

## Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers

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**ABSTRACT:** The Flipped Classroom Model (FCM) has emerged as an innovative pedagogical approach that promotes active learning, learner autonomy, and interaction in higher education. This study examines the application of the Flipped Classroom Model in Educational Studies courses for pre-service teachers within the context of digital transformation in education. The paper reviews the theoretical foundations, implementation process, advantages, and challenges of flipped learning, emphasizing its alignment with constructivist and blended learning theories. In addition, the study analyzes the learning objectives and course content of Educational Studies and proposes a flipped classroom lesson design integrating pre-class, in-class, and post-class learning activities through Learning Management Systems (LMS). The instructional design combines self-directed online learning, collaborative problem-solving, case-study analysis, and reflective learning activities to enhance students' pedagogical competencies and professional skills. The findings indicate that the flipped classroom model contributes positively to students' engagement, critical thinking, communication skills, teamwork, and self-regulated learning abilities. However, successful implementation requires adequate technological infrastructure, instructional design competencies, and institutional support. The study suggests that applying FCM in Educational Studies courses can support pedagogical innovation and improve the quality of teacher education in the digital era.

**KEYWORDS:** flipped classroom model, Educational Studies, pre-service teachers, blended learning, active learning, teacher education.

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### I. INTRODUCTION

In the era of digital transformation, the integration of technology into education has become an inevitable trend for improving teaching quality and fostering learners' competencies. Among innovative pedagogical approaches, the Flipped Classroom Model (FCM) has received increasing attention because of its learner-centered orientation and its capacity to enhance active learning, interaction, and self-directed learning (Bergmann & Sams, 2012). In a flipped classroom, students are introduced to instructional content before class through digital resources such as videos, online lectures, and electronic learning materials, while classroom time is devoted to collaborative learning, discussion, problem-solving, and knowledge application activities (Bishop & Verleger, 2013). This approach shifts the focus of teaching from passive knowledge transmission to active knowledge construction and learner engagement.

The theoretical foundation of the flipped classroom model is closely associated with constructivist learning theory, which emphasizes learners' active role in constructing knowledge through interaction and experience (Piaget, 1972; Vygotsky, 1978). In addition, the model reflects the principles of blended learning and active learning by combining online self-study with face-to-face collaborative activities (Graham, 2013). Previous studies have shown that flipped learning contributes positively to students' academic achievement, learning motivation, engagement, and higher-order thinking skills (Lo & Hew, 2017; Zainuddin & Halili, 2016). Furthermore, the use of technology-supported learning environments in flipped classrooms encourages students to develop digital literacy and self-regulated learning skills, which are considered essential competencies in the twenty-first century (Tiwari & Dalal, 2024).

