

Synchronous Online Reading toward Digital Literacy and Higher-Order Thinking Skills Supporting Cadets' Self-Regulated Learning

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Abstract

The increasing use of Information Communication and Technology (ICT) in foreign language education has completely transformed reading, and reading online texts requires new approaches. Reading proficiency is crucial for English as a Foreign Language (EFL) learners, as it is the primary ability that allows them to flourish academically and make rapid progress in other aspects of language acquisition. This study aimed to investigate the effect of synchronous online reading on self-regulated learning through Higher Order Thinking Skills (HOTS) and digital literacy. The quantitative method used an analytical study with a survey research design. The study included a total of 436 cadets of Politeknik Ilmu Pelayaran from Eastern Indonesia. A survey administered via the internet was dynamically designed to assess cadets' perception with synchronous online reading. Structural equation modeling, specifically route analyses, was used to determine the most suitable model for synchronous online reading. Data was analyzed by using SEM-PLS-based multivariate approaches. The study's results found that 1) Synchronous online reading had an impact on cadets' HOTS. 2) there was an impact of synchronous online reading on cadets' digital literacy. 3) there was an impact of cadets' HOTS on self-regulated learning. 4) there was an impact of cadets' digital literacy on self-regulated learning. It can be concluded that synchronous online reading and digital literacy are important for developing cadets' higher-order thinking skills and self-regulated learning capabilities in Southern Sulawesi, Indonesia.

Key words: Digital literacy, HOST, Online Reading, Self-regulated learning, Synchronous

Introduction

Over the past ten years, there has been a significant rise in the expansion of distant education (DE), which includes hybrid, complementary, and entirely online courses (Zaha, 2022). Distance learning is a form of education where the teaching and learning activities are conducted separately. This type of learning necessitates specific approaches. The topics covered include course design, instructional strategies, communication methods utilizing electronic and other technology, and distinctive organizational and administrative systems. Distance education can be applied in courses that are exclusively online, a combination of online and in-person instruction, or a mixture of both.

For several years, online learning has become increasingly popular as a teaching method in the education sector, especially in ESL and EFL settings. Online learning has provided numerous advantages for individuals studying English (Wichanpricha, 2021). There are three categories of online learning: synchronous online education, mixed learning, and asynchronous online education. Synchronous online learning typically employs video conferencing software to facilitate real-time communication between instructors and students in various regions (Qiao & Yijun, 2023).

Nevertheless, each teacher and student possesses their own pace in delivering and acquiring knowledge. Certain instructors may withhold things from students, causing

some students to experience a sense of urgency (Mariñas et al., 2023). An effective approach to address this issue primarily involves implementing suitable instructional design strategies that enable students to efficiently acquire a significant amount of knowledge within a limited timeframe and extract maximum information.

The synchronous format provides real-time instruction with a structured timetable, live engagement, and discourse with the course instructors (Qiao & Yijun, 2023). Amidst the pandemic, synchronous online learning has become a prevalent study method. However, there is a lack of comprehensive knowledge regarding the impact of various representations and time constraints on non-native English students (Wichanpricha, 2021).

The prevalence of young individuals participating in digital reading has constantly increased during the era of information and communication technology (ICT) (Lovšin Kozina, F., & Metljak, 2022; Agasisti et al., 2023; Hu & Yu, 2023). Incorporating information and communication technology (ICT) in classrooms is crucial in the digital age (Delgado et al., 2018; Mulyana & Maylawati, 2024). Considering that reading on digital devices involves the use of ever-changing forms of text and results in the formation of new reading practices, students must acquire specialized abilities in reading (Hu & Yu, 2021). Reading facilitates the construction of comprehension by progressing from individual letters to words and then to phrases and sentences (Hall et al., 2022).

However, when it comes to understanding the basic principles of terms and concepts, the main objective of reading activity is to obtain precise information or facts, grasp the order or structure of the text, and evaluate and classify the knowledge. Reading skills include the capacity to determine word meanings, draw conclusions, understand the author's writing style, recognize the structural components of a text, and find answers to questions (Coiro, 2021; Tong et al., 2018; Ruhil et al., 2022).

The increasing use of ICT in foreign language education has transformed reading practices (Wu, 2014), and current studies suggest that online text reading requires the implementation of new approaches. Reading proficiency is vital for English as a Foreign Language (EFL) learners since it is the essential skill that facilitates academic excellence and accelerates advancement in other facets of language acquisition. Consequently, it is broadly acknowledged that the proficient application of reading strategies is essential for improving reading comprehension. The growing use of the internet has rendered online reading an essential resource for EFL readers, as it offers authentic language input. Currently, the lives of EFL readers are more reliant on the internet (Adelson & Keen, 2023).

