EXPLORING ENGLISH PEDAGOGY STUDENTS' LEARNING PERFORMANCE AND SELF-LEARNING ABILITY IN THE FLIPPED CLASSROOM

Phạm Hải Yến
Khoa Ngoại ngữ, Trường Đại học Hải Phòng
Email: yenph@dhhp.edu.vn

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Abstract: This study explores the learning performance improvement and self-learning ability among third-year English pedagogy students while taking part in flipped classroom model, in the course "Applying Information Technology in Teaching English" at Hai Phong University. Using a quasi-experimental design, one group experienced flipped instruction while another followed traditional teaching methods. Data were collected through pre- and post-tests, self-learning ability scales, classroom observations and interviews to examine both academic performance and learning attitudes. The results of this research reveal that the students in the flipped classroom performed better than their peers in lesson comprehension, learning engagement, and autonomy, and show the students' strong points and weak points in self-learning capacity in the flipped classroom. The study contributes to the growing body of research on innovative teaching methods in language teacher education and provides practical recommendations for integrating flipped classrooms into English teaching programs to improve both teaching quality and students' self-directed learning skills.

Keywords: Flipped classroom, information technology in teaching English, self-learning ability.

TÌM HIỂU KẾT QUẢ HỌC TẬP VÀ NĂNG LỰC TỰ HỌC CỦA SINH VIÊN SƯ PHẠM TIẾNG ANH TRONG LỚP HỌC ĐẢO NGƯỢC

Tóm tắt: Nghiên cứu này tìm hiểu sự cải thiện trong kết quả học tập và năng lực tự học của sinh viên năm thứ ba ngành Sư phạm Tiếng Anh trong khi tham gia mô hình lớp học đảo ngược, trong học phần "Ứng dụng Công nghệ thông tin trong giảng dạy Tiếng Anh" tại Trường Đại học Hải Phòng. Với thiết kế nghiên cứu bán thực nghiệm, một nhóm được trải nghiệm phương pháp giảng dạy đảo ngược trong khi nhóm còn lại theo học theo phương pháp truyền thống. Dữ liệu được thu thập thông qua bài kiểm tra trước và sau thực nghiệm, thang đo năng lực tự học, quan sát lớp học và phỏng vấn nhằm khảo sát cả

kết quả học tập và thái độ học tập. Kết quả nghiên cứu cho thấy sinh viên trong lớp học đảo ngược có thành tích tốt hơn so với bạn học ở nhóm đối chứng về mức độ hiểu bài, sự tham gia học tập và tính tự chủ; đồng thời cũng chỉ ra những điểm mạnh và điểm yếu trong năng lực tự học của sinh viên khi tham gia lớp học đảo ngược. Nghiên cứu này đóng góp vào kho tàng ngày càng phát triển về các phương pháp giảng dạy đổi mới trong đào tạo giáo viên ngôn ngữ, và đưa ra các khuyến nghị thực tiễn cho việc tích hợp lớp học đảo ngược vào các chương trình giảng dạy Tiếng Anh nhằm cải thiện cả chất lượng giảng dạy và kỹ năng tự học có định hướng của sinh viên.

Từ khóa: Lớp học đảo ngược, công nghệ thông tin trong giảng dạy Tiếng Anh, năng lực tự học.

1. Introduction

The flipped classroom model has become an important innovation in global education, particularly in foreign language learning. Introduced by Bergmann and Sams (2012), it reverses traditional instruction by moving content delivery outside the classroom and using class time for interaction and problem-solving. Students study videos and readings before class, while in-class sessions focus on communication and collaboration. According to Bishop and Verleger (2013), this model combines video-based learning with active, student-centered activities that enhance engagement and understanding. Research has shown that flipped learning improves motivation, academic achievement, and self-directed learning (Zainuddin & Halili, 2016), offering language learners more authentic practice than conventional teacher-centered methods.

In Vietnam, the use of the flipped classroom has aligned with ongoing educational reform and digital transformation. Recent studies indicate that it has been successfully applied in English-related courses. Nguyen (2023) noted that flipped instruction supports innovation in English language teaching in higher education. Ho, Dien, Thao, and An (2023) found that non-English majors at Kien Giang University showed greater motivation and participation in speaking classes, while Nguyen (2021) reported improvements in writing performance among English majors at VNU University of Languages and International Studies. Similarly, Tran and Tran (2024) confirmed that flipped learning enhances learner autonomy among non-English majors at Ho Chi Minh City Open University. Despite challenges such as limited technology infrastructure and teachers' digital competence, these studies highlight the model's potential to improve teaching quality and promote learner independence.

