5. Motivation: Adult learners respond to both internal motivators such as satisfaction, pleasure, self-esteem, and quality of life while also responding to external motivators like career advancement opportunities, financial incentives, and social capital – with a stronger inclination towards internal motivators.

These characteristics are steadily developed from infancy through preadolescence and then more rapidly developed in adolescence (Knowles, 1975).

The distinct assumptions about students in andragogy and pedagogy guide varying instructional approaches (Knowles, 1980). Pedagogy primarily presumes that learning adheres to "an external directive" (Tusting & Barton, 2003). whereas the teacher has "full responsibility for decision-making regarding learning content, method, timing and evaluation" (Malcolm S Knowles et al., 2005). In contrast, andragogy views learning as a voluntary process driven by individuals' needs. Consequently, teachers encourage students to take responsibility for their learning and support them in the process (Knowles, 1980)

The andragogical model's assumptions may not align with every adult's perspective. An individual's embodiment of these traits depends on their level of maturity. Some adults might not have reached a developmental stage where they have the motivation or capability for self-directed learning (M.S. Knowles et al., 2005).

Recognizing this diversity, Knowles acknowledged that pedagogy and andragogy should be considered as points on a continuum from teacher-directed to student-directed learning (Brockett, 2009; Brockett & Hiemstra, 2018). The relevance of either approach depends upon the individual learner, the context, and the goals of learning; therefore, andragogical practices may suit children in certain situations and vice versa (M.S. Knowles et al., 2005; Merriam, 2001; Tusting & Barton, 2003). As a result, the concept of andragogy has become more closely associated with learning situations rather than individual learners (Merriam, 2001). Knowles maintained that even in scenarios where pedagogical practices are most suitable for adults, educators should continue encouraging learners to become more accountable for their own learning (Tusting & Barton, 2003).

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Chulalongkorn University

2.7.Self-directed learning

Over the last three decades, self-directed learning (SDL) has been extensively researched refer to (Brookfield, 1986; Candy, 1991; Confessore & Confessore, 1992; Guglielmino, 1978; Houle, 1961; Tough, 1971) is often mistakenly interchanged with related concepts like self-regulated learning, autonomous learning, independent learning, and self-determined learning (Hiemstra, 1994; Knowles, 1975). Knowles (1975) initially described SDL as a process where individuals proactively identify their learning needs, set learning goals, and find resources for learning with or without

external assistance. They also select and implement learning strategies while assessing the resulting outcomes (p.18). Brockett and Hiemstra (1991) broadened the concept of SDL to encompass self-direction as an inherent personality trait.

Garrison (1997) suggested a more comprehensive SDL framework featuring self-management, self-monitoring, and motivation as its three primary dimensions. Researchers have studied the impact of intrinsic and extrinsic motivation on the learning process (Patrick et al., 1999; Ryan & Deci, 2000, 2020). Motivation is central to self-direction and affects learners' topic selection, engagement levels during SDL activities, and adaptations throughout the experience (Bodkins & Stevens, 2015).

Despite extensive literature on SDL, its core definition remains anchored in individuals' progression from dependent to independent learners as they mature and accumulate life experiences (Daily & Landis, 2014). The distinguishing factor of SDL is that learners initiate all its components rather than following predetermined structures like other learning approaches (e.g., self-regulated learning).

The concept of self-direction in adult learners has been discussed extensively in academic literature. Knowles (1980) highlighted, in his theory of andragogy and subsequent revisions, that adult learners have a rich array of life experiences that aid their learning process and their learning needs are often influenced by their societal roles. These learners usually focus on problem-solving tasks and apply the solutions immediately, also known as "just-in-time" learning. This internal drive plays a significant role in promoting self-direction among adult learners. Nevertheless, self-directedness is not solely limited to adults, nor do all adults fully develop this capability (Knowles, 1980). Factors like the learner's accumulated life experience (Knowles, 1980; Opfer & Pedder, 2011) and their willingness to accept responsibility for their own learning (Brockett & Hiemstra, 1991) have been shown to impact an individual's readiness to become self-directed.

Knowles (1975) observed that a key attribute of adulthood is the necessity and ability for self-direction (Tusting & Barton, 2003). While adults are not the sole participants in self-directed learning, as people age, their need and capability for self-direction grow (M.S. Knowles et al., 2005).

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

The subject of self-directed learning garnered significant attention in the realm of adult education throughout the 1970s and 1980s (Brockett & Hiemstra, 2018). The essence of self-directed learning lies in the learner assuming responsibility, meaning they decide what and how to learn.

2.7.1. Self-directed learning defined

Self-directed learning has been defined and conceptualized in various ways. Since its inception, "there have been countless terms, concepts, and definitions linked to self-direction in learning" (Hiemstra, 2004). Some of these include self-education, self-planned learning, independent study, autonomous learning, and adult learning projects (Guglielmino et al., 2005).

Knowles (1975) offered the most renowned and frequently cited definition of self-directed learning. According to Knowles, self-directed learning broadly refers to a process where individuals initiate action, with or without the assistance of others, to identify their learning needs, establish learning goals, recognize human and material resources for learning, select and execute suitable learning strategies, and assess learning outcomes (p. 18).

Brockett and Hiemstra (2018) proposed referring to self-directed learning as self-direction in learning. This concept includes two unique yet interconnected dimensions: process-related (self-directed learning) and personality-related (learner self-direction) that highlight the aspiration to accept responsibility for one's education. Brockett and Hiemstra defined self-directed learning as "a process where a learner takes primary responsibility for planning, implementing, and evaluating the learning process."

Many scholars' definitions of self-directed learning reflect the core elements of Brockett and Hiemstra (2018) definition. Upon reviewing these definitions, one might describe self-directed learning more precisely as intentional and actively engaged self-initiated education in which learners assume chief responsibility for identifying objectives; choosing and organizing resources and activities; conducting and managing their study; determining where and when to learn as well as pace, sequence, and depth; and evaluating their experiences (Brookfield, 1986; Candy, 1991; Merriam et al., 2007).

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

Regarding self-direction and learning, Candy (1991) recognized that literature on self-directed learning refers to four distinct yet related concepts. Two of these relate to personal characteristics, while the others involve self-directed learning activities. Personal autonomy, or self-direction as a personal attribute, and self-management in learning, or self-direction as the willingness and ability to direct one's education are the concepts concerning personal characteristics.

Candy (1991) addressed the notions of self-directed learning activities as autodidaxy, or self-direction "as independent pursuit of knowledge without formal structures," and learner-control, or self-direction "as a method for organizing instruction within formal settings." Unlike autodidaxy, where learners have full ownership and control of their education, learner-control conditions influence learners' choices and even decision-making criteria, whether subtly, symbolically or overtly, through the learning environment's culture.

Caffarella (1993) explained that self-directed learning encompasses three unique ideas: a self-initiated learning process that emphasizes individuals' capacity to plan and manage their education; an attribute of learners marked by personal autonomy; and an approach to arranging instruction in formal settings that permits increased learner control.

According Guglielmino (1978), SDL consists of a combination of attitudes, values, and skills that facilitate learners' capabilities for SDL. Psychological factors promoting readiness include initiative, independence, persistence in learning, taking responsibility, self-discipline, curiosity, enjoyment of learning independently and goal-setting strategies focused on problem-solving.

In conclusion, Self-directed learning entails planning, organizing, managing, and evaluating one's learning process. It aids adults in their educational pursuits across personal, professional, organizational and online contexts.

2.7.2. Goals of self-directed learning

Caffarella (2000) proposed that four objectives are likely to encourage learners to participate in SDL: (1) the desire to acquire knowledge or enhance abilities; (2)

becoming increasingly self-directed in their learning process; (3) fostering transformational learning; and (4) promoting emancipation.

2.7.3. The process of self-directed learning

Knowles (1975) outlined a six-step process that could serve as the foundation for a learning contract between learners and instructors in planning self-directed learning. These six steps are:

1. Establishing a climate of mutual respect and support;
2. Diagnosing learning needs;
3. Setting learning objectives;
4. Identifying human and material resources required for learning;
5. Selecting and executing suitable learning strategies; and
6. Evaluating the results of learning.

In this approach, facilitators create a learning environment that respects adult learners both physically and psychologically while engaging them in the planning, implementation, and assessment of their own education (Knowles, 1984). A cooperative atmosphere with mutual trust and respect is vital for enabling adults to actively participate in shaping course content and directing their own learning journey.

Tough's research (1971) found that more than 90% of adults were involved in self-directed learning, sparking a new wave of studies and theoretical development in this area. His Canadian study on the learning projects of 66 individuals provided the first thorough description of SDL. He defined a learning project as an intentional endeavor towards acquiring knowledge or skills or making personal changes, which consists of several related episodes totaling at least seven hours.

Tough discovered that learners planned 70% of all learning projects themselves, using 13 steps that represented crucial decision-making points in their self-planned education. These 13 steps include:

7. Deciding on the specific knowledge and skills to learn;

8. Choosing the particular activities, methods, resources, or equipment for education;
9. Determining the location for learning;
10. Setting specific deadlines or intermediate goals;
11. Deciding when to initiate a learning episode;
12. Determining the pace during each educational experience;
13. Assessing current knowledge or skill levels and progress toward desired objectives;
14. Identifying obstacles or inefficiencies in the learning process;
15. Acquiring necessary resources, equipment, or finding the desired location;
16. Preparing or modifying a space for learning and adjusting other physical conditions;
17. Securing or acquiring funds needed for human or non-human resources;
18. Allocating time for studying; and
19. Taking measures to enhance motivation for certain learning episodes (Marriam et al., 1991).

2.7.4. Self-directed learning models

In the early stages of research on self-directed learning, the emphasis was on understanding the process itself (Brockett & Hiemstra, 2018). A range of models were proposed to depict how learners navigate self-directed learning activities. The literature has primarily explored three categories of process models: linear models, more flexible interactive models, and instructional models which focus on incorporating self-directed learning techniques into formal education settings (Merriam et al., 2007).

2.7.5. Awareness of a need for learning

Several researchers acknowledge the process of recognizing personal learning needs as an essential aspect of self-guided education (Knowles, 1975; Steinke, 2012). Such needs can arise from a perceived discrepancy between current performance and a higher level of achievement, a crucial skill needed to handle a specific situation effectively, or a potential work-related issue requiring resolution. By enhancing individuals' comprehension of what is necessary or achievable in a given context

through better proficiency, knowledge, or abilities (Mezirow, 1985). they become aware of this gap. These learning needs can subsequently be transformed into learning objectives that guide learners in choosing educational content and activities while also serving as tools to assess their actual learning progress (Caffarella & Daffron, 2013). Adult learners tend to exhibit increased motivation for learning when self-diagnosing and distinctly defining their educational needs compared to when such needs are vaguely identified (Knowles, 1975).

In sum, recognizing personal learning needs is crucial in self-directed learning. These needs arise from performance gaps, essential skills, or work-related issues. By understanding these needs, learners can create objectives to guide their choice of educational content and measure progress. Adult learners show increased motivation when they clearly identify their educational needs.

2.7.6. Self-directed learning activities

The choice of resources and learning activities for individuals is affected by various factors, such as personal learning styles, learner's goals, the subject matter nature, and prior knowledge in the specific area (Bouchard, 2009; Candy, 1991). Adult learners tend to engage in diverse learning activities rather than preferring only one method, based on the activities' ability to fulfill their educational objectives (Houle, 1961).

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Chulalongkorn University

During self-directed learning planning, learners have numerous activities to select from, such as reading (books, magazines, professional journals, online resources), writing, attending workshops or conferences, taking courses or classes, action research, watching multimedia content, observing others, conducting interviews, participating in internships or mentorships, and guided study with established curriculums (e.g., workbooks, e-learning courses, learning modules).

Self-directed learning doesn't imply solitary or isolated learning without interaction with others or external resources (Brookfield, 1986; Caffarella, 1993; Candy, 1991). These learning activities can be performed independently or in collaboration. They are initiated by the learner but can involve learning with or from others (family members, mentors and content experts), utilizing material resources or attending formal educational settings (courses, workshops and presentations;

(Caffarella, 1993; Sparling, 2001). Additionally, individual learners seldom assess their learning projects alone (Peters et al., 2009) validation may involve other people (Candy, 1991). Often when granted autonomy over their own learning process, learners opt for collaborative work with others (Candy, 1991).

As previously noted, engaging in structured, other-directed learning can contribute to a person's self-directed learning journey (Caffarella, 1993). Autonomous adults and self-directed learners may still occasionally opt for traditional teacher-directed instruction due to convenience factors like speed and personal styles or because of insufficient knowledge of a subject (Candy, 1991; M.S. Knowles et al., 2005). In certain instances, an instructor-centric approach may prove to be the most effective way of learning (Brockett & Hiemstra, 2018). By selecting other-directed instructional activities, self-directed learners relinquish some authority over their learning experience, yet they showcase self-direction by consciously and deliberately deciding to participate in the formal educational event (Brockett & Hiemstra, 2018; Candy, 1991). Nonetheless, in order to be classified as self-directed learning, learners are also required to maintain psychological command and personal accountability throughout the progression of their education (Knowles, 1975).

Interactive models of self-directed learning consider the influence of context, the nature of learning and personal factors that combine to create learning episodes (Merriam et al., 2007). Contextual factors impact an individual's self-directed learning – the learner's environment significantly affects how self-direction is carried out (Brockett & Hiemstra, 2018). The opportunities and resources available within one's learning environment can shape both engagement levels and success rates of learning activities (Caffarella, 1993).

In short, self-directed learning is influenced by factors such as personal learning styles, goals, subject matter, and prior knowledge. Adult learners engage in diverse learning activities that can be independent or collaborative. These activities can range from reading and writing to attending workshops or participating in mentorships. Self-directed learning doesn't exclude interaction with others or external resources. Autonomous adults may opt for teacher-directed instruction at times due to convenience or insufficient knowledge in a subject. Contextual factors, such as the

learning environment, play a significant role in shaping engagement levels and success rates of self-directed learning activities.

2.7.7. Barriers to self-directed learning

Inadequate time, physical energy, and resources may impede the initiation of self-directed learning activities (Caffarella, 1993). Brookfield emphasized that "exercising self-direction necessitates certain conditions regarding resource access," and elaborated that if learners cannot access essential learning resources, self-directed learning loses its relevance. Adults are better prepared to actively pursue learning when they possess knowledge about available learning tools and resources to be employed in various learning situations, and when they have the expertise to utilize such tools. Learners frequently lack the appropriate skills to pinpoint resources and strategies applicable to their learning projects (Bouchard, 2009).

(Guglielmino et al., 2005) investigated obstacles and disruptions to the pursuit of learning projects in a select group of 14 adults who were considered highly self-directed learners. Guglielmino categorized the primary barriers reported by participants into seven themes: time constraints, including competing priorities; insufficient accessibility or adequacy of human/material resources, which encompasses challenges in obtaining and comprehending certain resources; interactions with other individuals such as family obligations and various social engagements; personal limitations, particularly inadequacies in skills or abilities; concerns related to incorporating formal learning programs into a learning project (for example, expense or scheduling conflicts); issues or malfunctions with technology; and diminished motivation when progress was not evident.

In sum, inadequate resources, time, and energy can hinder self-directed learning activities. Adults benefit from knowing about available learning tools and having the skills to use them. Barriers to self-directed learning include time constraints, limited access to resources, personal limitations, issues with formal learning programs, technology problems, and lack of motivation.

2.7.8. Characteristics of self-directed learners

Researchers claim that all adults exhibit a certain level of self-directedness in their learning (Brockett & Hiemstra, 2018). which varies depending on the learning

situation at hand (Candy, 1991). However, not every adult shares the same preparedness or capability to participate in self-directed learning (Brockett & Hiemstra, 2018; Candy, 1991). Experts attribute an individual's readiness and capacity for self-directed learning to personal traits and specialized self-directed learning abilities (Merriam et al., 2007). Guglielmino and Guglielmino (2008) highlighted the crucial impact of learners' personal attributes on the occurrence of self-directed learning. While some learning contexts are more conducive to self-directed learning than others, it is ultimately the learner's personal characteristics - including their attitudes, values, and skills - that determine if self-directed learning will occur in any given situation (Raemdonck et al., 2012).

Guglielmino et al. (1987) drew attention to the psychological traits of self-directed learners by developing the Self-Directed Learner Readiness Scales, a "58-item Likert-type instrument designed to assess individual attitudes, values, skills, and personality characteristics supportive of self-direction in learning". Studies have found positive correlations between self-directed learning readiness and people's educational levels and age (Reio & Davis, 2005).

The Self-Directed Learning Readiness Scale (SDLRS) is the most common tool for evaluating the presence of self-directed learner characteristics (Merriam et al., 2007). Other measures used for this purpose include the Oddi Continuing Learning Inventory and the Learner Autonomy Profile, which is described as "a series of tests created to assess behavioral intentions associated with self-directed learning". While developing the SDLRS, Guglielmino (1978) put forth "a preliminary portrayal of an exemplary self-directed learner" (p.72). A highly self-directed learner is someone who demonstrates proactivity, autonomy, and determination in learning; embraces responsibility for their own learning and perceives problems as opportunities instead of hindrances; possesses self-control and a strong sense of curiosity; displays a robust urge to learn or transform while maintaining self-confidence; has the ability to employ essential study skills and can effectively organize work; takes pleasure in learning and tends to be goal-driven (p.73).

Additional recognized self-directed learner abilities encompass self-assessment, problem-solving, critical reflection and thinking, dealing with

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uncertainty, and recognizing and utilizing resources along with learning strategies effectively (Bouchard, 2009; Brockett & Hiemstra, 2018; Candy, 1991; Steinke, 2012). Adults who lack these autonomous learning skills may be resistant to engaging in self-directed learning activities (Sparling, 2001).

In the literature, self-directed learners are often characterized by personal responsibility, autonomy, self-efficacy, and motivation. (Brockett & Hiemstra, 2018) described personal responsibility as the foundational element of self-direction in learning, connecting both process and personality aspects of it.

Caffarella (1993) emphasized that personal autonomy is the key trait of self-directed learners. Candy (1991) defined autonomy as "self-rule" (p. 101), which entails the capacity to function independently as a learner "with minimal supervision or institutional support and affiliation" (Candy, 1991, p. 343). Characteristics of autonomous learners include self-regulation, initiative, resourcefulness, and persistence (Ponton & Carr, 2000).

Self-efficacy refers to an individual's belief or perceived ability to succeed in a specific task, resulting in particular outcomes (Bandura, 1977). Various factors influence self-efficacy, including individuals attributing their past successes to personal abilities or receiving encouragement from respected others regarding their capability to achieve a goal. Additionally, self-efficacy can be cultivated indirectly when people witness the achievements of others, they deem similar to themselves (Ponton et al., 2014; Ponton et al., 2009). An individual's self-efficacy impacts their choice to partake in self-directed learning and their level of effort and persistence in learning activities (Bandura, 1977; Ponton et al., 2009).

The motivation of learners plays a significant role in their choice to take responsibility for and participate in self-directed learning while also affecting their diligence and perseverance towards accomplishing learning objectives (Bouchard, 2009; Garrison, 1997).

The decision to begin a self-directed learning project is driven by valence and expectancy. Valence pertains to the perceived significance and value of the potential results of engaging in self-directed learning concerning fulfilling an individual's needs

or desires (Garrison, 1997). These outcomes must hold enough worth to outweigh the costs of effort, as well as the opportunity costs of opting for learning over other activities. Expectancy relates to a person's confidence in their ability to attain desired outcomes and their understanding of how contextual factors will facilitate success (Garrison, 1997).

The driving force behind self-directed learning stems from both intrinsic (internal) and extrinsic (external) factors. Intrinsic elements can involve boosting or preserving one's self-esteem, anticipating increased enjoyment, gratification, or confidence in executing a task or meeting a responsibility proficiently, the necessity to learn and use knowledge or skills, the ambition to develop, and fulfilling inquisitiveness (Tough, 1971). Learners motivated by intrinsic objectives engage more deeply and personally in their learning experiences.

Given these assumptions, it is unsurprising that internal motivators are more powerful for adult learners than external ones. In essence, enhanced job satisfaction, elevated self-esteem, enriched quality of life, and personal accomplishments drive adults to learn beyond what an organization or institution might mandate. Unlike pre-adult learning where others dictate knowledge requirements, adults have the freedom to decide when and how to learn (Merriam & Bierema, 2013).

Andragogy is strongly anchored in humanistic psychology, as demonstrated by this internal motivation assumption. As we discussed in the previous chapter on traditional motivational learning theories, humanistic psychology—specifically the contributions of Maslow and Rogers—forms the foundation of much of andragogy, particularly with regards to intrinsic motivations for learning. From this standpoint, humans are innately driven to learn as they possess inherent potential for growth and evolution toward Maslow's concept of self-actualization (Maslow, 1970). Adult learners are intrinsically motivated with self-actualization as their ultimate learning objective. Rogers (1969) believed learning should be self-initiated with the target being the development of a "fully-functioning person." This internal motivation, along with other andragogical assumptions, situates this theory firmly in a humanistic framework wherein learners are at the heart of the educational process, emphasizing autonomy and self-direction while promoting personal growth and fulfillment.

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It's important to note that not all adult learning stems from internal motivation. Sometimes, an employer may require participation in specific workplace training programs, a degree or certification is necessary for certain activities or professions, or an educational program is mandated by a governmental or social agency (such as maintaining a driver's license or obtaining unemployment benefits). In such cases, facilitators who connect the content to the learners' needs and interests may help increase their internal motivation (Merriam & Bierema, 2013).

Extrinsic factors in learning can encompass receiving credit (e.g., grades, certification, continuing education), rewards, or promotions (Tough, 1971). When learning is prompted or mandated by external sources, Garrison (1997) claims that the challenge lies in helping students internalize these external goals and rewards. External motivators can positively impact learners' motivation to persevere in completing a self-directed learning project.

Nevertheless, Steinke (2012) reminds us that "like any other skill, there is a learning curve involved in becoming a self-directed learner. It takes time for an individual to begin to become efficient in the process" (p. 56).

Despite the availability of support and the possibility of cultivating self-directed learning skills, some adults still favor guided learning over self-directed approaches (Candy, 1991). Self-directed learning activities might not align with certain adults' learning preferences or with their past experiences, where they might have been more passive participants in the learning process (Candy, 1991; Steinke, 2012). If adults were predominantly passive learners in previous educational settings, they may persist in exhibiting passive learning behaviors in their current learning pursuits (Gravani et al., 2010).

Aiding adult learners in self-directed learning activities is important, as they vary in their preparedness and capabilities to manage their own education (Brockett & Hiemstra, 1991; Tough, 1971). Consequently, these learners might require guidance or support for their self-directed learning endeavors (Dixon, 1993). For instance, Dixon found that a group of nurses participating in a study on self-directed learning projects: Expressed the need for assistance in determining exactly what they should

learn to acquire the desired skills and knowledge base. They also mentioned the need for help with specific aspects such as evaluating their learning effectiveness and organizing the necessary time for study (p. 93).

