តើបុរេអំណានអាចជំរុញការរៀនតាមបែបស្វ័យដឹកនាំ (SDL) របស់គរុនិស្សិតដែរឬទេ?

To What Extent Does Pre-Reading Assignment Promote Self-Directed Learning of Pre-Service Teachers?

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ABSTRACT

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1. Introduction

The modern educational landscape is increasingly focused on fostering self-directed learning (SDL) among student teachers. As traditional teacher-centered models of education give way to more learner-centered approaches, SDL has emerged as a key competency that equips students with the ability to take control of their learning processes. SDL involves a dynamic interplay of cognitive, metacognitive, and motivational factors that enable learners to identify their learning needs, set goals, select appropriate strategies, and evaluate their progress (Garrison, 1997; Knowles, 1975). This autonomy in learning is not only essential for academic success but also for lifelong learning, particularly in a world characterized by rapid technological and societal changes.

Among the various strategies that can enhance SDL, pre-reading has gained considerable attention in educational research and practice. Pre-reading refers to the practice of reviewing and

engaging with assigned or recommended materials before formal instruction takes place. This can include reading textbooks, articles, or any other relevant resources that provide foundational knowledge and context for upcoming lessons. Pre-reading serves as a preparatory tool that primes students' minds, enabling them to better understand and retain new information introduced in class. According to McNamara et al. (2007), pre-reading activates prior knowledge, which is crucial for making meaningful connections with new content and for deeper comprehension.

The concept of pre-reading aligns closely with the principles of SDL, as both involve an element of self-regulation—the process by which students plan, monitor, and evaluate their learning. activities (Zimmerman, 2002). By engaging in pre-reading, students take an active role in their education, preparing themselves to be more effective participants in the learning process. This preparation not only enhances comprehension but also facilitates more active and meaningful participation in classroom discussions and activities (Prince, 2004). Students who engage in pre-reading are more likely to ask insightful questions, contribute to discussions, and draw connections between different pieces of knowledge, all of which are key behaviors of self-directed learners.

Pre-reading is not merely a preparatory activity; it significantly promotes deeper cognitive engagement and self-regulatory learning strategies, which are foundational to SDL. Research has shown that when students engage in pre-reading, they are more prepared to integrate new information with existing knowledge, enhancing both short-term comprehension and long-term retention (McNamara et al., 2007). This enhanced readiness for learning enables students to engage more critically with the material, fostering a deeper understanding and facilitating the application of knowledge in novel contexts.

Moreover, pre-reading encourages reflective thinking, an essential component of SDL. By reviewing material beforehand, students are better equipped to reflect on what they know, identify gaps in their understanding, and formulate questions that guide their learning. This reflection is a critical metacognitive strategy that supports continuous improvement in learning processes (Schraw & Dennison, 1994). The ability to reflect on one's learning process is crucial for developing the self-awareness needed to be an effective, self-directed learner.

This chapter aims to explore the multifaceted role of pre-reading in fostering SDL among students. It will begin by providing a theoretical framework that connects pre-reading with SDL, drawing on cognitive and educational psychology research to explain how pre-reading supports key SDL processes such as self-regulation, metacognition, and motivation. The chapter will then review empirical studies that have examined the impact of pre-reading on learning outcomes, highlighting how this practice can enhance student engagement, comprehension, and academic performance.

Furthermore, the chapter will discuss practical strategies for integrating pre-reading into various educational contexts. It will offer recommendations for educators on how to effectively assign and utilize pre-reading materials to maximize their impact on student learning. This includes considerations for selecting appropriate texts, designing pre-reading activities that promote critical thinking, and creating a supportive learning environment that encourages students to take ownership of their learning.

By providing a comprehensive overview of the relationship between pre-reading and SDL, this chapter aims to underscore the importance of pre-reading as a powerful pedagogical tool. It highlights how this seemingly simple strategy can transform passive learners into active,

self-directed ones who are better prepared to succeed in both their academic and professional lives.