At Hai Phong University, the course *Applying Information Technology in Teaching English* equips pre-service teachers with digital teaching skills.

However, little research has explored the flipped classroom in this context. This study therefore aims to investigate how this model can improve third-year English pedagogy students' learning outcomes and their strong points and weak points in self-learning ability in this model.

2. Literature Review

2.1. Flipped Classroom Model

Flipped learning is defined by Bergmann and Sams (2012) as a pedagogical approach where direct instruction is moved outside the classroom, and in-class time is used for activities that deepen understanding. The model aligns with constructivist and student-centered theories of learning.

The flipped classroom operates in a variety of models depending on the availability of technology and the amount of class time the teacher can devote to instruction.

According to ViewSonic (2021), there are eight types of flipped classrooms: traditional (standard), group-based, debate-based, discussion-based, micro, in-class, virtual, and teacher-flipped.

The traditional flipped classroom allows learners to access learning materials beforehand to gain basic knowledge of the lesson, and then practice and deepen that knowledge in class.

The group-based flipped classroom is similar to the traditional model but places a stronger emphasis on group activities to increase the level of challenge.

The debate-based flipped classroom is even more demanding, requiring learners to engage in debates from multiple perspectives on a given topic.

The discussion-based flipped classroom is a less intense version, focusing on open-ended discussions rather than formal debates.

The in-class flipped classroom addresses challenges related to technological access by allowing learners to use computers during class time.

The virtual flipped classroom takes place entirely in an online environment, replacing the need for physical classroom attendance.

The teacher-flipped classroom reverses the traditional roles, where learners create video clips to be used as shared learning materials, and the teacher evaluates their content.

Thakare (2018) also proposed eight similar types of flipped classrooms to those introduced by ViewSonic (2021), with the exception that the debate-based model is replaced with a video demonstration model, designed for subjects where learners need to memorize and precisely perform specific tasks.

In practice, a flipped classroom can be a combination of several of the models mentioned above. For instance, it may

merge traditional, group-based, and discussion-based elements. Ultimately, depending on the teaching objectives, the available technology, and the learners' proficiency, teachers may select the most appropriate flipped classroom model.

The flipped classroom model applied in this study is a combination of the traditional flipped classroom and group-based flipped classroom, in which learners accessed learning materials beforehand to gain basic knowledge of the lesson, and then practiced and deepened that knowledge in class in group activities which were making presentation, doing exercises and discussion in groups.

2.2. Self-Learning Ability

2.2.1. Definition of Self-Learning Ability

Self-learning ability (SLA) is a multifaceted construct that encompasses a learner's capacity to manage, regulate, and reflect on their learning independently.

According to Knowles (1975), Self-learning refers to a learner's ability to plan, monitor, and evaluate their learning without constant teacher supervision. It is closely linked with metacognitive skills, motivation, and digital literacy.

2.2.2. Components of Self-Learning Ability

This study investigated the students' self-learning ability gained after taking part in the flipped classroom. The investigation was mainly based on the components of self-learning ability identified by some authors as follow.

In educational research, identifying and understanding the **components of SLA** is essential for designing learner-centered pedagogies and developing effective measurement tools.

1. Learning Motivation

Learning motivation is often cited as the foundational component of SLA. It includes both **intrinsic motivation** (driven by internal interest or satisfaction) and **extrinsic motivation** (driven by external rewards or pressures). According to Deci & Ryan's **Self-Determination Theory (1985)**, motivation directly influences a learner's willingness to engage in self-directed learning activities. Without adequate motivation, learners may not initiate or sustain the learning process independently.

2. Goal-Setting and Planning

Effective self-learners are able to set clear, achievable goals and plan their learning activities. Zimmerman (2000) highlights goal-setting as a critical part of the **forethought phase** in his model of **Self-Regulated Learning (SRL)**. Learners who can organize tasks, allocate time, and set learning objectives are more likely to progress efficiently and stay focused.

3. Learning Strategies

The ability to select and apply appropriate learning strategies is a key

SLA component. These include **note-taking, summarizing, questioning, elaboration, rehearsal, and metacognitive strategies** like self-questioning and monitoring comprehension. Weinstein and Mayer (1986) emphasize the role of cognitive strategies in facilitating meaningful learning and retention, especially in independent study environments.

4. Self-Monitoring and Reflection

Self-monitoring involves tracking one's own progress and evaluating learning outcomes. It is essential for making timely adjustments and improving learning performance. According to Pintrich (2000), self-reflection includes evaluating task success, analyzing feedback, and adjusting strategies or goals. Learners with strong reflection skills become more autonomous and adaptable.