Dixon (1993) conclusions have been supported by additional researchers. (Candy, 1991) observed that early stages of a learning project might necessitate "orientation, support, and guidance" (p. 309). Some learners may require help with pinpointing their precise learning needs (Malcolm S Knowles et al., 2005) while others might need aid in finding suitable learning resources, activities, or steps to undertake during a learning project (Brockett & Hiemstra, 1991; Candy, 1991). Furthermore, learners can benefit from external input on the acceptability of their learning during the evaluation phase of the self-directed learning process (Garrison, 1997).

Adults' situational engagement in self-directed learning pursuits is dependent on the situation. Self-direction could be viewed as "a situational attribute, a temporary state contingent on learners' competence, dedication, and assurance at a specific point in time" (Brockett & Hiemstra, 1991; Candy, 1991; Grow, 1991). Moreover, an individual's inclination towards self-direction may vary over their lifetime (Brockett & Hiemstra, 1991). An adult's predilection for or achievement in self-directed learning activities in one context might not necessarily lead to success or the desire for such learning in another circumstance (Brockett & Hiemstra, 1985; Candy, 1991).

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Chulalongkorn University

In conclusion, self-directed learning may not be the most suitable method for everyone or for all adult educational endeavors (Brockett & Hiemstra, 1991). For instance, Brookfield argued that when self-directed learning is the sole strategy employed by adult educators in a formal context, these individuals might miss out on encountering different viewpoints or discovering methods to influence their current or future situations. Instead, as Brockett and Hiemstra (1985), proposed, "it might be more fitting to consider self-directed learning as an optimal learning approach for specific individuals and particular scenarios" (p. 33).

2.7.9. Benefits of self-directed learning.

While experts agree that self-directed learning doesn't address all the issues in adult education and learning, it does provide numerous advantages (Brockett &

Hiemstra, 1991; Candy, 1991). Guglielmino and Guglielmino (2008) stated that "self-directed learning is our most fundamental, innate reaction to new experiences, issues, or obstacles in our surroundings" (p. 2). Self-directed learning allows people to maintain their skills and thrive in a world of constant personal, societal, and technological transformation (Caffarella, 1993; Guglielmino & Guglielmino, 2008). Guglielmino asserts that self-directed learning is "crucial for the ongoing, lifelong education necessary in today's world of widespread and ever-increasing change" (p. 3), particularly considering that individuals currently complete high school with less than 2% of the knowledge needed to stay employed successfully until retirement.

Andragogy and self-directed learning greatly contribute to our comprehension of adult learning processes. Andragogy offers insights into the traits of adult learners, while self-directed learning, influenced by andragogy, provides additional understanding of specific adult learning methods that can occur both inside and outside formal environments.

Based on its connection to andragogy, self-directed learning theory emphasizes the necessity and ability of adults to guide their own learning process. Both process and personality factors need to be considered in self-directed learning scenarios. The willingness and capability to take charge and make decisions regarding one's own learning connects these two aspects. The self-directed learning process, consisting of planning, executing, and assessing one's learning, is affected by the context where the learning occurs. Self-directed learning activities can be performed both independently and cooperatively. Given that adults have different degrees of preparedness and abilities to direct their own learning, they might require support during this process. Adult learners with self-directed learning traits choose such activities depending on the situation.

Concerning self-directed learning, Hiemstra and Brockett (2012) observed that "in recent decades, self-directed learning (SDL) has stood out as a major area of exploration within adult education and learning" (p. 155). However, the quantity of research articles centered around self-directed learning in popular journals has declined lately (Brockett, 2009). Brockett maintained that further advancements could be achieved by broadening the scope of scholarship regarding self-directed learning.

2.7.10. Roles of self-directed learning facilitators

A As stated by (Brockett, 1994), promoting self-directed learning among students necessitates that educators adopt a highly engaged, individualized approach to convey the process and assist in crafting their SDL plan. Given that learners approach SDL with varying needs and capabilities, facilitating it can be as challenging, if not more so, than conventional teaching methods.

Knowles et al. (2012) discuss a scenario within a business setting:

The initial responsibility of a learning facilitator is to enable students to recognize the "need to know." At the very least, facilitators can present an intellectual argument for the importance of learning in enhancing learners' performance or enriching their lives. Even more powerful methods of increasing the awareness of this need consist of real or simulated experiences where the learners identify gaps between their current state and desired goals. Tools such as personnel evaluation systems, job rotation, interaction with role models, and diagnostic performance evaluations serve as examples of these approaches.

In conclusion, the Andragogical model of adult learning consists of six core assumptions. Primarily grounded in humanist philosophy, this model emphasizes the importance of the individual being at the center, possessing internal motivation and self-direction. Learners engage in education seeking self-actualization, problem-solving skills, and increased proficiency in various life roles. The role of an instructor is to serve as a facilitator, not to exert control over the learning process.

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2.7.11. Factor effects self-directed learning

Expanding on Knowles' concept of SDL, Garrison (1997) proposed that self-management, self-monitoring in the knowledge-building process, and both intrinsic and extrinsic motivation influence SDL. Self-management places the learner in a social context and determines the extent to which learners assume control over their environment to achieve their learning objectives. This involves utilizing learning resources and maintaining communication for a joint understanding. Self-monitoring and motivation serve as the cognitive elements of this model. Learners' capability to assess their cognitive and metacognitive processes resembles double-loop (reflection

on assumptions) and triple-loop (reflection on the learning itself) learning, as described by (Argyris, 1991). Moreover, self-monitoring is strongly connected to reflective practice and critical thinking.

2.7.12. Grow's Self-directed Learning Stages

In a widely recognized application of Self-Directed Learning (SDL), (Grow, 1994; Grow, 1991) introduced an instructional model grounded in Hersey and Blanchard's (1988) stages of Situational Leadership. Grow's model illustrates how educators can assist learners in becoming self-directed throughout their learning experience, with four stages outlined in Table 1. Issues arise within this model when the instructor fails to align with the learner's stage. Consequently, it is the educator's responsibility to continuously observe and tailor the learning process to accommodate each individual. When teaching entirely new and unfamiliar concepts, the educator must adopt a more directive approach, potentially utilizing lectures and immediate feedback. On the other hand, when dealing with highly self-directed learners, the educator assumes more of a consultant or resource provider role, promoting independent learning projects and fostering a discovery-driven learning environment.

Grow's Self-directed Learning Stages (1991)

Stage1

When students are reliant and lack self-direction, the educator's role is to assert authority, guide learning, mentor, and utilize a teacher-centered approach. The strategies that can be implemented in this scenario include offering introductory materials, presenting limited options, focusing on subject-centered lectures, conducting drills, assisting students in understanding the immediate link between concepts and their application, providing prompt feedback, and offering individual tutoring.

Stage 2

In this phase, learners exhibit interest and confidence. Educators must act as motivators and guides. They ought to employ tactics like fostering enthusiasm for

learning, assisting students in goal-setting, aiding in the development of learning strategies, and delivering inspirational lectures accompanied by guided discussions.

Stage 3

At the point where learners are active, engaged as self-directed individuals, possess knowledge and display self-efficacy for SDL, educators should adopt a facilitator or partner role. To enhance the appeal of self-directed learning, strategies such as implementing instructional materials, facilitating discussions, relating learning to real-world issues, organizing group projects or presentations, cultivating critical thinking, supplying learning techniques and promoting cooperative learning can be employed.

Stage 4

During this stage, learners become self-directed and capable of planning, implementing and assessing their learning. The responsibilities of educators include serving as consultants, delegators and mentors. To support students at this level, educators should encourage independent projects and student-led conversations, promote discovery-based learning, offer expertise when required, monitor progress as needed, foster autonomy building opportunities for sharing knowledge amongst learners, concentrate on both the process and outcome of learning experiences, integrate service learning and provide coaching assistance.

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Chulalongkorn University

2.7.13. Learning Contract

A learning contract is a tool employed to facilitate the organization of a learning project. It involves a written agreement, negotiated between a student and an educator, outlining specific activities to be carried out for the achievement of a particular learning objective (Anderson et al., 1996). The concept of learning contracts stems primarily from the philosophies of educators like Malcolm Knowles, who advocated for adult learners to assume greater responsibility for their learning and utilize their existing skills and experiences as a foundation for acquiring new knowledge. He also believed that they should have the opportunity within formal education settings to learn subjects that matter to them.

Learning contracts provide numerous benefits for students. They foster skills such as negotiation, personal accountability, and lifelong learning – abilities that are increasingly essential in today's world. The negotiation process involved in crafting the contract instills in students a feeling of personal investment in their education. This sense of ownership can drive them to exert additional effort, resulting in exceptional learning outcomes and growth. As learners incorporate their individual objectives into the educational program through the contract, courses become more tailored to their unique needs. Furthermore, having negotiated the tasks to be completed and assessment criteria, students are more inclined to perceive that grades accurately reflect their acquired knowledge.

A learning contract usually outlines (a) the knowledge, skills, attitudes, and values that the learner should acquire (objectives); (b) the methods for achieving these objectives (resources and strategies); (c) the deadline for reaching these goals; (d) the proof to be presented to show that the objectives have been met; and (e) the evaluation or verification of this evidence (Knowles, 1986).

Both part-time and full-time educators are required to engage in continuous professional development activities to stay updated on new advancements in their field and to improve their existing skills (Labor & Statistics, 2008).

2.7.14. Relationship between self-directed learning and lifelong learning

Murray (2015a) disclosed that participating in self-directed learning activities allows adult learners to gain and cultivate the necessary self-directed learning and self-regulatory abilities for lifelong learning and personal growth. Self-directed learning encourages adult learners to partake in ongoing education, by honing numerous competencies that amplify their potential and aptitude to utilize knowledge and expertise in problem-solving.

Various scholars in adult education have also associated self-directed learning with lifelong learning through the use of both quantitative and qualitative research methods. In a qualitative section of their study, Blatt applied Guglielmino's SDLRS and discovered that regular implementation of the learned task has a more significant

developmental effect on creativity, lifelong learning, self-awareness, and taking charge of one's own learning (Blatt, 2007).

(Miller Juve, 2012) employed self-directed learning to develop lifelong learning abilities among doctors. Miller described lifelong learning as "the constant acquisition and advancement of knowledge and skills throughout one's life via formal or informal experiences". Miller showed that the adoption of self-directed learning as a tool to promote lifelong learning was becoming more prevalent in medical education. Li et al. (2010) determined that coupling self-directed learning abilities with reflective practices granted physicians the skills required for ongoing education while generating favorable patient care results.

In conclusion, Lifelong learners participate in self-directed learning activities, compelling them to make critical decisions regarding the path of their education and resource allocation. They also need to determine the proper learning processes and strategies needed for specific objectives and goals. Consistent evaluation and reflection upon those processes enhance the ability of metacognitively aware learners to choose appropriate strategies. These students adjust their techniques based on task requirements; they assess the efficiency of the chosen approach and adapt or switch to another if it better suits the demands of the task. This process of self-monitoring is an essential component of metacognitive awareness that plays a crucial role in both self-directed learning and the pursuit of lifelong education.

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Chulalongkorn University

2.7.15. SWOT Analysis

Self-directed learning is an educational approach that allows individuals to take control of their learning process (Knowles, 1975). The SWOT analysis, commonly used in business and strategic planning (Gurl, 2017), is a useful tool for self-directed learners. It helps them identify their strengths, weaknesses, opportunities, and threats. By recognizing their strengths on personal attitudes, motivation, or competences to help learners achieve their goal, they can enhance their skills and accelerate learning. Identifying weaknesses on aspects which could interfere with learners' goals or potentially be holding them back enables learners to focus on areas that require improvement. Recognizing opportunities, chances, resources, or circumstance used to helps learners to stay updated with professional

developments journey. And recognizing threats on obstacles or restrictions that hinder taking part in professional development allows them to plan and mitigate potential obstacles. Last but not least, SWOT analysis helps self-directed learners formulate strategies for improvement and achieve success in their personal and professional development. It is a good strategy to help learners diagnose their learning needs which is matched to their current situation.

2.8. Context of Tboung Khmum province

Contrary to popular belief, Tboung Khmum isn't a new name. It first appeared as a district in a post-Angkor inscription (IMA.37) on the northern wall of Angkor Wat. Chantry inscribed this inscription in 1701, detailing how he was promoted by the king to the title of “king of the kreb” in control of Tboung Khmum. Various documents mentioned Tboung Khmum until the early 19th century – most notably in literary works concerning royal families and French historical accounts during Cambodia's time under French protectorate between 1863 and 1953. Kampong Cham Province was founded on January 1, 1885 while François Baudoin supervised Khmer governors. Administrative reforms implemented during the French Protectorate period led to Tboung Khmum being upgraded from a district to a province with a fluctuating number of provinces and districts over time. It wasn't until 2014 that the Royal Government of Cambodia decided to convert Tboung Khmum back into a province after over a century (Administration, 2019).

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

Tbong Khmum, a province in Cambodia, is situated in the central lowlands along the Mekong River. It is bordered by Kampong Cham to the west, Kratie to the north, Prey Veng to the south, and has an international border with Vietnam to the east. Suong serves as its capital and largest city. The province's name, derived from two Khmer words - tboung (gem, precious jewel) and khmum (bee), translates to "amber". Tboung Khmum Province was established when Kampong Cham Province was divided into two through a royal decree signed by King Norodom Sihamoni on December 31, 2013, at the recommendation of Prime Minister Hun Sen. Tboung Khmum, now a separate province from Kampong Cham, was officially designated a province on May 9, 2017. The province encompasses six districts and one city – Dambae, Krouch Chhmar, Memot, Ou Reang Ov, Ponhea Kraek, Tboung Khmum,

and Krong Suong. The province has well-connected infrastructure, security, and potential in various areas – particularly in economics, trade, agriculture, and industry. This contributes to the prosperity and development of the region while boosting economic growth for both the province and its inhabitants. Located 155km from Phnom Penh along National Road 7, Tboung Khmum covers an area of 5 250.51 square kilometers. The province comprises six districts and one municipality with 62 communes, two Sangkats, and a total of 873 villages. Its population amounts to 857,900 residents (Administration, 2019).

All of functional literacy programs in Tboung Khmum province are under supervision of Office of Non-formal Education, Provincial Department of Education Youth and Sport. In Tboung Khmum province, there are different types of functional literacy classes such as in prisons, mosques, pagoda, correction center, factory and local community. Because of this uniqueness in functional literacy programs, this motivated the study to explore in this province.

2.9. Relevant studies

Self-study is a crucial tool in teacher education (TE) for personal growth and development. It enables TEs to delve into the intricate layers of teaching practices and their identities by using various research methods, including case study, auto-ethnography, and narrative inquiry (Boyd & Harris, 2010; Peercy & Sharkey, 2020) Defined as "a continuous, organized, and meticulous inquiry into one's practice...to establish [one's] foundation for understanding teaching teachers"), self-study fosters self-improvement by critically examining essential aspects of TE identities and practices. This reflective approach not only benefits the TE's work but also contributes to the wider field of teacher education (Peercy & Sharkey, 2020). Additionally, self-directed learning provides an opportunity for TEs to participate in structured, reflective discussions about their identities and practices, setting an example for teacher candidates (TCs) in embracing reflective teaching and practitioner research (Peercy & Sharkey, 2020).

Labor and Statistics (2008) mentioned that both part-time and full-time educators are required to engage in continuous professional development activities to

stay updated on new advancements in their field and to improve previously acquired skills (Labor & Statistics, 2008).

Generally, teachers utilize problem-solving techniques to determine any necessary changes in their teaching methods. Nevertheless, they can also experiment with their teaching approaches simply to observe the outcomes, which may involve doing the opposite of their usual routine or attempting a completely new technique.

The professional growth of teachers correlates with the development of motivations for professional pursuits and the enhancement of professional skills and competences. Their professional growth is intimately linked with their individual development. This progression involves a self-driven movement towards satisfying teachers' needs, motives, objectives, and assignments. The dynamics of this process rely on the teacher's active participation, including their initiative, accountability, self-regulation, and self-determination. Teacher's professional growth is not only an ongoing process but also an outcome of increasing self-organization, self-affirmation, and self-realization within social, cultural, and professional contexts. The authors ultimately assert that professional development persists throughout a teacher's career, beginning from the point of professional self-determination (Galustyan et al., 2017). Research indicates that students utilizing learning contracts experience a positive shift in their intrinsic motivation, primarily due to their freedom to select deadlines and subjects aligning with their personal interests and real-life experiences. The same study reveals that students employing learning contracts also perceive improvements in certain aspects of their self-directed learning behavior. Furthermore, the research suggests that students engaged in learning contracts notice an enhancement in their metacognitive behaviors.

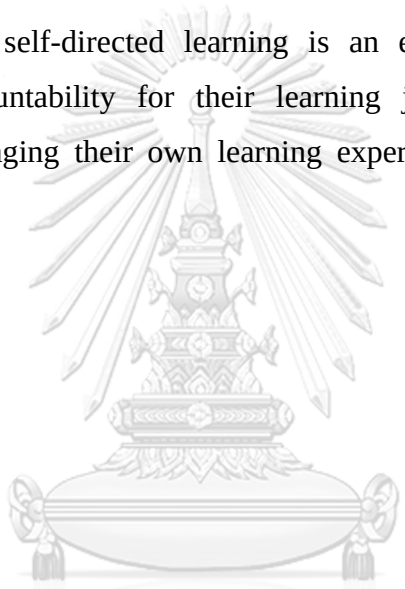
จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

Brockett (2009) highlighted the critical significance of self-directed learning for continuing education in relation to professional development for educators. When orchestrating one's self-directed learning journey, learners have various activities at their disposal. These options range from reading materials (such as books, magazines, professional journals, and online resources), writing, participating in workshops or conferences, enrolling in courses or classes, conducting action research, exploring multimedia presentations, observing others, conducting interviews, engaging in

internships, pursuing mentorships, and following structured curriculums (like workbooks, e-learning courses, or learning modules). It is essential to differentiate self-directed learning from self-managed learning (SML), a term coined by Cunningham in 1970. SML represents a concept that fuses action learning with self-development (Hurley and Cunningham, 1993).

Boyer et al. (2014) proposed that self-directed learning serves as an instrument for lifelong learning. Moreover, self-directed learning evidently stimulated the participants, enhancing their confidence, competence, and self-reliance.

In conclusion, self-directed learning is an educational method in which learners assume accountability for their learning journey; thus, those actively participating and managing their own learning experience can be considered self-directed learners.



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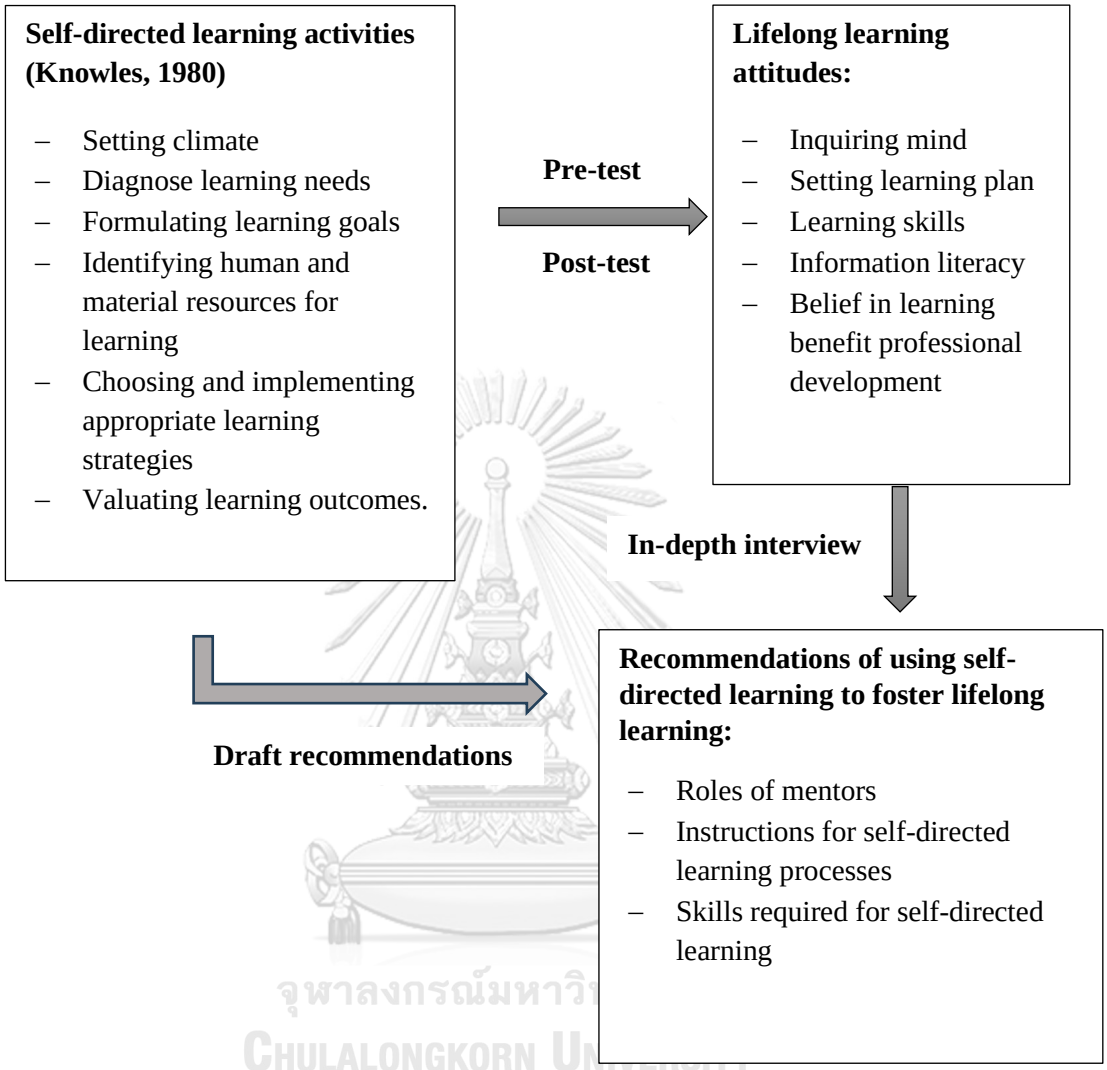
2.10. Conceptual Framework



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CHAPTER 3
METHODOLOGY

3.1. Research Methods and Designs

This study used quasi-experimental design with one group of pre-test and post-test design. Lifelong learning attitudes scales is going to use for measuring functional literacy facilitators' attitudes toward lifelong learning before and after the self-directed learning activities. In-depth interview was conducted among people who have experiences with self-directed learning approach.

This study is divided into two phases as following:

3.2. Phase1: To investigate effects of using self-directed learning approach to foster lifelong learning attitudes of functional literacy facilitators

3.2.1. Population

According to literacy report of 2020, the total number of facilitators who are working as contract teachers in functional literacy program under Ministry of Education Youth and Sport's programs in Tboung Khmum province are 37 facilitators. Since the number of functional literacy facilitators in the province is small. The researcher conducted the self-directed learning among all the 37 facilitators, 12 being females and they were teaching in different classes as follow:

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- 2 functional literacy facilitators were teaching basic literacy to novices and monks in pagoda.
- 4 functional literacy facilitators were teaching basic literacy to prisoners in national correction centers and prisons.
- 8 facilitators were teaching basic literacy among Cambodian-Muslim communities.
- 1 functional literacy facilitator was teaching factory workers in the factory they are working for.
- 22 other facilitators are teaching basic literacy in communities.

