

Gamified Micro-teaching for ELT Teacher Training: Investigating Its Impact on Classroom Instructional Competence and Engagement

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Abstract

Education has seen an increase in interest in utilizing gamification to improve student engagement and motivation. This quasi-experimental study investigated how gamification affected the instructional competence and engagement of English Language Teaching (ELT) teacher trainees during micro-teaching. Forty pre-service ELT teachers were randomly assigned to either an experimental gamified micro-teaching group or a control non-gamified micro-teaching group. The gamified micro-teaching utilized missions, real-time feedback badges, peer ranking/leaderboards, and digital points (all gamified components) as part of the micro-teaching process. The researcher collected pre- and post-intervention data using the ELT Instructional Competence Rubric (ELT-ICR), Student Engagement in Teacher Training Scale (SETTS), and semi-structured interviews. There were significant differences in instructional competence across all three ELT-ICR and SETTS identified areas between the experimental and control groups after participating in their respective interventions. While teaching simulations, participants in the gamified micro-teaching group reported a substantially greater amount of motivation and lower amounts of anxiety. Qualitative analysis of data indicated that members of the experimental group participated in more collaboration, self-reflection, and willingness to take instructional risks. Overall, the researchers concluded that strategically designed gamified micro-teaching can significantly improve pre-service ELT teacher trainees' pedagogical competence and affective engagement. Recommendations arising from the results of this study include incorporating gamification constructs that identify experiential learning and self-determination theory into teacher training curricula.

Keywords: Gamified micro-teaching, ELT teacher training, pre-service teachers, instructional competence, engagement, self-determination theory

Introduction

The term gamification has recently received a great deal of attention as an innovative means of increasing motivation, engagement, and the outcomes related to learning (Hamari et al., 2014; Seaborn & Fels, 2020). It has also been used in teacher education, where there is an emphasis on training teachers who will be able to develop resilient, adaptable, and motivated practitioners (Dichev & Dicheva, 2017). Within the context of English language teaching (ELT), this issue is particularly pressing. To teach languages in dynamic and communicative classrooms, pre-service teacher training programs must provide their candidates not only with a solid pedagogical theory but also with the practical ability to teach language (Richards, 2015).

Micro-teaching, which is a core part of any pre-service teacher education program, consists of short (10-20 minute), focused teaching demonstrations where the teacher candidates can practice skills in a predictable, supportive environment (Iliasova et al., 2025; Rachel, 2016; Sithole, 2023). Micro-teaching has been noted, however, to have significant shortcomings with respect to how teacher candidates are prepared since it is frequently described as being unchanging, artificially segmented, and promotes high levels of anxiety for the teacher candidate; thus, the teacher candidate may view this experience as a summative form of assessment rather than a formative learning opportunity (Alsawaier, 2018; Ningsih et al., 2025). The type of barrier to their affective development inhibits risk-taking behaviors, creative responses to student needs, and transferring their teaching skills into actual classroom settings. At the same time, learners will also lack the fundamental learner-centered and managerial competencies necessary for developing relationships with their students (Lateef, 2020).

Introducing "game-like" design features (such as point scores, badges, missions, leader-boards, etc.) into non-gaming contexts is referred to as gamification. In terms of motivation, gamification builds on established motivational theories (Domínguez et al., 2013; Werbach & Hunter, 2020). Gamification also aligns well with established motivation theories such as Self-Determination Theory (e.g., Ryan et al., 2019). Well-designed gamification creates the opportunity to meet three key psychological needs of learners as outlined in the SDT framework: *autonomy* (through choice of mission), *competence* (through progressively increasing difficulty and feedback after completing each mission), and *relatedness* (through peer ranking and supporting each other) (Cheong et al., 2014; Zainuddin et al., 2020). In addition to meeting core psychological needs, gamification aligns and supports Kolb's (2015) Experiential Learning Theory. Well-designed gamification provides learners with concrete experiences that follow a structured, low-stakes cycle of action, reflection, and feedback (Zainuddin et al., 2020).