To comprehend and analyze content online, users must be familiar with the website's architecture and the search engine. Digital literacy denotes the ability to access computer resources on a network and proficiently comprehend and utilize information from diverse sources in several formats delivered via technology (Leino, 2014). The distinctive characteristics of reading in a digital context include the presence of hyperlinks, the ability to do searches, and the availability of extensive knowledge. Mastery of these navigational skills is essential for efficiently browsing the internet.

The findings emphasized the need to consider the subcomponents of engagement and self-regulation when comprehending their correlation and their overall connection to self-achieved proficiency in an internet-based reading comprehension course (Zaha, 2022). Parents and teachers should have more influential and cooperative roles in directing online reading because technology, particularly online texts, is crucial for the acquisition of English Language Learners (ELLs) in modern situations (Park & Kim, 2017). The phenomenon of synchronicity influenced the ability to predict the digital reading performance of students (Hu & Yu, 2023).

In contrast to other studies, which found that online learning had an insignificant bad effect on French vocabulary, it did not influence French phonological awareness or word reading. The English language skills of FI students remained almost unchanged

(Abuosbeh et al., 2024). The use of live transcripts had no beneficial effect on the reading course students' academic achievement, regardless of competence level (Qiao & Yijun, 2023).

In the EFL environment, educators often encounter difficulties related to students' reading techniques. Consequently, it was concluded that pupils exhibited insufficient reading strategies, as demonstrated by their average score of 5 in reading skill acquisition. Furthermore, students exhibited a lack of motivation and encountered difficulties in understanding the reading material. These issues predominantly impact students who have not achieved standard scores. The observations indicated that the reading skills attained an average score of 58, which is below the Minimum Completeness Criteria score of 75%. Assistance should be provided to overcome pupils' persistent learning difficulties to preemptively mitigate possible problems. Reading approaches must be employed successfully to enhance reading comprehension (Nuong et al., 2022), and more successful readers employ reading methods more frequently than their less successful peers (Pardede, 2022).

Previous study recommendations indicate that synchronous online reading, self-regulated learning, higher-order thinking Skills (HOTS), and digital literacy are critical issues in English as a Foreign Language (EFL) education. To address this theoretical gap, it is determined that an element of synchronous online reading is pertinent to the taxonomy of synchronous learning and requires investigation. To address this theoretical gap, it is necessary to further examine the facets of synchronous online reading. The researchers aimed to examine the substantial impact of synchronous online reading on self-regulated learning, focusing on two dimensions: higher-order thinking skills (HOTS) and digital literacy in the contemporary context.

This study formulates research questions as follows:

1. How does synchronous online reading affect cadets' Higher Order Thinking Skills (HOTS)?
2. How does synchronous online reading affect cadets' digital literacy?
3. How do cadets' higher-order thinking Skills (HOTS) affect self-regulated learning?
4. How is cadets' digital literacy effective in self-regulated learning?
5. How does synchronous online reading affect self-regulated learning through Higher Order Thinking Skills (HOTS) and digital literacy of cadets in Southen Sulawesi, Indonesia?

Asynchronous online reading is gaining significance in the modern educational landscape. Consequently, in the absence of adequate methods, pupils in an academic environment would find it challenging to comprehend online content. The research objectives are to examine the impact of synchronous online reading on self-regulated learning via higher-order thinking skills (HOTS) and digital literacy in Southern Indonesia.

Literature review

Synchronous Online Reading

Online learning has provided numerous beneficial advantages for individuals studying the English language. They can participate in synchronous learning platforms to improve their English language skills (Wichanpricha, 2021). Regarding synchronous learning, learners can engage in online lessons from any location at a predetermined time. Therefore, a synchronous learning environment can enhance ESL and EFL learning flexibility. The degree of achievement or challenge students encounter varies based on their implementation of online reading (Saripah et al., 2023). Because of

remarkable technological progress, the act of reading has transitioned from conventional paper-based formats to digital media (online) (Yaghi, 2019; Park & Kim, 2017).

Readers utilize various reading approaches based on the individual reading activities they are performing, which, therefore, have distinct impacts on their reading experiences in both physical and digital media (Wu, 2014). Through in-text connections, the web has enhanced readers' comprehension by offering many possibilities for accessing supplementary resources such as photographs, videos, audio, and other texts. These will facilitate the process of understanding online reading (Kang, 2014; Binali et al., 2021; Taki, 2016).

Higher Order Thinking Skill (HOTS)

HOTS, or Higher Order Thinking Skills, is highly recommended in various English as a foreign language settings where educational reforms require teachers to improve the quality of teaching and learning (Nuong et al., 2022). HOTS enables learners to improve their learning and effectively share their information with others (Valdev Singh & Shaari, 2019; Feriyanto & Putri, 2020). Teaching HOTS is essential for fostering students' capacity to think critically, apply knowledge to real-life situations, excel in information technology, and collaborate effectively (Retnawati et al., 2018).