5. Self-Confidence and Self-Efficacy

Bandura (1997) defined **self-efficacy** as a learner's belief in their ability to succeed in specific tasks. High self-efficacy enhances persistence, resilience, and willingness to face academic challenges. Self-learning thrives when learners feel confident about their capacity to manage their learning process effectively.

6. Information-Seeking and Resource Management

Self-learners must be able to identify, locate, and evaluate learning resources. In today's digital environment, this includes internet research skills, discerning credible sources, and managing digital tools. Thamraksa et al. (2018) added **digital literacy** as an emerging component of SLA in technology-enhanced education.

7. Responsibility and Self-Discipline

Taking responsibility for one's own learning and demonstrating discipline to stay committed over time are often emphasized in SLA research. Garrison (1997) describes this as **self-management**, which involves prioritizing tasks, resisting distractions, and persisting without constant external supervision.

2.2.3. Self-Learning Ability Scales

The concept of self-learning ability (SLA) has gained increasing attention in educational research, particularly in the context of learner autonomy, lifelong learning, and student-centered approaches such as the flipped classroom model. To effectively measure SLA, various studies have been developed different Self-Learning Ability Scales and validated across different educational settings.

Zhou and Wang (2010) were among the first to develop a structured Self-Learning Ability Scale for university students in China, focusing on three main dimensions: learning motivation, learning strategy, and self-monitoring. Their scale demonstrated strong reliability

(Cronbach's $\alpha > 0.80$) and has been widely adapted in Asian contexts. It emphasizes not only the learner's willingness to engage in autonomous learning but also their strategic and reflective capabilities.

Guglielmino's Self-Directed Learning Readiness Scale (SDLRS), though originally intended to assess readiness for self-directed learning, is often used in SLA studies. It includes cognitive, affective, and behavioral components of self-learning and has been applied globally, particularly in adult education and professional development contexts (Guglielmino, 1977).

More recently, Thamraksa and colleagues (2018) designed a Self-Learning Ability Questionnaire tailored to higher education learners, emphasizing digital literacy, self-evaluation, and problem-solving skills. Their tool aligns well with the demands of 21st-century learning environments, where self-regulation and independent access to knowledge are key.

Studies using these scales have shown significant correlations between SLA and academic performance, motivation, and digital learning environments (Lee & Tsai, 2011; Yilmaz, 2017). Particularly in technology-integrated classrooms like the flipped model, learners with higher SLA scores tend to engage more actively and perform better academically.

Overall, the Self-Learning Ability Scale serves as a critical diagnostic and evaluative tool in contemporary education, especially in contexts promoting learner autonomy. However, ongoing adaptation and contextualization are needed to ensure its validity across diverse cultural and pedagogical settings.

On the base of the adaptation and contextualization, Self-Learning Ability Scales used in this study was built with the aim of finding the students' strong points and weak points in self-studying to help the teachers adapt their teaching to improve the students' weak points.

2.3. Related studies

Many findings and recommendations on flipped classrooms have been mentioned in recent studies. Bishop & Verleger (2013); Nguyen, (2020) suggests that flipped classrooms can encourage responsibility, time management, and reflective learning habits - all of which are components of self-learning ability. Ichino (2025) shows that flipped instruction produced heterogeneous effects - overall modest gains in learning outcomes, but substantial improvements when groups included highly motivated peers. Flipped benefits depend heavily on peer composition and student motivation; group design matters. Al-Karadsheh et al. (2025) find out that Interactive flipped > flipped-video > live lecture for both academic performance and student perceptions of

engagement; the interactive component (structured active tasks) drove most gains. Simply providing videos is not enough - guided, interactive in-class activities are crucial. Yavuz (2025) recommends that AI can amplify flipped learning (personalization + feedback), but instructors must scaffold time management and self-regulation. Mengesha et al. (2024) concludes that strong evidence in medical education for flipped benefits, but institutional support and teacher workload must be addressed.

Nevertheless, there has not been research on the field of teacher training. Therefore, it's novel and essential to explore the effectiveness of using the flipped classroom model on enhancing learning performance and the self-learning ability among third-year English pedagogy students after taking part in flipped classroom model, in the course "Applying Information Technology in Teaching English" at Hai Phong University.

3. Research Questions

This study seeks to address the following research questions:

1. To what extent does the flipped classroom improve the students' learning performance in the course?

2. What are the strong points and weak points in the students' the self-learning ability while taking part in flipped classroom in the course?

4. Methodology

4.1. Design

A quasi-experimental design was employed, consisting of two groups. The experimental group received instruction through the flipped classroom model, while the control group followed traditional lecture-based instruction.