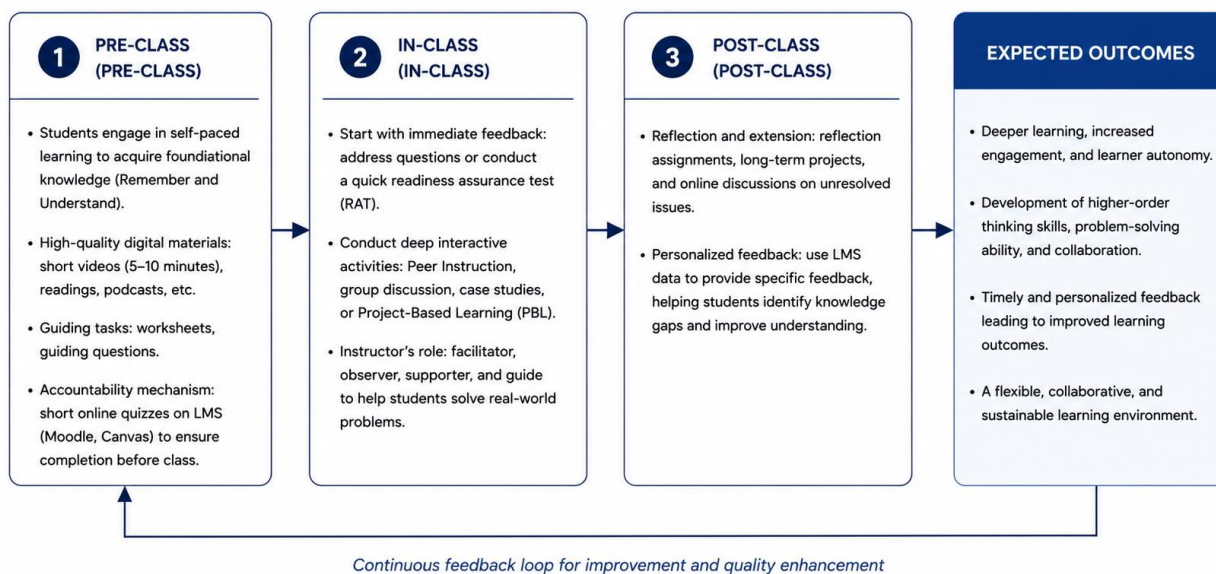
Educational Studies courses play a significant role in teacher education programs because they provide pre-service teachers with fundamental pedagogical knowledge, educational theories, teaching methods, and professional ethics necessary for future teaching practice. However, the teaching of Educational Studies in many universities still relies heavily on traditional lecture-based instruction, where students often assume a passive role in the learning process. Such an approach may limit opportunities for interaction, critical thinking, and the practical application of pedagogical concepts. Therefore, innovative teaching approaches are needed to promote learner autonomy, reflective thinking, and collaborative learning among pre-service teachers.

## Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers

Applying the Flipped Classroom Model in Educational Studies instruction offers considerable potential for addressing these limitations. By transferring theoretical content delivery outside the classroom and utilizing in-class time for discussion, case analysis, microteaching, and experiential learning activities, the flipped classroom can create a more interactive and student-centered learning environment. This instructional model not only enhances students' engagement and participation but also supports the development of pedagogical competencies and professional skills required for future educators. Research has indicated that flipped learning environments can improve communication skills, teamwork, problem-solving abilities, and learning satisfaction among university students (Thai et al., 2017).

Despite the growing body of research on flipped learning, studies focusing specifically on the application of the Flipped Classroom Model in Educational Studies courses for pre-service teachers remain relatively limited, particularly in developing-country contexts. Therefore, this study aims to investigate the implementation of the Flipped Classroom Model in teaching Educational Studies courses to pre-service teachers and to examine its effects on students' learning engagement, interaction, and academic outcomes. The findings are expected to contribute to pedagogical innovation and provide practical implications for improving the quality of teacher education in the digital era.

### Flipped Classroom Implementation Process



**Figure 1: Flipped Classroom Implementation Process (Youhasan et al, 2021)**

One of the major strengths of FCM lies in its ability to enhance interaction and learner engagement. The model transforms classroom environments into active learning communities where students collaborate, exchange ideas, and construct knowledge together (Al-Samarraie et al., 2020). Increased interaction between instructors and students also allows teachers to provide more individualized support and timely feedback, thereby strengthening students' confidence and participation (van Alten et al., 2019). Moreover, peer interaction in flipped classrooms contributes to the development of communication skills, teamwork, and critical thinking competencies that are essential for future employment (Zain, 2022).

Technology serves as the infrastructural backbone of FCM by facilitating content delivery, interaction, and assessment. LMS platforms, video production tools, interactive applications such as Edpuzzle and Kahoot!, and communication tools including Zoom, Microsoft Teams, Facebook, and Zalo are commonly integrated into flipped learning environments (Baig & Yadegaridehkordi, 2023; Chust-Pérez et al., 2024). Emerging technologies such as artificial intelligence (AI), augmented reality (AR), and learning analytics are also increasingly used to personalize learning experiences and support adaptive instruction (Wang et al., 2025).