Bloom's Taxonomy is the predominant classification system in education, encompassing a spectrum of cognitive abilities that progress from basic knowledge-level thinking to advanced evaluation-level thinking. Taxonomy refers to a hierarchical arrangement of cognitive abilities that are organized in a specific sequence. Before assessment, students must comprehend and attain the necessary abilities. By employing a diverse range of instructional methods and strategies to foster HOTS, the student will begin to apply, analyze, synthesize, and evaluate new knowledge (Singh & Shaari, 2019).

Self-Regulated Learning (SRL)

Self-regulated learning gained popularity in the 1980s due to a desire to understand how students manage and control their learning processes. The approach highlighted the importance of autonomy and the students' accountability in assuming ownership of their learning (Mohammadi et al., 2020). Self-regulated learning involves an ongoing routine in which learners strategically organize their activities before, during, and after a task to effectively manage their learning (Versteeg et al., 2021). Highly self-regulated students construct learning objectives, devise and direct their activities based on them, monitor their progress toward the objectives, and may even reevaluate or modify their plans and objectives while employing strategic behaviors aligned with their aims (Martin et al., 2020). The study revealed that cognitive and metacognitive techniques within the self-regulated learning components significantly and directly impacted reading comprehension and problem-solving (Mohammadi et al., 2020).

Digital literacy (DL)

The topic of digital literacy has garnered considerable attention and is widely acknowledged as essential for both the general population and governments, especially concerning young people. Thanks to digital media, young people nowadays can access information and shape public ideas in decentralized manners (Syamsuri & Bancong, 2022). People with excellent digital literacy abilities will be more able to evaluate information and distinguish between the truth and the lies (Siriwattanarat et al., 2024). The comprehension of digital dynamic texts is shaped by factors affecting traditional or unchanging writings, such as overall linguistic competence and prior familiarity with the topic (Siriwattanarat et al., 2024). This also enables young people to obtain the essential background information required to develop a thorough comprehension of the material, regardless of whether it is in a traditional or digital

format (online) (Mohammadi et al., 2020). Digital literacy aims to encourage the skilled and perceptive use of information and communication technology (ICT) to actively participate in a knowledge-based society (Siddiq & Scherer, 2019).

Hypothesis

1. The Impact of synchronous online reading on cadets' HOTS
2. The Impact of synchronous online reading on cadets' digital literacy
3. The impact of cadets' HOTS on self-regulated learning
4. The impact of cadets' digital literacy on self-regulated learning
5. The Impact of self-regulated learning through HOTS, synchronous online reading, and digital literacy of cadets in Southern Sulawesi, Indonesia

Research method

Research Design

This study aims to examine the impact of synchronous online reading on self-regulated learning, specifically focusing on Higher Order Thinking Skills (HOTS) and digital literacy in Southern Indonesia. The present study employed survey research using a quantitative methodology to attain the objective. Using Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis.

Participants

The study aims to investigate the effect of synchronous online reading on self-regulated learning through Higher Order Thinking Skills (HOTS) and digital literacy. This study applied a quantitative approach, with the total number of participants being 436 cadets (N=436). This study employed cluster random sampling to accurately select participants for the research. The following processes were taken to establish the sample that would be the focus of the investigation.

The researchers were responsible for determining the required sample size and randomly selecting respondents. An effective method to achieve this is by disseminating survey invites through WhatsApp groups that specifically target the desired respondents. The process involves waiting until the number of received responses reaches the desired number of respondents.

Researchers determined the number of groups by including the same members evenly in each group and ensuring that each group differed. Next, randomly select clusters for sampling. Segmentation based on geography for use in cluster sampling: This can be done by classifying sampling clusters through representatives of each group in the entire cluster.

This study was conducted in Eastern Indonesia. Four provinces were selected as samples, and each regency and city selected a higher education in shipping science to represent the population. Four regencies and cities were selected based on their geographical location, namely Politeknik Ilmu Pelayaran (PIP) Makassar, Politeknik Pelayaran Sorong, Politeknik Pelayaran Barombong, and Politeknik Pelayaran Sulawesi Utara.

Data collection and instrument

Data was collected from respondents and analyzed (Mills, Geoffrey E.; Gay, 2019). The research instruments employed were web-based surveys that were completed directly by the participants. Open questions allow respondents to deliver unpremeditated responses to inquiries, hence fostering possibilities and the possibility for more spontaneity. Thus, this will mitigate the bias that arises from the closing of the fully answered form. In contrast, the closed-ended questionnaire limits

respondents from giving answers that depart from particular metrics or those explicitly defined by the researchers (Cohen et al., 2017). Concluding the terminated questionnaire provides a more convenient approach for researchers to carry out the coding process and successfully eliminates irrelevant responses, especially for specific topics.