4.2. Participants

The study involved 40 third-year English major students from the Department of Foreign Languages, Hai Phong University. The students were equally divided into the experimental and control groups, with 20 participants in each group. Each group consists of students at various levels ranging from lower marks to higher marks.

4.3. Instruments

Three main instruments were used to collect both quantitative and qualitative data:

• **Pre- and Post-tests:** Administered to evaluate students' content knowledge and learning effectiveness before and after the intervention.

• **Self-Learning Ability Scale:** A bilingual 20-item Likert-scale questionnaire to measure students' self-learning ability. The questionnaire consists of 20 questions of different aspects of self-learning ability (see in table 2). Each question is marked with increasing ratings from 1 to 5. The questionnaire was done twice by the students and the average

Cronbach's Alpha value was approximately 0.8, which shows a good reliability of the questionnaire.

• **Semi-structured Interviews and Classroom Observations:** Conducted to gain deeper qualitative insights into students' experiences and perceptions.

4.4. Procedure

The study was carried out in four phases:

• **Weeks 1-2:** Orientation sessions, administration of pre-tests.

• **Weeks 3-6:** Implementation of the flipped classroom in the experimental group, while the control group continued with traditional instruction. Classroom observation was conducted.

• **Weeks 7-8:** Post-tests and surveys were conducted, followed by interviews with selected students.

• **Weeks 9-10:** Data analysis and interpretation were carried out to answer the research questions.

5. Results

5.1. Test and survey results

5.1.1. The students' learning performance in the pre-test and post-test

Table 1. Test results

Control group			**Experimental group**		
Scores	**Number of students**		**Scores**	**Number of students**	
	Pre-test	**Post-test**		**Pre-test**	**Post-test**
5		1	**5**		
6			**6**		
7	2		**7**		
8		1	**8**		
9		2	**9**		2
10		2	**10**		
11	3	1	**11**	4	
12	2		**12**	2	2
13	8	3	**13**		4
14	2	4	**14**	7	7
15	3	6	**15**	7	5

Table 1 illustrates the numbers of the students in the Control group and Experimental group who gain the marks from 5 to 15 (the maximum scores in the tests) in the Pre-test and Post-test.

The comparison between the results of the posttest and the pretest showed that the proportions of the students who got the high marks from 13 to 15 rose from 14 to 16 in the Experimental group while stayed the same at 13 in the Control group. The numbers of the students who got the medium marks from 10 to 12 decreased in both groups, by 4 in Experimental group compared with 2 in the Control group. In contrast, the data of the students who got the low marks from 5 to 10 increased in both groups, by 2 in Experimental group compared with 4 in the Control group. There were not any students in both groups getting the marks under 5.

Unquestionably, the students in the Experimental group gained better progress in achieving knowledge of the lessons than those in the Control group. However, some students experienced a fall in their test results in both groups, which involves investigating the weaknesses in the students' self-studying, which is partly indicated in the survey findings below.

5.1.2. The students' self-studying ability

Table 2. Survey results of self-studying

Experimental group					
Number of questions-criteria	**Percentages of the students**				
	Ratings				
	1	**2**	**3**	**4**	**5**
1. setting the goal in advance		10	10	40	40
2. Making plan			15	50	35
3. Making priorities		5	20	35	40
4. making time table		5	30	35	30
5. arranging materials		10	25	20	45
6. looking for supplemental resources		5	15	40	40
7. applying appropriate strategies for each task		5	30	30	35
8. controlling distraction in online		25	25	35	15

Experimental group					
Number of questions-criteria	**Percentages of the students**				
	Ratings				
	1	**2**	**3**	**4**	**5**
learning					
9. meeting the deadlines		5	5	25	65
10. making question		10	20	40	30
11.checking understanding during and after studying		5	25	40	30
12. assessing goal achieving		5	15	50	30
13. adjusting learning method			25	40	35
14. checking mistakes			20	35	45
15. recognizing strong points and weak points			20	45	35
16. being confident in managing studying without constant guidance		10	30	35	25
17. enjoying studying independently	5	10	15	45	25
18. having motivation in fulfilling tasks in flipped class		10	30	20	40
19. activcness		5	35	25	35
20. being aware of the important of self-studying				20	80

The survey results on self-studying in the experimental group show that students demonstrate varying levels of self-learning skills across different criteria. A large proportion of students rated highly (levels 4 and 5) in areas such as setting goals in advance (80%), making priorities (75%), arranging materials (65%), meeting deadlines (90%), looking for supplemental resources (80%), and being aware of the importance of self-studying (100%). Skills like making plans, making timetables, applying appropriate strategies, and checking mistakes also received relatively

high ratings, though with a noticeable number of students at the medium level (level 3). Meanwhile, controlling distractions in online learning and being confident in managing studying without constant guidance had more students at lower ratings, indicating areas that need improvement. Overall, the data suggest that while students are motivated and aware of self-studying's importance, some practical skills such as planning, time management, and distraction control still require further development.