3.2.2. Instrument

The lifelong Learning attitudes scale was developed to measure functional literacy facilitators' attitudes toward lifelong learning before and after the learning

course. The pre-test and post-test were employed to explore either self-directed learning would foster lifelong learning attitudes of functional literacy facilitators in five aspects: (1) Inquiring mind to learn; (2) Setting learning plan; (3) Learning skills; (4) Information literacy; (5) Belief in learning would improve professional development. The lifelong learning attitude scales was divided into two main parts:

Part 1: Democratic data

Part 2: Lifelong learning attitudes scales

On lifelong learning attitudes scales, 5-score Likert Scales were employed by to investigate participants' attitudes toward lifelong learning as follow:

- 1 means Strongly Disagree
- 2 means Disagree
- 3 means neither Agree nor Disagree
- 4 means Agree
- 5 means Strongly Agree

The research instrument was checked by an advisor its validity of the questionnaire. Index of Item Objective Congruence (IOC) (Rovinelli & Hambleton, 1976) points of congruence were rated by three experts. The rate was (+1, 0 -1). IOC scores reached the level of value 0.67 and 1.

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3.2.3. Data collection

First, the researcher prepared learning contract and other documents about andragogy and self-directed learning as power point presentation. Learning contract was validated and evaluated its content by experts then was translated it to Khmer language to provide it to learners in planning their own self-directed learning activities.

Then, the researcher asked for contribution from the office of non-formal education in Tboung Khmum province to ask for their permission in allowing their functional literacy facilitators to join self-directed learning activities in the period of three months. On the first week of the treatment, all the 37 functional literacy facilitators were asked to complete the pre-test on lifelong learning attitudes scale.

During the period of three months or 12 weeks, self-directed learning activities were implemented according to Knowles' six steps of self-directed learning as follow:

Setting climate of respect and trust

The researcher welcomed the learners and present the purpose of this learning activities. Climate setting were conducted by using some techniques to build mutual trust and respect between learners and instructors. Each of learner were motivated to share their personal experiences in fields of teaching and other interesting topics. By encouraging to express their opinion, participants were actively involved and learned from varieties of experiences from one learners to another. Moreover, a small talk was happened to build a good climate between leaners and researcher. After the introduction, learners were asked to respond to pre-test on lifelong learning attitudes. Next, learners were introduced to some theories about adult education such as andragogy, self-directed learning and lifelong learning. In this step, learners were encouraged to share their ideas or opinion about the topics.

Diagnosing learning needs

The researchers gave learning contract form to the learners and explain the learners about each part of learning contract and how to write it. SWOT analysis was introduced to participants to reflect on their need to know. The researcher helped participants to diagnose their learning needs by using SWOT analysis, which was described as:

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- Strength: personal attitudes, motivation, or competences to help learners achieve their goal
- Weakness: aspects which could interfere with leaners' goals or potentially be holding leaners back
- Opportunity: chances, resources, or circumstances used to help learners' through learning journey
- Threat: obstacles or restrictions that hinder taking part in learning

Right after working on SWOT analysis, learners came up with some topics that they need to learn. After that, the researcher had learners to write down 3 topics they curious to learn in the present time then asked them to stick their topics on the

board together. The researcher categorized the topics to groups and together with the learners, one related topic was chosen to learn.

Setting learning goal

Learners started using their learning contract to draft their learning plan and wrote down their learning goals/objectives. In this step, the researchers helped learners to write the clear and concise learning objectives to make sure that they could complete it on the time they set. At the end, the researcher had to check and review learners' objective to ensure they have a receivable objective.

Planning learning resources and activities

The researchers had learners to plan what resources and activities they needed to have and do in order to complete their learning objectives. When some learners were struggle with how to find learning resources and activities, the researchers helped and suggested them some resources they could reach such as books, magazines, libraries, social media, web page, or other documents and some learning activities that suit them both online and onsite. After completing their planning on learning resources and activities, the learners set their learning outcome and how to evaluate their learning in learning contract form.

Implementing learning plan

The learners were advised to take their action as their learning plan and they will come back together again after four weeks of implementing their plan aimed to share and evaluate their learning outcomes with other learners. during the self-directed learning implementation, the researcher kept good communication and regular support to all learners to give a hand when they need it and kept them motivated in learning.

Evaluating learning outcomes

On the last day of fourth week in every month, functional literacy facilitators were asked to share or present their learning evidences. Some short discussions among learners were happened after the presentation. The discussion on the topics helps learners to learn more related to the topics from other learners. At the end of the process, learners evaluated their satisfaction on their learning and explained how to apply it to their profession and daily lives. After completing their self-directed learning objective in first month, functional literacy facilitators were asked to plan a

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new learning plan with new objective or the old objective if they wanted to learn more about the topic.When four weeks self-directed learning was completed, learners plan another learning objective and the self-directed learning processes were repeated for 12 weeks. It meant that four learning objectives were learned by the learners in self-directed learning activities.

After twelve weeks learning activities was conducted with 37 functional literacy facilitators in Tboung Khmum province with permission and collaboration from administrators from office of Non-formal Education in Tboung Khmum province, the facilitators were asked to respond to the post-test.

3.2.4. Data analysis

The data were analyzed by using SPSS for means of score. T-test was used to analyze the means of score of the pre-test to post-test on lifelong learning attitudes scales. The result was described as paired sample test which was compared to see the different between pre-test and post-test.

Besides, weight average index was also analyze and describe to see the improvement of functional literacy facilitator's belief in learning benefit professional development. Weight Average Index (WAI); Overall Assessment (OA), five-point scale index; 0 – 0.20 = Strongly Disagree (SD); 0.21 – 0.40 = Disagree (D); 0.41 – 0.60 = Moderate (M); 0.61 – 0.80 = Agree (A); 0.81 – 1 = Strong Agree (SA).

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3.3. Phase 2: To propose recommendations of using self-directed learning to foster lifelong learning

3.3.1 Sampling Design

Sampling Method

The researcher employed the purposive sampling method to select 05 key informants to conduct an in-person semi-structured interview. The key informants purposively selected from the office of Non-formal Education of MoEYS who are working in functional literacy programs as well as other adult education programs in Non-formal education fields.

Sampling selection criteria

The criteria to select the respondents are stated in the following:

- They have in-depth knowledge about non-formal education, adult education, and lifelong learning.
- They have experiences in training adult learners.
- They used to use self-directed learning or other related approach in their trainings.

3.3.2 Instrument

Recommendations on using self-directed learning to foster lifelong learning attitudes were drafted. An in-depth interviewed was designed its questions to figure out recommendations of how to apply self-directed learning in context of Cambodia. The questions were divided into two main parts which:

Part 1: to describe roles of mentor in self-directed learning

Part 2: to tell about their experiences and strategies used to give instructions for self-directed learning processes

Part 3: to tell about what skills a self-directed learner needs to have to make self-directed learning become successful

The interview questions underwent review and evaluation by an advisor before being used to interview key informants, ensuring that the questions addressed all objectives required by the researchers.

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3.3.3 Data collection

First, the researcher contacted each informant to schedule a face-to-face interview. Among the five interviewees, four were male and one was female.

On the first day, the researcher interviewed two informants, including one female. On the second day, they interviewed the remaining three. The interviews took place at the Non-formal Education Office within the Provincial Department of Education, Youth, and Sport.

Each interview was conducted individually in a private room to avoid interruptions and encourage open dialogue about their experiences. Interviews lasted between 45 to 60 minutes per informant.

During the interview, the researcher requested permission from the informants to record their voices for the purpose of using it in subsequent data analysis and ensuring no information was missed.

3.3.4 Data analysis

The information from an in-depth interview with key informants was transcribed and coded to represent their experiences in training adult learners. The recommendations were divided into nine parts of self-directed learning process.

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CHAPTER 4
RESEARCH RESULTS

After conducting data collection and data analysis, the chapter came into existence to manifest each objective's results and give data interpretative of research findings. The results were presented based on two objectives. The first objective was to investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators. Pre-test and post-test mean scores were collected and analyzed by using SPSS on its mean score. T-test was used to described and compare the differences of functional literacy facilitators' attitudes toward lifelong learning. The second objective was to proposed recommendation of using self-directed learning to foster lifelong learning in Cambodia. In-depth interview information was described to show the experiences of key informants in helping adults learn by using self-directed learning. Their experiences were presented to be used as recommendations in applying self-directed learning in the real learning activities.

Objective 1: to investigate effects of using self-directed learning approach to foster lifelong learning attitudes of functional literacy facilitators

The research results of objective 1 had been collected and analyzed by using SPSS on its mean score. T-test is used to compare mean scores between pre-test and post-test.

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The results were presented as below:

Inquiring mind (love of learning, curiosity of learning, attitudes of keeping learning)

Table 1 Paired sample test of lifelong learning attitudes on inquiring mind

Paired Differences	(Pre-test)		(Post-test)		t	P
	$\bar{X}$	S.D	$\bar{X}$	S.D		
Inquiring Mind	3.37	.699	4.28	.397	-11.975	.000
It is crucial to have willing to continue learning in all sectors (formal, non-formal, and	3.14	1.084	4.32	.626	-8.565	.000

informal)						
Learning from other people, peers, colleagues, etc. are great sources of learning	3.78	.712	4.49	.507	-7.488	.000
Curiosity of learning new things even if it is not related to profession is necessary	3.78	.854	4.57	.502	-7.572	.000
Individuals should be aware when they need to learn something	3.14	1.058	4.08	.722	-8.162	.000
Learning new things is fascinating, even if individuals do not have idea what it will be turn out	3.46	1.070	4.22	.672	-5.545	.000
Learning is not a duty, but it is fun	2.32	1.248	3.86	.855	-8.981	.000
Applying what individuals have learnt to their daily and professional life is interesting	3.24	.955	4.05	.664	-6.671	.000
Forming a bridge between life and knowledge is not a time-consuming	3.38	.982	4.35	.789	-6.837	.000
It is necessary to learn new things in all stages of life.	3.78	.854	4.59	.599	-5.432	.000

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According to table 1, Paired sample t-test indicated that the pre-test score of the participants' inquiring mind to learn ($\bar{X}$ =3.3363), was lower than the post-test ($\bar{X}$ =4.2823). And p=0.00 which indicated that the significant was perfectly different. The results of the statistical analysis using the paired sample t-test shows that the post-test scores of inquiring minds were significantly different because its level is lower than 0.05. In inquiring mind of learning, functional literacy facilitators' attitudes on curiosity of learning new things all stages of life even if it is not related to profession is necessary was high, pre-test ($\bar{X}$=3.78) and post-test ($\bar{X}$=4.59) with p=0.00 which indicated that it was perfectly different. This showed that functional literacy facilitators love learning. Moreover, their attitude on being aware of learning needs

was medium, pre-test ($\bar{X}$=3.14) and it increased to ($\bar{X}$=4.08) with p=0.00 which reveal that it was totally different. This mean, self-directed learning activities had positive impact on their opinion in learning need. However, some learners revealed that learning is not a fun activity for them, pre-test ($\bar{X}$ =2.32) and post-test ($\bar{X}$ =3.86) which is considered as the lowest item in inquiring mind. The belief that learning is a duty and not a choice is one that can be found across many cultures and societies. In the context of this belief, people learn because they need to use what they learn to apply in their living. This is a strong motivation for learning, as it is directly tied to the practical application of knowledge in daily life. However, it is important to note that learning can also be driven by other factors, such as curiosity, a love of knowledge, or a desire to better oneself. Still, it was perfectly different between pre-test and post-test because p=0.00. Overall, all the compared items showed p=0.00 which proved that self-directed learning had a positive effect on lifelong learning attitudes in the aspect of inquiring mind to learn.

Setting learning plan

Table 2 Paired sample test of lifelong learning attitudes on setting learning plan

Paired Differences	(Pre-test)		(Post-test)		t	P
	$\bar{X}$	S.D	$\bar{X}$	S.D		
Setting Learning Plan	3.14	.564	4.24	.366	-13.231	.000
It is necessary to have long-term learning plan	3.27	.769	4.41	.551	-8.768	.000
It is necessary to have short-term learning plan	2.59	1.092	4.16	.764	-9.152	.000
Setting clear goals on learning anything is crucial to help individuals to achieve what they want	3.30	.878	4.30	.661	-6.897	.000
Individuals should follow their learning plan and goals	3.32	.915	4.27	.652	-7.379	.000
Individuals should think about strategies to reach their learning goals when they	3.19	.845	4.14	.536	-7.379	.000

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learn something						
Individuals should know what they need to help them in learning	3.19	.877	4.19	.518	-6.663	.000

Base on table 2, the paired sample t-test, the pre-test score of the participants' setting learning plan ($\bar{X}$ =3.3363), was lower than the post-test ($\bar{X}$ =4.2823). And p=0.00 which revealed that it was perfectly different. The results of the statistical analysis using the paired sample t-test indicates that the post-test scores were significantly different because its level is p=0.00. In the aspect of setting learning plan, learners in this study thought that individuals should follow their learning plan and goals, pre-test ($\bar{X}$=3.32) and post-test increased to ($\bar{X}$=4.27) with p=0.00 which indicated that it's perfectly different. Surprisingly, learners' belief in long term learning plan before the treatment was ($\bar{X}$=3.27) and after rose to ($\bar{X}$=4.41) with p=0.00. This indicated that the result of pre-test and post-test was perfectly different and self-directed learning positively influent learners' attitudes on long-term learning plan. before self-directed learning activities, However, some learners revealed that having short term learning plan is not necessary for them, pre-test ($\bar{X}$ =2.59). But after the treatment, the post-test ($\bar{X}$ =4.16) and p=0.00 which indicated that self-directed learning has positive influence on their opinion about having short term learning plan. In self-directed learning, learners create a learning contract, which serves as an effective short-term plan to guide their educational journey. This approach allows them to reap the benefits of a focused and well-structured learning experience. In sum, the result demonstrates that self-directed learning had a positive effect on lifelong learning attitudes in the aspect of setting learning plan.

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Learning skills

Table 3 Paired sample test of lifelong learning attitudes on learning skills

Paired Differences	(Pre-test)		(Post-test)		t	P
	$\bar{X}$	S.D	$\bar{X}$	S.D		
Learning Skills	3.14	.596	4.24	.342	-12.768	.000
It is necessary to be aware of personal learning	2.81	.811	4.14	.631	-10.279	.000

style/strategies						
Individuals should think in many different ways when they learn something new	2.84	1.041	3.89	.567	-7.560	.000
Learning how to learn effectively is important to individual learners	3.57	.867	4.35	.633	-7.092	.000
Relating a new subject one learns to former experiences increases learning	3.22	.886	4.32	.626	-9.649	.000
Individuals should have a constant desire to learn in order to be successful	3.49	.731	4.32	.475	-7.410	.000
Being able to access to mass media tools enriches the learning process	3.38	.861	4.22	.584	-6.372	.000
Self-motivation during learning process is essential for professional development	3.81	.811	4.57	.502	-4.822	.000
Individuals should learn how to use the technology tools such as computers and mobile phones to help in learning	3.32	.852	4.14	.585	-6.082	.000

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According to table 3, the pre-test score of the participants' learning skills ($\bar{X}$ 3.1441), was lower than the post-test ($\bar{X}$ =4.2432). And p=0.00 which indicated that it was perfectly different. The results of the statistical analysis using the paired sample t-test shows that the post-test scores were significantly different because its level is lower than 0.05. In addition, study revealed that learners strongly believe that motivation is significant in lifelong learning, pre-test ($\bar{X}$ =3.81) and post-test ($\bar{X}$ =4.57) with p=0.00 which meant it was perfectly different and self-directed learning had positive effect on their believe that self-motivation during learning process will help them to achieve their professional development goal. Furthermore, learners in

this study believed that learning how to learn effectively is important to individual learners, pre-test ($\bar{X}$=3.57) and post-test ($\bar{X}$=4.35) with p=0.00 which confirmed a significant difference, highlighting the importance of understanding one's personal learning style. Furthermore, prior to the intervention, learners' attitudes towards connecting new subjects with past experiences greatly enhanced the learning process. was low ($\bar{X}$=3.22) but it rose to ($\bar{X}$=4.32) with p=0.00 which showed that it was perfectly different. The result revealed that self-directed learning activities had positive impact on relating experiences with new subject. In short, the result verifies that self-directed learning had a positive effect on lifelong learning attitudes in the aspect of learning skills.

Information Literacy

Table 4 Paired sample test of lifelong learning attitudes on information literacy

Paired Differences	(Pre-test)		(Post-test)		t	P
	$\bar{X}$	S.D	$\bar{X}$	S.D		
Information Literacy	3.26	.589	4.20	.390	-10.079	.000
Being able to find information from different sources of information	3.35	.789	4.08	.493	-6.063	.000
Being able to choose the best information to use in learning	3.08	.829	4.08	.682	-9.124	.000
It is essentials to be able to choose the right information to use in real situations	3.22	.917	4.11	.737	-5.311	.000
It is crucial to seek for help from others when one cannot find information for learning	3.16	.958	4.35	.588	-8.920	.000
Technology tools such as computers and phones are good ways to find information	3.49	.731	4.41	.551	-7.030	.000

Through table 4, paired sample t-test indicated that the pre-test score of the participants' information literacy ($\bar{X}$=3.2595), was lower than the post-test ($\bar{X}$ =4.2054). And p=0.00 which indicated that the significant was perfectly different. The

statistical analysis, utilizing the paired sample t-test, revealed a noteworthy difference in post-test scores, as their level below 0.05. This comparison between pre-test and post-test demonstrated that participants see technology tools like computers and smartphones as valuable assets in their quest for information with pre-test ($\bar{X}$=3.49) and post-test ($\bar{X}$=4.41) with p=0.00 which showed that self-directed learning had positive effect on their belief in using technology in finding learning resources. Also, on the aspect of seeking for help from others when one cannot find information for learning, pre-test was ($\bar{X}$=3.16) and post-test was ($\bar{X}$=4.35) with p=0.00 which revealed that it was perfectly different. During self-directed learning, learners were encouraged to share their experiences, what they had learnt and their challenges to the other learners and facilitators. In this welcoming atmosphere, each student felt encouraged to openly seek assistance whenever they encountered hurdles in their learning journey. However, a few learners seemed to struggle with selecting the most appropriate and valuable information to apply in their studies, pre-test ($\bar{X}$=3.08). Nevertheless, after self-directed learning activities, their post-test ($\bar{X}$ =4.08) and p=0.00 which showed that self-directed learning had positive impact on their information literacy. In sum, the result proves that self-directed learning had a positive effect on lifelong learning attitudes in the aspect of information literacy.

Belief in learning improve professional development

Table 5 Paired sample test of lifelong learning attitudes on Belief in Learning Improve Professional Development

Paired Differences	(Pre-test)		(Post-test)		t	P
	$\bar{X}$	S.D	$\bar{X}$	S.D		
Belief in Learning Improve Professional Development	3.65	.550	4.27	.320	-8.420	.000
Learning makes individuals' lives changed	3.92	.722	4.65	.538	-7.924	.000
Exchanging information with colleagues in learning a new subject increase success	3.68	.852	4.30	.618	-5.917	.000
Participation to professional development activities	3.76	.955	4.41	.644	-4.605	.000

increases the professional creativity						
Forming a bridge between life and knowledge is essential for professional development	3.68	.915	4.30	.618	-5.246	.000
Individuals should have a conscience of the constant change of information in their career field	3.51	.901	4.32	.580	-6.356	.000
Research skills increases professional development	3.38	.953	4.24	.723	-5.931	.000
Individual should do planning for their professional development	3.62	.828	4.38	.545	-6.736	.000

According to table 5, paired sample t-test indicated that the pre-test score of the participants' belief in learning improve professional development ($\bar{X}$ =3.6486), was lower than the post-test ($\bar{X}$ =4.2734). And p=0.00 which indicated that the significant was perfectly different. Learners in this study strongly believe that learning can make individuals' lives changed which pre-test ($\bar{X}$=3.92) and post-test (X=4.65) with p=0.00 indicated to the high score of belief in learning and completely different between before and after the treatment. Additionally, the pre-test and post-test score on their attitude toward exchanging information with colleagues in learning a new subject increase success was completely different, pre-test ($\bar{X}$=3.68) and post-test ($\bar{X}$=4.30) with p=0.00. Through engaging in self-directed learning, individuals were motivated to recognize the value of exchanging their insights and expertise with other learners or coworkers. This not only expanded their knowledge base but also ensured they stayed current with the latest knowledge. Though, the pre-test score of learners' belief on research skills increases professional development was ($\bar{X}$=3.38) and post-test rose to ($\bar{X}$=4.24) with p=0.00 showed that it was completely different. Some learners were struggling to find information and conduct research to support their learning. Through self-directed learning activities, they discovered many ideas on how to find information and learning resources from other learners and facilitators. Using their research skills, they were able to learn new things and benefit their

professional development. The result validated that self-directed learning had a positive effect on lifelong learning attitudes and the belief that learning can improve professional development.

Compare overall pre-test and post-test of lifelong learning attitudes

Table 6 Paired sample test of all components of lifelong learning attitudes

Paired Differences	(Pre-test)		(Post-test)		t	P
	$\bar{X}$	S.D	$\bar{X}$	S.D		
Inquiring Mind	3.37	.699	4.28	.397	-11.975	.000
Setting Learning Plan	3.14	.564	4.24	.366	-13.231	.000
Learning Skills	3.14	.596	4.24	.342	-12.768	.000
Information Literacy	3.26	.589	4.21	.390	-10.079	.000
Belief in Learning Improve Professional Development	3.65	.550	4.27	.320	-8.420	.000
Compare Overall Pre-test and Post-test	3.35	.550	4.27	.320	-14.662	.000

The results in table 7, the results illustrated that self-directed learning fostered lifelong learning attitudes at the level of p=0.00. the mean score of the pre-test was ($\bar{X}$ =3.35) and the mean score of post-test was ($\bar{X}$=4.27). These results indicated that most participants' post-test scores increased. The study showed the high mean score in the aspect of belief in learning improve professional development, pre-test ($\bar{X}$=3.65) and post-test ($\bar{X}$=4.27) with p=0.00 indicating completely different after the treatment. Belief in learning is significant to learners in order to keep motivated to learn and become lifelong learners. The study also found a moderate level of lifelong learning attitudes regarding an inquiring mind on, pre-test ($\bar{X}$=3.37) and post-test ($\bar{X}$=4.28) with p=0.00 proving a significant difference after the treatment. In this aspect, self-directed learning activities positively influenced students' curiosity in exploring new knowledge. The post-test score of inquiring mind to learn among learners in this study was the highest among the five aspects. This means, self-directed learning activities had positive effect on their curiosity to learn new things.