Practically, the focus of gamified micro-teaching is to convert simulations into interactive, engaging narratives. Teaching tasks would be framed as "a mission" and provide learners with real-time feedback through the use of badges and create friendly competition (or collaboration), such as point scoring on leaderboards (Cheong et al., 2014; Subhash & Cudney, 2018). Furthermore, gamified micro-teaching addresses the challenges facing 21st-century ELT, which considers adaptive teaching strategies, student engagement, and communicative competence much more significant than other elements (Richards & Rogers, 2014).

Although there is a theoretical synergy between gamification and micro-teaching, sufficient empirical research on teacher training using gamified micro-teaching persists within the context of English language teaching (Huang et al., 2022). Very few controlled, mixed-methods studies have investigated the effects of gamified micro-teaching within the teachers' preparation programs. Affecting students' instructional competencies (observable teaching skills) and their affective engagement (motivation, confidence, and anxiety) can be mediated by the structural components of both types of micro-teaching (Deterding et al., 2011; Li et al., 2023). While there are many studies on the use of gamification in education and micro-teaching in isolation, to date, there are very few studies that have directly linked gamified micro-teaching and the two areas of instructional competency and affective engagement. This lack of connection has left a critical gap in the empirical research. Each of these domains has a significant relationship with the other one; one's affective state can impede the demonstration of procedural skills required to demonstrate effective teaching, such as managing a classroom or the clarity of a lesson (Wangchuk, 2019).

The purpose of this quasi-experimental study was to investigate the impact of a gamified micro-teaching intervention on both the instruction competency and the multidimensional engagement

(affective, cognitive, and behavioral) of pre-service English language teachers compared with traditional methods of micro-teaching. Using a converging mixed-methods approach, the study aims to produce robust quantitative evidence of effectiveness while enhancing this data with qualitative insights into the lived experiences of trainees. The goal of the study is to provide teacher educators and curriculum developers with evidence-based strategies for reimagining micro-teaching as a more dynamic, skills-based, and supportive component of professional preparation.

Statement of the Problem

Micro-teaching is a long-established method for providing teacher education students with controlled experiences in making instructional decisions in a variety of contexts. However, many researchers have raised significant criticisms regarding the effectiveness of micro-teaching, especially with respect to disciplines that are primarily communicative in nature, such as English Language Teaching (ELT). Research has demonstrated that the traditional design of micro-teaching often leads to low levels of trainee engagement, increased anxiety when performing, and minimal opportunity for trainees to practice in authentic ways in a collaborative environment (Ningsih et al., 2025; Iliasova et al., 2025; Rachel, 2016; Sithole, 2023). Significantly, these issues create added challenges for trainees who deem micro-teaching as primarily a high-stakes evaluation instead of a formative learning cycle, leading to increased anxiety and reduced opportunities for valid pedagogical experimentation (Wangchuk, 2019).

Gamification has been proposed as a constructive solution to address these challenges through a recontextualized learning experience. Adding digital badges and ideals, creating challenge-based narratives for participants, and supplying immediate access to feedback can improve internal motivation, minimize affective filters, and encourage a growth mindset (Cheong et al., 2014; Dichev & Dicheva, 2017). While meta-analyses indicate that gamification generally has a positive effect on educational engagement and cognitive outcomes (Huang et al., 2020), it has not been applied as an intervention with research-based evidence of its effect on preparing pre-service English language teachers to demonstrate specific pedagogical skills related to effectively conducting micro-teaching practices (Li et al., 2023). Past research studies have normally used gamification for language learners or for broader educational settings and thus, do not have sufficient focused investigation concerning the effect of gamification on the development of teacher trainees (Li et al., 2023).

The lack of research in this area presents a significant limitation since instructional effectiveness has been shown to correlate with the pre-service teacher's level of anxiety and motivation related to learning and practicing instructional strategies (Lateef, 2020). Without motivation or the ability to maximize anxiety, a pre-service teacher may struggle to develop the skills required to demonstrate effective instructional strategies, such as using effective questioning techniques, providing clarity in instruction, or using flexible classroom management strategies (Lateef, 2020). Alternatively, an environment that supports motivation may also create the psychological safety required to take risks and reflective practice (Reiter-Palmon & Millier, 2023; Thomsen et al., 2025). Currently, there is no evidence that gamified micro-teaching interventions can increase motivation and/or provide dedicated time for teachers to develop the specific pedagogical competencies needed to successfully conduct a micro-teaching experience. Thus, without evidence of the ability of gamified micro-teaching interventions to simultaneously meet both of these objectives, comprehensive teacher preparation will not occur.