Despite its advantages, FCM also faces significant challenges and barriers. One of the most frequently reported issues is students' limited self-regulation and time-management skills. Since the effectiveness of FCM depends heavily on students' preparation before class, learners who fail to engage with pre-class materials may struggle to participate meaningfully in classroom activities (van Alten et al., 2019). In addition, some students experience cognitive overload and stress due to the increased responsibility for independent learning (Naing et al., 2023).

From the instructors' perspective, implementing FCM requires substantial time and effort for designing digital learning materials and reorganizing classroom activities. Studies indicate that instructors may spend significantly more time preparing flipped courses compared with traditional courses. Moreover, many teachers encounter difficulties adapting to their new role as facilitators, particularly when lacking digital competencies or instructional design skills (ElGamal, 2025).

## **Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers**

Technological and institutional barriers also affect the successful implementation of FCM. Digital inequality remains a major concern, especially for students in rural or economically disadvantaged areas who have limited access to stable internet connections and digital devices (UNESCO, 2022). To address these challenges, researchers recommend adopting comprehensive implementation strategies. These include applying backward design and the ADDIE instructional design model, providing professional development for instructors, investing in technological infrastructure, and supporting students' self-regulated learning skills (ElGamal, 2025; Youhasan et al., 2021). Short instructional videos, interactive digital materials, and continuous formative assessment are also recommended to optimize student engagement and learning effectiveness (Gong et al., 2023). Furthermore, successful implementation requires coordinated support from educational institutions, instructors, and students to foster a sustainable learner-centered educational culture.

Overall, the literature indicates that the Flipped Classroom Model represents a transformative pedagogical approach that aligns with the demands of digital-age education. When supported by appropriate theoretical foundations, technological infrastructure, and instructional design strategies, FCM has significant potential to enhance learner autonomy, interaction, critical thinking, and academic achievement in higher education.

The implementation of FCM typically involves three interconnected stages: pre-class, in-class, and post-class learning activities. During the pre-class stage, students independently engage with digital learning materials such as short instructional videos, readings, podcasts, or online quizzes. Research suggests that videos should ideally range from five to ten minutes in length to maintain students' attention and reduce cognitive overload (Chu Thi Mai Huong & Dao Thi Bich Ngoc, 2023). Learning Management Systems (LMS) such as Moodle, Canvas, and Google Classroom are commonly used to distribute materials and monitor student preparation (Baig & Yadegaridehkordi, 2023).

The in-class stage focuses on higher-order cognitive activities aligned with Bloom's taxonomy, including application, analysis, evaluation, and creation (Bishop & Verleger, 2013). Instead of lecturing, instructors facilitate collaborative learning activities such as peer instruction, group discussion, case studies, and project-based learning (Mazur, 1997). Immediate feedback and formative assessment tools, including Kahoot!, Mentimeter, and clicker systems, are frequently integrated to enhance engagement and monitor understanding in real time (van Vliet et al., 2015).

The post-class stage emphasizes reflection, reinforcement, and knowledge extension. Students may complete reflective assignments, participate in online discussions, or work on long-term projects to deepen their understanding of the content. At the same time, instructors can use learning analytics from LMS platforms to provide personalized feedback and identify students' learning difficulties (Kadirbayeva et al., 2025).

The FCM process is a continuous loop from preparing engaging digital learning materials, to organizing practical interactive activities, and finally to evaluating and providing feedback to personalize learning (Chu Thi Mai Huong & Dao Thi Bich Ngoc, 2023; van Alten et al., 2019).

## **II. LEARNING OBJECTIVES AND COURSE CONTENT OF EDUCATIONAL STUDIES**

Educational Studies is a foundational course in teacher education programs that provides pre-service teachers with fundamental knowledge of educational science, teaching theory, and educational practice. The course is designed to help students understand the nature, functions, and social roles of education, as well as the principles governing teaching and educational processes in schools. In addition, the course aims to develop students' pedagogical awareness and professional identity by connecting educational theories with practical teaching and learning contexts (Phan Thi Hong Vinh, 2018).