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Nevertheless, setting learning plan and awareness of learning skills pre-test and post-test score were low among the five aspects of lifelong learning attitudes, pre-test ($\bar{X}$=3.14) and post-test ($\bar{X}$=4.24) with p=0.00 which indicated to completely different between before and after the treatment. In the aspect of setting learning plan, some learners thought that long-term learning plan is not significant for their professional development and lifelong learning. Besides, some learners did not aware of their own learning styles and thought that it was not significant for their professional development and lifelong learning. However, after the treatment, the leaners aware of the significant of personal learning skills and benefits of setting both short-term and long-term learning plan.

To sum it up, the study's findings revealed a remarkable difference between pre-test and post-test scores in every aspect of lifelong learning attitudes (p=0.00). This demonstrates that self-directed learning plays a crucial role in enhancing all five facets of lifelong learning attitudes.

Functional Literacy facilitators' beliefs in learning benefit professional development

Table 7 Compare weight average index

Attributes	***Pre-test***			***Post-test***			***P-value***
	WAI	*AO*	*Std.*	*WAI*	*AO*	*Std.*	
Learning makes individuals' lives changed	*0.78*	*M*	*0.14*	*0.93*	*SA*	*0.11*	*0.000*
Exchanging information with colleagues in learning a new subject increase success	*0.74*	*M*	*0.17*	*0.86*	*SA*	*0.12*	*0.000*
Participation to professional development activities increases the professional creativity	*0.75*	*M*	*0.19*	*0.88*	*SA*	*0.13*	*0.003*
Forming a bridge between life and knowledge is essential for professional development	*0.74*	*M*	*0.18*	*0.86*	*SA*	*0.12*	*0.000*

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Individuals should have a conscience of the constant change of information in their career field	*0.70*	*M*	*0.18*	*0.86*	*SA*	*0.12*	*0.001*
Research skills increases professional development	*0.68*	*M*	*0.19*	*0.85*	*SA*	*0.14*	*0.004*

Note: Weight Average Index (WAI); Overall Assessment (OA), five-point scale index; 0 – 0.20 = Strongly Disagree (SD); 0.21 – 0.40 = Disagree (D); 0.41 – 0.60 = Moderate (M); 0.61 – 0.80 = Agree (A); 0.81 – 1 = Strong Agree (SA).

According to Table 7, self-directed learning significantly increased functional literacy facilitators' beliefs in learning benefits professional development. Before the self-directed learning activities, learners' beliefs in learning improve professional development were moderate. However, after getting involved in self-directed learning, they firmly believe that continuing learning benefits their professional development. Functional literacy facilitators used what they have learn through self-directed learning to apply it into their teaching and living. Through self-directed learning, they were able to learn more on topics relevant to teaching such as: ways to do group discussion, role plays, knowledge in ITC, storytelling, how to write lesson plans, how to do assessment among students. etc. They did not only believe that learning improves their professional development but also firmly believe that learning changes their lives. In their daily lives, the learners learned many subjects they need to use apply in their living immediately such as: English language, how to use computer and find information, fix things, take a good care of their health, and work management etc. Besides, their belief in exchanging information with colleagues in learning a new subject increase success would lead them to have a conscience of the constant change of information in their career field. Through sharing what they had learned to other learners, learners stated that they learned more information and knowledge on the topics from the sharing and discussion. Eventually, they stated that research skills are also essential to increase professional development.

Self-directed learning, as a concept, refers to an individual's ability to take charge of their own learning experiences. In the context of professional development,

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it empowers professionals to identify their own learning needs, set goals, select effective learning resources, and evaluate their progress.

Self-directed learning enables professionals to tailor their learning paths according to their unique needs and ambitions. They can pursue topics that interest them or focus on areas they need improvement, which can lead to higher motivation and satisfaction. One of the biggest advantages of self-directed learning is its flexibility. Professionals can learn at their own pace, on their own time and without constraint. This results in a better work-life balance and reduced stress levels.

By controlling their own learning trajectory, professionals are more likely to be intrinsically motivated and enjoy the learning process. This enhances their engagement with the material and ultimately leads to more substantial progress. The self-directed approach promotes continuous improvement through regular self-assessment and reflection on performance. Professionally, this translates into staying updated with industry trends, expanding skill sets and being proactive about addressing any gaps in knowledge or abilities.

As self-directed learners often rely on various resources and tools for learning, they become adept at researching and finding relevant information on their own by necessity. These skills are transferable across different professional contexts, making them valuable assets in today's fast-paced work environment.

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Exchanging information with colleagues in learning a new subject increase success. Engaging in self-directed learning often involves interacting with other professionals through online discussions, participating in workshops or forums, attending conferences, or joining professional organizations. These interactions help expand individuals' networks while keeping them informed about developments in their fields.

In conclusion, self-directed learning empowers individuals by giving them ownership of their professional growth while offering flexibility and promoting continuous improvement. This approach not only benefits individual professionals,

but also proves valuable in the long run for teams and organizations that embrace and support employee-driven learning culture.

Objective 2: to propose recommendations of using self-directed learning to foster lifelong learning

Proposed recommendations were draft in three main parts 1) roles of functional literacy facilitators, 2) instructions for implementing self-directed learning processes, and 3) skills required to make self-directed learning become successful. Based on qualitative data through in-depth interviews with adult educators about their successful experiences helping adults learn by using self-directed learning, the researcher coded and identified key recommendations. These insights are valuable for adult teachers, trainers, or educators considering the implementation of self-directed learning in their teaching, training, or capacity-building efforts.

The recommendations of using self-directed learning among adult learners are following:

1. Roles of facilitators in self-directed learning

Facilitators play a crucial role in fostering self-directed learning, enabling individuals to take charge of their own educational experiences and growth. Here are some key roles of facilitators in self-directed learning:

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a. Building climate of trust and respect

As an educator or facilitator, be attentive to any signs of distrust or disrespect among participants. Address such issues professionally without judgment or blame. Maintain a neutral stance when resolving conflicts and give each party an equal opportunity to voice their concerns.

b. Encouraging goal-setting and planning

Facilitators work with learners to help them identify and articulate their learning objectives, set realistic goals, and develop plans to achieve them.

c. Providing guidance and resources

As subject matter experts or skilled educators, facilitators assist self-directed learners in identifying relevant resources such as books, articles, tools, and mentors to support their learning journey.

d. Establishing a supportive environment

Facilitators create an atmosphere that encourages learners to take risks, experiment, and explore their interests, ensuring that they feel comfortable in exercising their autonomy.

e. Facilitating connections

Facilitators help learners build networks with other like-minded individuals who can support their learning by sharing experiences, advice, opportunities or encouraging collaboration on projects or challenges.

f. Encouraging persistence and resilience

Throughout the learning journey, facilitators help learners maintain motivation by acknowledging accomplishments, offering encouragement during challenges, and fostering a growth mindset focused on improvement rather than perfection.

g. Promoting critical thinking and reflection

Facilitators challenge learners to examine their thought processes and beliefs, analyze information critically, and reflect on their experiences to encourage continuous learning.

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h. Offering constructive feedback

Facilitators provide ongoing feedback on learners' progress in terms of both achievements and areas for improvement. This helps guide the learner's progress toward goals.

i. Monitoring progress

Facilitators track self-directed learners' development over time to ensure they stay on track with their goals. They also help make adjustments to plans as needed based on shifting context or goals.

In sum, in self-directed learning for adult learners, facilitators play vital roles such as building trust and respect, encouraging goal-setting and planning, providing guidance and resources, establishing a supportive environment, facilitating connections, promoting persistence and resilience, fostering critical thinking and reflection, offering constructive feedback, and monitoring progress. These roles empower learners to explore their interests and enhance lifelong learning skills.

2. Setting Climate of trust and respect

In order to be able to build a climate of trust and respect among adult learners, the educators or teachers should:

a. Be transparent

Start by setting clear expectations, objectives, and guidelines for the learning process. Be open about your role as a facilitator, the goals of the training, and the expectations you have of participants.

b. Be genuine

Building trust starts with being authentic in your interactions with participants. Show them that you care about their growth by actively engaging with them, asking questions about their experiences, and sharing your own relevant stories.

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c. Focus on inclusivity

Ensure that all participants feel welcomed and included in the training process. Celebrate diversity by providing materials and activities that cater to various backgrounds, learning styles, and abilities.

d. Encourage open communication

Create an atmosphere that encourages sharing ideas, opinions, and experiences without fear of judgment. Establish ground rules for respectful communication, such as active listening and avoiding negative language. In self-directed learning, it requires mentor to set a climate of trust and respect between learners and mentors because adult learners have a huge and vary experiences. As a mentor in self-directed learning, he/she needs to respect the experiences of those adult learners. A mentor

must make them feel that they are adults not kids who need to listen and follow everything a mentor tell them to.

e. Emotional intelligence

Demonstrate emotional intelligence by being sensitive to the feelings and needs of others while maintaining control over your own emotions. This can help build empathy and trust among adult learners. Create opportunities for diverse individuals to share their unique perspectives and experiences during discussions.

f. Confidentiality

Ensure that personal information shared within the group remains confidential, unless doing so would violate ethical or legal standards.

g. Get to know your participants

Take the time to learn more about each participant's background, motivations, and learning goals. Use this information to personalize your facilitation, creating a sense of trust and connection among the group.

In short, to build trust and respect among adult learners, educators should be transparent, genuine, and focus on inclusivity. They need to encourage open communication, demonstrate emotional intelligence, maintain confidentiality, and get to know their participants. Creating a safe and respectful learning environment will help adult learners feel valued and engaged in the process.

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3. Diagnosis learning needs

There are two techniques usually used by adult educators in this study in order to help learners diagnose their need of learning. The two techniques are:

a. SWOT analysis

SWOT analysis is a good technique to be used to help self-directed learners diagnose their needs of learning. Strength: personal attitudes, motivation, or competences to help learners achieve their goal. Weakness: aspects which could interfere with leaners' goals or potentially be holding leaners back. Opportunity:

chances, resources, or circumstances used to help learners' through learning journey. Threat: obstacles or restrictions that hinder taking part in learning.

b. Self-assessment

Encourage adult learners to reflect on their current knowledge and skills. This could involve answering questions about their experience, interests, and educational background. This process can help them identify areas that require improvement or further exploration.

4. Setting learning goals

Setting learning objectives in self-directed learning is essential for maintaining focus, tracking progress, staying motivated, customizing education, managing time efficiently, and evaluating one's own success throughout the process. Below are some strategies recommended by adult learners in this study:

a. Use the SMART criteria

Make learning objectives Specific, Measurable, Achievable, Relevant, and Time-bound. This framework encourages adult learners to set goals that are concise, trackable, and realistic. By outlining clear objectives, they can better understand what they want to achieve through the learning process and can tailor their approach accordingly.

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b. Start with action verbs

Begin each objective with an active verb (e.g., "identify," "analyze," "create") to indicate the desired outcome or skill to be acquired.

c. Keep it simple and concise

Keep it simple and concise to limit learning objectives to one sentence and avoid unnecessary jargon or complex language.

5. Planning learning resources

Some learners are able to find their learning resources, but others need support from the mentor. To help learners finding learning resources, a self-directed learning mentor should:

a. Understand their learning goals

Before suggesting resources, have a conversation with the adult learner to understand their specific learning objectives, interests, and time constraints. This will help you recommend the most suitable resources that cater to their needs.

b. Suggest reputable websites

The internet is a vast resource for learning, but not every website offers valuable or accurate information. Provide a list of reputable websites tailored to their interests and requirements.

c. Local libraries and community centers

These institutions often offer various resources for adult learners, such as classes, workshops, reading materials, and access to computers and the internet. Provide them with information on any available programs near their residence.

d. Share resources from educational institutions

Many universities and colleges offer open courseware or online lectures that anyone can access for free. Share a list of these resources from top educational institutions related to the learner's field of interest.

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e. Recommend mobile apps and digital tools

Digital tools can greatly help adult learners in managing their study materials and notes while staying organized. Recommend effective mobile apps like Quizlet for creating flashcards or Evernote for note-taking that can support their learning journey.

f. Utilize social media groups

Social media platforms like Facebook, Telegram or LinkedIn contain various focused groups where members share knowledge and learning materials relevant to

specific fields of interest. Suggest joining these groups to stay up-to-date with new developments and participate in discussions around the subject matter.

g. Encourage searching skills

Adult learners may not always find the ideal resource but should feel empowered to explore different options independently. Guide them on how to efficiently search for resources using search engines by providing essential tips on keywords usage and filtering search results.

6. Setting learning strategies

Choosing the right learning strategies is crucial in self-directed learning to optimize one's potential. Below are some recommendations suggested by adult learners in this study to help self-directed learners set their right learning strategies.

a. Learning styles assessment

Administer a learning styles questionnaire to help them understand how they absorb information best – whether it's visual, auditory, or kinesthetic – so they can select instructional modalities that best suit their preferences.

b. Choose appropriate learning methods

Together with the adult learner, explore various learning methods and strategies that suit their preferences and objectives. Some possible choices include online courses, workshops, discussion groups, mentoring or coaching programs.

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c. Set realistic deadlines and milestones

Work on a timeline for achieving the learning goals while also considering other responsibilities and commitments an adult learner must juggle with. Break complex goals into smaller milestones to maintain motivation.

To optimize self-directed learning, it is essential to assess one's learning style, select appropriate methods tailored to individual preferences, and set realistic deadlines and milestones for achieving learning goals. Some suggested methods include online courses, workshops, discussion groups, and mentoring programs.

7. Self-directed learning progress

According to the interview, adult educators suggested some useful recommendations to apply in helping adult learners learn during their self-directed learning.

a. Continuously communicate

Remember that it's crucial to continuously communicate with the adult learner, provide support, and offer guidance when they need it. This will aid in ensuring a fruitful learning experience tailored to their individual goals and objectives.

b. Encourage reflection and self-assessment

Regularly encourage adult learners to reflect on their progress, evaluate their performance against set objectives, and identify any roadblocks to success.

c. Modify the learning strategy as needed

As progress is made towards the objectives, adapt the learning plan to better suit an individual's needs and preferences. This could mean modifying resources or switching up methods based on feedback from the learner.

d. Foster a growth mindset

Help adult learners embrace new challenges confidently by cultivating a growth mindset that views mistakes as opportunities for improvement.

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e. Connect with peers for support

Having a network of like-minded peers can be helpful for sharing experiences, discussing challenges, refining skills, and providing mutual support.

f. Emphasize practical application

Adult learners are more likely to engage in self-directed learning when they can see the direct benefits of their efforts. Encourage them to apply newly acquired information and skills to real-life situations whenever possible.

In sum, adult educators recommend the following strategies for helping adult learners in self-directed learning: continuous communication, encouragement of

reflection and self-assessment, modifying learning strategies as needed, fostering a growth mindset, connecting with peers for support, and emphasizing practical application of new skills and knowledge.

8. Evaluating learning outcomes

Some recommendations were raised by key informants based on their personal experiences in evaluating learning outcomes for self-directed learning among adult learners.

a. Gather feedback from multiple sources

Learners should not rely solely on self-assessment. They should gather feedback from various sources such as peers, mentors, or instructors who can offer valuable insights into their performance.

b. Facilitate peer feedback and review

Encourage collaboration among self-directed learners through peer assessments and group discussions where they can provide constructive feedback on each other's work or projects.

c. Promote self-reflection

Adult learners should regularly reflect on their learning experiences to identify strengths and areas that need further development. They may choose to revisit previous entries in the journal or engage in a more formal reflection exercise using guiding questions like: What did I learn? How did I learn it? What challenges did I face during the process? How can I improve my self-directed learning in the future?

d. Celebrate milestones

Acknowledge and celebrate learners' successes, no matter how small they may seem. This will boost their confidence and keep them motivated towards achieving the next set of goals.

To improve self-directed learning among adult learners, recommendations include gathering feedback from multiple sources, facilitating peer feedback and review, promoting self-reflection, and celebrating milestones. These strategies help

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learners gain valuable insights, collaborate with others, identify strengths and areas of improvement, and stay motivated towards achieving their goals.

9. Skills that a learner need to have to make self-directed learning become successful and effective

To make self-directed learning become effective, learners need to have following skills to help their learning:

a. Basic literacy skills

A learner needs to be able to read and write their own language. Basic literacy, including reading and writing skills, provides individuals with the ability to access a wide range of resources such as books, articles, websites, and instructional materials. This allows them to acquire information and knowledge necessary for their learning objectives.

b. English language

With knowledge in English, learners will be able to find broader sources of information to use in their learning. A strong command over the English language enables learners to access a myriad of online resources such as educational websites, e-books, research articles, and video tutorials. As most of the world's digital content is in English, it becomes easier for individuals to research and gain knowledge independently. Moreover, being fluent in English opens up opportunities for learners to participate in international conferences, workshops, or seminars related to their fields of interest. Attending such events can broaden their horizons and enhance their self-directed learning journey.

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c. Learning skills:

Learners need to understand and be aware of their own learning styles. Learners will learn faster and more effective. If the learners are unaware about their own learning styles, mentors should help them to know which strategies are the best for them whether it's visual, auditory, or kinesthetic – so they can select instructional modalities that best suit their preferences.

d. ICT skills

Electronic devices, social media and other online platforms have become a huge resource for learning in this 21st century. Many learning opportunities are designed as platform, online and distance. Learners should know how to use technology to help them in learning, finding information, and participate in some online courses if require.

e. Communication skills

good communication and networks will benefit learning. Having networked with other learners, he/she will get opportunities to learn from their network.

In sum, for effective self-directed learning, learners need to possess basic literacy skills, English language, an understanding of their own learning styles, ICT skills, and good communication skills. These abilities allow learners to access various resources and opportunities, enhance their learning experience, and establish a network with fellow learners.

In conclusion, self-directed learning doesn't mean learners have to learn alone by themselves without connection or support from mentors. In self-directed learning, it's crucial to have a good mentor who can fully support learners on setting learning goals, designing learning strategies, finding learning resources, motivating learners during the process of learning, and helping learners to evaluate their learning outcomes.

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CHAPTER 5
CONCLUSION, DISCUSSION, RECOMMENDATION

The following descripting is the conclusion, discussion and recommendations on objective:

1. To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators.
2. To propose recommendations for fostering lifelong learning attitudes using self-directed learning

5.1. Conclusion

This research aimed to examine the impact of self-directed learning on cultivating an enduring dedication to learning among functional literacy instructors and to proposed recommendations for using self-directed learning to foster lifelong learning. Results show significant improvement in post-test scores and positive impacts on all five components of lifelong learning attitudes. Finally, this study recommends key steps for successful self-directed learning among adult learners for adult educators to apply with self-directed learning activities. The recommendations were raised by adult educators according to their practical experiences.

Research Methodology

This study used quasi-experimental design with one group of pre-test and post-test designs. Four months of self-directed learning activities were conducted with 37 participants hired by MoEYS and working as functional literacy facilitators in a functional literacy program. They were working as facilitators in different functional literacy classes such as Cambodian communities, Buddhist pagodas, Cambodian-Muslim communities, factories and prisons. At the beginning of every month, the participants had to diagnose their learning needs and goals and then plan their learning using a learning contract form. The learning goals were set to be short that could be achieved in one month. At the end of the month, the participants were called to come back together and share what they had learned according to their planning. After sharing what they had learned and reflecting, the participants started planning their new learning contract repeatedly for three months.

By using self-directed learning with the learning contract, the learners set clear learning goals and ordered their learning topics by prioritizing the topic based on what was important and urgent first. The lifelong Learning attitudes scale measures functional literacy facilitators' attitudes toward lifelong learning before and after the course. The pre-test and post-test were employed to explore either self-directed learning will foster lifelong learning attitudes of functional literacy facilitators in five aspects: (1) Inquiring mind to learn; (2) Setting a learning plan; (3) Learning skills; (4) Information literacy; (5) Belief in learning would improve professional development. The pre-test and post-test mean scores were analyzed on SPSS to compare the mean scores before and after the self-directed learning activities using a t-test. Besides, weight average index was also analyze and describe to see the improvement of functional literacy facilitator's belief in learning benefit professional development.

Last but not least, an in-depth interviewed was designed its questions and interview 05 key informants about their experiences in using self-directed learning in order to propose recommendations of how to apply self-directed learning for fostering lifelong learning.

Result 1: To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators.

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This research aimed to examine the impact of self-directed learning on cultivating an enduring dedication to learning among functional literacy instructors. The findings demonstrate that self-guided learning significantly nurtured attitudes of continuous learning at a P-value less than 0.05. The average score before the test was 3.3475, and after the test, it rose to 4.2734, signifying an improvement in post-test scores for most learners.

Result from paired sample test data analysis suggests that self-directed learning considerably amplified all five components of the attitude towards lifelong learning. It showed that self-directed learning might shape the attitudes of these facilitators towards lifelong learning, sparking curiosity about new subjects, formulating precise learning objectives, familiarity with digital and technological

learning aids, awareness of their own personal learning styles, and the belief in the advantages of lifelong learning for both their professional growth and personal lives.

Through self-directed learning activities, learners discovered topics that piqued their interest and incited transitions from one subject to another. Some even began to chart out short-term and long-term educational plans for professional advantages. Uniquely, knowing their methods of learning proved beneficial for the learners, negating stress and frustration and prompting some to seek mentorship to enhance understanding of their particular style of study.

Learners also recognized the significance of their proficiency in utilizing ICT to gather information pertinent to their education. The use of learning contracts with self-directed learning allowed learners to define distinct educational objectives and prioritize their subjects based on importance and urgency. Also, their active involvement in selecting resources and strategic plans further amplified engagement with their personal learning journey.

In conclusion, the research found that self-directed learning significantly enhances functional literacy instructors' attitudes towards lifelong learning, with improvements in post-test scores. Results show significant improvement in post-test scores and positive impacts on all five components of lifelong learning attitudes. Self-directed learning helped learners explore their interests, set clear goals, understand personal learning styles, and utilize digital resources effectively. Self-directed learning activities help learners discover interests, formulate plans, understand their learning styles, use ICT effectively, and prioritize subjects through learning contracts. This leads to increased engagement in personal learning journeys.

Result 2: To proposed recommendations of using self-directed learning to foster lifelong learning.

Through in-depth interviews with the five critical informants on their experiences in using self-directed learning among adult learners, the study suggested some valuable recommendations based on practical experiences as follows:

Roles of self-directed learning facilitators

Facilitators play a crucial role in self-directed learning by creating trust and respect, supporting goal setting, providing guidance and resources, fostering a helpful environment, connecting learners with others, boosting persistence, encouraging critical thinking, offering feedback, and tracking progress. By fulfilling these tasks, facilitators assist learners in growing their interests and developing essential lifelong learning skills.

Instructions for self-directed learning processes

Setting climate of respect and trust

To create a climate of trust and respect in a learning environment, start by being transparent, genuine, and inclusive. Encourage open communication, respect learners' experiences, and demonstrate emotional intelligence. Ensure confidentiality and take the time to know participants' backgrounds, motivations, and goals. Engage diverse individuals in discussions and provide materials catering to various learning styles.

Diagnosing learning needs

To diagnose learning needs, self-directed learners can use SWOT analysis, considering their strengths, weaknesses, opportunities, and threats related to their goals. Additionally, self-assessment encourages adult learners to reflect on their current knowledge and skills, helping them identify areas needing improvement or further exploration.

