The Development of Self-Directed Learning in Online English Reading of Thai Students Attending a CALL Learner Training

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Abstract

This research studied self-directed learning in online English reading of seven secondary school students who attended a ten-week Computer-Assisted Language Learning (CALL) learner training. The CALL learner training was sequenced using Knowles's (1975) six steps of self-directed learning, which were setting climate, analyzing needs, setting goals, choosing materials, using strategies, and evaluating the outcomes. Each training session covered three components: pedagogical, strategic, and technical training. The training was conducted over ten weeks and included three required sessions and seven optional consultation sessions. During the training, the learners conducted three weeks of self-learning independently. Three sources of qualitative data, including learners' learning logs, consultation recordings, and interviews, were used to examine the development of learners' self-directed learning throughout the training. Overall, all participants showed improvement in their self-directed learning in online English reading after the training. However, goal setting and material selection seemed to be the main challenges for most participants. The findings suggested that more research on using CALL learner training should introduce more technology for different online reading tasks since the current study only presented limited tools.

Keywords: self-directed learning, CALL learner training, online English reading

1. Introduction

Technology disruption in education and learning has been observed across the globe, not only by the rapid advancement of digital and mobile devices in the past decade but also due to the COVID-19 pandemic. These factors have transformed the way people learn. We can now learn 'anywhere and anytime.' Similarly, learning English has changed drastically. Online English learning content and useful resources for English learners are abundant. Anyone with access to the internet and digital devices has opportunities to learn English flexibly, with no limit of time and space (Hubbard, 2013a; Lai, 2017; Romeo & Hubbard, 2011).

This new way of learning has brought about opportunities but can also pose unique challenges to learners (Al-Bataineh & Brooks, 2003; Lai & Kritsonis, 2006; Roemintoyo & Budiarto, 2021; Shatri, 2020). While having unlimited access to English learning resources with a wide range of materials and assistive tools (Cobb, 2018), learners need to be equipped with new skills and strategies to be able to make informed decisions and use the learning materials and technology effectively (Hubbard, 2013b; Hubbard & Levy, 2006; Lai, 2017). The learning outcomes cannot be achieved easily if the learners cannot manage the learning independently (Knowles, 1975; White, 2008).

Surprisingly, 'digital native' (Prensky, 2010) learners, who may be 'fluent' in using digital devices, may not know how to use them for English learning purposes (Romeo & Hubbard, 2013; Cunningham et al., 2019; Hubbard & Levy, 2006; Pomann & Hubbard, 2008). Also, they were found unable to self-direct their learning online outside of the classroom (Iamudom & Tangkiengsirisin, 2020). Specifically, they generally do not know how to strategically conduct appropriate English learning practices with the technology they have (Cunningham et al., 2019; Lai, 2017; Rashid et al., 2021; Romeo & Hubbard, 2011). These findings suggest the need for providing learner training to ensure that learners know what to do and how to do it when learning outside the classroom and on their own (Boonmoh et al., 2021, 2022; Hubbard & Siskin, 2004; Khlaisang et al., 2023; Romeo & Hubbard, 2011; Uparaa & Chusanachoti, 2023).

Studies have consistently shown that learners' self-directed learning ability contributed to improving learners'

English proficiency (e.g., Sappapan, 2022; Zhao & Lertlit, 2023). Educators have attempted to develop and conduct learner training to enhance the independent use of online English learning resources and tools (e.g., Lai et al., 2016; Rashid et al., 2021; Cunningham et al., 2019). The training was developed and conducted to improve English learning skills in various areas such as English listening skills (e.g., Romeo & Hubbard, 2011), English writing skills (e.g., Cunningham et al., 2019; Rashid et al., 2021), and English vocabulary knowledge e.g., Enayati & Gilakjani, 2020; Waluyo & Bucol, 2021). However, few studies have focused on training learners to use technology for self-directed learning in online English reading (e.g., Lai et al., 2016), even though English reading is an essential skill for learning in this information age. Therefore, this study aimed to build another block of understanding of how to enhance English learners' self-directed learning. Specifically, the article explored how Thai secondary school learners' self-directed learning in online English reading developed after attending CALL learner training.

2. Literature Review

2.1 Self-Directed Learning

Self-directed learning was originally an emerging concept in adult education, and it has been applied to other areas of learning. To begin with, Knowles (1975) defined self-directed learning as a process in which an individual initiatively takes each step of learning by themselves with or without assistance from others. The steps of self-directed learning begin when an individual analyzes their own needs, uses the needs to formulate the goals for learning, selects the learning tools and materials that are appropriate to their needs, implements the strategies that help them to accomplish the task, and end when the individual assesses their learning achievement. Later, different scholars adopted and adjusted the concept of self-directed learning throughout the years. They continued exploring self-directed learning as a process in which individuals take initiative and control their learning. For example, Tough (1979) posited in his dissertation on learning without teachers that an individual must set stages of learning for further self-research from the interest. Also, he laid out the 13 steps in beginning a self-directed learning project, which included deciding what detailed knowledge and skill to learn, deciding the specific activities, methods, resources, or equipment for learning, deciding where to learn, setting specific deadlines or intermediate targets, deciding when to begin a learning episode, deciding the pace at which to proceed during a learning episode, estimating the current level of knowledge and skill and progress in gaining the desired knowledge and skill, detecting any factor that has been backing or hindering learning, obtaining the desired resources or equipment, preparing or adapting a room, saving or obtain the money necessary for the use of specific human or nonhuman resources, finding time for the learning, taking specific steps to increase the motivation for learning. In a similar trend, Brockett et al. (1982) also proposed that self-directed learners go through four phases: initiating, planning, management, and evaluation.