However, open-ended questionnaires have significant drawbacks, such as a higher likelihood of non-response and the requirement for intensive coding of long responses. In addition, coding might provide difficulties when working with extensive online surveys, and open-ended questionnaires typically elicit a broader spectrum of replies than closed-ended questionnaires. Furthermore, employing open-ended questions will lead to a higher quantity of inadequate responses from survey participants. The distribution of students throughout the various regencies is taken into account when collecting sample data (Mulyana & Maylawati, 2024). The data collection technique involved distributing online questionnaires to every school in Indonesia due to the large amount of data required. To ensure data validity, a supervising teacher monitored students as they completed the questionnaire as part of the data-gathering process.

Data analysis

The main data for this study were gathered through the use of questionnaires. The questionnaire items were conducted to obtain the validity of the items that comprised the construct of the research (construct validity) (Rosmayanti et al., 2022). The data collected from the questionnaires were subsequently analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM), a statistical method employed to examine the associations between observed variables and underlying constructs. Partial Least Squares Structural Equation Modelling (PLS-SEM) is a modern statistical technique that can effectively estimate cause-effect relationship models derived from established theories (Sharma et al., 2019; Zeng et al., 2021).

The current study utilized the growing prevalence of secondary data analysis, namely survey data, to redirect the research emphasis from mere verification to developing predictive and causal-predictive models. This research context is appropriate for a prediction-oriented Partial Least Squares Structural Equation Modelling (PLS-SEM) approach (Hair et al., 2019). In this study, the PLS-SEM analysis comprises two components: the structural model (also referred to as the inner model) and the measurement model (also known as the outside model). The structural model depicts the relationships between the constructs, whereas the measurement model demonstrates the relationships between the constructs and the indicator variables.

Results and discussion

The study aims to investigate the impact of synchronous online reading on self-regulated learning through Higher Order Thinking Skill (HOTS), and digital literacy in Southern Indonesia. The researchers used SEM-PLS-based multivariate approaches, including exploratory and confirmatory factor analyses. The following figure 1 shows the relationship between all variables by using a structural model design which can be seen as follows:

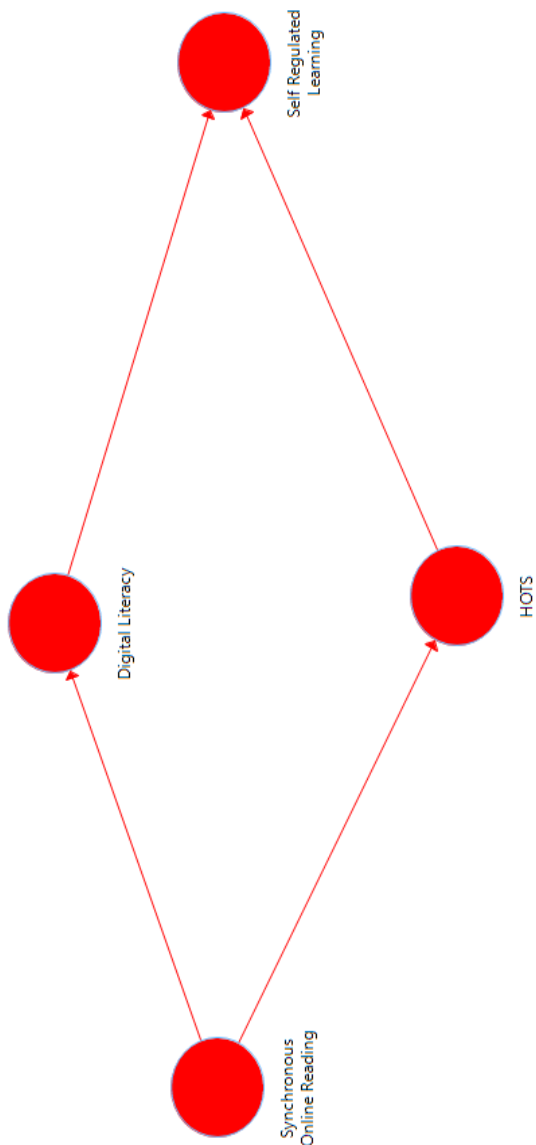


Figure 1. Structural model SEM-PLS

Figure 1 shows the impact of synchronous online reading on self-regulated learning. Synchronous is as exogenous variable. Then, digital literacy and HOTS are intervening variable. Lastly, self-regulated learning is an endogenous variable. In addition, outer model evaluation is carried out. This analysis is used to assess the model to determine validity and reliability of variables. The steps of this phase are the

loading factor, the square root value of AVE and composite reliability value. The loading factor of PLS-SEM model is illustrated into figure 2. Furthermore, outer model evaluation is carried out to evaluate validity and reliability of variables. This model examines the loading factor, the square root value of AVE and composite reliability value. To know the loading factor the reliability and validity variables results can be shown in figure 2 as follow