As a result, the main problem is twofold: Firstly, traditional micro-teaching tends not to sufficiently develop an environment conducive to the development of skills for those training in ELT, and secondly, little empirical data exists regarding whether gamified instructional strategies positively influence both

psychological engagement and instruction for future ELT teachers. Both problems must be resolved, or else micro-teaching will continue to be used as merely a redundant data-gathering exercise, as opposed to the transformative competency-development activities that are necessary to prepare confident, competent teachers for the current realities of teaching in a language classroom.

Significance of the Study

In sum, the significance of the present study is substantial to teacher education in ELT, and provides empirical evidence regarding the application of gamification as an innovative intervention to the core structure of micro-teaching. The implications of the present study are extensive, substantive, and range from a theoretical, empirical, methodological, and pragmatic perspective.

Theoretical Significance

The present study provides theoretical contributions by operationalizing and empirically testing the constructs of Self-Determination Theory (SDT) and Experiential Learning Theory (ELT) within a gamified context for teacher training. It provides opportunities for researchers to expand beyond the simplistic view of gamified elements being simply "motivators," and instead provides examples of how gamified mechanics can be purposefully incorporated into institutional frameworks to provide opportunities for fulfillment of basic psychological needs (i.e., autonomy, competence, relatedness), as well as academic reflection regarding the development of teaching competencies. Thus, the findings provide a basis for developing an evidence-based model for the theoretical foundation of the gamification model of design and applied theories of teacher development and the theory of design involving a gamification model of teacher development.

Empirical and Practical Significance

This study directly responds to an important gap in the literature pertaining to English language teacher preparation. Although there is an extensive amount of research discussing gamification, the amount of robust mixed-methods research investigating the impact of gamification upon micro-teaching contexts in English language teacher development has been limited (Li et al., 2023). By generating original data on the effects of gamification on both instructional competence and student engagement, this study provides valuable empirical support to design programs of study within which future English language teachers will develop their pedagogical approaches. In terms of practice, the findings provide actionable recommendations for stakeholders:

- For Teacher Educators & Program Coordinators: The study can provide a practical guide for re-designing current micro-teaching models to improve both the student and teacher educators' experiences. The study provides specific recommendations about gamified components of micro-teaching that are aligned with the pedagogical objectives of the program.
- For Curriculum Developers: The study highlights the need to incorporate affective supportive structures in the development of an English language teacher preparation curriculum. For example, reducing anxiety through the use of a gaming framework to create affective support structures for English language teachers during training, as well as providing skills-based practice, will provide

greater confidence and competence in preparing for and providing instruction as an English language teacher.

- For Institutional Policy Development: The findings of the study provide data that can be used to inform decisions regarding resource allocation for the development of digital training tools and professional development for trainers related to innovative methodologies.

Methodological Significance

Researchers in teacher education research show the relevance of utilizing a mixed-methods approach by triangulating quantitative measures (i.e., competency scores and engagement) with qualitative data from an interview so that you can encapsulate the depth and breadth of teacher learning through a converging methodology, rather than through a single-method approach. This approach can be used to guide future research that seeks to investigate the relationship between skill development (i.e., gaining new skills) and psychological states (i.e., students' attitudes/feelings about developing new skills) as they relate to classroom experiences during teacher training programs.

Ultimately, the results of the study are not merely a report on the outcomes of the experiment. Further, it contributes to the scholarly understanding of motivation and professional development, provides evidence to address a gap in research, and gives clear implications specific to stakeholders involved in professional development. In conclusion, the study recommends redesigning micro-teaching as a vicariously, relationally, and competency-based process that supports the professional development of pre-service ELT teachers.