Recently, studies about self-directed learning have been conducted in the context of learning with technology because digital tools such as computers, tablets, and smartphones are widely available, and they are optimal for English reading (Lai, 2017; Prasetya, 2021; Tashpolatovna, 2023). Also, English online resources for reading are plentiful and free to access (Benjamine, 2023; Turner, 2023). These opportunities allow English language learners to learn foreign languages independently (Hubbard, 2013; Reinders & White, 2010; Lai, 2017). Learners have also used online English resources on their own terms to practice reading without being directed by teachers (e.g., Yabukoshi, 2020; Jeong, 2022; Thuy & Yukawa, 2021). For this reason, self-directed learning in online reading has become one of the main focuses in self-directed learning studies (e.g., Huda, 2022; Lai, 2017; Zhou, 2022; Safa & Wicaksono, 2022). Teaching approaches focusing on the importance of self-directed learning, where learners can decide what, when, and how they want to learn, are examined (Lai, 2017; Tashpolatovna, 2023). Healy et al. (2011) suggested that learners who can appropriately and efficiently turn technological experience into learning experience are the ones who can enhance language competence. Similarly, Lai (2017) reported in her book that learners can learn and improve their language competence. In addition, technology aids such as e-dictionary and translation applications tremendously help learners acquire their learned language (Cobb, 2018). These technological aids often optimize the language learning experience, and language learners can improve significantly when they know how to use technology for language learning strategically (Hubbard & Siskin, 2004; Romeo & Hubbard, 2011; Stockwell, 2021).

Scholars noticed these changes in their learning. They piloted numerous programs and training sessions that assisted learners in gaining the necessary skills for self-directed learning in English with technology more effectively and independently (e.g., Lai, 2013; Lai et al., 2016; Rashid et al., 2021; Romeo & Hubbard, 2011). This includes learner training (e.g., Cunningham et al., 2019; Hubbard & Romeo, 2012; Lai et al., 2016; Rashid et al., 2021), teacher counseling programs (e.g., Kato & Mynard, 2015; Mynard & Kato, 2022; Romeo & Hubbard, 2011), and collaborative learning (e.g., Hubbard, 2004; Benson, 2011). In Thailand, there were similar attempts to

train learners to be self-directed learners for online reading (Kawinkoonlasate, 2022; Jumpakate & Rungruangthum, 2020; Durongbhandhu & Suwanasilp, 2023).

Numerous scholars have proposed different approaches to the assessment of self-directed learning in both quantitative and qualitative manners. First, self-directed learning can be assessed using quantitative methods by using rating scales such as the Self-directed Learning Readiness Scale developed by Guglielmino (1977), Ayyildiz and Tarhan (2015), or the Oddi Continuing Learning Inventory, which was developed by Oddi (1986). This self-report focuses on self-directed learning readiness and not the process of an individual who practices the learning, which individuals initiatively employ, such as planning, monitoring, and assessing the learning. For this reason, Robinson and Persky (2020) suggested that in order to assess self-directed learning as a process involving an individual's initiative and ability to control their learning, they can be assessed qualitatively. The lack of literature on assessing self-directed learning objectively and quantitatively made qualitative research more viable. Therefore, qualitative methods should be utilized to conduct research that focuses on the process of an individual taking initiative and carrying out their learning.

Therefore, in this study, self-directed learning in online English reading refers to the ability of an individual who takes control of their own learning independently for English reading in an online environment by analyzing needs, formulating a learning goal, choosing appropriate online reading material, implementing online reading strategies, and evaluating learning outcomes.

2.2 CALL Learner Training

CALL learner training is a conceptual idea that originated from Hubbard in 2004. He outlined a set of guidelines for pedagogical training, aimed at English teachers, to integrate into their classes, helping language learners use technology appropriately for language learning. This idea was later expanded upon by Romeo & Hubbard in 2011, with the addition of two more parts: strategic training and technical training. This newly designed framework, comprising three parts, was employed to train English language learners, with the goal of enhancing the effective use of technology for English learning. It differs from regular training because CALL learner training specifically focuses on introducing technology in English learning. In contrast, other learner training approaches (e.g., Mynard & Stevenson, 2017; Prabjandee & Vibulphol, 2010; Victori, 2007) generally concentrate on training individuals to learn English or become independent in language learning without considering the use of technology such as computers, mobile phones, or online websites.

Guidance on effective English language study practices in online learning environments is necessary and should be provided (Hubbard & Romeo, 2012; Lai, 2017; Reinders & Darasawang, 2012; Romeo & Hubbard, 2011). For this reason, scholars such as Romeo & Hubbard (2011), Lai et al. (2016), Cunningham et al. (2019), and Rashid et al. (2021) implemented CALL learner training to tackle these needs so that the learners could potentially optimize their English language competence through interactions with online resources.