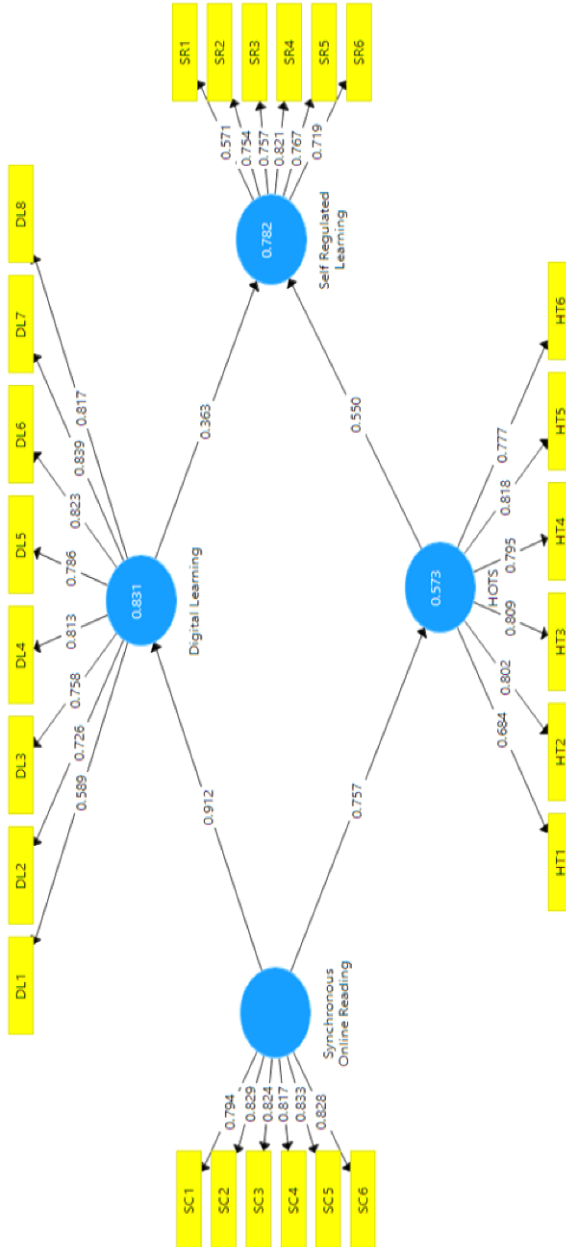


Figure 2. Factor Analysis Algorithm Generally

Figure 2 shows that there are six loading factors (indicator of variable) of synchronous online reading that describe valid (SC1, SC2, SC3, SC4, SC5 and SC6). Then, digital learning has five valid outer loadings (DL1, DL2, DL3, DL4 and DL5). Next, HOTS has also six valid outer loadings (HT1, HT2, HT3, HT4, HT5 and HT6) Last, self regulated learning has six valid outer loading (SR1, SR2, SR3, SR4, SR5 and SR6). To determine loading factor, it is presented in table 1.

Table 1. The Results of Loading Factor

Variables	Indicator	Factor Loading
Synchronous online reading	SC1	0.794
	SC2	0.829
	SC3	0.824
	SC4	0.817
	SC5	0.833
	SC6	0.828
Digital Literacy	DL1	0.589
	DL2	0.726
	DL3	0.758
	DL4	0.813
	DL5	0.786
	DL6	0.823
	DL7	0.839
	DL8	0.817
HOTS	HT1	0.684
	HT2	0.802
	HT3	0.809
	HT4	0.795
	HT5	0.818
Self Regulated Learning	SR1	0.571
	SR2	0.754
	SR3	0.757
	SR4	0.821
	SR5	0.767
	SR6	0.719

Table 1 shows each variable value more than 0.5 so that it can be said to be good. Synchronous online reading has valid indicators range 0.7-0.8 such as SC1=0.794, SC2=0.829, SC3=0.824, SC4=0.817, SC5=0.833, AL6=0.828. Then, digital learning describes valid indicators range 0.5-0.8 namely DL1=0.589, DL2=0.726, DL3=0.758, DL4=0.813, DL5=0.786, DL6=0.823, DL7=0.839, and DL8=0.817. Next, HOTS describes valid indicators range 0.6-0.8 namely HT1=0.684, HT2=0.802, HT3=0.809, HT4=0.795, and HT5=0.818. Last, self regulated learning has also valid indicators range 0.5-0.8 namely SR1=0.571, SR2=0.754, SR3=0.757, SR4=0.821, SR5=0.767 and SR6=0.719. Thus, there is a good significant correlation between score of all variables and score of indicators

Moreover, the discriminant validity is carried out to determined variable measurement's outer loading value. The level variable has a higher correlation with its indicators than other block constructs to represent discriminant validity. The results of this discriminant validity are shown in table 2.