Regarding learning objectives, the course enables students to analyze major educational concepts such as education as a social phenomenon, personality development, educational goals, teaching principles, and the organization of educational activities. Students are expected to understand the roles of heredity, environment, education, and individual activity in human development, thereby recognizing the importance of education in shaping learners' personalities and competencies. The course also aims to strengthen students' ability to apply educational theories to instructional planning, classroom management, and educational problem-solving in school settings (Tran Thi Tuyet Oanh et al., 2011).

Besides theoretical knowledge, the course emphasizes the development of pedagogical and professional skills. Through discussion, collaborative learning, presentations, and case analysis, students develop communication skills, teamwork skills, reflective thinking, and the ability to handle pedagogical situations effectively. The course also promotes professional ethics, responsibility, creativity, and lifelong learning competencies, which are considered essential qualities for future teachers in the context of educational innovation and digital transformation (Pham Viet Vuong, 2010).

The course content is organized into five major chapters. Chapter 1 introduces Education as a Science, including the nature, characteristics, functions, and research methods of educational science. Chapter 2 focuses on Education and Personality Development, examining factors influencing human development such as heredity, environment, education, and personal activities. Chapter 3 discusses Educational Goals, Educational Principles, and the National Education System, helping students understand the objectives and structure of education in Vietnam. Chapter 4 explores the Teaching Process, including teaching

## Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers

principles, methods, instructional forms, and teaching media. Finally, Chapter 5 examines the Educational Process, focusing on the role of teachers, educational methods, moral education, and the coordination between family, school, and society in educating students. Together, these topics provide students with both theoretical foundations and practical pedagogical competencies necessary for future teaching practice.

### III. APPLYING THE FLIPPED CLASSROOM MODEL TO DESIGN EDUCATIONAL STUDIES LESSONS

Based on the theoretical foundations of the Flipped Classroom Model and the instructional characteristics of Educational Studies courses, this study applies the model to the design of a lesson on “Functions of Education” for pre-service teachers. In this lesson, learning activities are organized through three interconnected stages: pre-class, in-class, and post-class learning. Prior to the face-to-face session, students engage independently with digital learning materials, including instructional videos, readings, and online quizzes provided through the Learning Management System (LMS). Classroom time is then devoted to collaborative activities such as group discussion, case-study analysis, and problem-solving tasks related to the economic, social, political, and cultural functions of education in contemporary society. After class, students continue reflective and extension activities through online forums and written assignments. The integration of the Flipped Classroom Model into lesson design not only enhances students’ understanding of educational functions but also promotes active learning, critical thinking, communication skills, and professional pedagogical competencies in teacher education.

Topic: Functions of Education

Target learners: Pre-service teachers

Duration: 50 minutes

Learning Objectives:

- **Knowledge:** Analyze four forms of educational impact (direct and indirect) on economic and production resources, including human resources, markets, science and technology, capital, and natural resources. Provide practical examples illustrating these functions in the context of Vietnam’s digital economy.
- **Skills:** Identify, analyze, and evaluate the current relationship between educational institutions and the labor market (enterprises). Develop critical thinking, teamwork, and problem-solving skills through case study activities.
- **Attitude:** Develop a deep awareness of the role of “Education as a top national policy” in fostering professional ethics and responsibility as future educators in designing training programs that meet social needs.

#### Teaching equipment and learning materials

**Instructor:** LMS platform (Moodle/Canvas), self-designed instructional video lectures (7 minutes), case study worksheets, projector, and summary presentation slides.

**Students:** Computer/smartphone with internet connection for home learning; pre-prepared worksheets; textbooks on Sociology of Education / General Education Studies.

Stages 1 & 2: design and pre-class self-learning (pre-class)

**Table 1. The activities at home via LMS, 3 days before the face-to-face session**

Instructor Activities	Student Activities
- Edit and upload a short instructional video lecture (7 minutes) introducing the overview of the Economic–Production Function of Education on the LMS.	- Watch the online video lecture and read the assigned learning materials.
- Design and upload a short quiz consisting of 5 questions to assess reading comprehension and understanding.	- Complete an unfinished mind map on the relationship between Education and economic resources.
- Monitor students’ learning progress and review quiz results on the LMS 12 hours before the in-class session.	- Complete the online quiz on the LMS (Students are required to achieve at least 4/5 correct answers to qualify for the face-to-face session).