The framework of learner training that has been frequently used and proved to be an effective mean is from CALL learner training of Romeo & Hubbard in 2011 (e.g., Rashid et al., 2021; Romeo & Hubbard, 2011; Lai et al., 2016; Lai, 2017; Cunningham et al., 2019). They implemented the training in the classroom to develop the learners' skill sets to use technology more efficiently for English language learning purposes. The training consists of three important parts: pedagogical, strategic, and technical training.

First, pedagogical training regards the training concerning discussion of the reasons and notions why learners should use specific technology and strategies to cope with specific tasks (see Hubbard, 2004; Romeo & Hubbard, 2013; Rashid et al., 2021). The learners in the training are introduced to the rationales and concepts behind effective learning of a foreign language. This is similar to the pedagogical knowledge given to language teachers in teacher institutions (Stockwell, 2015). For example, one text can be read many times. While the first reading is for general ideas, the second can be for details. The learners may only be aware of this idea if explicit instruction is given (Stockwell, 2015). Therefore, rationales and concepts from pedagogical training should be presented to learners so they can later make informed decisions as if they are teachers themselves in the future (Hubbard, 2004).

Secondly, strategic training regards the training for language learners to know when and how to use certain technologies more effectively (see Romeo & Hubbard, 2013; Rashid et al., 2021; Cunningham et al., 2019). Online dictionaries can be used as an example of strategic training. The tools can be useful if strategically and correctly used (Koplenig & Müller-Spitzer, 2014; Sorrentino & Lauer, n.d.). The strategic training focuses on how language learners can maximize online dictionary usage and other technology to facilitate their foreign language reading experience (Romeo & Hubbard; Rashid et al., 2021). This strategic training would guide learners to use online dictionaries with the right amount at an appropriate time, and they are trained to rely on online reading strategies too, such as context clues, skipping, and rereading (Anderson, 2003; Brun-Mercer, 2019). They are trained to be

mindful when using online dictionaries to avoid disturbing the flow of reading (Brun-Mercer, 2019).

Lastly, technical training regards the training for language learners to know what technology the learners should use to tackle the problems and what technology can aid language learning (see Romeo & Hubbard, 2013; Cunningham et al., 2019; Lai et al., 2016). Many potential software and websites are available, though learners need to be made aware of their existence and how to use them (Lai, 2017). For example, a readability scoring system website is a tool that analyzes the difficulty and the complexity of any given English text (Xia et al., 2019). This greatly helps language learners choose the right text level to read because it suggests the level of suitable readers and the range of vocabulary used in the text (Beinborn et al., 2014). The learners can use this data to make an informed decision in choosing a suitable text. However, the technology typically consists of steps for the user's commands (Hubbard & Romeo, 2013; Hubbard, 2004). Therefore, tutorials and instructions on how learners can use these websites should be provided as technical training (Hubbard & Romeo, 2013; Rashid et al., 2021; Cunningham, 2019).

3. Method

This study employed qualitative research designed to understand the complex details of a topic (Creswell & Poth, 2016). In this study, the aim was to study self-directed learning in online English reading of a group of secondary students in Thailand after attending a CALL learner learning. As Creswell and Creswell (2017) suggested, qualitative data should be gathered from multiple forms instead of drawing a conclusion from a single data source. This study used data from learning logs, consultation recordings, and interviews to enhance the opportunity for the participants to express their thoughts without being confined by a predetermined scale (Creswell & Creswell, 2017). The data from the three sources, collected at different times, were also used for triangulation (Flick, 2004).

3.1 Participants

The CALL learner training was conducted in one demonstration school affiliated with one public university in Thailand. The participants were recruited voluntarily. An advertisement about the CALL learner training was circulated and opened for registration for club hours at the school during the second semester of the 2023 academic year. Seven eleventh graders signed up to join the training. Their age was between 16 and 17 years old. They were all female and were studying in the sciences and mathematics study program. Their first language was Thai, and they had studied English as a required subject in school since first grade. Their use of English was mainly in the classroom context, which made up around five hours per week. All participants had never attended any other CALL learner training before. The main drives of their joining the training program were to improve academic English reading which helped them with the academic subjects at their school and to prepare themselves for English reading exams for future university admission.

3.2 Intervention

3.2.1 The CALL Learner Training

A ten-week CALL learner training program was developed to enhance study self-directed learning in online English reading of secondary school students. The program was designed based on the steps of self-directed learning proposed by Knowles (1975) and the three-part CALL learner training by Romeo and Hubbard (2010) (see Appendix A). It consisted of three activities: training, self-learning, and consultation. The training and consultation were conducted in the first phase, and the self-learning was conducted in the program's second phase.

The training program was validated by three experts in self-directed learning, self-access learning, and English language teaching. The training design required no modification; however, minor adjustments were suggested for the training and consultation plans, such as the materials and the trainer's consultation scripts.