Purpose of the Study

Beyond examining the effects of gamified micro-teaching, this study contributes to the evolving scholarship in ELT teacher education by addressing a notable gap at the intersection of gamification, micro-teaching, and instructional competence development. While gamification has been widely explored in student learning contexts, its pedagogical value in pre-service teacher training—particularly within structured micro-teaching environments—remains underexamined. By investigating both classroom instructional competence and trainee engagement, this study advances understanding of how game-based pedagogical design can function not merely as a motivational tool, but as a structured professional learning mechanism. The findings are expected to offer empirically grounded insights for curriculum designers, teacher educators, and policy-makers seeking innovative, evidence-based strategies to enhance the quality of ELT teacher preparation programs.

Research Questions

1. Does gamified micro-teaching enhance the instructional competence of ELT teacher trainees, as measured by classroom management, lesson clarity, and learner-centered techniques, compared to traditional micro-teaching?
2. Does gamified micro-teaching influence the engagement (behavioral and affective) and motivation levels of ELT teacher trainees during teaching simulations?

Null Hypotheses

1. Gamified micro-teaching does not enhance the instructional competence of ELT teacher trainees, as measured by classroom management, lesson clarity, and learner-centered techniques, compared to traditional micro-teaching.

2. Gamified micro-teaching does not influence the engagement (behavioral and affective) and motivation levels of ELT teacher trainees during teaching simulations.

Literature Review

This review aims to bring together the most significant findings from academic research related to this topic to develop the theoretical and empirical bases for this project. The literature addressed within this review will provide a critical and comprehensive overview of gamification in educational settings, micro-teaching as a pedagogical tool, and the primary outcome variables of instructional competence and engagement that relate to teacher training, with a specific focus on English Language Teaching. Emphasis has been placed on the integration of Self-Determination Theory (SDT) and Experiential Learning Theory (ELT) as the framework for the subsequent discussion of motivation, game design, and professional skills.

Gamification in Education and Its Theoretical Underpinnings

Gamification has become very popular in the topic of education as a way to enhance motivation, engagement, and learning outcomes. This explains much of the research that has been completed in the realm of gamification (Hamari et al., 2014; Seaborn & Fels, 2014). Self-Determination Theory (SDT) provides a theoretical explanation for the effectiveness of gamification; according to SDT, intrinsic motivation is maximized when the environment supports the three psychological needs (autonomy {choosing and having voice}, competence {mastery and efficacy}, and relatedness {belongingness and connection to others}) that provide motivation (Ryan et al., 2019). Game design elements directly support the needs of SDT: autonomy is supported by player choice within mission types and narrative path choices; competence is demonstrated through evidence of player progress (e.g., points/ badges) against established benchmarks; and relatedness is developed through mechanisms such as leaderboard standing, team-based challenges, and peer evaluations (Cheong et al., 2014; Sailer & Homner, 2020; Zainuddin et al., 2020). Theoretical connections suggest that gamification may be an ideal method of instruction for complex skill domains, such as teacher education, where developing intrinsic motivation and a growth mindset are critical components of long-term learning (Dichev & Dicheva, 2017). In addition to this, gamification has a theoretical foundation in experiential learning theory (Kolb, 2015). Gamification structures the learning process into concrete experiences (i.e., missions or challenges), creates opportunities for reflection on past experiences (via feedback and replay), allows for the development of an understanding of the pedagogical principles that guide actions (abstract conceptualization), and promotes experimentation with new strategies in future tasks (active experimentation) (Plass et al., 2020). Scholars, however, repeatedly warn that gamification must be properly integrated into pedagogy; thus, the gamification element should only be utilized as an enhancement to the main learning objectives, with the gamification design taking into consideration the context in which it is being used so that there are no unintended impacts, such as excessive competition (Domínguez et al. 2013; Kapp 2020; Majuri et al. 2021).