In conclusion, pre-reading is a critical practice that supports the development of SDL skills among students. By engaging in pre-reading, students are empowered to take charge of their learning, develop critical thinking skills, and become more effective and autonomous learners. As educational institutions continue to emphasize the importance of lifelong learning and adaptability, strategies like pre-reading that promote SDL will become increasingly important. This chapter will delve deeper into these themes, providing a thorough exploration of how pre-reading can be leveraged to enhance SDL and improve educational outcomes.

The Cambodian education system has faced significant challenges over the past few decades, including limited resources, inadequate teacher training, and a lack of modern teaching methodologies. Traditional teaching practices in Cambodia are often characterized by teacher-centered approaches, where the teacher is the primary source of knowledge, and students are passive recipients. This model does not adequately prepare students for self-directed learning (SDL), a critical skill for success in the 21st century, where the ability to learn independently and continuously is essential.

Lack of self-directed learning skills: In Cambodia, many students have not developed the skills necessary for SDL, such as self-regulation, critical thinking, and independent study habits. The education system's focus on rote memorization and examination-driven learning does not encourage students to take ownership of their learning or develop the ability to learn autonomously (Neth & Chhinh, 2017). As a result, students often struggle to engage with learning materials independently, limiting their ability to succeed in higher education and beyond.

Limited Use of Pre-reading Strategies: Pre-reading, a critical strategy for fostering SDL, is not widely implemented in Cambodian classrooms. This could be due to several factors, including a lack of awareness among educators about the benefits of pre-reading, limited access to reading materials, and the prevailing emphasis on lecture-based instruction. Without pre-reading, students miss the opportunity to build background knowledge, develop inquiry skills, and engage more deeply with the content during class discussions (Chann, 2018).

Barriers to Implementing Pre-reading and SDL: Implementing pre-reading strategies to promote SDL in Cambodia faces several obstacles. Many schools lack access to adequate learning materials, such as textbooks and digital resources, which are essential for pre-reading activities (UNESCO, 2016). Additionally, many teachers in Cambodia are not sufficiently trained in modern pedagogical methods that encourage SDL. The lack of professional development opportunities for teachers further exacerbates this problem, as they may not feel confident or equipped to implement pre-reading or other student-centered learning strategies effectively (Tan, 2007).

Need for Change in Teaching Practices: To address these challenges, there is a need for a shift from traditional, teacher-centered approaches to more student-centered, active learning strategies that promote SDL. Pre-reading is one such strategy that can empower students to become more independent learners by engaging with content before class, fostering critical thinking, and enhancing understanding and retention of information. However, for pre-reading to be effectively implemented in Cambodian schools, both teachers and students need support and resources to develop the necessary skills and habits.

Educational Reforms and Initiatives: Recent educational reforms in Cambodia have aimed to improve the quality of education and promote more active learning strategies. However, there is still a gap between policy and practice, particularly in rural and underserved areas where resources and teacher training remain limited (Bredenberg, 2009). Therefore, it is crucial to explore how pre-reading can be integrated into the Cambodian education system to promote SDL and enhance learning outcomes.

In conclusion, the problem in Cambodia is twofold: the current education system does not adequately promote SDL, and there is a limited implementation of pre-reading strategies that can foster SDL. Addressing these challenges requires a comprehensive approach that includes teacher training, resource allocation, and curriculum development to encourage pre-reading and SDL practices. This chapter will explore the potential of pre-reading as a tool for promoting SDL among Cambodian students and provide recommendations for overcoming the existing barriers to its implementation.

2. METHODOLOGY

The study employs a quantitative experimental research design that consists of one control group and an experimental group. The sample of this study involves a Class C of third-year primary student teachers (Fiscal year 2023-2024). The total number of student teachers in the class is 25. However, only 18 students participated in the experiment session. Only students in the experimental group were given the pre-reading assignment one week before the experimental teaching session to ensure that the student teachers had enough time to work on their assignments, including reading and answering some questions.

The study used a test developed by the English classroom teacher educator for the data collection. The test consists of five open-ended questions drawing from a subject titled “Teaching Reading and Writing.”