3.2.2 Training

Each training session was held twice per week, with each session lasting 50 minutes. Each session comprised six stages: a lead-in activity, pedagogical training, strategic training, technological training, reflection, and wrap-up. The lead-in activity involved providing an overview of the objectives for the current session and reviewing the previous session. Pedagogical training focused on explaining the reasons and importance of the knowledge and skills covered in the session. Strategic training introduced useful strategies that learners could apply when working independently. Technological training focused on instructing learners on using relevant technology, particularly for reading English texts online. The reflection stage was provided for each learner to contemplate how to apply the technology in the learner's circumstances. Finally, the wrap-up stage included summarizing key points and highlighting important takeaways from the session.

Session 0 aimed at introducing the concept of self-directed learning as pedagogical training. learners identified the

basic concepts and the importance of being a self-directed learner.

Session 1 aimed at identifying the learners' individual needs regarding difficulties and goals for online English reading. Pedagogical training introduced the discussion of the importance and the reason to monitor and identify the lack of skills or knowledge when reading online. Strategic training guided the learners in identifying the knowledge gap through self-reflection activity.

Session 2 aimed at setting specific learning goals which should be aligned with the identified needs. The learners engaged in discussions as in pedagogical training on the significance of goal setting. The strategic training presented the guidelines for making effective goal by using the SMART criteria.

Session 3 aimed at designing learning plans that address individual goals. After in-class discussions of the importance of designing learning plans from pedagogical training, learners learned to strategically organize their plans, including future weeks' objectives and resources.

Session 4 aimed at selecting online reading materials suited to their goals, interests, and English proficiency levels, as well as selecting reliable texts. While the importance of choosing online reading materials was discussed in the pedagogical training, strategic training was introduced as the learners were guided to monitor themselves when choosing a text online. Technical training was introduced as the learners were trained to use readability checker tools, aiding in the text English level analysis and selection.

Sessions 5-7 aimed at implementing online reading strategies that the learners could use before, during, and after reading. Pedagogical training was introduced through in-class discussion of the importance of using online reading strategies when reading English online. Strategic training included online reading strategies, such as skimming, scanning, context clues, and summarization techniques. Technical training was also introduced for learners to incorporate tools such as online text highlighters and click-access dictionaries, enhancing learners' reading efficiency and comprehension when reading English online texts.

Session 8 aimed at evaluating learning outcomes. Pedagogical training was introduced through in-class discussion of the importance of evaluating learning outcomes. In strategic training, learners evaluated their progress against their set goals, fostering monitoring and reflective practice. While technical training remained absent, pedagogical and strategic training was established throughout the program, which empowered learners to assess their learning outcomes effectively.

3.2.3 Consultation Sessions

The second type of activity was the consultation sessions. The consultations were separated into three required sessions and eight voluntary consultation sessions. Each consultation session was approximately 30 minutes and included three phases: the opening phase, the midway phase, and the closing phase. Normally, the first and the last phases presented in each consultation used the same pattern and questions, though the midway phase was different from session to session. The details of the consultation are presented as follows.

The first required consultation, in the second week after setting a goal session, was to check the needs and goals. After attending this consultation, the participants received feedback and validated the learning needs that they used in order to formulate or revise the goal they set prior.

The second required consultation, in the fifth week after every self-directed learning session, was to examine the practicality of the learning plan. The participants proposed the learning plan for which the consultants gave comments and feedback regarding the practicality and the feasibility of the plan for future self-learning of the learners.

The third required consultation, during the seventh week of the self-learning task, was to revise the plan. The participants visited the consultant to check if the plan that had been used was practical and whether or not they had accomplished, to some extent, the stated goal. During the consultation, feedback was offered so that the participants could adjust their plans if needed to be more practical within the time limitation.

Voluntary consultations were available through the program. The consultation was open for voluntary registration if any participants needed help in any aspect of their self-learning or online English reading. The participants had to inform the counselor every Monday if they planned to have a voluntary consultation.

3.2.4 Self-Learning Tasks

After the learners completed the training, they were left to conduct their own online reading for three weeks. They were asked to conduct at least two online reading tasks each week. What to read and how to read was planned and managed by the learners themselves, based on the needs they had identified. During self-learning, the learners could request individual consultation when they need it.

3.3 Data Collection and Analysis

This study obtained data from three sources at different times: learning logs, recordings from consultations, and interviews. The learning log was designed, and the guided questions similar to the previous studies on CALL learner training were used. The recordings were used to capture the interactions and responses of the learners during consultations. The interview was structured to uncover the self-directed learning ability based on the core theory of self-directed learning. All data collection tools were validated by the same three experts who had validated the training instruments. Only one question from the interview was recommended for adjustment.

Before the implementation of the training, the background data of the participants which detailed their demographics including age, gender, English learning experience, and study plan. Also, the data regarding the participants' characteristics and drive for joining this self-directed learning were collected.

During the implementation of the training, two sources of data were utilized. In the learning logs, learners wrote reflections on each individual self-learning experience during their self-learning task. These written reflections included data such as the time spent on the task, reading materials used, reading strategies employed, etc. In the consultation recordings, responses from interactions between the counselor and each participant, in both required and voluntary sessions, were collected. These responses included data that addressed questions such as how well they performed the tasks and what challenges they encountered when reading independently.

