



PEDAGOGICAL COMPETENCE OF PRE-SERVICE TEACHERS IN DESIGNING PROBLEM BASED LEARNING LESSON PLANS: AN ANALYSIS USING THE EUROPEAN PROFILING GRID

Andriamella Elfarissyah¹, Zainal Rafli², Ifan Iskandar³

Universitas Negeri Jakarta

Email: AndriamellaElfarissyah_9906921019@mhs.unj.ac.id, zainal.rafli@unj.ac.id,

Ifaniskandar@unj.ac.id

ABSTRACT

Pedagogical competence is essential for pre-service English teachers because it influences how they plan, conduct, and evaluate instruction. This qualitative case study examined the pedagogical competence of fourth-semester pre-service English teachers in designing Problem-Based Learning (PBL) lesson plans in a TEFL course. Data were collected from PBL-based lesson plans, semi-structured interviews with 18 respondents, classroom observations, and TEFL course documents. The data were analysed using qualitative content analysis guided by PBL principles and the European Profiling Grid, focusing on lesson planning, methodology, interaction management, assessment, digital media, and professional awareness. The findings indicate that the participants showed emerging pedagogical competence. They identified basic lesson plan components and understood key PBL principles, but struggled to formulate measurable objectives, design coherent inquiry procedures, manage interaction, and align assessment with activities. The study concludes that explicit PBL training, EPG-based guidance, feedback, and reflection are needed to strengthen pre-service English teacher education more systematically.

Keywords: *pedagogical competence; pre-service English teachers; Problem-Based Learning; lesson planning; European Profiling Grid*

INTRODUCTION

Teacher quality remains a central concern in English as a Foreign Language (EFL) teacher education because the effectiveness of language instruction depends not only on teachers' linguistic knowledge, but also on their ability to transform that knowledge into pedagogically sound classroom decisions. In teacher education, professional competence is reflected in how pre-service teachers understand subject matter, select appropriate teaching strategies, respond to learner needs, and design meaningful learning experiences. Shulman's theory of pedagogical content knowledge (PCK) provides a useful foundation for understanding this competence. Effective teaching requires the integration of content knowledge, pedagogical knowledge, curriculum knowledge, learner characteristics, and instructional context. From this perspective, pre-service English teachers' pedagogical

competence can be examined through the way they plan, organise, and justify instruction (Shulman, 1987).

Lesson planning is one of the most visible indicators of pedagogical competence in teacher education. A lesson plan is not merely an administrative document. It represents a teacher's ability to translate curriculum standards, learning objectives, teaching methods, materials, classroom interaction, media, time allocation, and assessment into a coherent instructional design. In line with the principle of constructive alignment, effective lesson planning requires consistency between intended learning outcomes, learning activities, and assessment tasks (Biggs, 1996; Biggs & Tang, 2011). In EFL contexts, this alignment is particularly important because language learning requires clear objectives, communicative tasks, meaningful interaction, and valid assessment of learners' language performance.

Therefore, the quality of a lesson plan can indicate how well pre-service teachers understand the relationship between pedagogical theory and classroom practice. Despite its importance, lesson planning remains a challenging area for many pre-service English teachers. Previous discussions in teacher education show that novice teachers often struggle to formulate measurable learning objectives, sequence classroom activities logically, manage interaction patterns, integrate learning media, allocate time realistically, and align assessment with instructional goals. These challenges become more complex when pre-service teachers are required to design learner-centred instruction rather than teacher-dominated instruction. In such cases, they must not only prepare teaching procedures, but also create opportunities for students to inquire, collaborate, communicate, and reflect. This condition indicates that lesson planning should be examined not only from the completeness of its components, but also from the quality of pedagogical reasoning embedded in the design.

Problem-Based Learning (PBL) offers a relevant instructional approach for developing learner-centred EFL instruction. PBL encourages students to learn through authentic or meaningful problems, inquiry, collaboration, self-directed learning, and reflection (Hmelo-Silver, 2004; Savery, 2006). In PBL, students are expected to identify problems, generate questions, collect relevant information, discuss possible solutions, present their findings, and evaluate both the process and the product of learning. In English language teaching, these processes can support communicative competence because students use English to ask questions, negotiate meaning, explain ideas, justify arguments, and solve problems collaboratively. Thus, PBL has strong potential to connect language learning with higher-order thinking, social interaction, and real-world communication.