Table 2. Correlation value between variables and the square root value of AVE

	Digital Literacy	HOTS	Self-Regulated Learning	Synchronous Online Reading
Digital Literacy	0.912			
HOTS	0.872	0.866		
Self-Regulated Learning	0.842	0.770	0.758	
Synchronous Online Reading	0.773	0.757	0.736	0.821

Based on table 2 above, the square root value of AVE for each variable is bigger than the correlation value, as shown in table 2. Digital Literacy variables have a bigger correlation than other variables (HOTS, self regulated learning, synchronous online reading). Furthermore, HOTS describes a bigger correlation self regulated on learning and synchronous online. Then, self-regulated learning describes a bigger correlation with synchronous online reading. This means that variables show a good discriminant validity and valid to form a model

In addition to discriminant validity, the outer model can be evaluated by assessing construct reliability as shown by composite reliability scores. The recommended value has range from .70 to .90 ((Hair, J.F., Ringle, C.M. and Sarstedt, 2011). The result of the composite reliability analysis can be found in Table 3.

Table 3. Composite Reliability of Synchronous Online Reading

	Composite Reliability
Digital Learning	0.922
HOTS	0.904
Self Regulated Learning	0.875
Synchronous Online Reding	0.925

Table 3 indicates that digital literacy has composite reliability of 0.922. Next, HOTS has a higher composite reliability than 0.70. It is 0.904. In addition, self regulate learning has also composite reliability of 0.875. Lastly, synchronous online reading by using E-Module has composite reliability of 0.925. The result of variables implies good reliability within a higher value than 0.7.

The coefficient of determination for the Analysis of Variant (R²) or determination test, which is used to establish the effect of the exogenous variable on the endogenous variable and intervening variable, which is shown in table 4.

Table 4. R Square Value of Synchronous Learning

	R-Square
Digital Learning	0.831
HOTS	0.573
Self Regulated Learning	0.782

Table 4 shows that synchronous online reading variable explains 83% digital learning that is categorized as high. Furthermore, HOTS explains 57% which is

categorized as moderate. Lastly, synchronous online reading explains 78% self regulated learning is categorized as high.

In addition, the step of inner model that can be evaluated are path coefficients result and t-statistics to test hypotheses. The significant value between variables, t-statistics, and p-values are used to decide whether a hypothesis test should be accepted or rejected. These values can be seen in bootstrapping results. The determine of t-value (1.96) is based on (Hair, J.F., Ringle, C.M. and Sarstedt, 2011) said that the critical value for a two-tailed test is 1.96 for a significant level of 5%.

Figure 9 depicts the research model's findings and Table 4 demonstrates the direct effect of interactive E-Module on autonomous learning through blended learning and online learning by using E-Module.

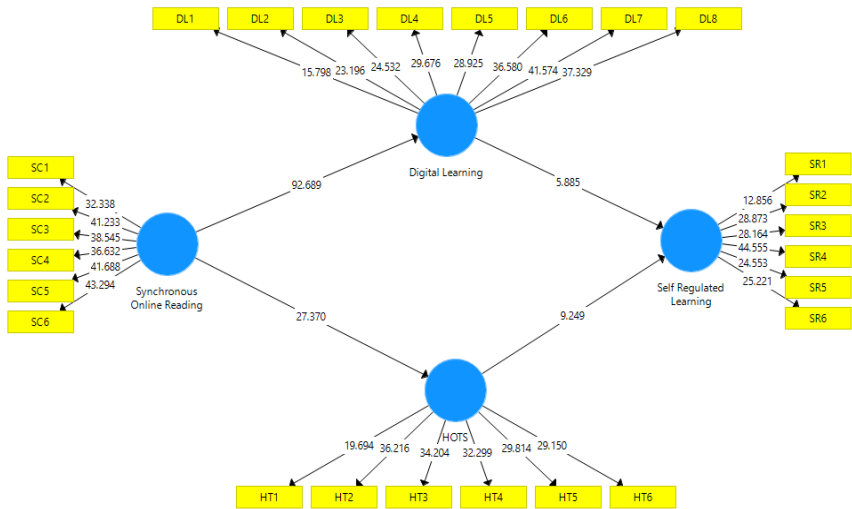


Figure 3. SEM Analysis of Research Model

Figure 3 above indicates that the impact of synchronous learning on digital learning proven by T-statistics is 92.689. It is higher than the T-value of 1.96. Then, T-statistics of digital learning on self regulated learning is 5.885 in which it is higher than 1.96. In addition, T-statistics of synchronous online reading on HOTS is 27.370 and T-statistics of HOTS on self regulated learning is 9.249. It means that synchronous learning has a significant impact on digital learning and HOTS. Digital learning has also a significant impact on self regulated learning. Last, HOTS has a significant impact on self regulated learning.