Stage 3: face-to-face interaction in class (in-class – 50 minutes)

Objective: To examine students’ preparation and address core knowledge gaps before engaging in higher-order thinking activities.

**Table 2. Teaching procedure**

Activity 1: Warm-up, Connection, and Immediate Feedback (10 minutes)	
Instructor Activities	Student Activities
- Step 1: Display quiz result analytics from the LMS and acknowledge students with excellent performance.	- Step 1: Observe the overall class results and identify personal mistakes made during the pre-class activities.

## Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers

Activity 1: Warm-up, Connection, and Immediate Feedback (10 minutes)	
Instructor Activities	Student Activities
- Step 2: Ask a quick question to the class: “Based on the materials studied at home, what is the core difference between the direct and indirect impacts of education on the economy?”	- Step 2: Individually think and respond to the instructor’s question by identifying direct impacts (human resource training, technological development) and indirect impacts (capital optimization, sustainable resource use, market promotion).
- Step 3: Listen to students’ responses and summarize key concepts using slides (2–3 minutes), focusing particularly on concepts frequently answered incorrectly on the LMS (e.g., educational mechanisms influencing consumer behavior).	- Step 3: Listen to the instructor’s clarification and take notes on key concepts.

### Activity 2: Group Discussion and Problem-Solving Through Real-World Cases (30 minutes)

Instructor Activities	Student Activities
- Step 1: Assign tasks (3 minutes): Divide the class into groups of 5–6 students and distribute worksheets containing the following case study:	- Step 1: Quickly organize into groups, select a group leader and secretary, and receive the case-study worksheet.
“Analyze the customized training model between Technology Corporation X and Technical Pedagogical University Y in supplying 1,000 semiconductor engineers annually.”	
- Step 2: Provide specific requirements. Groups must answer the following questions on A0 paper or Canva:	- Step 2: Conduct internal group discussions:
1. Which aspect of the economic function of education is reflected in this case?	+ Individual work: Independently analyze the case using pre-class knowledge.
2. Analyze the benefits and challenges for stakeholders (University – Enterprise – Students) in this model.	+ Group interaction: Share ideas, debate, and reach consensus.
3. Propose one educational solution to ensure the sustainability of this model.	+ Secretary: Record and synthesize key ideas and prepare the presentation on A0 paper or digital slides.
- Step 3: Facilitate and supervise group activities (15 minutes). The instructor acts as a consultant, asking guiding questions when groups lose focus without directly providing answers.	- Step 3: Prepare for the group presentation and assign representatives for reporting.

### Activity 3: Presentation, Debate, and Lesson Summary (10 minutes)

Instructor Activities	Student Activities
- Step 1: Organize the presentation session and randomly invite two groups to present their solutions (maximum 3 minutes per group).	- Step 1: Group representatives present their solutions clearly and coherently.
- Step 2: Encourage remaining groups to ask critical questions and engage in multidimensional discussion.	- Step 2: Listen actively, take notes, and raise critical questions from the perspective of “educational managers” or “business representatives.”
- Step 3: Evaluate and summarize key learning points (4 minutes). The instructor comments on students’ professional thinking and teamwork skills while emphasizing that educators must understand economic realities to prevent education from becoming isolated from society.	- Step 3: Listen to the instructor’s professional feedback and reflect on analytical approaches and educational solution design.

### . Stage 4: post-class consolidation and extension (post-class)

**Table3: The activities at home after the lesson**

Instructor Activities	Student Activities
- Open a discussion topic on the LMS forum: “The role of educational specialists in promoting digital transformation in continuing education centers for workforce retraining.”	- Access the LMS forum and write a short reflective essay (200–300 words) expressing personal viewpoints on the assigned topic.
- Review and grade in-class group assignments and provide personalized feedback through the LMS forum to correct misconceptions and encourage innovative ideas.	- Read at least two classmates’ posts and provide constructive comments or critiques.
	- Review knowledge based on instructor feedback and prepare for the next lesson on the Political–Social

## Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers

Instructor Activities	Student Activities
	Function of Education.