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Chulalongkorn University

Setting learning goals

Utilize the SMART criteria to create clear and realistic learning objectives, begin each objective with an action verb (e.g., "identify," "analyze," "create"), and keep the objectives simple and concise, avoiding unnecessary jargon or complex language.

Planning learning resources

To support adult learners in finding learning resources, a self-directed learning mentor should understand their goals, suggest reputable websites, guide them to local libraries and community centers, share resources from educational institutions,

recommend mobile apps and digital tools, utilize social media groups, and encourage effective searching skills.

Setting learning strategies

Administer a learning styles assessment to identify the adult learner's preferences, explore suitable learning methods and strategies together, and set realistic deadlines and milestones while considering other responsibilities, breaking complex goals into smaller ones to maintain motivation.

Self-directed learning progress

To ensure a fruitful learning experience for adult learners, it's essential to maintain open communication, provide support, and offer guidance. Encourage reflection and self-assessment, adapt learning strategies as needed, foster a growth mindset, connect with supportive peers, and emphasize practical application of newly acquired skills in real-life situations.

Evaluating learning outcomes

To enhance self-directed learning, learners need to gather feedback from other learners and mentor through group discussion, facilitate peer feedback and review, promote self-reflection, and celebrate milestones to boost confidence and motivation.

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Skills required to make self-directed learning become successful

Effective self-directed learning requires basic literacy skills, English language proficiency, understanding of one's learning style, ICT skills, and good communication. A supportive mentor is crucial in assisting learners in setting goals, designing strategies, finding resources, and evaluating outcomes.

In sum, this study recommends key steps for successful self-directed learning among adult learners, such as the crucial role of facilitators, establishing trust and respect, diagnosing learning needs, setting SMART goals, planning resources, employing suitable strategies, monitoring the learning process, and evaluating outcomes. Effective self-directed learning requires literacy, language proficiency,

understanding of learning styles, ICT skills, and good communication, with a supportive mentor to guide learners through the process.

5.2. Discussion

Objective 1: To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators.

The present study was an attempt to investigate the effects of self-directed learning to foster lifelong learning attitudes of functional literacy facilitators. The study demonstrated that self-directed learning possibly influent the attitudes of functional literacy facilitators forward lifelong learning on inquiring mind to learn new things, setting their own clear and concise learning goals, knowledge in using media and technology to support their learning, beware of their own learning style and beliefs that lifelong learning benefits their professional development as we as their personal lives.

Some studies also indicated that self-directed learning influence individuals' lifelong learning and had positive effect on lifelong learning. Murray (2015a) showed that Self-directed learning influence individuals to engage to lifelong learning. Similarly, Li et al. (2010) found that self-directed learning skills linked with practices provided lifelong learning skills for physicians to produce positive patient care outcomes. Boyer et al. (2014) suggested that self-directed learning is a tool for lifelong learning. Self-directed learning has a positive impact on the process of lifelong learning. This means that cultivating a habit of self-directed learning, being curious and taking onus of one's own education can significantly enhance. Engaging in self-directed learning activities enables adult learners to acquire and develop the appropriate self-directed learning skills and self-regulatory skills necessary for lifelong learning and self-development.

In addition, through self-directed learning, the participants were undoubtedly motivated, improving their confidence, ability, and self-efficacy. Firstly, self-directed learning contributes significantly to life satisfaction by promoting an overall positive outlook towards education and lifelong learning (Edmondson et al., 2012). Self-directed learning improves confidence by allowing individuals to take charge of their

own education and growth (Boyatzis, 2002). This empowers them to set goals, manage their time, and determine the best methods for learning new skills or information. Teachers who consistently invest in self-improvement tend to be more driven and experience higher job satisfaction (Poortvliet & Giebels, 2012). Self-efficacy refers to an individual's belief or perceived ability to succeed in a specific task, resulting in particular outcomes (Bandura, 1977). Various factors influence self-efficacy, including individuals attributing their past successes to personal abilities or receiving encouragement from respected others regarding their capability to achieve a goal. Additionally, self-efficacy can be cultivated indirectly when people witness the achievements of others, they deem similar to themselves (Ponton et al., 2014). An individual's self-efficacy impacts their choice to partake in self-directed learning and their level of effort and persistence in learning activities (Bandura, 1977; Ponton et al., 2009). They exhibit resilience during tough times due to their growth mindset – a perspective that promotes personal growth and overcoming difficulties (Poortvliet & Giebels, 2012). As they become increasingly competent in various areas, they gain the self-assurance needed to tackle new challenges. Secondly, self-directed learning project improved ability (Robertson, 2011) and performance at work (Artis & Harris, 2007). Self-directed learning allowed leaners to learn about themselves as well as some crucial learning skills that benefit their learning process. Self-directed learning helps individuals identify their unique learning style and develop the most effective strategies for retaining and applying new knowledge. Additionally, recognizing their own learning styles proved beneficial for some learners, making the learning process less stressful and aggravating. To ascertain their personal learning styles, certain individuals sought guidance from mentors (Felder & Spurlin, 2005). Furthermore, ICT benefit lifelong learning (Tchamyou et al., 2019). Mastering knowledge and skills in utilizing ICT for information gathering was deemed crucial for learners and transformed the experiences to be significant (Thorpe, 2005). Lastly, Self-directed learning compels adult learners to engage in lifelong learning pursuits, by developing the many competencies that will increase the capacity and capability of individuals to apply their knowledge and skills in solving problems. Engaging in self-directed learning exposes individuals to diverse perspectives and methods. As they seek out resources relevant to their goals, they expand their knowledge base and develop a

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more comprehensive worldview. This versatility further contributes to a strong sense of self-efficacy as learners recognize that they possess the tools necessary for continued growth. In this way, implementing self-directed learning may help individuals improve their self-efficacy (Turan & Koç, 2018). To equip individuals for lifelong learning throughout their lives, it's necessary that educational opportunities foster their ability to self-directed learning (Dunlap & Grabinger, 2003). Through self-directed learning activities, learners discovered subjects that piqued their interest and encouraged them to explore further (Grandinetti, 2015). Likewise, some individuals began devising short-term and long-term learning plans for professional advancement. Utilizing self-directed learning in conjunction with learning contracts facilitated learners in establishing well-defined objectives and prioritizing topics based on importance and urgency. These results show that self-directed learning is an important construct and should be implemented into teacher training and development.

Learners in this study strongly believed that lifelong learning benefit their professional and personal development, they are motivated to continue learning. According to the study, functional literacy facilitators firmly concurred that learning benefits their professional growth. They effectively utilize the knowledge gained through self-directed learning in both their careers and daily lives. This, in turn, boosts their confidence in creating more engaging classrooms (Day, 2002). Learners gain additional insights related to the subject matter from their peers' experiences. Recognizing the advantages of learning for their profession, they remain motivated and eager to enhance their career development (Elnaga & Imran, 2013). One way that self-directed learners can benefit from connecting with others is by participating in study groups. These groups enable individuals to share knowledge, ideas, resources, and support each other throughout the learning process. Study groups can also improve motivation and provide an opportunity for constructive feedback in a safe environment. This would encourage them to actively participate in workshops, conferences, training courses, and other educational activities. Lifelong learning and self-directed education inspire learners to stay driven and foster a greater sense of collaboration (Bolhuis, 2003).

Self-directed learning is crucial for teachers' career as it helps them stay current with the newest instructional techniques, technology, and academic research. Self-directed learners can utilize technology to connect with others via online forums, communities, or social media platforms related to their field of study. By engaging in ongoing professional development, educators can broaden their connections with fellow professionals and specialists, cultivating collaborative relationships that provide vital sources of encouragement and support (Burbank & Kauchak, 2003). This enables them to be more effective in their roles by adjusting their teaching methods to better captivate and motivate students. It also allows them to tackle any arising challenges in the classroom with confidence (Loucks-Horsley et al., 2009).

In conclusion, continuous learning is critical for teachers' overall career success and well-being. By constantly keeping up with educational advancements and actively refining their skills, educators can improve their teaching abilities, enhance their career opportunities and overall job satisfaction, and ultimately create a more enriching learning atmosphere for their students. Furthermore, continuous learning allows teachers to grow professionally, refining their abilities and boosting their career potential. This might result in new possibilities such as promotions or taking on leadership positions. Promoting a self-directed learning approach will enable individuals to take greater ownership of their professional development and increase the adaptability of the workforce.

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Objective 2: to propose recommendations of using self-directed learning to foster lifelong learning.

This study had proposed some significant recommendations of applying self-directed learning among adult learners according to adult trainers/educators' experiences. Self-directed learning doesn't mean learners have to learn alone (Knowles, 1975). Self-directed learning is often misunderstood as a solitary process, but in reality, it emphasizes the active role of the learner in taking responsibility for their own educational growth. This doesn't mean learners have to undertake the entire journey alone; collaborative activities like group discussions (Abdullah, 2001), peer feedback (Patterson et al., 2002), and interaction with instructors can all enhance and

support self-directed learning. To foster self-directed learning, educators adopt a highly proactive, personalized approach in guiding learners, helping them understand the process, and fostering the growth of their self-directed learning strategy Knowles et al. (2012). To actively support learners, facilitators should have broad knowledge, strong communication skills, and supportive. (Knowles, 1975). In this study, Facilitators help in self-directed learning by building trust, supporting goals, giving advice, sharing resources, creating a good atmosphere, connecting people, increasing determination, promoting critical thinking, giving feedback, and monitoring growth. This study also recommends key steps for successful self-directed learning among adult learners, including establishing trust and respect, diagnosing learning needs, setting goals, planning resources, employing suitable strategies, monitoring the learning process, and evaluating outcomes. Learners come to SDL with different needs and capabilities, making facilitating it as demanding as Brockett (1994). The initial responsibility of a learning facilitator is to assist learners in recognizing their "need to know." At the very least, facilitators can present a reasoned argument for the importance of learning in enhancing the learners' performance or enriching their lives. Moreover, self-directed learning facilitators should teach about objective writing and evaluation, limit the scope of learning activities, provide of information, maintain of standard, have enough time, and accept of student differences (Iwasiw, 1987). A study indicated that a lack of time, physical energy, and resources can serve as barriers to initiating self-directed learning activities (Caffarella, 1993). Some learners may require help with pinpointing their precise learning needs (Malcolm S Knowles et al., 2005) while others might need aid in finding suitable learning resources, activities, or steps to undertake during a learning project (Brockett & Hiemstra, 1991; Candy, 1991). Furthermore, learners can benefit from external input on the acceptability of their learning during the evaluation phase of the self-directed learning process (Garrison, 1997). Some learners are able to find their learning resources, but others need support from the mentor. In countryside, learners have limit learning resources and strategies they could reach to. This requires instructors to help and suggest them in finding resources for learning as much as possible. Before suggesting resources, instructors should have a conversation with the adult learner to understand their specific learning objectives, interests, and time constraints. This will help instructors

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recommend the most suitable resources that cater to their needs. Technology, literature, mentorship, and any source of information can help learners succeed when using self-directed learning (Murray, 2015a). In Cambodia, some popular social media platforms like Facebook, Telegram, Tic Tok, or Youtube contain various learning resources where learners learn new knowledge and materials relevant to specific fields of interest and stay up-to-date with new developments and participate in discussions around the subject matter. Moreover, motivation is also a key factor influent the achievement of self-directed learning and to complete the project (Boyer et al., 2014). Contextual factors, such as the learning environment, play a significant role in shaping engagement levels and success rates of self-directed learning activities (Brockett & Hiemstra, 2018). The opportunities and resources available within one's learning environment can shape both engagement levels and success rates of learning activities (Caffarella, 1993). Similarly, Grow (1991) mentioned that regular supporting to learners will help leaners to find their path. Learners should also be encouraged to seek feedback from their peers and their facilitators and understand that self-directed does not mean learning in isolation. In addition, to be successful in their learning journey, learners need to acquire and hone essential skills that enable them to become proficient and effective lifelong learners (Demirel, 2009). In this study, effective self-directed learning requires literacy, English language proficiency, understanding of learning styles, ICT skills, and good communication, with a supportive mentor to guide learners through the process. English proficiency and ICT skills play crucial roles in facilitating effective self-directed learning and it helps learners to learn independently (Thorpe, 2005). They provide the tools necessary for individuals to access, create, and exchange knowledge while developing essential life skills that prepare them for future professional opportunities (Tchamyou et al., 2019). However, some adult learners don’t have proficiency English and ICT skills and they find it is difficult for them in finding information and learning resources they needed. In this case, self-directed learning instructors need to support those learners on learning resources and find suitable learning strategies for them to learn. Some adult learners also do not aware of their own learning styles and facilitators have barriers in suggesting them some learning strategies that do not suit them. However, it is crucial for facilitators to understand learning styles of individual learners (Reiff, 1992). So

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that, they will be able to help learners to achieve their goals faster. Additional recognized self-directed learner abilities encompass self-assessment, problem-solving, critical reflection and thinking, dealing with uncertainty, and recognizing and utilizing resources along with learning strategies effectively (Bouchard, 2009; Brockett & Hiemstra, 2018; Candy, 1991; Steinke, 2012). Adults who lack these autonomous learning skills may be resistant to engaging in self-directed learning activities (Sparling, 2001). Besides, in self-directed learning, learners are encouraged to explore topics of their interest. However, facilitators or instructors should guide the group to focus on a single area related to their collective interests. This is because when learners' interests span a wide array of topics, it becomes challenging for instructors to assist them, especially when unfamiliar with certain subjects. Instructors may find it difficult to support learners in planning, selecting learning resources, and evaluating progress. However, not every adult shares the same preparedness or capability to participate in self-directed learning (Brockett & Hiemstra, 2018; Candy, 1991). While some learning contexts are more conducive to self-directed learning than others, it is ultimately the learner's personal characteristics - including their attitudes, values, and skills - that determine if self-directed learning will occur in any given situation (p. 2; Raemdonck, van der Leeden, Valcke, Segers, & Thijssen, 2012). Self-directed learning may not be the most suitable method for everyone or for all adult educational endeavors (Brockett & Hiemstra, 1991). For instance, Brookfield argued that when self-directed learning is the sole strategy employed by adult educators in a formal context, these individuals might miss out on encountering different viewpoints or discovering methods to influence their current or future situations. Instead, as Brockett and Hiemstra (1985), proposed, "it might be more fitting to consider self-directed learning as an optimal learning approach for specific individuals and particular scenarios" (p. 33).

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In conclusion, the study presents valuable insights for adult educators, trainers, and mentors who aim to incorporate self-directed learning into their training or professional development programs for lifelong learning. It is essential for adult educators to be adaptable and have a deep understanding of their learners, as not all recommendations may suit individuals with diverse backgrounds and experiences.

5.3. Recommendations

Recommendations for Government

To promote a culture of continuous professional development, adaptability, and lifelong learning, government should consider implementing self-directed learning as a cornerstone of their educational policies and programs.

a. Collaborate with stakeholders, including educational institutions, industry bodies, and non-profit organizations, to formulate a comprehensive lifelong learning strategy. This strategy should outline clear goals, objectives, and performance measures for promoting lifelong learning among professionals.
b. Promote the benefits of lifelong learning through public awareness campaigns highlighting through various media, such as print, television, radio, and social networks. By highlighting its impact on personal development, professional growth, and social cohesion, these campaigns can encourage more people to invest in continuous education.
c. Establish Learning Communities by creating local and virtual communities where individuals who are passionate about self-directed learning can come together, share ideas, collaborate on projects, and support each other's educational goals. Such groups could meet regularly through platforms like Google Meet or Zoom. Foster mentorship programs by connecting experienced professionals with individuals looking to develop new skills or learn about different industries. These mentor-mentee relationships can offer useful guidance, motivation, and insight into real-world situations. Organize events such as conferences, workshops, and webinars that provide platforms for professionals to network, share experiences, discuss ideas, and learn new strategies.

Recommendations for NGOs

a. To support with the resources and strategies for self-directed learning, NGOs should develop and distribute resources such as educational materials, online courses, and training programs, course materials, digital content, or workshops focusing on essential life skills like communication, teamwork, negotiation, and problem-solving that are affordable and accessible to everyone. By making

these resources available, they help break down barriers to education for people of all ages and enable individuals to continue learning throughout their lives.

b. Together with the government, NGOs should actively participate in designing and implementing community-based lifelong learning programs. These programs can include vocational skills training, capacity building workshops, languages courses, or digital literacy classes.

c. NGOs should provide capacity-building programs aimed at improving the skills of individuals in various areas such as leadership, entrepreneurship, creativity, problem-solving, and critical thinking. These skills are essential for lifelong learning and self-directed learning. By empowering people with these valuable skills through targeted programs, NGOs significantly contribute to lifelong learning initiatives.

Recommendation for self-directed learning implementors

To make self-directed learning become effective, it is crucial to:

a. Learners should receive support and resources when implementing self-directed learning. Help learners in setting their own learning resources and strategies which suit them according to their real circumstance and situation. Involve learners in choosing learning resources and strategies to enable them to find the most appropriate resources to fit their individual learning styles as well as the overall learning objective. Some learners need support for their self-directed learning activities, and some need to consult with educators and determine the methods and resources that best fit their learning. This is case, instructors should empower learners to explore resources independently by teaching them how to use search engines effectively and providing tips for filtering information based on relevance, reliability, and quality. And ensure that the recommended resources are easily accessible and user-friendly.

b. Regular support during the process of learning is required to keep learners motivated and help them to discuss any matters that might happen during the process. Instructors should offer guidance, clarification, and assistance when needed. Create an environment where learners feel comfortable asking questions or seeking help without fear of being judged. Pay attention to

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questions or concerns adult learners may have during the process. Be empathetic to their needs and challenges helping them find solutions suitable for their situations.

c. Identify learning needs was one of an essential process in self-directed learning, the instructors should help learners to brainstorm what topic is the most important and priority for them to learn first. A facilitator of learning should help learners recognize their "need to know" by demonstrating the value of learning in enhancing performance or life quality. Using real or simulated experiences, learners can identify gaps between their current state and desired goals. Tools for raising awareness include personnel appraisal systems, job rotation, role model exposure, and diagnostic performance assessments. Encourage learners to reflect on their strengths, weaknesses, and gaps in knowledge. Use tools such as skills inventories, questionnaires or surveys, and informal discussions to facilitate this process. Assist learners in setting short-term and long-term goals related to their personal, academic, or professional lives. Then, help learners prioritize their goals based on importance and urgency. This will enable them to focus on the most essential learning needs first.

Recommendations for future research

a. The study was mainly based on the attitudes of functional literacy facilitators toward lifelong learning which is in the field of non-formal education. Thereafter, future studies should be on lifelong learning characteristics of public-school teachers (in field of formal education) in primary, secondary and high-school levels.

b. Besides, the study was quasi-experimental research, the future studies should be quantitative survey with a bigger number (not less than 300) of participants. Qualitative research is recommended to study learners' perception on using self-directed learning approach to enhance their professional development and lifelong learning.

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APPENDIXES
APPENDIX A

Learning Contract

I. Learner's information

Complete your personal information in the blanks below:

1. Learner's name:
   ……
2. Topic of learning ……
3. Period of learning: 4 weeks
4. Learning date: ……../……/……to……/……/…….

II. Learning Contract

Write down your plan and activities in the table about what you are going to do:

Learning goal(s)	Please write down your learning goal and make sure it is specific and be able to achieve as much as possible. Ex: to describe how Youtube can be used to help my teaching
Learning resources/strategies/materials	Please write down specific resources you are going to use to find out information you need, strategies you are going to use, and any materials you need to complete your learning goal. (please be specific) Ex: books (title, author, year), google (sources), friends (who), other teachers…
Target date of completion	Please write down what and how is your result of learning goal will be. Ex: give a presentation
Evidence	Please write down what and how is your result of learning goal will be. Ex: give a presentation
Evaluation	Please write down what and how to evaluate your learning evidence Ex: presentation evaluation form

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ផែនការសិក្សា

I. ព័ត៌មានរបស់អ្នករៀន

សូមបំពេញព័ត៌មានផ្ទាល់ខ្លួននៅក្នុងចន្លោះខាងក្រោម

១. ឈ្មោះអ្នករៀន.....

៣. ប្រធានបទដែលត្រូវរៀន.....

៤. រយៈពេលនៃការរៀន ៖ 4 សប្តាហ៍

៥. កាលបរិច្ឆេទ៖.....ដល់.....