Table.5 Path Coefficient Result of Research Model

			Original Sample (O)	Sample Mean (M)	T-Statistics (O/STDEV)	P- Values
Digital Learning	->	Self Regulated Learning	0.363	0.359	5.885	0.000
HOTS Learning	->	Self Regulated Learning	0.550	0.555	9.249	0.000
Synchronous Online Reading	->	Digital Learning	0.912	0.911	92.689	0.000
Synchronous Online Reading	->	HOTS Learning	0.757	0.756	27.370	0.000

Table 5 above indicates that all indicators describe a strong positive effect of digital learning on self regulated learning, HOTS on self regulated learning, synchronous online reading on digital learning and synchronous online reading on HOTS. Then, all variables describe positive correlation consistently. Then, all variables show t-statistics higher than 1.96. Lastly, all variables describe that P-value is 0.000 with $p < 0.05$. So that there is the significant direct impact statistically of digital learning on self regulated learning, HOTS on self regulated learning, synchronous online reading on digital learning and synchronous online reading on HOTS with confidence level of 95% statistically. In addition to direct effect, indirect effect of variables is shown in table 6.

Table 6. the specific indirect impact of synchronous online reading

			Original Sample (O)	Sample Mean (M)	T-Statistics (O/STDEV)	P- Values
Synchronous Online Reading	->	Digital Learning	0.331	0.327	5.891	0.000
Synchronous Online Reading	->	HOTS Learning	0.416	0.420	8.286	0.000

Table 6. The above indicates that all indicators describe a strong positive effect of synchronous online reading on self-regulated learning through digital learning and synchronous online reading on self-regulated learning through HOTS. Then, all variables describe positive correlation consistently. Then, all variables show t-statistics higher than 1.96. Lastly, all variables describe that the P-value is 0.000 with $p < 0.05$, so there is a significant indirect impact statistically of synchronous online reading on self-regulated learning through digital learning and synchronous online reading on self-regulated learning through HOTS with a confidence level of 95% statistically.

This study investigated the impact of self-regulated learning through Higher Order Thinking Skills (HOTS), synchronous online reading, and digital literacy of cadets in Southern Sulawesi, Indonesia. The impact of synchronous online reading on cadets' Higher Order Thinking Skill (HOTS). Synchronous online reading on cadets' Higher Order Thinking Skills (HOTS) obtained a T-test of 27.370, which was higher than the t-table of 1.96. p-value was lower than 0.05. Thus, Synchronous online reading impacted cadets' Higher Order Thinking Skills (HOTS), including creating, evaluating, and analyzing. The synchronous online examinations were well-received by the students (Chao et al., 2012). Provided every student with an equal chance to acquire and master HOTS in reading comprehension (Amali et al., 2022). Students'

use of mobile devices in the classroom directly impacts their ability to HOST (H. J. Kim et al., 2020).

The impact of synchronous online reading on cadets' digital literacy was obtained by a T-test of 92.689, higher than the t-table of 1.96. p-value was lower than 0.05. Thus, synchronous online reading had an impact on cadets' digital literacy. Utilizing synchronous online reading at a distant university improves technology use and experiences (Nurhilaliah et al., 2023). An important increase in students' digital reading proficiency is due to SCMC (Yu & Hu, 2023).

The impact of cadets' higher-order thinking Skills (HOTS) on self-regulated learning was obtained through a T-test of 9.249, which was higher than the t-table of 1.96. The P-value was lower than 0.05. Thus, cadets' Higher Order Thinking Skills (HOTS) impacted self-regulated learning. It is important to use higher order thinking techniques and cognitive self-regulated learning (Samadi et al., 2024). Building fundamental abilities like self-regulated learning and HOTS (Lee et al., 2024). HOST and Self-Regulated Learning (SRL) were also classified well (Viriya, 2022).

The impact of cadets' digital literacy on self-regulated learning was obtained by a T-test of 5.885, which was higher than the t-table of 1.96. The P-value was lower than 0.05. Thus, there was the impact of cadets' digital literacy on self-regulated learning. To expand knowledge of how students learn and how to design instruction in an asynchronous online course to enable self-regulated learning (D. Kim et al., 2018). To do well in the online learning environment, students who use self-regulated learning must plan and monitor their learning behaviors (Mou, 2023).

The increasing use of ICT in foreign language education has completely transformed how reading is done, and reading online requires new approaches. A high level of reading proficiency is crucial for English as a Foreign Language (EFL) learners, especially for cadets in Sourhen Sulawesi, as it is the primary ability that allows them to flourish academically and make rapid progress in other aspects of language acquisition. Readers must possess knowledge of both the website's structure and the search engine to comprehend and interpret the material in a web-based environment. Digital literacy encompasses the ability to access computer resources on a network and proficiently comprehend and utilize information from diverse sources in varied formats when presented through technology.