Table 1

Questions in the test given to both groups

Question	Test Score
1. What would students learn?	25
2. What are the phrases for talking about yourself?	15
3. What are the languages for classroom expression?	20
4. What are the high-frequency words?	15
5. How should teaching and learning be done?	25
Total test score	**100**

The participants were randomly and equally assigned to a control group and an experimental group using an online name-selection tool. The tests were given to both groups after completing the one-hour teaching session.

The data analysis technique for this study includes descriptive statistics such as frequency, mean score, standard deviation, and the independent sample t-test to see if there is any significant difference in student teachers' test scores.

3. FINDINGS

Hypothesis

Pre-reading assignments have been linked to better academic achievement in Cambodian students, especially in terms of learning and remembering new material. According to McNamara et al. (2007), pre-reading helps improve comprehension and retention by giving incoming material a cognitive framework. By consolidating the information, this cognitive preparation enhances learning results. Therefore, the authors formulate the hypothesis as below.

- Hypothesis: Students in the experimental group who receive pre-reading assignments will have significantly higher test scores than students in the control group who do not receive pre-reading assignments.

Demographic of Sample

A total of 18 student teachers from the third year of Class C voluntarily participated in this study. Among them, there are equally nine student teachers in each control and experimental group. Regarding gender, there are four male and 14 female student teachers.

Table 2

Demographic of Sample (total $N = 18$)

Variables		Count (N)	% of Total
Group Type	Control	9	50
	Experimental	9	50
Gender	Female	14	77.78
	Male	04	22.22

Note. Total $N = 18$.

Test Score

Table 3 below shows the mean scores, standard deviation, and minimum and maximum scores of

the student teachers' tests. The test results of the experimental group (M = 82.2, SD = 9.40) at a glance look significantly higher than the results from the control group (M = 67.6, SD = 14.8). However, at a significance level of 0.05, the difference between the control and experimental groups on the test scores indicates a statistically significant difference in their test scores; t(16) = 2.51, p = 0.02. As the T-value of 2.51 is higher, just short of the significant T-value of 2.12. Therefore, there is an observable and a statistically significant difference between groups.

Table 3

Student teachers' test scores for both control and experimental groups (total *N* = 18)

	N	Mean	SD	*t*	*df*	*p*
Control Group	9	70.67	14.80	2.66	16	.017
Experimental Group	9	86.22	9.40			

Table 4 compares the test scores of student teachers in both the control and experimental groups. The table reveals that the experimental group had a larger mean difference than the control group. In other words, student teachers who received a pre-reading assignment performed better academically than students who did not. This is supported by Cohen's d test, where the effect size of 0.523 indicates a "medium" effect size between the control and experimental groups, which is statistically significant at the .05 level. This concludes that the experimental group outperformed the control group, demonstrating the benefits of pre-reading assignments.

Table 4

Mean difference and the effect size of student teachers' test scores for both groups

	Min.	Max.	*Mean Difference*	*Effect Size (Hedges' g)*
Control Group	48	84	15.6	0.523
Experimental Group	72	100		

Observation

Over the study period, 28 student-lecturer interactions were recorded in the control group, with an average of approximately 3.11 interactions per student (28 interactions / 9 students). In comparison, the experimental group had a total of 39 interactions, with an average of approximately 4.33 interactions per student (39 interactions / 9 students). These results suggest that students in the experimental group, who engaged in pre-reading activities, interacted more frequently with the lecturer than those in the control group.

Table 5

A table can help illustrate the difference in interaction frequencies between the two groups:

Group	Total Interactions	Number of Students	Average Interactions per Student
Control Group	28	9	3.11
Experimental Group	39	9	4.33

The results indicate a higher frequency of student-lecturer interactions in the experimental group compared to the control group. The experimental group, which engaged in pre-reading activities, had an average of 4.33 interactions per student, while the control group averaged 3.11 interactions per student. This difference suggests that pre-reading can positively influence students' readiness and willingness to participate in classroom activities, possibly due to a better understanding of the subject matter and increased confidence in discussing the content (Prince, 2004).