II. ផែនការសិក្សា

គម្រោង	សូមសរសេរគោលដៅសិក្សារបស់អ្នក ហើយត្រូវប្រាកដថាវាជាក់លាក់ និងអាចសម្រេចបានតាមដែលអាចធ្វើទៅបាន។ ឧទាហរណ៍៖ ដើម្បីពិពណ៌នាអំពីរបៀបដែល Youtube អាចត្រូវបានប្រើដើម្បីជួយបង្រៀនរបស់ខ្ញុំ
ធនធាន វិធីសាស្ត្រ និងសម្ភារៈដែលត្រូវប្រើសម្រាប់ការរៀន	សូមសរសេរធនធានជាក់លាក់ដែលអ្នកនឹងប្រើ ដើម្បីស្វែងរកព័ត៌មានដែលអ្នកត្រូវការ យុទ្ធសាស្ត្រដែលអ្នកនឹងប្រើប្រាស់ និងសម្ភារៈណាមួយដែលអ្នកត្រូវការដើម្បីបំពេញគោលដៅសិក្សារបស់អ្នក។ (សូមបញ្ជាក់) ឧទាហរណ៍៖ សៀវភៅ (ចំណងជើង អ្នកនិពន្ធ ឆ្នាំ) ហ្គូហ្គល (ប្រភព) មិត្តភក្តិ (អ្នកណា) គ្រូ ឬផ្សេងទៀត...
កាលបរិច្ឆេទបញ្ចប់	សូមសរសេរកាលបរិច្ឆេទជាក់លាក់នៃការបញ្ចប់សម្រាប់សកម្មភាពនីមួយៗដែលអ្នកនឹងត្រូវធ្វើ។ ឧទាហរណ៍៖ ថ្ងៃទី ១០ ខែកុម្ភៈ ឆ្នាំ ២០២២
លទ្ធផល	សូមសរសេរចុះថា តើលទ្ធផលនៃការសិក្សារបស់អ្នកនឹងទៅជាយ៉ាងណា? និងធ្វើការបង្ហាញតាមរយៈរបៀបណា? ឧទាហរណ៍៖ ធ្វើបទបង្ហាញ
រង្វាយតម្លៃ	សូមសរសេរពីរបៀបវាយតម្លៃការរៀនសូត្ររបស់អ្នក។ ឧទាហរណ៍៖ ទម្រង់វាយតម្លៃបទបង្ហាញ

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APPENDIX B

Lesson Plan

Lesson Plan for conducting self-directed learning activity

Sample of Lesson Plan

Lesson plan is designed by using a model of self-directed learning (Andragogy) by Knowles (1975)

Time: 4 hours

Subject: Self-directed learning

Learners: Functional Literacy Facilitators

Goal: Learners will be able to plan their learning contract to complete their chosen learning objective

Objectives: After completion of this session, learners will be able to:

1. Describe differences between Andragogy and Pedagogy
2. Describe about 6 assumptions of adult learners
3. Recognize steps of self-directed learning
4. Recognize roles of facilitators in self-directed learning
5. Recognize roles of learners in self-directed learning
6. Plan their own learning contract

Learning Materials

- PowerPoint presentation
- Self-directed learning presentation
- Learning contract form
- SWOT analysis paper
- Stick note

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Time	Tasks	Purpose
8:00 AM – 8:30 AM	**1. Climate setting** **Facilitator's Roles** - Welcomes the learners and present the purpose of this learning acttivities - Asks the learners to introduce themselves to the room - Tells the learners about what they are going to learn and do **Learners' Roles** - Introduce themselves to the room - Raise their questions to the facilitator, if any	The purposes of this step are: - To build good climate between facilitator and learners - To have each learners get to know each other and learn from their experiences
8:30 AM – 10:00 AM	**Creating positive learning environment** **Facilitator's Roles** - Asks the learners to share about their learning and professional development experiences - Asks the learners whether they know about lifelong learning - Asks the learners to share their understanding about lifelong learning - Gives a presentation about lifelong learning - Asks the learners whether they know about Andragogy - Ask the learners to share their opinions about Andragogy - Gives a presentation about Andragogy - Asks the learners whether they know	The purposes of this step are: - To introduce andragogy theory (Knowles, 1975), history, differences between pedagogy and andragogy, andragogy assumptions (characteristics of adult learners) - To introduce self-directed learning (Knolwes, 1975), definitions, roles of learners, roles of facilitators, processes

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	about Self-directed learning - Asks the learners to share their understanding about self-directed learning - Gives a presentation about self-directed learning - Motivate the learners to ask question, if any	- To introduce each parts of Learning contract
	Learners' Roles	
	- Share their learning and professional development experiences - Share their ideas and understanding about lifelong learning/Andragogy/self-directed learning - Pay attention to facilitators' presentation - Ask questions to the facilitator, if any	
10:00 AM – 10:15 AM	**Tea Break**	
10:15 AM – 10:30 AM	**2. Providing for planning**	The purposes of this step are: - To provide learners learning contract form - To inform the learners about the period of learning and how to plan learning activities
	Facilitator's Roles	
	- Give learning contract form to the learners - Explain the learners about each part of learning contract and how to write it	
	Learners' Roles	
	- Pay attention about the using of learning contract	

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	- Ask questions, if any	
10:30 AM – 10:45 AM	**3. Identifying learning needs**	The purpose of this step is: - To help learners brainstorm and identify their learner learning needs/topics by using SWOT analysis and nominal technique
	Facilitator's Roles	
	- Introduce SWOT analysis to participants and give instruction - Have the learners to write down 3 topics they curious to learn - Ask them to tap their topics on a white board - Organize the topics in group - Have the learner to choose their priority learning topic	
	Learners' Roles	
	- Write down their strength, weakness, threat (challenges), and opportunities - Write down 3 topics they want to learn - Tap their topics on a white board - Pay attention and choose their priority learning topic	
10:45 AM – 11:15 AM	**4. Drafting learning objectives to meet needs**	The purpose of this step is: - To help learners to be able to write learning objective for their learning contract
	Facilitator's Roles	
	- Give learners learning contract form and explain each column - Show learners some sample of learning objectives - Have the learners to draft their learning objective - Check and review learners' objective to ensure they have a receivable objective	
	Learners' Roles	

	- Pay attention to facilitator's instruction - Draft their own learning objective base on chosen topic - Revise their learning objectives	
11: 15 AM – 11: 45 AM	**5. Planning learning activities** **Facilitators' Roles** - Have the learners to think and draft their learning resources/strategies, date of completion and evidence - Help the learners to review their learning activity plan - Ask the learners to have a copy of their learning contract **Learners' Roles** - draft their learning resources/strategies, date of completion and evidence - review their learning activity plan	The purpose of this step is: - To help learners to plan their learning resources/strategies, date of completion and evidence
11:45 AM – 12:00 PM	**Closing** **6. Implementing learning plan** **7. Evaluating learning outcomes** **Facilitator's Roles** - Inform the learners to take action on their learning plan - Inform the learners that the facilitator will keep follow-up their learning until they complete the learning goal - Ask them to give reflection on what they have learned today - Say thank you to learners for their time and cooperation **Learners' Roles**	The purposes of this step are: - to have an agreement between learners and facilitator - to ask for what learners has learned from the session - To pay gratitude to learners' participation

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	- Agree to take action on their learning plan - Give reflection on what they have learned today - Say thank you to other learners and facilitators	

Note:

After the first meet, the participants start to implement their learning plan as time set. During their process of learning, the mentor continues regular communication among participants in order to keep their learning motivation and support them if they need. At the end of the learning, participants are asked to come together again to present and share what they have learnt. After sharing what they have learnt, the participants have chance to get more knowledge from other participants' experiences. When all the participants complete their learning plan, they have to plan another learning plan and the learning is repeated for three months.

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Chulalongkorn University

APPENDIX C

Pre-test

Lifelong Learning Attitudes

The purpose of this study is to investigate lifelong learning attitudes among functional literacy facilitators. The following questionnaire will take 15 minutes to complete. Thank you for taking your time in assisting with me in this research. The data collected will remain confidential and used solely in academic purpose.

This pre-test is used to investigate functional literacy facilitators' attitudes toward lifelong learning of before they are going to learn and take action with self-directed learning activities.

I. **Demographic data**

Instruction: Please (√) in the box that is true for you:

1. Age

a. ☐ 18 years old to 25 years old

b. ☐ 26 years old to 41 years old

c. ☐ 42 years old to 57 years old

d. ☐ 58 years old to 67 years old

2. Gender

a. ☐ Male

b. ☐ Female

3. Years of experience with functional literacy

a. ☐ 1 year

b. ☐ 2-3 years

c. ☐ 4-5 years

4. Types of functional literacy class you are teaching

a. ☐ Cambodian community class

b. ☐ Cambodian-Muslim community class

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Chulalongkorn University

c. ☐ Factory class

d. ☐ Prison class

5. Education qualification

a. ☐ Primary level

b. ☐ Secondary level

c. ☐ High school level

d. ☐ Vocational training

e. ☐ Undergraduate

f. ☐ Bachelor degree

g. ☐ Master degree

h. ☐ Doctor

i.☐ Others

II. Previous experiences related to self-directed learning and lifelong learning

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Instruction: Please (√) in the box that is true for you and write down your answer base on your own experiences about self-directed learning and lifelong learning

1. Have you ever heard about self-directed learning?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

2. From your own perspective, do you think self-directed learning is important?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

3. Have you ever heard about lifelong learning?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

4. From your opinion, do you think lifelong learning is important to your life and professional development?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

III. Lifelong Learning Attitudes

Instructions: After reading each sentence, please select on the number of the response that best describes your feeling, beliefs, skills, or actions. There is no time limit for the questionnaire. You are able to spend as much time as you prefer for each item.

Key to responses:

1 = strongly disagree

2 = disagree

3 = neither agree nor disagree

4 = agree

5 = strongly agree

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Developed Items of each component	**1**	**2**	**3**	**4**	**5**
Inquiring mind (love of learning, curiosity of learning, attitudes of keeping learning)					
1. It is crucial to have willing to continue learning in all sectors (formal, non-formal, and informal)					
2. Learning from other people, peers, colleagues,					

etc. are great sources of learning					
3. Curiosity of learning new things even if it is not related to your profession is necessary					
4. Individuals should be aware when they need to learn something					
5. Learning new things is fascinating, even if individuals do not have idea what it will be turn out					
6. Learning is not a duty, but it is fun					
7. Applying what individuals have learnt to their daily and professional life is interesting					
8. Forming a bridge between life and knowledge is not a time-consuming					
9. It is necessary to learn new things in all stages of life.					
Comments:					
Setting learning plan (having a learning plan for their learning activities)					
10. It is necessary to have long-term learning plan					
11. It is necessary to have short-term learning plan					
12. Setting clear goals on learning anything is crucial to help individuals to achieve what they want					
13. Individuals should follow their learning plan and goals					
14. Individuals should think about strategies to reach their learning goals when they learn something					
15. Individuals should know what they need to help them in learning					
Comments:					
Learning skills (aware of their own learning style/strategies which work for the learner)					
16. It is necessary to be aware of personal learning style/strategies					
17. Individuals should think in many different ways when they learn something new					
18. Learning how to learn effectively is important to individual learners					
19. Relating a new subject one learns to former experiences increases learning					

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20. Individuals should have a constant desire to learn in order to be successful					
21. Being able to access to mass media tools enriches the learning process					
22. Self-motivation during learning process is essential for professional development					
23. Individuals should learn how to use the technology tools such as computers and mobile phones to help in learning					
Comments:					
Information Literacy (be able to find and select what is reliable information to use)					
24. Individuals should be able to find information from different sources of information					
25. Individuals should be able to choose the best information to use in learning					
26. It is essentials to be able to choose the right information to use in real situations					
27. It is crucial to seek for help from others when one cannot find information for learning					
28. Technology tools such as computers and phones are good ways to find information					
Comments:					
Belief about learning activities for benefit professional development (how learners believe that lifelong learning benefits their profession)					
29. Learning makes individuals' lives changed					
30. Exchanging information with colleagues in learning a new subject increase success					
31. Participation to professional development activities increases the professional creativity					
32. Forming a bridge between life and knowledge is essential for professional development					
33. Individuals should have a conscience of the constant change of information in their career field					
34. Research skills increases professional development					
35. Individual should do planning for their professional development					
Comments:					

តេស្តមុនវគ្គ

Lifelong Learning Attitudes
ឥរិយាបទការសិក្សាពេញមួយជីវិត

កម្រងសំណួរនេះធ្វើឡើងក្នុងគោលបំណងដើម្បីសិក្សាពីឥរិយាបទការសិក្សាពេញមួយជីវិតរបស់គ្រូបង្រៀនអក្ខរកម្មវិជ្ជាជីវៈ។ ដើម្បីបំពេញកម្រងសំណួរខាងក្រោមនេះឱ្យបានសុក្រិត អ្នកអាចប្រើពេលប្រហែលជា ១៥នាទី។ សូមអរគុណសម្រាបើការចូលរួមរបស់លោកអ្នកក្នុងការស្រាវជ្រាវមួយនេះ។ រាល់ព័ត៌មានដែលអ្នកបានបំពេញនឹងត្រូវរក្សាជាការសម្ងាត់ និងប្រើប្រាស់សម្រាប់ការសិក្សាតែប៉ុណ្ណោះ។

កម្រងសំណួរតេស្តក្រោយវគ្គនេះត្រូវបានប្រើដើម្បីសិក្សពីឥរិយាបទការសិក្សាពេញមួយជីវិតរបស់គ្រូបង្រៀនអក្ខរកម្មមុនពេលពួកគេសិក្សា និងអនុវត្តសកម្មភាពការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំ

I. ព័ត៌មានផ្ទាល់ខ្លួន

សូមគូសសញ្ញា (√) **នៅក្នុងប្រអប់ដែលត្រឹមត្រូវសម្រាប់អ្នក**

១. អាយុ

ក. ☐ អាយុ ១៨ ដល់ ២៥ ឆ្នាំ

ខ. ☐ អាយុ ២៦ ដល់ ៤១ ឆ្នាំ

ក. ☐ អាយុ ៤២ ដល់ ៥៧ ឆ្នាំ

ឃ. ☐ អាយុ ៥៨ ដល់ ៦៧ ឆ្នាំ

២. ភេទ

ក. ☐ ប្រុស

ខ. ☐ ស្រី

៣. ចំនួនឆ្នាំដែលធ្វើការនៅក្នុងអក្ខរកម្មវិជ្ជាជីវៈ

ក. ☐ 1 ឆ្នាំ

ខ. ☐ 2-3 ឆ្នាំ

ក. ☐ 4-5 ឆ្នាំ

៤. ប្រភេទថ្នាក់អក្ខរកម្មដែលអ្នកកំពុងបង្រៀន

ក. ☐ ថ្នាក់សហគមន៍ជនជាតិខ្មែរសុទ្ធ

ខ. ☐ ថ្នាក់សហគមន៍ជនជាតិខ្មែរឥស្លាម

ក. ☐ ថ្នាក់រៀននៅរោងចក្រ

ឃ. ☐ ថ្នាក់រៀននៅក្នុងមន្ទីរកែប្រែ

៥. កម្រិតវប្បធម៌ Education qualification

ក. ☐ បឋមសិក្សា

ខ. ☐ អនុវិទ្យាល័យ

ក. ☐ វិទ្យាល័យ

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Chulalongkorn University

ឃ. □ វិជ្ជាជីវៈ

ង. □ បរិញ្ញាបត្រជាន់ខ្ពស់

ច. □ បរិញ្ញាបត្រ

ឆ. □ បរិញ្ញាបត្រជាន់ខ្ពស់

ជ. □ បណ្ឌិត

ញ.□ ផ្សេងៗ

II. បទពិសោធន៍ទាក់ទងនឹងការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំ និងការសិក្សាពេញមួយជីវិត

សូមគូសសញ្ញា (√) នៅក្នុងប្រអប់ដែលត្រឹមត្រូវចំពោះអ្នក និងសរសេរចម្លើយអំពីបទពិសោធន៍របស់អ្នកចំពោះការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំ និងការសិក្សាពេញមួយជីវិត

១. តើអ្នកធ្លាប់លឺអំពីការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំដែរឬទេ?

ក. □ ធ្លាប់

ខ. □ មិនធ្លាប់ទេ

គ. □ មិនច្បាស់ទេ

៣. តើអ្នកគិតថាការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំមានសារៈសំខាន់ចំពោះការរស់នៅ និងអាជីពរបស់អ្នកដែរឬទេ?

ក. □ មានសារៈសំខាន់

ខ. □ មិនមានសារៈសំខាន់ទេ

គ. □ មិនច្បាស់ទេ

៤. តើអ្នកធ្លាប់លឺពីការសិក្សាពេញមួយជីវិតដែរឬទេ?

ក. □ ធ្លាប់

ខ. □ មិនធ្លាប់ទេ

គ. □ មិនច្បាស់ទេ

៦. តើអ្នកគិតថាការសិក្សាពេញមួយជីវិតសំខាន់សម្រាប់ជីវិត ឬអាជីពរបស់អ្នកដែរឬទេ?

ក. □ សំខាន់

ខ. □ មិនសំខាន់

គ. □ មិនច្បាស់

III. ឥរិយាបទការសិក្សាពេញមួយជីវិត Lifelong Learning Attitudes

ចូរអានប្រយោគខាងក្រោម និងជ្រើសរើសចម្លើយដែលត្រឹមត្រូវបំផុតទៅនឹងអារម្មណ៍ ការយល់ឃើញ ជំនាញ ឬសកម្មភាពរបស់អ្នក។ អ្នកអាចប្រើពេលវេលាយូរប៉ុណ្ណាក៏បានសម្រាប់ប្រយោគនីមួយៗ

របៀបក្នុងការឆ្លើយ

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1 = មិនយល់ស្របខ្លាំង
2 = មិនយល់ស្រប
3 = មិនយល់ស្រប ឬមិនបដិសេធ
4 = យល់ស្រប
5 = យល់ស្របខ្លាំង

Developed Items of each component	1	2	3	4	5
Inquiring mind (love of learning, curiosity of learning, attitudes of keeping learning)					
1. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលម្នាក់ៗត្រូវមានឆន្ទៈក្នុងការបន្តការរៀនសូត្រតាមគ្រប់ផ្នែកទាំងអស់ (ក្នុងប្រព័ន្ធ ក្រៅប្រព័ន្ធ និងមិនផ្លូវការ)					
2. ការរៀនសូត្រពីមនុស្សនៅជុំវិញខ្លួនអ្នកគឺជាប្រភពធនធានក្នុងការរៀនសូត្រមួយដ៏មានប្រសិទ្ធភាព					
3. ការចូលចិត្តចង់ចេះចង់ដឹងអ្វីថ្មីៗជានិច្ចដែលពាក់ព័ន្ធ ឬមិនពាក់ព័ន្ធនឹងការងារជារឿងមានប្រយោជន៍					
4. បុគ្គលម្នាក់ៗគួរតែដឹងថាពេលណាពួកគេត្រូវការរៀនអ្វីមួយបន្ថែមទៀត					
5. ការរៀនអ្វីថ្មីៗសុទ្ធតែគួរឱ្យចាប់អារម្មណ៍ទោះបីជាមិនដឹងថាវាអាចយកទៅប្រើលើអ្វីក៏ដោយ					
6. ការរៀនសូត្រមិនមែនជាភារកិច្ចទេ តែវាជាផ្នែកមួយនៃការកម្សាន្ត					
7. ការយកចំណេះដឹងដែលបានរៀនយកមកសាកល្បងក្នុងជីវិតប្រចាំថ្ងៃ ឬការងារជារឿងចាំបាច់					
8. ការយកចំណេះដឹងថ្មីទៅផ្សារភ្ជាប់ជាមួយចំណេះដឹងដែលមានស្រាប់មិនមែនជាការខ្ជះខ្ជាយពេលវេលានោះទេ					
9. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវបន្តសិក្សារៀនសូត្រអ្វីថ្មីៗនៅគ្រប់ដំណាក់កាលទាំងអស់នៃជីវិតរបស់របស់ពួកគេ					
មតិយោបល់:					
Setting learning plan (having their learning plan for their learning activities)					
10. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវមានផែនការរៀនសូត្រ រយៈពេលវែង					
11. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវមានផែនការរៀនសូត្រ រយៈពេលខ្លី					
12. ការកំណត់គោលដៅក្នុងការរៀនអ្វីមួយជារឿងចាំបាច់ធ្វើឱ្យបុគ្គលអាចសម្រេចបានអ្វីដែលពួកគេចង់បាន					
13. បុគ្គលគួរតែដើរតាមផែនការនៃការរៀនសូត្រដែលពួកគេបានកំណត់					
14. នៅពេលបុគ្គលរៀនអំពីអ្វីមួយ ពួកគេគួរតែមានគោលដៅ និងរបៀបដើម្បីសម្រេចគោលដៅនោះ					
15. នៅពេលរៀនសូត្រ បុគ្គលគួរតែដឹងថាពួកគេត្រូវការអ្វីខ្លះដើម្បីជំនួយដល់ការរៀនសូត្ររបស់ពួកគេ					
មតិយោបល់:					
Learning skills (aware of their own learning style/strategies which work for the learner)					
16. បុគ្គលគួរតែដឹងថាវិធីសាស្ត្រអ្វីដែលអាចឱ្យពួកគេរៀនសូត្របានល្អបំផុត					
17. បុគ្គលគួរតែវិភាគឱ្យបានច្រើនផ្លូវផ្សេងៗគ្នានៅពេលដែលពួកគេរៀនអ្វីមួយ					
18. ការរៀនពីរបៀបរៀនឱ្យមានប្រសិទ្ធិភាពមានសារៈសំខាន់សម្រាប់ការរៀនសូត្រដើម្បីទទួលបានលទ្ធផលល្អ					
19. ការផ្សារភ្ជាប់មុខវិជ្ជាថ្មីជាមួយនឹងបទពិសោធន៍ដែលមានស្រាប់ជួយដល់ការរៀនសូត្រកាន់តែល្អ					
20. បុគ្គលត្រូវមានឆន្ទៈក្នុងការរៀនសូត្រដើម្បីអាចទទួលបាន					

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

ផោគជ័យ					
21. ការចេះប្រើប្រាស់ប្រព័ន្ធផ្សព្វផ្សាយមានសារៈប្រយោជន៍ខ្លាំងណាស់ចំពោះដំណើរការនៃការសិក្សារៀនសូត្រ					
22. ការលើកទឹកចិត្តខ្លួនឯងក្នុងអំឡុងពេលរៀនសូត្រមានសារៈសំខាន់ខ្លាំងណាស់ដើម្បីសម្រេចការសៀនសូត្រ					
23. បុគ្គលគួរតែចេះប្រើប្រាស់ឧបករណ៍បច្ចេកវិទ្យាដូចជាកុំព្យទ័រ ឬទូរស័ព្ទដៃជួយដល់ការរៀនសូត្រជាវិធីសាស្ត្រដែល					
មតិយោបល់:					
Information Literacy (be able to find and select what is the reliable information to use)					
24. បុគ្គលគួរតែចេះពីរបៀបស្វែងរកព័ត៌មានតាមវិធីច្រើនយ៉ាង					
25. បុគ្គលគួរតែចេះពីរបៀបជ្រើសរើសព័ត៌មានដែលល្អបំផុតពីប្រភពផ្សេងៗគ្នាដើម្បីយកមកប្រើប្រាស់ក្នុងការរៀនសូត្ររបស់ពួកគេ					
26. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវចេះធ្វើការជ្រើសរើសព័ត៌មានដែលត្រឹមត្រូវបំផុតដើម្បីយកមកប្រើប្រាស់ឱ្យត្រូវនឹងស្ថានភាពជាក់ស្តែងដែលពួកគេជួបប្រទះ					
27. ការសុំជំនួយពីអ្នកដទៃក្នុងការស្វែងរកព័ត៌មានដែលមិនអាចរកបានដោយខ្លួនឯងគឺជារឿងដែលគួរធ្វើ					
28. ឧបករណ៍អេឡិចត្រូនិកដូចជាកុំព្យទ័រ ឬទូរស័ព្ទដៃគឺជាវិធីល្អមួយក្នុងការជួយបុគ្គលដើម្បីស្វែងរកព័ត៌មានសម្រាប់ការរៀនសូត្រ					
មតិយោបល់:					
Belief about learning activities for benefit professional development (how learners believe that lifelong learning benefits their profession)					
29. ការបន្តការរៀនសូត្រជាប្រចាំធ្វើឱ្យជីវិតរបស់បុគ្គលផ្លាស់ប្តូរ					
30. ការផ្លាស់ប្តូរព័ត៌មាន ឬចំណេះដឹងជាមួយនឹងអ្នកធ្វើការជាមួយគ្នាឬអ្នកផ្សេងទៀតលើប្រធានបទថ្មីៗអាចជួយបង្កើនសមត្ថភាព និងភាពជោគជ័យក្នុងការងារ					
31. ការចូលរួមសកម្មភាពអភិវឌ្ឍន៍ជំនាញធ្វើឱ្យជំនាញក្នុងការធ្វើការងារមានការអភិវឌ្ឍន៍					
32. ការផ្សារភ្ជាប់រវាងជីវិតប្រចាំថ្ងៃ និងចំណេះដឹងដែលទទួលបានគឺចាំបាច់សម្រាប់ការអភិវឌ្ឍន៍វិជ្ជាជីវៈ					
33. បុគ្គលគួរតែមានឆន្ទៈក្នុងការចែករំលែកព័ត៌មាន ឬចំណេះដឹងទៅកាន់អ្នកផ្សេងទៀតនៅកន្លែងធ្វើការ					
34. ជំនាញស្រាវជ្រាវមានសារៈសំខាន់ក្នុងការបង្កើនការអភិវឌ្ឍន៍ជំនាញវិជ្ជាជីវៈ					
35. បុគ្គលម្នាក់ៗគួរតែមានផែនការសម្រាប់ការអភិវឌ្ឍន៍ជំនាញរបស់ពួកគេ					
មតិយោបល់:					

APPENDIX D

Pre-test

Lifelong Learning Attitudes

The purpose of this study is to investigate lifelong learning attitudes among functional literacy facilitators. The following questionnaire will take 15 minutes to complete. Thank you for taking your time in assisting with me in this research. The data collected will remain confidential and used solely in academic purpose.