To offer targeted recommendations for educators on implementing synchronous online reading to enhance digital literacy, higher-order thinking skills (HOTS), and self-regulated learning (SRL) in cadets. Highlight practical steps or strategies that can be directly applied in teaching contexts through pre-reading exercises for digital literacy and objective establishment. Commence each session with activities necessitating engagement with digital tools, such as researching background information, utilizing e-libraries, or navigating online platforms. This fosters digital literacy and promotes goal establishment. Engaged Reading through Digital Annotation Motivate cadets to mark readings with analytical inquiries such as "What renders this information pertinent?" or "In what ways can this concept be implemented in practical situations?" Instruct cadets on the annotation procedure to emphasize major concepts and condensed material and formulate inquiries. This facilitates active reading and self-directed learning. Utilize breakout rooms for small group conversations in which cadets examine important concepts, dispute interpretations, and contemplate the topic. Subsequently, it facilitates collective reflections to exchange varied viewpoints. Foster peer evaluation of annotations and reflections to enhance critical thinking. Instruct cadets to effectively manage their time by segmenting readings into portions with designated time constraints. For instance, designate 20 minutes for reading, which will be accomplished by 10 minutes for thought and evaluation of objectives. Post-Reading Reflections and Synchronous:

Instruct cadets to compose concise reflections on their learning experiences following each session, emphasizing their acquired knowledge, successful tactics, and opportunities for enhancement. Post-synchronous sessions offer assignments such as digital summaries or discussion board analysis to facilitate independent thought organization among cadets. By implementing these tactics, educators can proficiently assist cadets in cultivating digital literacy, higher-order thinking skills, and self-regulated learning through synchronous online reading.

Cadets demonstrate exceptional proficiency in self-regulated learning (SRL) and digital literacy skills when comprehending online text. Advanced language learners are said to have more self-awareness regarding their learning processes and are skilled at managing their learning strategies. Furthermore, the digital literacy abilities of cadets will be enhanced, enabling them to effectively evaluate material and distinguish between truth and falsehoods while engaging in synchronous reading through the internet.

Moreover, synchronous online reading has the potential to enhance digital literacy, HOTS, and SRL; its success largely depends on addressing these limitations through cadets may encounter difficulties in accessing dependable internet, gadgets, or digital reading tools, which can hinder their engagement in synchronous online sessions. In synchronous sessions, the opportunity for comprehensive analysis or critical thinking may be constrained, particularly if the reading content is extensive or intricate. Not all cadets exhibit robust self-regulation skills essential for overseeing their learning in a digital context. Some individuals may encounter difficulties sustaining motivation, managing their time, or self-assessing their success while reading assignments.

Furthermore, the utilization of self-regulated learning, higher-order thinking skills (HOTS), synchronous online reading, and digital literacy among cadets has a significant impact in Southern Sulawesi, Indonesia. Cadets have been presented with extensive chances due to the recent development of synchronous online teaching. Enhancing students' capacity to think critically, utilize gained knowledge in real situations, exhibit expertise in information technology, and collaborate efficiently in a team setting. In addition, cadets' digital literacy skills will be enhanced, enabling them to effectively evaluate material and distinguish between facts and falsehoods in this digital era.

Conclusion

The study finds that self-regulated learning through cadets' higher-order thinking skills (HOTS), synchronous online reading, and digital literacy significantly impact Southern Sulawesi, Indonesia. Indeed, technological innovation is consistently transforming language education and reinventing relationships with others. Synchronous online teaching is one recent advance that has created vast opportunities for cadets. Developing students' ability to engage in critical thinking, apply acquired knowledge to practical scenarios, demonstrate proficiency in information technology, and effectively work together in a team. Cadets possess superior self-regulated learning (SRL) and digital literacy skills when understanding online text. It is asserted that advanced language learners possess greater self-awareness regarding their learning processes and are adept at controlling their learning practices.

Moreover, cadets' digital literacy skills will help them assess information and discern between reality and untruth through synchronous online reading. To enhance the comprehension of synchronous online learning in EFL contexts by demonstrating its role in fostering digital literacy, higher-order thinking, self-regulation, and engagement. Synchronous online learning environments facilitate EFL learners' improvement in digital literacy through interaction with diverse online tools, platforms, and resources. These competencies are essential in contemporary EFL environments where digital instruments are frequently incorporated into language acquisition. This enhances comprehension of the concurrent development of digital

literacy and language abilities, equipping learners for effective communication in a digitally interconnected environment.

This is a recommendation for further research to investigate not only for cadets in Southern Sulawesi but also for cadets in Indonesia as a whole. Research should investigate the influence of long-term effects on digital literacy and language proficiency, as well as synchronous online learning, across diverse learner demographics, including novice versus advanced students, individuals from under-resourced regions, and those with varying cultural or educational backgrounds.

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