After the implementation of the training, each learner was interviewed. The interview was about 30 minutes long. It was conducted to gather learners' experience of self-directed learning in online English reading after the training was done for one month. The interview was conducted in Thai to avoid language barriers. These are sample questions used in the interview. "What did you read?" "How did you select the text to read?" "What challenges did you face?" "How did you cope with the challenges?"

The data from the learning logs, consultation recordings, and interviews were analyzed qualitatively using thematic data analysis via deductive coding (Braun, 2012). A codebook was developed based on Knowles (1975). The codes were predetermined. Here are some examples of the data coded: "I tried to look at the words written on the text and consider whether they are too advanced for me before I started to read" and "The first thing that I did was I looked at the length of the text before selecting and reading the online text in detail.". These two samples were grouped together and matched with the predetermined code, 'choosing online reading material.'

The triangulation method was used to ensure the trustworthiness of the findings. The data from the learning logs were compared and confirmed with the data from the consultation recordings and the interviews.

4. Results

4.1 Self-Directed Learning in Online English Reading of the Students after Attending CALL Learner Training

The findings drawn from the learning logs, consultation recordings, and interviews confirmed that all the participants developed their self-directed learning in online English reading to a certain degree after they attended the CALL learner training. After the training, the participants were able to analyze their needs, set a learning goal, choose online English reading materials, implement online reading strategies, and evaluate learning outcomes. However, two areas of self-directed learning seemed to be a challenge. First, the goal set was not properly stated. Secondly, choosing online English reading material was partially appropriate. A detailed description of the findings of participants' self-directed learning is presented below.

4.1.1 Analyzing Needs

Overall, all seven learners showed a similar trend in that they could identify their needs, the first step for a self-directed learner. Their ability to recognize what they needed was evident in their learning logs, consultation sessions, and interviews. Six learners reported conducting self-directed learning in online reading based on a perceived lack of competence. Each learner referred to their specific needs: the knowledge that had not been fulfilled and the necessary skills that needed more practice. For example, one learner reflected her needs in the learning log. As shown in Excerpt 1, learner1 identified her lack of knowledge about plants and decided to 'search' more about them. Similarly, in the first consultation, she mentioned her need to be able to read biology texts—to prepare herself for an undergraduate study in health science. She also specified that her lack of comprehension and biology terms were the challenges when reading. This statement referred to the awareness of the needs that she had in English reading skills and vocabulary. The data from the interview showed consistent findings. For example, learner1 was aware of the reading tasks that required by the field she was interested in applying to and how she needed to improve her vocabulary knowledge. This evidence confirmed that the participants were reflecting, identifying, and analyzing needs which were the gap of knowledge and skills.

Excerpt 1

Learner 1: (I) know only three kinds of carnivore plants (from the class), so I searched to learn more about them.

(Learner 1, Learning Log 3)

4.1.2 Setting a Learning Goal for Online Reading

In general, every participant demonstrated a partial capacity for setting an effective learning goal considering SMART criteria for online English reading. Even if every participant reported setting a learning goal, that was specific, achievable, and relevant before they started to study by themselves, their goals were considered less effective because they usually lacked measurability, and no time allocation was determined. The data from the learning logs, interviews, and consultation recordings agreed on this. To illustrate the absence of some criteria that made goal setting less effective, a sample of a goal set by one participant is drawn. For example, learner 3 stated in the learning log that her goal was to summarize biology facts from online websites to her teacher, her friend, and herself. She confirmed again in the interview that her goal was to summarize texts related to health science because she liked biology and she had read the topic before (see excerpt 2). To clarify, learner 3's aim was specific as it directly addressed particular areas: biology facts and health science. It was measurable since she employed the phrase "to summarize." She could assess her success by summarizing facts about biology for others. It was achievable because she had read some of the contents before as mentioned in the consultation before. Additionally, it was relevant as she was currently studying biology and had a passion for the subject. However, the effectiveness of her goal was undermined by one criterion. It lacked a time-bound aspect. No specific time frame was established regarding when she aimed to accomplish her goal. A similar pattern of the goal that was not properly stated happened with the other six participants, which can be concluded that the goal setting of the participants after completing the training program was still the challenge.

Excerpt 2

Interviewer: What do you plan to read in the future?

Learner 3: I might <u>summarize</u> articles about <u>health</u> because I like biology, and it's a topic I've read about before.

(Learner 3, Interview 1, Line 18-19)

4.1.3 Choosing Online Reading Materials

Overall, every participant enhanced this ability to choose online English texts that they considered the texts that matched their goal, English level, and personal interest. However, their selection often lacked consideration for the reliability of the source. Only two learner s from the seven were able to choose the materials from reliable sources.

The enhancement of their ability to choose online English texts was evident in their learning logs as they progressed through self-learning tasks. This enhancement was confirmed during the consultation and the final interview.

Initially, their approach to choosing materials was less strategic as they would read anything they found online, and their choices were random. The participants lacked careful consideration of their readings. For example, the participants selected texts that posed challenges due to jargon and advanced level of vocabulary, as noted by many participants in their first few logs. They couldn't understand the texts and took too much time to read. Learner 3, for example, commented in the consultation that she had just chosen the very first website that appeared after the search, and she had not finished the whole text because it was too lengthy. In addition, learner 6 said that she felt discouraged and didn't want to read more because the text was too long and had too many unknown words.