This post-test is used to investigate functional literacy facilitators' attitudes toward lifelong learning after they are going to learn and take action with self-directed learning activities.

I. Demographic data

Instruction: Please (√) in the box that is true for you:

1. Age

a. ☐ 18 years old to 25 years old

b. ☐ 26 years old to 41 years old

c. ☐ 42 years old to 57 years old

d. ☐ 58 years old to 67 years old

2. Gender

a. ☐ Male

b. ☐ Female

3. Years of experience with functional literacy

a. ☐ 1 year

b. ☐ 2-3 years

c. ☐ 4-5 years

4. Types of functional literacy class you are teaching

a. ☐ Cambodian community class

b. ☐ Cambodian-Muslim community class

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Chulalongkorn University

c. ☐ Factory class

d. ☐ Prison class

5. Education qualification

a. ☐ Primary level

b. ☐ Secondary level

c. ☐ High school level

d. ☐ Vocational training

e. ☐ Undergraduate

f. ☐ Bachelor degree

g. ☐ Master degree

h. ☐ Doctor

i.☐ Others

II. Previous experiences related to self-directed learning and lifelong learning

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Instruction: Please (√) in the box that is true for you and write down your answer base on your own experiences about self-directed learning and lifelong learning

2. Have you ever heard about self-directed learning?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

2. From your own perspective, do you think self-directed learning is important?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

3. Have you ever heard about lifelong learning?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

4. From your opinion, do you think lifelong learning is important to your life and professional development?

a. ☐ Yes

b. ☐ No

c. ☐ Not sure

III. Lifelong Learning Attitudes

Instructions: After reading each sentence, please select on the number of the response that best describes your feeling, beliefs, skills, or actions. There is no time limit for the questionnaire. You are able to spend as much time as you prefer for each item.

Key to responses:

1 = strongly disagree

2 = disagree

3 = neither agree nor disagree

4 = agree

5 = strongly agree

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Developed Items of each component	**1**	**2**	**3**	**4**	**5**
Inquiring mind (love of learning, curiosity of learning, attitudes of keeping learning)					
1. It is crucial to have willing to continue learning in all sectors (formal, non-formal, and informal)					
2. Learning from other people, peers, colleagues, etc. are great sources of learning					

3. Curiosity of learning new things even if it is not related to your profession is necessary					
4. Individuals should be aware when they need to learn something					
5. Learning new things is fascinating, even if individuals do not have idea what it will be turn out					
6. Learning is not a duty, but it is fun					
7. Applying what individuals have learnt to their daily and professional life is interesting					
8. Forming a bridge between life and knowledge is not a time-consuming					
9. It is necessary to learn new things in all stages of life.					
Comments:					
Setting learning plan (having a learning plan for their learning activities)					
10. It is necessary to have long-term learning plan					
11. It is necessary to have short-term learning plan					
12. Setting clear goals on learning anything is crucial to help individuals to achieve what they want					
13. Individuals should follow their learning plan and goals					
14. Individuals should think about strategies to reach their learning goals when they learn something					
15. Individuals should know what they need to help them in learning					
Comments:					
Learning skills (aware of their own learning style/strategies which work for the learner)					
16. It is necessary to be aware of personal learning style/strategies					
17. Individuals should think in many different ways when they learn something new					
18. Learning how to learn effectively is important to individual learners					
19. Relating a new subject one learns to former experiences increases learning					

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

20. Individuals should have a constant desire to learn in order to be successful					
21. Being able to access to mass media tools enriches the learning process					
22. Self-motivation during learning process is essential for professional development					
23. Individuals should learn how to use the technology tools such as computers and mobile phones to help in learning					
Comments:					
Information Literacy (be able to find and select what is reliable information to use)					
24. Individuals should be able to find information from different sources of information					
25. Individuals should be able to choose the best information to use in learning					
26. It is essentials to be able to choose the right information to use in real situations					
27. It is crucial to seek for help from others when one cannot find information for learning					
28. Technology tools such as computers and phones are good ways to find information					
Comments:					
Belief about learning activities for benefit professional development (how learners believe that lifelong learning benefits their profession)					
29. Learning makes individuals' lives changed					
30. Exchanging information with colleagues in learning a new subject increase success					
31. Participation to professional development activities increases the professional creativity					
32. Forming a bridge between life and knowledge is essential for professional development					
33. Individuals should have a conscience of the constant change of information in their career field					
34. Research skills increases professional development					
35. Individual should do planning for their professional development					
Comments:					

តេស្តក្រោយវគ្គ

Lifelong Learning Attitudes

ឥរិយាបទការសិក្សាពេញមួយជីវិត

កម្រងសំណួរនេះធ្វើឡើងក្នុងគោលបំណងដើម្បីសិក្សាពីឥរិយាបទការសិក្សាពេញមួយជីវិតរបស់គ្រូបង្រៀនអក្ខរកម្មវិជ្ជាជីវៈ។ ដើម្បីបំពេញកម្រងសំណួរខាងក្រោមនេះឱ្យបានសុក្រិត អ្នកអាចប្រើពេលប្រហែលជា ១៥នាទី។ សូមអរគុណសម្រាប់ការចូលរួមរបស់លោកអ្នកក្នុងការស្រាវជ្រាវមួយនេះ។ រាល់ព័ត៌មានដែលអ្នកបានបំពេញនឹងត្រូវរក្សាជាការសម្ងាត់ និងប្រើប្រាស់សម្រាប់ការសិក្សាតែប៉ុណ្ណោះ។

កម្រងសំណួរតេស្តក្រោយវគ្គនេះត្រូវបានប្រើដើម្បីសិក្សពីឥរិយាបទការសិក្សាពេញមួយជីវិតរបស់គ្រូបង្រៀនអក្ខរកម្មក្រោយពេលពួកគេសិក្សា និងអនុវត្តសកម្មភាពការសិក្សារៀនសូត្រដោយស្វ័យជីកនាំ

I. ព័ត៌មានផ្ទាល់ខ្លួន

សូមគូសសញ្ញា (√) **នៅក្នុងប្រអប់ដែលត្រឹមត្រូវសម្រាប់អ្នក**

១. អាយុ

ក. ☐ អាយុ ១៨ ដល់ ២៥ ឆ្នាំ

ខ. ☐ អាយុ ២៦ ដល់ ៤១ ឆ្នាំ

ក. ☐ អាយុ ៤២ ដល់ ៥៧ ឆ្នាំ

ឃ. ☐ អាយុ ៥៨ ដល់ ៦៧ ឆ្នាំ

២. ភេទ

ក. ☐ ប្រុស

ខ. ☐ ស្រី

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៣. ចំនួនឆ្នាំដែលធ្វើការនៅក្នុងអក្ខរកម្មវិជ្ជាជីវៈ

ក. ☐ 1 ឆ្នាំ

ខ. ☐ 2-3 ឆ្នាំ

ក. ☐ 4-5 ឆ្នាំ

៤. ប្រភេទថ្នាក់អក្ខរកម្មដែលអ្នកកំពុងបង្រៀន

ក. ☐ ថ្នាក់សហគមន៍ជនជាតិខ្មែរសុទ្ធ

ខ. ☐ ថ្នាក់សហគមន៍ជនជាតិខ្មែរឥស្លាម

ក. ☐ ថ្នាក់រៀននៅរោងចក្រ

ឃ. ☐ ថ្នាក់រៀននៅក្នុងមន្ទីរកែប្រែ

៥. កម្រិតវប្បធម៌ Education qualification

ក. □ បឋមសិក្សា

ខ. □ អនុវិទ្យាល័យ

គ. □ វិទ្យាល័យ

ឃ. □ វិជ្ជាជីវៈ

ង. □ បរិញ្ញាបត្រង

ច. □ បរិញ្ញាបត្រ

ឆ. □ បរិញ្ញាបត្រជាន់ខ្ពស់

ជ. □ បណ្ឌិត

ញ.□ ផ្សេងៗ

II. បទពិសោធន៍ទាក់ទងនឹងការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំ និងការសិក្សាពេញមួយជីវិត

សូមគូសសញ្ញា (√) នៅក្នុងប្រអប់ដែលត្រឹមត្រូវចំពោះអ្នក និងសរសេរចម្លើយអំពីបទពិសោធន៍របស់អ្នកចំពោះការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំ និងការសិក្សាពេញមួយជីវិត

១. តើអ្នកធ្លាប់លឺអំពីការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំដែរឬទេ?

ក. □ ធ្លាប់

ខ. □ មិនធ្លាប់ទេ

គ. □ មិនច្បាស់ទេ

៣. តើអ្នកគិតថាការសិក្សារៀនសូត្រដោយស្វ័យដឹកនាំមានសារៈសំខាន់ចំពោះការរស់នៅ និងអាជីពរបស់អ្នកដែរឬទេ?

ក. □ មានសារៈសំខាន់

ខ. □ មិនមានសារៈសំខាន់ទេ

គ. □ មិនច្បាស់ទេ

៤. តើអ្នកធ្លាប់លឺពីការសិក្សាពេញមួយជីវិតដែរឬទេ?

ក. □ ធ្លាប់

ខ. □ មិនធ្លាប់ទេ

គ. □ មិនច្បាស់ទេ

៦. តើអ្នកគិតថាការសិក្សាពេញមួយជីវិតសំខាន់សម្រាប់ជីវិត ឬអាជីពរបស់អ្នកដែរឬទេ?

ក. □ សំខាន់

ខ. □ មិនសំខាន់

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

គ. □ មិនច្បាស់

III. ឥរិយាបទការសិក្សាពេញមួយជីវិត Lifelong Learning Attitudes

ចូរអានប្រយោគខាងក្រោម និងជ្រើសរើសចម្លើយដែលត្រឹមត្រូវបំផុតទៅនឹងអារម្មណ៍ ការយល់ឃើញ ជំនាញ ឬ សកម្មភាពរបស់អ្នក។ អ្នកអាចប្រើពេលវេលាយូរប៉ុណ្ណាក៏បានសម្រាប់ប្រយោគនីមួយៗ

របៀបក្នុងការឆ្លើយ

1 = មិនយល់ស្របខ្លាំង
2 = មិនយល់ស្រប
3 = មិនយល់ស្រប ឬមិនបដិសេធ
4 = យល់ស្រប
4 = យល់ស្របខ្លាំង

Developed Items of each component	1	2	3	4	5
Inquiring mind (love of learning, curiosity of learning, attitudes of keeping learning)					
1. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលម្នាក់ៗត្រូវមានឆន្ទៈក្នុងការបន្តការរៀនសូត្រតាមគ្រប់ផ្នែកទាំងអស់ (ក្នុងប្រព័ន្ធ ក្រៅប្រព័ន្ធ និងមិនផ្លូវការ)					
2. ការរៀនសូត្រពីមនុស្សនៅជុំវិញខ្លួនអ្នកគឺជាប្រភពធនធានក្នុងការរៀនសូត្រមួយដ៏មានប្រសិទ្ធភាព					
3. ការចូលចិត្តចង់ចេះចង់ដឹងអ្វីថ្មីៗជានិច្ចដែលពាក់ព័ន្ធ ឬមិនពាក់ព័ន្ធនឹងការងារជារឿងមានប្រយោជន៍					
4. បុគ្គលម្នាក់ៗគួរតែដឹងថាពេលណាពួកគេត្រូវការរៀនអ្វីមួយបន្ថែមទៀត					
5. ការរៀនអ្វីថ្មីៗសុទ្ធតែគួរឱ្យចាប់អារម្មណ៍ទោះបីជាមិនដឹងថាវាអាចយកទៅប្រើលើអ្វីក៏ដោយ					
6. ការរៀនសូត្រមិនមែនជាភារកិច្ចទេ តែវាជាផ្នែកមួយនៃការកម្សាន្ត					
7. ការយកចំណេះដឹងដែលបានរៀនយកមកសាកល្បងក្នុងជីវិតប្រចាំថ្ងៃ ឬការងារជារឿងចាំបាច់					
8. ការយកចំណេះដឹងថ្មីទៅផ្សារភ្ជាប់ជាមួយចំណេះដឹងដែលមានស្រាប់មិនមែនជាការខ្ជះខ្ជាយពេលវេលានោះទេ					
9. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវបន្តសិក្សារៀនសូត្រអ្វីថ្មីៗនៅគ្រប់ដំណាក់កាលទាំងអស់នៃជីវិតរបស់របស់ពួកគេ					
មតិយោបល់:					
Setting learning plan (having their learning plan for their learning activities)					
10. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវមានផែនការរៀនសូត្ររយៈពេលវែង					
11. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវមានផែនការរៀនសូត្ររយៈពេលខ្លី					
12. ការកំណត់គោលដៅក្នុងការរៀនអ្វីមួយជារឿងចាំបាច់ធ្វើឱ្យបុគ្គលអាចសម្រេចបានអ្វីដែលពួកគេចង់បាន					
13. បុគ្គលគួរតែដើរតាមផែនការនៃការរៀនសូត្រដែលពួកគេបានកំណត់					
14. នៅពេលបុគ្គលរៀនអំពីអ្វីមួយ ពួកគេគួរតែមានគោលដៅ និងរបៀបដើម្បីសម្រេចគោលដៅនោះ					
15. នៅពេលរៀនសូត្រ បុគ្គលគួរតែដឹងថាពួកគេត្រូវការអ្វីខ្លះដើម្បីជំនួយដល់ការរៀនសូត្ររបស់ពួកគេ					
មតិយោបល់:					
Learning skills (aware of their own learning style/strategies which work for the learner)					

16. បុគ្គលគួរតែដឹងថាវិធីសាស្ត្រអ្វីដែលអាចឱ្យពួកគេរៀនសូត្រ ជានល្អបំផុត					
17. បុគ្គលគួរតែវិភាគឱ្យបានច្រើនផ្លូវផ្សេងៗគ្នានៅពេលដែលពួក គេរៀនអ្វីមួយ					
18. ការរៀនពីរបៀបរៀនឱ្យមានប្រសិទ្ធិភាពមានសារៈសំខាន់ សម្រាប់ការរៀនសូត្រដើម្បីទទួលបានលទ្ធផលល្អ					
19. ការផ្សារភ្ជាប់មុខវិជ្ជាថ្មីជាមួយនឹងបទពិសោធន៍ដែលមានស្រាប់ ជួយដល់ការរៀនសូត្រកាន់តែល្អ					
20. បុគ្គលត្រូវមានឆន្ទៈក្នុងការរៀនសូត្រដើម្បីអាចទទួលបាន ជោគជ័យ					
21. ការចេះប្រើប្រាស់ប្រព័ន្ធផ្សព្វផ្សាយមានសារៈប្រយោជន៍ខ្លាំង ណាស់ចំពោះដំណើរការនៃការសិក្សារៀនសូត្រ					
22. ការលើកទឹកចិត្តខ្លួនឯងក្នុងអំឡុងពេលរៀនសូត្រមានសារៈ សំខាន់ខ្លាំងណាស់ដើម្បីសម្រេចការសៀនសូត្រ					
23. បុគ្គលគួរតែចេះប្រើប្រាស់ឧបករណ៍បច្ចេកវិទ្យាដូចជាកុំព្យូទ័រ ឬ ទូរស័ព្ទដៃជួយដល់ការរៀនសូត្រជាវិធីសាស្ត្រដែល					
មតិយោបល់:					
Information Literacy (be able to find and select what is the reliable information to use)					
24. បុគ្គលគួរតែចេះពីរបៀបស្វែងរកព័ត៌មានតាមវិធីច្រើនយ៉ាង					
25. បុគ្គលគួរតែចេះពីរបៀបជ្រើសរើសព័ត៌មានដែលល្អបំផុតពី ប្រភពផ្សេងៗគ្នាដើម្បីយកមកប្រើប្រាស់ក្នុងការរៀនសូត្ររបស់ ពួកគេ					
26. វាជារឿងសំខាន់ណាស់ដែលបុគ្គលត្រូវចេះធ្វើការជ្រើសរើស ព័ត៌មានដែលក្រឹមត្រូវបំផុតដើម្បីយកមកប្រើប្រាស់ឱ្យត្រូវនឹង ស្ថានភាពជាក់ស្តែងដែលពួកគេជួបប្រទះ					
27. ការសុំជំនួយពីអ្នកដទៃក្នុងការស្វែងរកព័ត៌មានដែលមិនអាច រកបានដោយខ្លួនឯងគឺជារឿងដែលគួរធ្វើ					
28. ឧបករណ៍អេឡិចត្រូនិកដូចជាកុំព្យូទ័រ ឬទូរស័ព្ទដៃគឺជាវិធីល្អ មួយក្នុងការជួយបុគ្គលដើម្បីស្វែងរកព័ត៌មានសម្រាប់ការរៀន សូត្រ					
មតិយោបល់:					
Belief about learning activities for benefit professional development (how learners believe that lifelong learning benefits their profession)					
29. ការបន្តការរៀនសូត្រជាប្រចាំធ្វើឱ្យជីវិតរបស់បុគ្គលផ្លាស់ប្តូរ					
30. ការផ្លាស់ប្តូរព័ត៌មាន ឬចំណេះដឹងជាមួយនឹងអ្នកធ្វើការជាមួយ គ្នាឬអ្នកផ្សេងទៀតលើប្រធានបទថ្មីៗអាចជួយបង្កើនសមត្ថ ភាព និងភាពជោគជ័យក្នុងការងារ					
31. ការចូលរួមសកម្មភាពអភិវឌ្ឍន៍ជំនាញធ្វើឱ្យជំនាញក្នុងការធ្វើ ការងារមានការអភិវឌ្ឍន៍					
32. ការផ្សារភ្ជាប់រវាងជីវិតប្រចាំថ្ងៃ និងចំណេះដឹងដែលទទួលបាន គឺចាំបាច់សម្រាប់ការអភិវឌ្ឍន៍វិជ្ជាជីវៈ					
33. បុគ្គលគួរតែមានឆន្ទៈក្នុងការចែករំលែកព័ត៌មាន ឬចំណេះដឹង ទៅកាន់អ្នកផ្សេងទៀតនៅកន្លែងធ្វើការ					
34. ជំនាញស្រាវជ្រាវមានសារៈសំខាន់ក្នុងការបង្កើនការអភិវឌ្ឍន៍ ជំនាញវិជ្ជាជីវៈ					
35. បុគ្គលម្នាក់ៗគួរតែមានផែនការសម្រាប់ការអភិវឌ្ឍន៍ជំនាញ របស់ពួកគេ					
មតិយោបល់:					

APPENDIX E

List of Experts

Name List of expert on checking Item-Objective Congruence (IOC)

• Dr. Johann Heilmann	Senior Desk Office Soth-East Asia
• Dr. Wirathep Pathumcharoenwattana	Professor of Department of Lifelong Education, Faculty of Education, Chulalongkorn University
• Dr. Teerasak Srisurakul	Instructor of Mahidol University,

Name list of key infromants of in-depth interview

• Mr. Hab Tonghor	Head of Non-formal Education Office, Provincial Department of Education, Youth and Sport, Tboung Khmum
• Mr. Pen Chhomchhareth	Non-formal Education Officer, Provincial Department of Education, Youth and Sport, Tboung Khmum
• Mr. Ly Sopha	Non-formal Education Officer, Provincial Department of Education, Youth and Sport, Tboung Khmum
• Mr. Lonh Sokleap	Non-formal Education Officer, Provincial Department of Education, Youth and Sport, Tboung Khmum
• Mr. Meng Srun	Non-formal Education Officer, Provincial Department of Education, Youth and Sport, Tboung Khmum

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APPENDIX F

The index of item-objective congruence (IOC) validity evaluation on lifelong learning attitudes by experts

Developed Items of each component	**Expert 1**	**Expert 2**	**Expert 3**	**Rate**
Inquiring mind (love of learning, curiosity of learning, attitudes of keeping learning)				
1. It is crucial to have willing to continue learning in all sectors (formal, non-formal, and informal)	+1	+1	+1	1
2. Learning from other people, peers, colleagues, etc. are great sources of learning	+1	+1	+1	1
3. Curiosity of learning new things even if it is not related to your profession is necessary	+1	+1	+1	1
4. Individuals should be aware when they need to learn something	+1	+1	+1	1
5. Learning new things is fascinating, even if individuals do not have idea what it will be turn out	+1	+1	+1	1
6. Learning is not a duty, but it is fun	+1	+1	+1	1
7. Applying what individuals have learnt to their daily and professional life is interesting	+1	+1	+1	1
8. Forming a bridge between life and knowledge is not a time-consuming	+1	+1	+1	1
9. It is necessary to learn new things in all stages of life.	+1	+1	+1	1
Setting learning plan (having a learning plan for their learning activities)				
10. It is necessary to have long-term learning plan	+1	+1	+1	1
11. It is necessary to have short-term learning plan	+1	+1	+1	1
12. Setting clear goals on learning anything is crucial to help individuals to achieve what they	+1	+1	+1	1

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want				
13. Individuals should follow their learning plan and goals	+1	+1	+1	1
14. Individuals should think about strategies to reach their learning goals when they learn something	+1	+1	+1	1
15. Individuals should know what they need to help them in learning	+1	+1	+1	1
Learning skills (aware of their own learning style/strategies which work for the learner)				
16. It is necessary to be aware of personal learning style/strategies	+1	+1	+1	1
17. Individuals should think in many different ways when they learn something new	+1	+1	+1	1
18. Learning how to learn effectively is important to individual learners	+1	+1	+1	1
19. Relating a new subject one learns to former experiences increases learning	+1	+1	+1	1
20. Individuals should have a constant desire to learn in order to be successful	+1	+1	+1	1
21. Being able to access to mass media tools enriches the learning process	+1	0	+1	0.67
22. Self-motivation during learning process is essential for professional development	+1	+1	+1	1
23. Individuals should learn how to use the technology tools such as computers and mobile phones to help in learning	+1	0	+1	0.67
Information Literacy (be able to find and select what is reliable information to use)				
24. Individuals should be able to find information from different sources of information	+1	+1	+1	1
25. Individuals should be able to choose the best information to use in learning	+1	0	+1	0.67
26. It is essentials to be able to choose the right information to use in real situations	+1	+1	+1	1

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27. It is crucial to seek for help from others when one cannot find information for learning	+1	+1	+1	1
28. Technology tools such as computers and phones are good ways to find information	+1	+1	+1	1
Belief about learning activities for benefit professional development (how learners believe that lifelong learning benefits their profession)				
29. Learning makes individuals' lives changed	+1	+1	+1	1
30. Exchanging information with colleagues in learning a new subject increase success	+1	+1	+1	1
31. Participation to professional development activities increases the professional creativity	+1	+1	+1	1
32. Forming a bridge between life and knowledge is essential for professional development	+1	+1	+1	1
33. Individuals should have a conscience of the constant change of information in their career field	+1	+1	+1	1
34. Research skills increases professional development	+1	+1	+1	1
35. Individual should do planning for their professional development	+1	+1	+1	1

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APPENDIX G

Invitation letter to expert for validation of research instrument

Chulalongkorn University
Faculty of Education
Department of Lifelong Education

Date: January 21, 2022
Title: Invitation letter to expert for validation of research instruments
Dear: Dr. Johann Heimann.