However, designing PBL-based lesson plans requires advanced pedagogical competence. Teachers need to formulate meaningful problem triggers, connect problems with language objectives, sequence inquiry-based activities, scaffold students' learning, facilitate collaboration, manage classroom interaction, and design assessment instruments that evaluate both learning processes and learning outcomes. Without careful planning, PBL may be reduced to ordinary group work that lacks clear inquiry, structured guidance, language-focused objectives, and assessment alignment. For this reason, examining pre-service English teachers' ability to design PBL-based lesson plans is important for identifying the extent to which they are prepared to implement student-centred and problem-oriented pedagogy in EFL classrooms.

The European Profiling Grid (EPG) provides a suitable framework for analysing this competence. The EPG describes language teachers' professional competence across developmental phases and includes several dimensions, such as lesson and course planning, methodology, interaction management, assessment, digital media, professional conduct, and professional development (North et al., 2013). The framework is useful because it views teacher competence as developmental rather than fixed. It also enables researchers to examine lesson plans as evidence of professional learning, pedagogical decision-making, and readiness for classroom practice. In the context of pre-service English teacher education, the EPG can help identify whether students' lesson plans demonstrate emerging, developing, or more advanced levels of pedagogical competence.

Although PBL and the EPG are both relevant to English teacher education, their integration in studies on pre-service teachers' lesson planning competence remains limited. Many studies have examined PBL as an instructional strategy to improve students' learning outcomes, communication skills, collaboration, and critical thinking. Other studies have explored teacher competence using general pedagogical frameworks. However, fewer studies have used EPG descriptors to analyse how pre-service English teachers design PBL-based lesson plans, particularly in relation to problem formulation, inquiry procedures, classroom interaction, assessment alignment, and professional awareness. This gap shows the need for a more integrated analysis that connects PBL principles with competency-based teacher evaluation.

To address this gap, the present study examines the pedagogical competence of fourth-semester pre-service English teachers in designing PBL-based lesson plans in a Teaching English as a Foreign Language (TEFL) course. Specifically, the study analyses how their lesson plans reflect key PBL principles, including meaningful problems, inquiry, collaboration, student-centred learning, scaffolding, and reflection. It also interprets their competence through the EPG dimensions of lesson planning, methodology, interaction management, assessment, digital media, and professional awareness. By combining these two frameworks, this study provides a more systematic understanding of how pre-service English teachers transform pedagogical knowledge into instructional design.

The study is guided by the following research question: In what ways is pre-service English teachers' pedagogical competence reflected in their design of PBL-based lesson plans in relation to PBL principles and the European Profiling Grid framework? This study contributes to English teacher education by providing empirical evidence on pre-service teachers' lesson planning competence and by offering an integrated analytical framework that connects PBL-based instructional design with developmental descriptors of language teacher competence. The findings are expected to inform TEFL course design, lesson planning instruction, and the preparation of pre-service English teachers for more reflective, communicative, and student-centred classroom practice.

LITERATURE REVIEW

PEDAGOGICAL COMPETENCE IN ENGLISH TEACHER EDUCATION

Pedagogical competence refers to teachers' ability to design, implement, manage, and evaluate learning effectively. It includes lesson planning, classroom interaction, assessment literacy, reflective practice, and the ability to respond to learners' needs. In

English language teaching, pedagogical competence is especially important because language learning depends on meaningful communication, interaction, feedback, and active use of the target language.

Shulman (1987) explains that effective teaching requires pedagogical content knowledge. Teachers must know not only what to teach, but also how to teach it in ways that learners can understand. In EFL contexts, this means that teachers need to design tasks that help students use English for real communicative purposes. Richards (2022) argues that effective language teachers create learning environments that promote interaction, learner autonomy, and communicative competence.

Assessment is also part of pedagogical competence. Brown (2019) states that assessment should support learning, not only measure achievement. Teachers need to align assessment with learning objectives and classroom activities. This is closely related to constructive alignment, which requires consistency among objectives, learning activities, and assessment tasks (Biggs & Tang, 2011).