In conclusion, descriptive statistics showed higher post-test scores in the experimental group. An independent samples t-test confirmed that the experimental group outperformed the control group in post-test scores. The survey results revealed a significant achievement in the self-learning ability of the flipped group though they also faced up with many challenges that need improving.

5.2. Interview and observation results

Interviews and observations revealed that students in the flipped classroom participated more actively in class activities. They reported feeling more motivated and enjoying the learning process to a greater extent. Additionally, students demonstrated increased initiative in exploring supplementary learning materials beyond the required content.

According to observations, 100% of the students made presentation on the lessons in class and took part in practicing teaching activities in class with applying information technology applications. Furthermore, these students also applied other applications which are not introduced in the lesson.

Being interviewed, a student said that: "I feel proud of myself to be able to explore and use the applications by myself under the teacher's guidance." Another student said that "I and my groupmates could find extra applications while exploring our lessons on the internet and we applied them in our lesson plan."

However, the flipped classroom also presented certain challenges, including difficulties in time management and occasional technical issues when accessing online learning resources. Some students said that it was difficult to find enough time to complete all the tasks outside the classroom and sometimes meet troubles with computer and the internet connection, which partly contributed to the decrease in their test results.

6. Discussion

The results of this study align with international findings on flipped classrooms. The experimental group achieved higher post-test scores and showed improved self-learning ability, despite challenges in time management and self-regulation. Similarly, Bishop and Verleger (2013) and Nguyen (2020) highlight that flipped classrooms foster responsibility and reflective learning habits. Ichino (2025) notes that gains depend on student motivation and group

composition, while Al-Karadsheh et al. (2025) emphasize the importance of interactive, structured in-class activities over video-only instruction. These studies suggest that flipped learning can enhance both academic performance and autonomy when well-supported and properly designed.

The findings support the hypothesis that flipped classrooms enhance the students' studying results. Besides, it helps the students promote self-learning ability by shifting the responsibility of initial learning to the student and using class time for deeper engagement. This model proved particularly effective in the context of teaching IT applications in teaching English for pedagogy students, where independent exploration is vital.

Flipped learning allowed students to pace their own understanding before class, come prepared, and apply knowledge in peer-supported environments. These factors collectively nurtured autonomy and confidence.

7. Conclusion

The findings from both the pre-test and post-test results, as well as the survey on self-studying ability, demonstrate the positive impact of the flipped classroom model on students' academic performance and learning autonomy. While both groups showed some progress, the experimental group achieved higher gains in post-test scores, especially in the range of high marks (13–15), indicating better comprehension and retention of knowledge. Furthermore, the survey results highlight that students in the flipped classroom developed strong self-learning skills in areas such as goal setting, prioritizing tasks, managing learning materials, meeting deadlines, and recognizing the importance of self-study.

However, challenges remain in aspects like time management, consistent planning, and controlling distractions in online learning, which suggest the need for more targeted guidance and practice. Overall, the evidence confirms that the flipped classroom not only improves students' learning outcomes but also strengthens their capacity for independent learning, though continuous support is necessary to address weaker areas.

This study demonstrates that the flipped classroom is a viable and effective strategy for enhancing self-learning ability in higher education, particularly in teacher training contexts. It fosters engagement, autonomy, and practical skill development - all essential for future educators.

Based on the results, the following recommendations are proposed:

- Incorporate flipped modules into all technology-based English teaching courses.
- Provide student training on time management and digital learning tools.
- Offer technical support to ensure smooth access to flipped materials.

Scope and Recommendations for Further Research

This study was conducted with third-

year English pedagogy students at Hai Phong University within the course *"Applying Information Technology in Teaching English"*. The scope was limited to a single institution, one subject area, and a relatively small sample size. Therefore, the findings, while valuable, should be interpreted with caution when generalizing to other contexts or disciplines. For future research, it is recommended to: expand the sample including students from multiple universities; investigate long-term impacts on retention, critical thinking, and problem-solving skills; examine teacher perspectives on readiness and attitudes toward flipped learning; incorporate technology-enhanced strategies, such as AI-supported tools or adaptive learning systems; explore qualitative insights, such as in-depth interviews or focus groups. By addressing these directions, future studies can build a more comprehensive understanding of how flipped classrooms influence both teaching and learning in higher education.

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