In contrast to the data from the initial phase, from the second half of the self-learning task, every participant demonstrated a more strategic and become more attentive in considerations when selecting online English reading material. First, they considered the English level of the text that suited their English proficiency. For instance, learner 6 noted in her log that she felt more at ease after choosing a text that had a manageable vocabulary and reasonable length. This is confirmed by the responses of every participant from the interview and the consultation. For example, learner 6 stated that she frequently used this graded news website because it offered simplified and easy-to-understand English so that she could develop her reading skills. She also mentioned that if the news that she wanted to read was too hard on other websites, she would instead read from this graded news website that offered a comparatively easier version of the news (see excerpt 3). Additionally, every participant monitored online texts that they were going to read to align with their goals and interests. For example, learner 3 remained focused while choosing a text that matched her goal. She said in the consultation that she wanted to know more about the human body, so she was trying to read something that addressed the topic. Therefore, in the learning log, she documented that she read about hormone injections. She consistently asserted in a consultation session that she

would only select to read a topic under my goal, and it should be interesting to me. Moreover, some participants chose familiar content. The participants explained that they found it easier to read and understand English texts on the topics that they previously learned, highlighting connections between their prior knowledge and the text. These sample responses reflected the enhancement of their ability to select appropriate online reading materials that matched their individual goals and individual preferences and suited their English proficiency levels

Excerpt 3

Interviewer: How did you choose a text to read?

Learner 6: I use News in Levels, a website where I can choose the difficulty level from easy to hard. I decided to practice reading from News in Levels because I can select the right English level- easy, medium, hard which helps me read. For example, it might have certain words at an easy level, and when I choose a higher level, it introduces new vocabulary. If what I want to read is too difficult, I come to this website, as the articles here are short. I'm too lazy to read long articles; I prefer short ones. After reading a long text, I started feeling tired of it.

(Learner 6, Interview 1, Line 7-11)

However, most of the participants barely considered the reliability of the text, another important consideration when choosing online reading material. There were only two participants from the seven that considered the reliability of the source. For example, learner 5 documented in the log and confirmed in the interview that she would choose online texts that were published by recognized publishers before she read the text in detail. Learner 2 wrote in her learning logs that she read from a well-known publisher such as BBC. Apart from these two participants, no one else mentioned how they selected reading materials regarding the reliability criteria. For example, learner 7 read about astronomy facts from a blog.

4.1.4 Implementing Online Reading Strategies

This implementation of online reading strategies refers to an individual's capacity to identify appropriate strategies for online reading and apply these strategies effectively when facing online English reading challenges.

In general, the participants showed improvement in utilizing strategies for online reading of English texts. While no reading strategy was used in the first few times of self-learning, various strategies were reported to be used later in self-learning. This evidence can be seen in the learning log, consultation recordings, and the interview. The subsequent paragraph demonstrates how the participants implemented these online reading strategies from three different phases of reading.

Before online English reading tasks, participants actively employed online reading strategies. They utilized skimming techniques. They quickly surveyed the text by examining images, keywords, bolded words, and headings. For example, learner 5 described that she spent a brief moment reading the text quickly once just to get the main point (see excerpt 4). Learner 7 also mentioned that she looked at words that repeatedly appeared in the paragraphs, and learner 4 reported that she looked at the topic sentence of each paragraph. They described that this enabled them to understand the main idea and the basic information presented in the text so they could grasp the ideas of what they were going to read further in the next phase.

Excerpt 4

Interviewer: How do you read an online article?

Learner 5: I just look through, like scrolling quickly, without reading in detail. It's to get a general idea first.

(Learner 5, Interview 1, Line 31)

During their online reading, every participant applied online reading strategies that were relevant to the tasks they encountered, aiming to cope with the challenges of online reading. They often mentioned utilizing different strategies such as context clues, scanning, employing online dictionaries with click-access features, rereading, and adjusting their reading pace. For example, learner 2 noted in the learning log that she learned to slow down her reading speed and tried not to skip too often. This data is consistent with how she responded in the interview, stating that she adjusted her reading speed when she read online. When I looked for details, I tended to reduce my reading speed so that she could understand more. Learner 1,3,4 said similarly about the application of online reading strategies that they used context clues a lot, and it helped them when they didn't know the words.

In addition, every participant strategically and effectively resorted to technology after they were introduced to the tutorial on using technology for reading from the training. For example, many participants said that they started using technology and assistive tools such as an online dictionary to help them read. They displayed the ability to use the tools in a way that would contribute to better reading comprehension. Three participants mentioned they

didn't always use an online dictionary right away when they found unknown words while reading online. Instead, they tried to guess the meaning using context clues. Sometimes, they skipped words they didn't know. They tried to understand the general idea of the sentence. However, if those unknown words were important and kept recurring, and none of their strategies worked, they would eventually use an online dictionary. Learner 4 noted in the interview that she only used an online dictionary when she couldn't guess the meaning from the context. Learner 6 reported that she looked up the words that she did not know, especially the ones that frequently reoccur in the article. Besides, they made sure to use the online dictionary without stopping their reading fluency. Learner 1 said that when she used the dictionary too often, she was lost in what she was reading. She tried to rely on other strategies so that she could still be in focus. Also, most participants used a click-access dictionary on a reading website to get the definitions of words they did not know the meaning of. Learner 4 described that she often used a click-access dictionary on the website that she was reading so she did not have to jump between pages and remained concentrated on the text. Some of the participants even used two devices—one for reading and one for looking up words' definitions. This shows they enhanced better strategies for using devices and technology to help with their online reading experience.