### IV. CONCLUSION

The Flipped Classroom Model represents a learner-centered instructional approach that aligns with the demands of educational innovation and digital transformation in higher education. By shifting theoretical content acquisition to the pre-class stage and utilizing classroom time for interaction, discussion, and problem-solving activities, the model creates opportunities for active learning and deeper student engagement. In Educational Studies courses, the implementation of FCM not only enhances students' understanding of educational theories and pedagogical concepts but also develops important professional competencies such as critical thinking, communication, collaboration, and pedagogical problem-solving. The integration of LMS platforms, digital learning materials, and case-based learning activities supports students' self-directed learning and reflective practice, which are essential qualities for future teachers. Despite its advantages, the successful implementation of FCM depends on several factors, including students' learning readiness, instructors' technological and instructional design competencies, and institutional support systems. Therefore, higher education institutions should invest in digital infrastructure, provide professional development opportunities for instructors, and encourage innovative teaching practices to maximize the effectiveness of flipped learning environments. Overall, the study demonstrates that the Flipped Classroom Model has significant potential to improve teaching and learning quality in Educational Studies courses for pre-service teachers. The model can serve as an effective pedagogical strategy for fostering active, collaborative, and sustainable learning in teacher education programs.

### REFERENCES

- 1) Al-Samarraie, H., Shamsuddin, A., & Alzahrani, A. (2019). A flipped classroom model in higher education: a review of the evidence across disciplines. *Educational Technology Research and Development*, 68, 1017-1051. <https://doi.org/10.1007/s11423-019-09718-8>.
- 2) Baig, M., & Yadegaridehkordi, E. (2023). Flipped classroom in higher education: a systematic literature review and research challenges. *International Journal of Educational Technology in Higher Education*, 20, 1-26. <https://doi.org/10.1186/s41239-023-00430-5>.
- 3) Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. International Society for Technology in Education.
- 4) Bishop, J. and Verleger, M.A. (2013) The Flipped Classroom: A Survey of the Research. 2013 ASEE Annual Conference & Exposition, Atlanta, 23-26 June 2013, 23.1200.1-23.1200.18. <https://doi.org/10.18260/1-2--22585>
- 5) Chu Thi Mai Huong and Dao Thi Bich Ngoc. (2023). Applying the flipped classroom model in teaching pedagogical courses to Lao students at Tay Bac University. *Vietnam Journal of Educational Sciences*, 12(19), 63–68.
- 6) Chust-Pérez, V., Esteve-Faubel, R., Aparicio-Flores, M., & Esteve-Faubel, J. (2024). Enhancing visual and plastic education training: a blended learning and flipped classroom approach. *Journal of New Approaches in Educational Research*, 13. <https://doi.org/10.1007/s44322-024-00011-y>.
- 7) ElGamal, H. (2025). What is the De facto? Implementation of the Flipped Classroom Method in Higher Education: Veteran Professors Share Their Experiences over Multiple Years. *Online Learning*. <https://doi.org/10.24059/olj.v29i1.4248>.
- 8) Gong, J., Cai, S., & Cheng, M. (2023). Exploring the Effectiveness of Flipped Classroom on STEM Student Achievement: A Meta-analysis. *Technology, Knowledge and Learning*, 29, 1129-1150. <https://doi.org/10.1007/s10758-023-09700-7>.
- 9) Graham, C. R. (2013). Emerging Practice and Research in Blended Learning. In *Handbook of Distance Education* (3rd ed., pp. 333-350). Routledge.
- 10) Kadirbayeva, R., Suleimenova, L., Amirbekuly, A., Alimkulova, B., & Jamankarayeva, M. (2025). The methodology of designing educational processes in blended learning. *World Journal on Educational Technology: Current*
- 11) Lo, C. K., & Hew, K. F. (2017). A critical review of flipped classroom challenges in K–12 education: Possible solutions and recommendations for future research. *Research and Practice in Technology Enhanced Learning*, 12, 4. <https://doi.org/10.1186/s41039-016-0044-2>
- 12) Mazur, E. (1997). *Peer instruction: A user's manual*. Prentice Hall.
- 13) Naing, C., Whittaker, M., Aung, H., Chellappan, D., & Riegelman, A. (2023). The effects of flipped classrooms to improve learning outcomes in undergraduate health professional education: A systematic review. *Campbell Systematic Reviews*, 19. <https://doi.org/10.1002/cl2.1339>.
- 14) Pham Viet Vuong. (2010). *Giao duc hoc*. Hanoi: Educational Publishing House.
- 15) Phan Thi Hong Vinh (Ed.). (2018). *Giao trinh Giao duc hoc tap 1*. Hanoi: Hanoi National University of Education Publishing House.