Ms. Leakhena Orn is a graduate student of department of Lifelong Education, Faculty of Education, Chulalongkorn University. She is doing the research study on "EFFECTS OF USING SELF-DIRECTED LEARNING TO FOSTER LIFELONG LEARNING ATTITUDES OF FUNCTIONAL LITERACY FACILITATORS". Currently, she is doing study on her first objective on "*To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators*" five instruments which will be used in this study as following: **(1) Lesson Plan; (2) Learning Contract; (3) Pre-test on Lifelong Learning Attitudes; (4) Post-test on Lifelong Learning Attitudes; and (5) Observation form.**

As you are the expert in this subject, we gladly would like to invite you as the expert in checking the instrument of this research.

We hopefully you will kindly give your valuable suggestions and expert guidance to make the study complete and contributory.

Sincerely yours,

(Assistant Professor, Dr. Suwithida Charungkaittikul)

Chulalongkorn University
Faculty of Education
Department of Lifelong Education

Date: January 21, 2022
Title: Invitation letter to expert for validation of research instruments
Dear: Associate Professor Dr. Wirathep Pathumcharoenwattana

Ms. Leakhena Orn is a graduate student of department of Lifelong Education, Faculty of Education, Chulalongkorn University. She is doing the research study on "EFFECTS OF USING SELF-DIRECTED LEARNING TO FOSTER LIFELONG LEARNING ATTITUDES OF FUNCTIONAL LITERACY FACILITATORS". Currently, she is doing study on her first objective on "*To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators*" five instruments which will be used in this study as following: **(1) Lesson Plan; (2) Learning Contract; (3) Pre-test on Lifelong Learning Attitudes; (4) Post-test on Lifelong Learning Attitudes; and (5) Observation form.**

As you are the expert in this subject, we gladly would like to invite you as the expert in checking the instrument of this research.

We hopefully you will kindly give your valuable suggestions and expert guidance to make the study complete and contributory.

Sincerely yours,

(Assistant Professor, Dr. Suwithida Charungkaittikul)

Chulalongkorn University
Faculty of Education
Department of Lifelong Education

Date: January 21, 2022
Title: Invitation letter to expert for validation of research instruments
Dear: Assistant Professor Dr. Teerasak Srisurakul

Ms. Leakhena Orn is a graduate student of department of Lifelong Education, Faculty of Education, Chulalongkorn University. She is doing the research study on "EFFECTS OF USING SELF-DIRECTED LEARNING TO FOSTER LIFELONG LEARNING ATTITUDES OF FUNCTIONAL LITERACY FACILITATORS". Currently, she is doing study on her first objective on "*To investigate the effects of using self-directed learning to foster lifelong learning attitudes of functional literacy facilitators*" five instruments which will be used in this study as following: **(1) Lesson Plan; (2) Learning Contract; (3) Pre-test on Lifelong Learning Attitudes; (4) Post-test on Lifelong Learning Attitudes; and (5) Observation form.**

As you are the expert in this subject, we gladly would like to invite you as the expert in checking the instrument of this research.

We hopefully you will kindly give your valuable suggestions and expert guidance to make the study complete and contributory.

Sincerely yours,

(Assistant Professor, Dr. Suwithida Charungkaittikul)

APPENDIX H

In-depth interview questions for proposed recommendations on using self-directed learning to foster lifelong learning attitudes

1. What should a mentor do to support learners in using self-directed learning?
2. What strategies do you use to build climate of mutual trust and respect?
3. What strategies do you use to help learners diagnose their need of learning?
4. How do you keep support learners during their learning in self-directed learning?
5. What strategies do you usually use to evaluate learners' learning outcomes?
6. What skills learners need to have to make self-directed learning become successful?

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REFERENCES

Abdullah, M. H. (2001). Self-Directed Learning. ERIC Digest.

Administration, T. P. (2019). *Background of Tboungkhmum Province*.

Ainley, M., & Patrick, L. (2006). Measuring self-regulated learning processes through tracking patterns of student interaction with achievement activities. *Educational Psychology Review*, *18*(3), 267-286.

Anderson, G., Boud, D., & Sampson, J. (1996). *Learning contracts*. Psychology Press.

Argyris, C. (1991). Teaching smart people how to learn. *Harvard business review*, *69*(3).

Artis, A. B., & Harris, E. G. (2007). Self-directed learning and sales force performance: An integrated framework. *Journal of Personal Selling & Sales Management*, *27*(1), 9-24.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.

Bhola, H. S. (1983). Non-formal education in perspective. *Prospects*, *13*(1), 45-53.

Bolhuis, S. (2003). Towards process-oriented teaching for self-directed lifelong learning: a multidimensional perspective. *Learning and instruction*, *13*(3), 327-347.

Bouchard, P. (2009). Pedagogy without a teacher: What are the limits. *International journal of self-directed learning*, *6*(2), 13-22.

Boyatzis, R. E. (2002). Unleashing the power of self-directed learning. *Changing the way we manage change: the consultants speak*, *31*.

Boyd, P., & Harris, K. (2010). Becoming a university lecturer in teacher education: expert school teachers reconstructing their pedagogy and identity. *Professional development in education*, *36*(1-2), 9-24.

Boyer, S. L., Edmondson, D. R., Artis, A. B., & Fleming, D. (2014). Self-directed learning: A tool for lifelong learning. *Journal of Marketing Education*, *36*(1), 20-32.

Brockett, R. (2009). Moving forward: An agenda for future research on self-directed learning. *Emerging directions in selfdirected learning*, 37-50.

Brockett, R. G. (1994). Resistance to Self-Direction in Adult Learning: Myths and Misunderstandings. *New directions for adult and continuing education*, *64*, 5-12.

Brockett, R. G., & Hiemstra, R. (1985). Bridging the theory–practice gap in self-directed learning. *New directions for adult and continuing education*, *1985*(25), 31-40.

Brockett, R. G., & Hiemstra, R. (1991). A conceptual framework for understanding self-direction in adult learning. *Self-direction in adult learning: Perspectives on theory, research, and practice*, 18-33.

Brockett, R. G., & Hiemstra, R. (2018). *Self-direction in adult learning: Perspectives on theory, research and practice*. Routledge.

Brookfield, S. (1986). *Understanding And Facilitating Adult Learning: A Comprehensive Analysis of Principles and Effective Practices*. Open University Press. https://books.google.co.th/books?id=kDWLBgAAQBAJ

Burbank, M. D., & Kauchak, D. (2003). An alternative model for professional development: Investigations into effective collaboration. *Teaching and teacher education*, *19*(5), 499-514.

Caffarella, R. S. (1993). Self-directed learning. *New directions for adult and continuing education*, *57*, 25-35.
Caffarella, R. S. (2000). Goals of self-learning. *Conceptions of self-directed learning: Theoretical and conceptual considerations*, 37-48.
Caffarella, R. S., & Daffron, S. R. (2013). *Planning programs for adult learners: A practical guide*. John Wiley & Sons.
Candy, P. C. (1991). *Self-Direction for Lifelong Learning. A Comprehensive Guide to Theory and Practice*. ERIC.
Confessore, G. J., & Confessore, S. J. (1992). *Guideposts to Self-Directed Learning. Expert Commentary on Essential Concepts*. ERIC.
Daily, J. A., & Landis, B. J. (2014). The journey to becoming an adult learner: From dependent to self-directed learning. In (Vol. 64, pp. 2066-2068): American College of Cardiology Foundation Washington, DC.
Day, C. (2002). *Developing teachers: The challenges of lifelong learning*. Routledge.
Demirel, M. (2009). Lifelong learning and schools in the twenty-first century. *Procedia-Social and Behavioral Sciences*, *1*(1), 1709-1716.
Dixon, E. A. (1993). Characteristics of registered nurses' self-directed learning projects for professional development. *Journal of Professional Nursing*, *9*(2), 89-94.
Douglas, E. (2010). *A study of barriers to adult self -directed learning* (Publication Number 3425722) [Ed.D., University of Phoenix]. ProQuest Dissertations & Theses Global. Ann Arbor. https://search.proquest.com/docview/757725252?accountid=15637

http://sfx.car.chula.ac.th:3410/sfxlcl41?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&genre=dissertations+%26+theses&sid=ProQ:ProQuest+Dissertations+%26+Theses+Global&atitle=&title=A+study+of+barriers+to+adult+self+-directed+learning&issn=&date=2010-01-01&volume=&issue=&spage=&au=Douglas%2C+Edward&isbn=978-1-124-27318-1&jtitle=&btitle=&rft_id=info:eric/&rft_id=info:doi/
Dunlap, J. C. (2005). Changes in students' use of lifelong learning skills during a problem-based learning project. *Performance Improvement Quarterly*, *18*(1), 5-33.
Dunlap, J. C., & Grabinger, S. (2003). Preparing students for lifelong learning: A review of instructional features and teaching methodologies. *Performance Improvement Quarterly*, *16*(2), 6-25.
Edmondson, D. R., Boyer, S. L., & Artis, A. B. (2012). Self-directed learning: A meta-analytic review of adult learning constructs. *International Journal of Education Research*, *7*(1), 40-48.
Elnaga, A., & Imran, A. (2013). The effect of training on employee performance. *European journal of Business and Management*, *5*(4), 137-147.
Felder, R. M., & Spurlin, J. (2005). Applications, reliability and validity of the index of learning styles. *International journal of engineering education*, *21*(1), 103-112.
Galustyan, O. V., Berezhnaya, I. F., & Beloshitsky, A. V. (2017). Professional and career development of teachers. *Journal of Contemporary Educational Studies/Sodobna Pedagogika*, *68*(4).
Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. *Adult education quarterly*, *48*(1), 18-33.
Gebhard, J. G. (2006). *Teaching English as a foreign or second language: A teacher*

Chulalongkorn University

self-development and methodology guide. University of Michigan Press.
Grandinetti, M. (2015). Predictors of self-directed learning readiness of nursing students. *US-China Education Review*, *5*(7), 443-456.
Gravani, M., Gough, A. M., Vassilia, H., Zarifis, G., Michaelides, M., Eufthimiadis, S., Petrides, A., Yütte, W., & Sarakinioti, A. (2010). Researching adult distance teaching and learning at the Open University of Cyprus and the Hellenic Open University. Proceedings of the IODL & ICEM 2010 Joint Conference & Media Days 6-8 October 2010,
Grow, G. (1994). In defense of the staged self-directed learning model. *Adult education quarterly*, *44*(2), 109-114.
Grow, G. O. (1991). Teaching learners to be self-directed. *Adult education quarterly*, *41*(3), 125-149.
Guglielmino, L. M. (1978). *Development of the self-directed learning readiness scale* ProQuest Information & Learning].
Guglielmino, L. M., Asper, D., Findley, B., Lunceford, C., McVey, R. S., Payne, S., Penney, G., & Phares, L. (2005). Common barriers, interrupters and restarters in the learning projects of self-directed adult learners. *International journal of self-directed learning*, *2*(1), 71-93.
Guglielmino, L. M., & Guglielmino, P. J. (2008). Productivity in the workplace: The role of self-directed learning and the implications for human resource management. *International Journal of Human Resources Development and Management*, *8*(4), 293-305.
Guglielmino, P. J., Guglielmino, L. M., & Long, H. B. (1987). Self-directed learning readiness and performance in the workplace: Implications for business, industry, and higher education. *Higher Education*, *16*, 303-317.
Gurl, E. (2017). SWOT analysis: A theoretical review.
Hiemstra, R. (1994). Self-directed learning.
Hiemstra, R. (2004). Self-directed learning lexicon. *International journal of self-directed learning*, *1*(2), 1-6.
Hiemstra, R., & Brockett, R. G. (2012). Reframing the meaning of self-directed learning: An updated modeltt.
Houle, C. O. (1961). The inquiring mind. Madison, WI. *University of Wisconsin Press. Hoyt, DP, & Rhatigan, JJ (1968). Professional preparation of junior and senior college student personnel administrators. Personnel and Guidance Journal*, *47*(3), 263-270.
Hursen, C. (2016). A Scale of Lifelong Learning Attitudes of Teachers: The Development of LLLAS. *Cypriot Journal of Educational Sciences*, *11*(1), 21-37.
Iwasiw, C. (1987). The role of the teacher in self-directed learning. *Nurse education today*, *7*(5), 222-227.
Kheang, S. (2013). *Proposed Guidelines for Organizing Non-formal Education to Enhnace Career Development for Unskilled Workers in the Kingdom of Cambodia* Chulalongkorn University]. Chulalongkorn University.
Klugman, J. (2002). *A Sourcebook for Poverty Reduction Strategies: Volume 2: Macroeconomic and Sectoral Approaches*. World Bank Washington.
Knowles, M. (1984). The adult learner: a neglected species. Houston, Texas. In: Gulf Publishing.
Knowles, M., Holton, E., & Swanson, R. (2005). The adult learner: the definitive

classic. *Adult Education and Human Resource Development [e-book]. Amsterdam: Routledge*.
Knowles, M. S. (1975). Self-directed learning: A guide for learners and teachers.
Knowles, M. S. (1980). The modern practice of adult education.
Knowles, M. S. (1986). *Using learning contracts: Practical approaches to individualizing and structuring learning*. Jossey-Bass.
Knowles, M. S., Holton, E., & Swanson, R. (2005). The adult learner: the definitive classic in adult education and human resource development (6th). *Burlington, MA: Elsevier*.
Knowles, M. S., Holton, E. F., & Swanson, R. A. (2005). *The Adult Learner*. Taylor & Francis. https://books.google.co.th/books?id=urUVrB1hLKAC
Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2012). *The Adult Learner*. Routledge.
Labor, U. D., & Statistics, B. O. L. (2008). *Occupational Outlook Handbook: Bulletin 2570*. U.S. Department of Labor, Bureau of Labor Statistics. https://books.google.co.th/books?id=ZABysnJuNkEC
Lewis, R., & Whitlock, Q. (2002). Learning: A coporate perspective. *Training Journal*, 14-18.
Li, S.-T. T., Paterniti, D. A., & West, D. C. (2010). Successful self-directed lifelong learning in medicine: a conceptual model derived from qualitative analysis of a national survey of pediatric residents. *Academic Medicine*, *85*(7), 1229-1236.
Loucks-Horsley, S., Stiles, K. E., Mundry, S., Love, N., & Hewson, P. W. (2009). *Designing professional development for teachers of science and mathematics*. Corwin press.
Love, D. (2011). Lifelong Learning: Characteristics, Skills, and Activities for a Business College Curriculum. *Journal of Education for Business*, *86*(3), 155-162. https://doi.org/10.1080/08832323.2010.492050
Marriam, S., Caffarella, R., & Gaumgartner, L. (1991). Learning in adulthood. In: San Francisco: Jossey-Bass.
Maslow, A. (1970). Motivation and Personality /Maslow Abraham H. *NY: Harper & Row*.
McCaffery, J., Merrifield, J., & Millican, J. (2007). *Developing Adult Literacy: Approaches to Planning, Implementing, and Delivering Literacy Initiatives*. Oxfam GB. https://books.google.co.th/books?id=pp66tqHQJFsC
Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New directions for adult and continuing education*, *2001*(89), 3-14.
Merriam, S. B., & Bierema, L. L. (2013). *Adult Learning: Linking Theory and Practice*. Wiley. https://books.google.co.th/books?id=1YGuAAAAQBAJ
Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). Learning in adulthood: A comprehensive guide.
Mezirow, J. (1985). A critical theory of self-directed learning. *New directions for continuing education*, *25*, 17-30.
Miller Juve, A. K. (2012). Reflective practice and readiness for self-directed learning in anesthesiology residents training in the United States.
MoEYS. (1991). *National Policy on Non-formal Education*.
MoEYS. (2015). *National Literacy Curriculum and General Guidelines*.
MoEYS. (2018a). *Cambodia Education Strategic Plan 2019-2023*.

MoEYS. (2018b). *Detailed report on Non-formal Education*.
MoEYS. (2018c). *Literacy Syllabus*
MoEYS. (2019a). *Basic Education Equivalency Programme (BEEP)*.
MoEYS. (2019b). *Cambodia's Education 2030 Roadmap*.
MoEYS. (2020). *National Report on Education in Cambodia*
Moja, T. (2000). Nigeria education sector analysis: An analytical synthesis of performance and main issues. *World Bank Report*, *3*, 46-56.
Murray, H. (2015a). *Lifelong learning in the twenty-first century: An investigation of the interrelationships between self-directed learning and lifelong learning* Union Institute and University].
Murray, H. (2015b). *Lifelong Learning in the Twenty-First Century: An Investigation of the Interrelationships Between Self-Directed Learning and Lifelong Learning* (Publication Number 3663914) [Ed.D., Union Institute and University]. ProQuest Dissertations & Theses Global. Ann Arbor. https://search.proquest.com/docview/1710060769?accountid=15637

http://sfx.car.chula.ac.th:3410/sfxlcl41?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&genre=dissertations+%26+theses&sid=ProQ:ProQuest+Dissertations+%26+Theses+Global&atitle=&title=Lifelong+Learning+in+the+Twenty-First+Century%3A+An+Investigation+of+the+Interrelationships+Between+Self-Directed+Learning+and+Lifelong+Learning&issn=&date=2015-01-01&volume=&issue=&spage=&au=Murray%2C+Henry&isbn=978-1-339-06848-0&jtitle=&btitle=&rft_id=info:eric/&rft_id=info:doi/
NFE. (2015). *NFE statistics and indicators*.
Oluoch, A., Tmo, A., & Enose, S. (2014). Adult Literacy Programme in Vihiga: The Capacity of Facilitators to Produce Learners with Functional Skills. *International Journal of Humanities and Social Science*, *4*(5), 286-293.
Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of educational research*, *81*(3), 376-407.
Patrick, H., Ryan, A. M., & Pintrich, P. R. (1999). The differential impact of extrinsic and mastery goal orientations on males' and females' self-regulated learning. *Learning and Individual differences*, *11*(2), 153-171.
Patterson, C., Crooks, D., & Lunyk-Child, O. (2002). A new perspective on competencies for self-directed learning. *Journal of nursing education*, *41*(1), 25-31.
Peercy, M. M., & Sharkey, J. (2020). Missing a S-STEP? How self-study of teacher education practice can support the language teacher education knowledge base. *Language Teaching Research*, *24*(1), 105-115.
Peters, J. M., Taylor, J. E., & Doi, M. M. (2009). Self-directed learning and action research. *International journal of self-directed learning*, *6*(2), 23-39.
Pillay, H. (1998). Expansion or Consolidation: A Solution to Vocational Education and Training in South Pacific Island Nations. *Adult Education and Development*, 33-50.
Ponton, M. K., Carr, P., & Wiggers, N. (2014). Self-efficacy to do or self-efficacy to learn to do: A study related to perseverance. *International journal of self-directed learning*, *11*(1), 29-40.
Ponton, M. K., & Carr, P. B. (2000). Understanding and promoting autonomy in self-

directed learning. *Current research in social psychology*, *5*(19), 271-284.
Ponton, M. K., Schuette, C. T., & Confessore, G. J. (2009). An agentic perspective of self-directed learning as applied to children. *International journal of self-directed learning*, *6*(1), 46-58.
Poortvliet, P. M., & Giebels, E. (2012). Self-improvement and cooperation: How exchange relationships promote mastery-approach driven individuals' job outcomes. *European Journal of Work and Organizational Psychology*, *21*(3), 392-425.
Raemdonck, I., van der Leeden, R., Valcke, M., Segers, M., & Thijssen, J. (2012). Predictors of self-directed learning for low-qualified employees: a multi-level analysis. *European Journal of Training and Development*, *36*(6), 572-591.
Rashid, H. U. R. (2004). NGO Perspective on Training Facilities in Literacy and Adult Basic Education in Bangladish. *Insingh and Mckay*.
Reiff, J. C. (1992). Learning Styles. What Research Says to the Teacher Series.
Reio, T., & Davis, W. (2005). Age and gender differences in self-directed learning readiness: A developmental perspective. *International journal of self-directed learning*, *2*(1), 40-49.
Robertson, J. (2011). The educational affordances of blogs for self-directed learning. *Computers & education*, *57*(2), 1628-1644.
Rogers, C. R., & Freiberg, H. (1969). Freedom to Learn. Columbus, Ohio: Charles E. *Merrill Co*.
Rosenbloom, J. (2004). *Adult literacy in Cambodia*.
Rovinelli, R. J., & Hambleton, R. K. (1976). On the use of content specialists in the assessment of criterion-referenced test item validity.
Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, *25*(1), 54-67.
Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary educational psychology*, *61*, 101860.
Schraeder, M., Freeman, W., & Durham, C. (2007). A lexicon for lifelong learning *The Journal for Quality and Participation*, *30*(4), 31-36.
Sinanovic, J., & Becirovic, S. (2016). The determinants of lifelong learning. *European Researcher. Series A*(2), 107-118.
Sparling, L. A. (2001). Enhancing the learning in self-directed learning modules. *Journal for Nurses in Professional Development*, *17*(4), 199-205.
Staff, E. (2008). Why is teacher development important?: Because students deserve the best. In.
Steinke, K. (2012). Implementing SDL as professional development in K-12. International Forum of Teaching and Studies,
Tchamyou, V. S., Asongu, S. A., & Odhiambo, N. M. (2019). The role of ICT in modulating the effect of education and lifelong learning on income inequality and economic growth in Africa. *African Development Review*, *31*(3), 261-274.
Terehoff, I. I. (2002). Elements of adult learning in teacher professional development. *NASSP bulletin*, *86*(632), 65-77.
Thorpe, M. (2005). The impact of ICT on lifelong learning. *Lifelong learning & distance higher*, 23.

TO, H. R. (2001). *Communication from the Commission–Making a European area of lifelong learning a reality*. European Commission Luxembourg.

Tough, A. (1971). The Adult's Learning Projects. A Fresh Approach to Theory and Practice in Adult Learning.

Tuijnman, A. (2004). Themes and questions for a research agenda on lifelong learning. In *Supporting lifelong learning* (pp. 16-39). Routledge.

Turan, M. B., & Koç, K. (2018). The Impact of Self-Directed Learning Readiness on Critical Thinking and Self-Efficacy among the Students of the School of Physical Education and Sports. *International Journal of Higher Education*, *7*(6), 98-105.

Tusting, K., & Barton, D. (2003). *Models of adult learning: a literature review*. NIACE UK.

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

VITA

NAME	Leakhena Orn
DATE OF BIRTH	03 March 1997
PLACE OF BIRTH	Kampong Cham, Cambodia
INSTITUTIONS ATTENDED	Western University, Kampong Cham Branch
HOME ADDRESS	Chipiang Village, Krek Commune, Ponhea Krek District, Tboung Khmum Province, Cambodia
AWARD RECEIVED	Royal Scholarship under Her Royal Highness Princess Maha Chakri Sirindhorn Education Project to the Kingdom of Cambodia For 2019

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