Reflective practice is another key element. Schön (1983) argues that professionals improve their practice by reflecting on action and learning from experience. In teacher education, reflection helps pre-service teachers identify the gap between what they plan and what happens in classroom practice. Therefore, pedagogical competence should be understood as a multidimensional ability that includes planning, methodology, interaction, assessment, and reflection.

PROBLEM-BASED LEARNING IN EFL INSTRUCTION

Problem-Based Learning is a student-centred instructional model that organises learning around authentic or meaningful problems. Barrows (1986) first introduced PBL as a method that encourages learners to construct knowledge through problem-solving rather than passive information reception. PBL is grounded in constructivist learning theory because it positions students as active knowledge builders.

In PBL, students are usually asked to analyse a problem, identify what they need to learn, gather information, work collaboratively, develop solutions, present findings, and reflect on the process. Hmelo-Silver (2004) explains that PBL promotes flexible knowledge, problem-solving skills, self-directed learning, collaboration, and intrinsic motivation. Savery (2006) also emphasizes that PBL requires authentic problems and active inquiry.

In English language teaching, PBL supports communicative learning. Students use English to discuss problems, ask questions, share evidence, defend arguments, and present solutions. This process allows students to practise language in meaningful contexts. PBL also supports critical thinking and collaboration, which are important in contemporary education.

However, PBL requires careful instructional design. A problem must be relevant to the learning objectives, appropriate for students' language proficiency, and challenging enough to stimulate inquiry. Teachers must also provide scaffolding, manage group work, monitor discussion, and design assessment criteria that capture both language performance and problem-solving processes. Therefore, the quality of PBL depends strongly on teachers' pedagogical competence.

EUROPEAN PROFILING GRID

The European Profiling Grid is a competency-based framework for describing and assessing language teachers' professional development. It organises teacher competence across developmental phases, from novice to more experienced levels (North et al., 2013). The EPG includes several domains, such as training and qualifications, methodology, lesson and course planning, interaction management, assessment, digital media, language awareness, intercultural competence, and professional conduct.

The EPG is useful for pre-service teacher education because it makes teacher competence more visible and measurable. It helps teacher educators identify what students can already do and what they still need to develop. For pre-service English teachers, the EPG can be used to analyse lesson plans, teaching procedures, classroom interaction, assessment design, and professional awareness.

In relation to PBL, the EPG provides a practical lens for evaluating whether pre-service teachers are ready to design learner-centred instruction. PBL requires teachers to act as learning designers and facilitators. They must organise inquiry, support collaboration, monitor interaction, provide feedback, and assess student learning. These abilities are closely related to EPG dimensions, especially lesson planning, methodology, interaction management, assessment, and professional development.

CONCEPTUAL RELATIONSHIP BETWEEN PEDAGOGICAL COMPETENCE, PBL, AND EPG

Pedagogical competence, PBL, and EPG are closely connected. Pedagogical competence provides the professional foundation for effective teaching. PBL provides an instructional model that activates student-centred learning. EPG provides an evaluative framework for identifying the level of teacher competence.

This relationship can also be explained through constructive alignment. In PBL-based English instruction, learning objectives, problem scenarios, inquiry activities, language tasks, collaboration, reflection, and assessment must support the same learning outcomes. For example, if the objective is to develop students' argumentative speaking skills, the problem should require students to analyse an issue, discuss evidence, present arguments, and receive assessment based on both language performance and reasoning quality.

Therefore, a pre-service teacher who designs a PBL-based lesson plan must demonstrate competence in several areas. The teacher must formulate measurable objectives, select relevant problems, organise inquiry, manage interaction, provide scaffolding, use media, design assessment, and reflect on improvement. The EPG helps analyse these abilities systematically.

METHOD RESEARCH DESIGN

This study used a qualitative case study design. A case study was appropriate because the research focused on one specific educational case in a real teacher education context (Yin, 2018; Creswell & Poth, 2018). The case was the pedagogical competence of fourth-semester pre-service English teachers in designing PBL-based lesson plans in a TEFL course.