## Applying the Flipped Classroom Model in Educational Studies Courses for Pre-Service Teachers

- 16) Piaget, J. (1972). *The psychology of the child*. Basic Books.
- 17) Thai, N. T. T., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education. *Computers & Education*, 107, 113–126. <https://doi.org/10.1016/j.compedu.2017.01.003>
- 18) Tiwari, M., & Dalal, S. (2024). Flipped Classroom Model: An Innovative Practices in Education. *International Journal For Multidisciplinary Research*. <https://doi.org/10.36948/ijfmr.2024.v06i01.12477>
- 19) Tran Thi Tuyet Oanh, Pham Khac Chuong, Pham Viet Vuong, Bui Minh Hien, Nguyen Ngoc Bao, Bui Van Quan, Phan Hong Vinh, & Tu Duc Van. (2011). *Giao trinh Giao duc hoc tap 1*. Hanoi: Hanoi National University of Education Publishing House.
- 20) UNESCO. (2022). *Global education monitoring report 2022*. UNESCO Publishing.
- 21) Van Alten, D., Phielix, C., Janssen, J., & Kester, L. (2019). Effects of flipping the classroom on learning outcomes and satisfaction: A meta-analysis. *Educational Research Review*. <https://doi.org/10.1016/j.edurev.2019.05.003>
- 22) Van Vliet, E., Winnips, J., & Brouwer, N. (2015). Flipped-Class Pedagogy Enhances Student Metacognition and Collaborative-Learning Strategies in Higher Education But Effect Does Not Persist. *CBE Life Sciences Education*, 14. <https://doi.org/10.1187/cbe.14-09-0141>
- 23) Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- 24) Wang, H., Hamid, J., & Tham, J. (2025). A study of flipped classrooms in higher education. *Edelweiss Applied Science and Technology*. <https://doi.org/10.55214/25768484.v9i3.5232>
- 25) Youhasan, P., Chen, Y., Lyndon, M., & Henning, M. (2021). Exploring the pedagogical design features of the flipped classroom in undergraduate nursing education: a systematic review. *BMC Nursing*, 20. <https://doi.org/10.1186/s12912-021-00555-w>.
- 26) Youhasan, P., Chen, Y., Lyndon, M., & Henning, M. (2022). University teachers' perceptions of readiness for flipped classroom pedagogy in undergraduate nursing education: A qualitative study.. *Journal of professional nursing : official journal of the American Association of Colleges of Nursing*, 41, 26-32 . <https://doi.org/10.1016/j.profnurs.2022.04.001>
- 27) Zain, D. (2022). Flipped Classroom Model For EFL/ESL Instruction in Higher Education: A Systematic Literature Review. *Journal of Language and Education*. <https://doi.org/10.17323/jle.2022.12855>
- 28) Zainuddin, Z., & Halili, S. H. (2016). Flipped classroom research and trends from different fields of study. *International Review of Research in Open and Distributed Learning*, 17(3), 313–340. <https://doi.org/10.19173/irrodl.v17i3.2274>