4.1.5 Evaluating Outcomes

The ability to evaluate learning outcomes refers to the ability to reflect one's performance against the predetermined goal, whether the individual achieved it or still needed to improve in some other areas.

Overall, both learning logs and interviews showed similar results, with every participant getting better at assessing themselves in terms of the ability to read English texts online. They started to monitor the progress of their learning and identify the areas that they could or couldn't do by the end of their learning. For instance, learner 1, 3, 4, and 6 mentioned in the learning logs that they acquired some new words during their self-learning tasks, though there are still some new and difficult English words in the article that they didn't know. This example shows how the participants monitored and identified what held them back and evaluated the outcomes of their learning. The data from the interview also supported this. Every participant reported in the interview that they identified the outcomes of their learning and whether they could or could not achieve them. The majority reported that they achieved the goal they set at the beginning. For example, learner 2 and 5 stated that they spent less time reading the text. They believe that they read faster now. Also, learner 6 mentioned that she was now able to read online news in English without Google Translate (see excerpt 5). However, some participants mentioned that they still had to practice more, and they had not fulfilled their goal as stated. For example, learner 1 mentioned that she would need to practice reading more about texts about biology and animals in English because she was still struggling to read them without using a dictionary. These statements and reflections from learning logs and interviews showed a clear trend in which each participant evaluated their learning outcomes after they did self-directed learning on their own.

Excerpt 5

Counselor: Did you read the latest news as usual, and how was the reading experience?

Learner 6: Recently, I've still been practicing reading news from the same website. I feel like I can read on my own now without needing to use Google Translate. I believe I understand much better than before. However, it has to be news from the News in Levels website, at level 1 (the easiest level) that uses simple words and isn't too long. If it's news from BBC, I usually can't understand it. I've tried reading it before, but it didn't make sense to me.

(Learner 6, Consultation 4, Line 17-22)

5. Discussion

The study showed that implementing CALL learner training enhanced the ability of self-directed learning in online English reading. This conclusion was in the same trend as the previous studies (e.g., Lai et al., 2016; Rashid et al., 2018; Lai, 2017; Romeo & Hubbard, 2010; Cunningham et al., 2019), which suggested that Computer-Assisted Language Learning (CALL) training enhanced self-directed. The training, adopting the three-part framework outlined by Romeo & Hubbard (2011), equipped learners with technological, strategic, and pedagogical skills and knowledge. This framework offers opportunities for learners. First, the learners know how technology should be used to facilitate their online reading from technical training. Second, the learners know what to do with the technology to gain the most efficient practice of English language learning from strategic training. Third, the learners know the reasons why certain technology should be used with certain strategies from pedagogical training.

Moreover, learners developed self-directed learning ability due to the training's focus on important skills and steps outlined by Knowles (1975). These findings align closely with earlier studies (e.g., Loeng, 2020; Robinson & Persky, 2020), emphasizing that providing self-directed learning training positively influenced self-directed learning in online reading of the participants. Ones needed to go through important steps, including analyzing

one's needs, setting a goal for online reading, choosing appropriate online reading materials, implementing online reading strategies, and evaluating one's learning. The sessions within the training systematically pushed learners to expose each step of a self-directed learner in online English reading, enabling them to proactively manage their learning.

The training provides both required and voluntary consultations that assist learners in setting goals, revising learning plans, and seeking guidance when needed. Providing consultation to foster self-directed learning was in line with the findings of Kato and Mynard (2015) and also found in recent studies by Mitchell (2023), Stewart (2021), and Olivier and Trivedi (2021). Having consultations supported effective strategy planning, fostering a sense of self-directed learning among learners.

Furthermore, through self-learning tasks integrated into the training, learners engaged independently in online English text reading without teacher-directed tasks or instructions. This was consistent with the findings from previous studies (e.g., Mirza et al., 2021; Tyagi et al., 2020), highlighting that adequate training and allocated self-practice time facilitated learners to take control of their learning.

Ultimately, the integration between two frameworks from Knowles's (1975) self-directed learning and Romeo & Hubbard's (2011) CALL learner training is presented as a viable model for later adoption. This model fulfilled the lack of findings in the current literature (e.g., Rashid et al., 2021; Lai et al., 2016; Romeo & Hubbard, 2011) since none of the literature had used the training to train learners and study their self-directed learning in online English learning after.

However, the results of this study could be limited due to the following limitations. First, the training that introduced technology was quite limited. This suggested a need for more introduction of technology for reading. In the current study, only four sessions were dedicated to technology for online reading support including annotation tools, click-access online dictionaries, online mind mapping, and readability checkers. Further research may allocate more time to each tool individually so learners could use it more effectively. Moreover, future research on this topic may introduce additional useful technology that supports learners in online English reading. Second, because the qualitative data only came from self-reports, such as learning logs, interviews, and consultation recordings from the learners, the findings could be somewhat biased. Further study can consider using other research tools involving perspectives from other parties such as teachers, parents, or peers. Third, the participants were rather from similar backgrounds. They studied in the same grade, same class, same study program, same age, and same gender. Further study may implement the training with diverse participants with different group sizes.