PARTICIPANTS AND CONTEXT

The participants were fourth-semester students in the English Education Study Program at Universitas Muhammadiyah Palembang. They were taking a TEFL course and had studied basic teaching methods, lesson planning, classroom instruction, and English language teaching. The participants were selected through purposive sampling because they had relevant experience and knowledge related to the research focus (Palinkas et al., 2015). Semi-structured interviews involved 18 respondents.

DATA COLLECTION

Data were collected from four sources. First, students' PBL-based lesson plans were analysed to examine learning objectives, teaching procedures, learning activities, media, classroom interaction, PBL elements, and assessment. Second, semi-structured interviews were conducted to understand students' views on lesson planning, PBL, teaching strategies, interaction, assessment, and professional development. Third, classroom observations were used to identify how students planned or practised PBL-related teaching procedures. Fourth, TEFL course documents were reviewed to understand the course expectations and learning context.

DATA ANALYSIS

The data were analysed using qualitative content analysis. This method was used to identify patterns, categories, and themes from the lesson plans, interviews, observations, and documents (Mayring, 2014). The analysis followed several steps. First, the researchers read the data repeatedly to understand the whole content. Second, relevant meaning units were identified. Third, the data were coded based on PBL principles and EPG dimensions. Fourth, the codes were grouped into themes. Fifth, the findings were interpreted to describe the students' pedagogical competence.

The analysis used two main frameworks. PBL principles were used to examine meaningful problems, inquiry, collaboration, student-centred learning, presentation, and reflection. The EPG framework was used to examine lesson planning, methodology, classroom interaction, assessment, digital media, and professional awareness.

TRUSTWORTHINESS

Trustworthiness was maintained through triangulation, member checking, peer review, and research documentation. Triangulation was conducted by comparing data from lesson plans, interviews, observations, and TEFL course documents. Member checking was used to confirm whether the interpretation of interview data reflected the participants' intended meanings. Peer review helped reduce researcher bias during analysis. Clear documentation supported dependability and confirmability (Lincoln & Guba, 1985).

RESULT AND DISCUSSION

The findings show that the pre-service English teachers demonstrated emerging pedagogical competence in designing PBL-based lesson plans. They were able to identify the basic components of lesson planning and showed general awareness of PBL. However, they still needed improvement in writing measurable objectives, designing

coherent PBL procedures, managing interaction, and aligning assessment. The findings are presented in five themes.

1. Learning Objectives and Lesson Planning

Most students were able to write learning objectives based on expected TEFL course outcomes. Their lesson plans included basic components such as objectives, procedures, learning activities, media, time allocation, classroom interaction, and assessment. This shows that the students understood lesson planning as an important part of teaching preparation.

Interview data supported this finding. One respondent, P15, described a lesson plan as “a roadmap to ensure that learning objectives are achieved, organise activities and time efficiently, and maintain teaching consistency.” This response shows that the student understood lesson planning as a guide for instructional decision-making. P17 also stated that good planning makes teaching more directed and effective.

However, the lesson plan analysis showed that some learning objectives were still too broad. Several students used verbs such as “understand” and “know” without stating observable learner performance. As a result, the objectives did not always provide clear guidance for learning activities and assessment. For example, an objective such as “students understand descriptive text” is less measurable than “students identify the structure of descriptive text and present a short oral description using appropriate vocabulary.”

This finding indicates that students had conceptual awareness of lesson planning, but their technical ability to formulate measurable objectives was still developing. According to Anderson and Krathwohl (2001), learning objectives should use clear cognitive processes that can be observed and assessed. From the EPG perspective, the students can be positioned as developing pre-service teachers. They were able to organise basic lesson components, but they still needed guided practice in writing specific, measurable, and aligned objectives.

2. Integration of PBL Methodology

The second finding concerns the integration of PBL methodology. The students generally understood that PBL should involve meaningful problems, group discussion, inquiry, presentation, and reflection. Interview data showed that they associated PBL with active learning, problem-solving, collaboration, and student participation.