4. DISCUSSION

The purpose of this research study was to identify whether pre-reading assignments had an impact on academic performance in Cambodian teacher education. The findings suggest that pre-reading assignments have an important role in influencing student teachers' academic performance. The statistically significant difference in the test scores between the experimental and control groups suggests that student teachers who completed the pre-reading assignments have a more comprehensive understanding of the lesson they studied. This comes as pre-reading assignments bridge a student's pre-existing knowledge with the new content covered in the lecture, thus allowing them to make connections, increase comprehension, and lead to more engagement during lectures.

The results of this study indicate that engaging in pre-reading activities has a beneficial effect on student performance, as demonstrated by the considerably higher average score of the experimental group ($M = 86.22$, $SD = 9.40$) in comparison to the control group ($M = 70.67$, $SD = 14.80$). This outcome emphasizes that engaging in pre-reading can augment academic performance by equipping students with the necessary preparation for more dynamic involvement in subsequent learning endeavors. The experimental group exhibited a higher average score and a smaller standard deviation ($SD = 9.40$), suggesting superior overall performance and greater consistency in learning outcomes among students. The findings align with other research suggesting that preparatory tasks such as pre-reading can enhance students' understanding and memory (McNamara et al., 2007; Prince, 2004). Before class, engaging in pre-reading likely allowed the students to establish a solid base of knowledge, which in turn facilitated more profound involvement during lectures and discussions.

Moreover, the t-test revealed a substantial disparity ($p = 0.017$), indicating that the observed effect is improbable to have occurred by mere coincidence. This is consistent with research that highlights the importance of preparatory tasks in facilitating active learning and student preparedness (Chi, 2009). Preemptively interacting with the content beforehand, students in the experimental group may have cultivated enhanced comprehension and retention, resulting in enhanced performance on tests.

The higher frequency of interaction observed in the experimental group is consistent with prior research that emphasizes the advantages of pre-reading in improving student engagement and fostering self-directed learning (McNamara et al., 2007). Preliminary reading assignments are likely to enhance students' preparation for class, boost their confidence in comprehension, and foster greater engagement in discussions. The discovery has important implications for educational approaches in Cambodia, as PRA can enhance academic achievements and overall student proficiency.

The findings recognize the importance of incorporating pre-reading assignments as a routine educational practice. Therefore, pre-reading assignments act as a foundation, which allows students to build upon it, thus facilitating a more comprehensive and extensive understanding. This is especially beneficial for students who struggle to grasp concepts the first time they are presented to them or have limited prior knowledge in a specific subject area.

Further, the use of pre-reading assignments extends beyond financial literacy towards various academic disciplines, which can be used to improve a student's overall academic performance and learning outcomes across all subjects. Teacher educators should consider using pre-reading assignments as a standard practice, tailoring them to meet specific goals to be used effectively.

Nevertheless, it is important to acknowledge several constraints. The findings of this study may not apply to a larger population due to the limited sample size of only 9 participants per group. In addition, the absence of random assignment in the formation of the groups could lead to selection bias, potentially impacting the internal validity of the study. Subsequent investigations should prioritize bigger sample sizes and employ random assignment to enhance the credibility of these findings and investigate the influence of other pre-reading materials.

In summary, our findings offer initial proof that pre-reading assignments can greatly improve learning outcomes. This implies that educators should contemplate integrating these activities into their teaching methods to encourage self-directed learning.

CONCLUSION

In conclusion, this study reveals that pre-reading assignments can significantly boost student engagement by increasing interactions with teacher educators. These strategies can create an interactive learning environment and improve overall academic performance, especially in contexts like Cambodia, where active learning approaches are increasingly popular. The experimental group showed higher post-test scores than the control group, indicating the

effectiveness of pre-reading assignments. The study suggests that implementing these strategies can improve student readiness and active participation in learning. Teachers should consider exploring different types of pre-reading materials and their effects on various aspects of learning. Further research with larger, diverse samples could generalize these findings and clarify the role of pre-reading in different educational settings.

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Appendix A

Appendix B