6. Conclusion

The current research presented the findings of learners' self-directed learning in online English reading after attending the CALL learner training. The result showed that the participants enhanced, to some extent, their ability to self-directly learn in online English reading, yet there were some challenges in the self-directed learning of the learners. It is important to adopt and make appropriate adjustments to the CALL learner training in the future to attain the most effective enhancement of self-directed learning for English language learners. In this study, CALL learner training should be highlighted that not only the participants were offered sessions of in-class training, but they also had consultation sessions in which they received one-on-one feedback and necessary comments to adjust their learning plan and self-learning tasks. Besides these two activities, the learners were offered allocated time for their self-learning tasks so that they could practice the self-directed learning skills they acquired from the training. As the finding showed the enhancement of self-directed learning of the learners, it is, of course, in the best interest that such CALL learner training had the potential and should be provided to open opportunities for the learners to acquire and learn new skills or knowledge of English independently without being directed from others. The further adoption of this CALL learner training can potentially benefit language learning society only with access to digital devices and the internet as English language learners can approach such technology for English language learning purposes in more effective manners independently.

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Appendix A

CALL learner training program
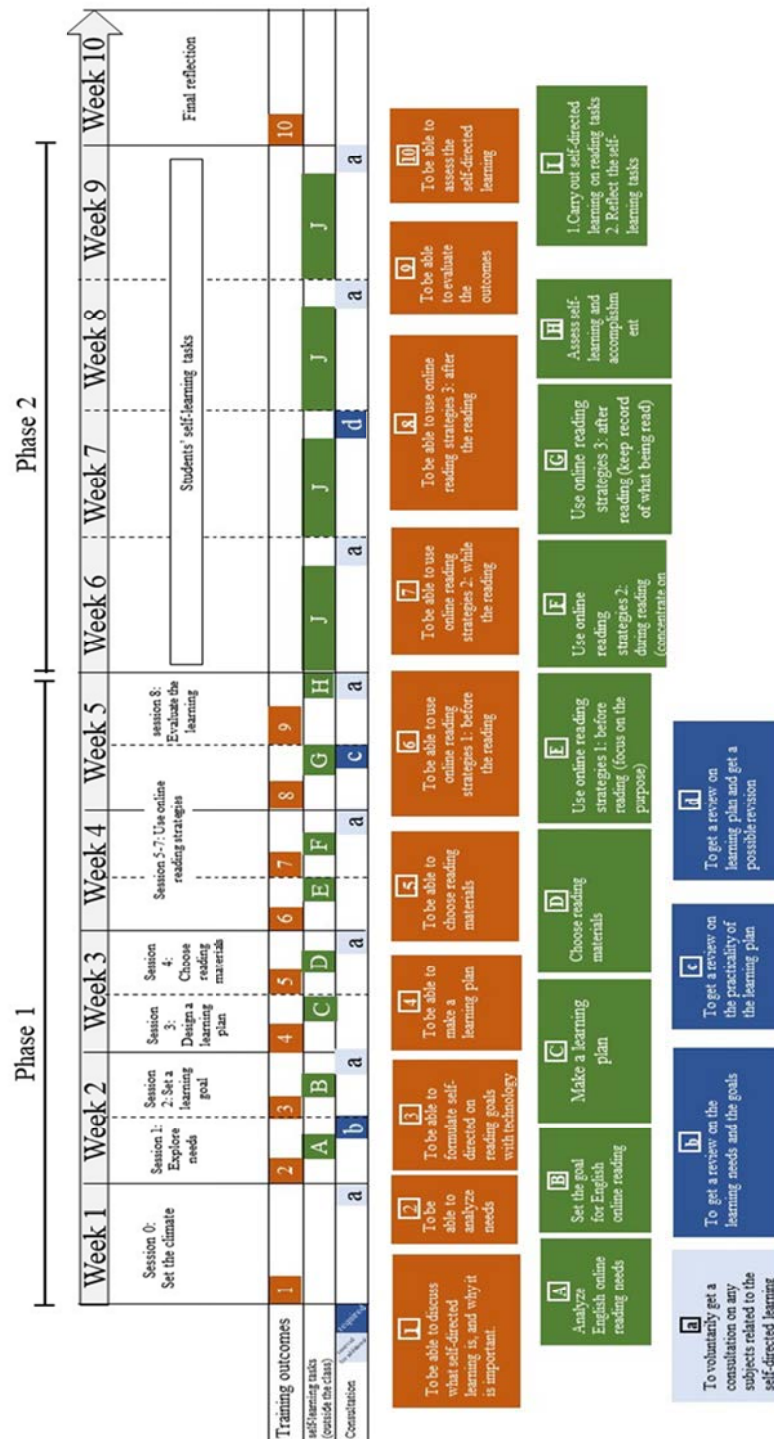
Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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