P16 stated that pre-service teachers need to choose appropriate strategies, methods, and media so that learning fits students’ characteristics and needs. P18 also explained that teachers should choose suitable strategies, methods, and media to help students understand the lesson more easily. These responses show that the students had begun to understand methodology as a contextual pedagogical decision.

However, the lesson plan analysis and classroom observations revealed that some procedures were not fully problem-based. In several lesson plans, the problem appeared only at the beginning of the lesson. Students were then asked to discuss or present, but the inquiry process was not clearly developed. Some lesson plans did not explain how students would identify learning issues, collect information, test ideas, or construct solutions. In these cases, PBL was used more as a label than as a coherent instructional model.

This finding shows a gap between students’ theoretical understanding of PBL and their ability to operationalise it in lesson planning. Hmelo-Silver (2004) argues that PBL

should support learning through meaningful problems, inquiry, collaboration, and facilitated problem-solving. If inquiry and scaffolding are weak, PBL may become ordinary discussion. Therefore, pre-service teachers need more modelling of how to design PBL stages in English lessons.

From the EPG perspective, the students showed developing competence in methodology. They could identify student-centred strategies and recognise the value of problem-solving, but they still needed more practice in sequencing PBL procedures and connecting them with language learning objectives.

3. Classroom Interaction and Collaboration

The third finding relates to classroom interaction. The lesson plans, interviews, and observations showed that students viewed interaction as an important part of English language learning. They planned group work, peer discussion, questioning, presentation, and feedback activities. All 18 respondents recognised interaction and collaboration as important in PBL because these activities encourage active participation, idea sharing, cooperation, and critical thinking.

P16 stated that classroom interaction and collaboration are needed so that all students can participate actively in problem-based learning. P18 gave a similar response by explaining that teachers need to build interaction and collaboration so that students become active, especially when using PBL. These responses indicate that the students understood interaction not only as communication, but also as a condition for problem-solving and participation.

Nevertheless, several lesson plans did not provide clear procedures for managing interaction. Some students only wrote “group discussion” or “presentation” without explaining group roles, task distribution, teacher guidance, time allocation, participation control, or feedback procedures. This lack of detail may create classroom management problems because students may not know what to do, how to contribute, or how their participation will be evaluated.

This finding is consistent with Vygotsky’s sociocultural theory, which views learning as a socially mediated process supported by interaction and scaffolding (Vygotsky, 1978). In PBL, interaction must be structured carefully because students need to discuss problems, negotiate meaning, and construct solutions collaboratively. From the EPG perspective, the students demonstrated developing competence in interaction management. They were able to design collaborative activities, but they still needed stronger strategies for organising group work, monitoring participation, and facilitating productive communication.

4. Assessment in PBL-Based Lesson Plans

The fourth finding concerns assessment. Most students included assessment in their lesson plans. The assessment forms included presentations, performance tasks, group products, discussion participation, and reflection. These forms are relevant to PBL because they allow students to demonstrate both the learning process and the final product.

Interview data also showed that students understood assessment as part of teaching competence. Many respondents defined teaching competence as the ability to plan lessons, teach effectively, manage the class, and evaluate students’ learning. This indicates that students were aware that assessment should be connected to teaching and learning.

However, assessment was one of the weakest areas in the lesson plans. Some assessment tasks were not clearly aligned with learning objectives and PBL activities. For example, several lesson plans required students to solve problems collaboratively, but the assessment focused only on the final presentation. The criteria for assessing inquiry, collaboration, problem-solving, language use, and reflection were often unclear. Several lesson plans also lacked rubrics or measurable indicators.

This finding shows that students still needed a stronger understanding of constructive alignment. Biggs and Tang (2011) argue that objectives, learning activities, and assessment should support one another. In PBL-based English instruction, assessment should measure not only the final answer, but also the inquiry process, collaboration, communication, reasoning, and reflection. From the EPG perspective, the students were able to include assessment, but they had not consistently designed assessment tools that matched the intended learning outcomes and PBL processes.

5. Pedagogical Competence Based on EPG Dimensions

Based on the EPG dimensions, the pre-service teachers can be categorised as developing teachers. In lesson planning, they were able to organise basic lesson components, but some learning objectives were still not measurable. In methodology, they understood PBL principles, but several lesson plans remained partly teacher-centred or discussion-based. In classroom interaction, they planned collaborative tasks, but they did not always explain how interaction would be managed. In assessment, they included assessment tasks, but alignment and rubrics were often weak. In professional awareness, they showed willingness to improve, but still needed systematic feedback and reflection.

The findings also reveal clear learning needs. Interview data showed that students needed more microteaching, real classroom cases, problem-based tasks, digital media, EPG-based indicators, rubrics, reflection, and lecturer or peer feedback. P17 stated that the model would be more effective with real teaching examples, step-by-step guidance, digital media, and routine feedback. P18 added that students needed real practice, microteaching, group discussion, digital media, and a stronger connection between theory and practice.

These findings suggest that the students did not only need theoretical explanation. They needed staged pedagogical practice. TEFL courses should therefore provide structured opportunities for students to design, practise, evaluate, and revise PBL-based lesson plans. This process should include examples of strong PBL problems, guided objective writing, inquiry-based activity design, interaction management strategies, assessment rubrics, and reflective feedback.

CONCLUSION

This study examined the pedagogical competence of fourth-semester pre-service English teachers in designing PBL-based lesson plans in a TEFL course. The findings show that the students demonstrated emerging pedagogical competence. They were able to include basic lesson plan components, such as learning objectives, teaching procedures, learning activities, media, time allocation, classroom interaction, and assessment. They also showed general understanding of PBL principles, including meaningful problems, inquiry, collaboration, and student-centred learning.

However, several weaknesses were found. Some learning objectives were not measurable. Some PBL procedures did not fully support inquiry and student-centred problem-solving. Classroom interaction was valued, but not always structured clearly. Assessment was included, but alignment with objectives and PBL activities was often weak. Rubrics and indicators for assessing inquiry, collaboration, language use, problem-solving, and reflection were still limited.

Viewed through the EPG framework, the students can be positioned as developing pre-service teachers. They had basic competence in lesson planning, methodology, interaction, assessment, media use, and professional awareness, but they still required further guidance and practice. The study suggests that TEFL courses should provide more systematic training in designing PBL-based lesson plans. This training should focus on measurable learning objectives, authentic problem design, inquiry-based procedures, collaborative learning management, aligned assessment, rubric development, and reflective revision.

This study was limited to one English Education Study Program and focused mainly on lesson plan design. Future research may involve participants from different universities and examine how PBL-based lesson plans are implemented in real classroom teaching. Further studies may also develop an EPG-based rubric for assessing pre-service teachers' competence in designing and implementing PBL-oriented English instruction.

ACKNOWLEDGMENT

The authors express sincere appreciation to all parties who contributed to the completion of this study entitled "*Pedagogical Competence of Pre-Service Teachers in Designing Problem-Based Learning Lesson Plans: An Analysis Using the European Profiling Grid.*" Special recognition is extended to Prof. Dr. Zainal Rafli, M. Pd and Prof. Dr. Ifan Iskandar, M. Hum from Universitas Negeri Jakarta for their continuous support throughout the research process. The authors also gratefully acknowledge the lecturers and pre-service English teachers who participated in this research. Their willingness to share lesson plans, experiences, and reflections provided essential empirical data for the analysis.

BIBLIOGRAPHY

- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.
- Barrows, H. S. (1986). A taxonomy of problem-based learning methods. *Medical Education*, 20(6), 481–486.
- Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, 32, 347–364.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.
- Brown, H. D. (2019). *Language assessment: Principles and classroom practices*. Pearson Education.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.

- Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, 16(3), 235–266.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.
- Mayring, P. (2014). *Qualitative content analysis: Theoretical foundation, basic procedures and software solution*. Beltz.
- North, B., Mateva, G., & Rossner, R. (2013). *The European Profiling Grid: User guide*. EPG Project.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544.
- Richards, J. C. (2022). *Exploring emotions in language teaching*. Cambridge University Press.
- Savery, J. R. (2006). Overview of problem-based learning: Definitions and distinctions. *Interdisciplinary Journal of Problem-Based Learning*, 1(1), 9–20.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–22.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publication.