Micro-teaching as a Pedagogical Tool in ELT: Evolution and Critique

Micro-teaching is the foundational component of teacher training, providing a safe, structured environment in which teachers can learn and practice discrete instructional skills through a cycle of teaching, observing, giving feedback, and re-teaching (Fernández, 2010; Iliasova et al., 2025; Rachel, 2016; Sithole, 2023). Specifically, micro-teaching is used in the field of English language teaching as a valuable means of practicing core communicative language teaching techniques, including information gap activities, elicitation, providing corrective feedback, and managing patterns of classroom interaction

(Farrell, 2022; Richards, 2015). While micro-teaching is a well-established practice that has many benefits, an extensive body of criticism has emerged against it. A major criticism of traditional micro-teaching is that the sessions often create high levels of anxiety and are viewed as high-stakes final assessments instead of formative learning cycles (Alsawaier, 2018; Ningsih et al., 2025). Consequently, trainees may avoid taking risks in their teaching because they feel pressured to perform well and may be fearful of receiving negative comments on their performance, so they may prefer to present a safer performance instead of an authentic presentation (Lateef, 2020; Wangchuk, 2019). In addition to the pressure to perform well, the artificiality associated with using peer actors instead of real students can be a barrier to the development of an authentic classroom climate and providing responsive instruction to student needs (Stahl et al., 2018; Wekerle & Kollar, 2021). Therefore, there is a fundamental paradox associated with the use of micro-teaching in teacher preparation; while it is intended to be a supportive tool for safe practice, micro-teaching can be an additional source of affective barriers that limit its capacity for developmental growth. A call for innovative formats that reduce the affective barriers to micro-teaching and/or maintain/enhance pedagogical integrity and relevance needs to be addressed.

Instructional Competence in ELT: A Multi-Faceted Construct

As an ELT professional, competence in teaching is a multi-dimensional construct made up of a specific and interrelated set of skills. Some of the key components of these skills are: (a) lesson planning and clarity: the proper sequencing and linking of objectives, activities, and materials; (b) classroom management, which goes beyond discipline to encompass the orchestration of interaction patterns, pacing, and using resources in language classes; (c) instructional language and elicitation techniques, which is necessary for providing comprehensible input and increasing student output; and (d) the facilitative use of interactive, learner-centered strategies designed to increase communicative competence and language acquisition (Harmer, 2023; Richards, 2015; Tedick, 2005). Each of these areas needs opportunities for purposeful, focused practice accompanied by clear, actionable feedback in developing these complex competencies. Gamified structures present an innovative form for providing support for the development of these competencies. In gamified structures, there are clear and incremental success tasks ("missions" associated with a specific competency) that provide immediate and non-threatening feedback mechanisms (digital badges for success with execution of sub-goals), and the structured protocols use for observing and evaluating peers can assist teachers in focusing on specific pedagogical moves (Dichev & Dicheva, 2017; Huang et al., 2020). The underlying hypothesis, as supported by a substantial body of research related to the development of skills, is that a gamified environment may provide opportunities for lowering anxiety, and increasing engagement, motivation and means of supporting deeper processing, more mindful practice, and greater use of complex pedagogical skills in a real teaching environment (Plass et al., 2020; Sitzmann, 2011).

Teacher Engagement, Motivation, and Affective Dimensions

The engagement of teachers during their training is determined by three behavioral (effort and persistence), emotional (affective reactions and interest), and cognitive (mental investment and self-regulation) components, and even though teacher engagement will lead to positive training outcomes, it can also be utilized as an indicator for future success as teachers in their roles, teacher satisfaction, and future commitment to teaching (Li et al., 2023). Therefore, the emotional environment created during training is essential. The anxiety experienced by most trainee teachers who have come from traditional types of micro-teaching (Wangchuk, 2019) is a major source of cognitive and working memory impairment, and therefore inhibits the demonstration of new PCK (pedagogical content knowledge). Gamifying the pedagogy tasks associated with training (reframing the pedagogy tasks as engaging

challenges within a system of rules) allows for reduced perceptions of threat and increased perceptions of psychological safety. This is based on the principle of Self-Determination Theory (SDT), which explains that by providing systematic support for autonomy, competence, and relatedness in a gamified training environment, trainee teachers will develop a more positive emotional state, including a sense of curiosity, enjoyment, and success (Ryan et al., 2019; Sailer & Homner, 2020). These states will lead trainees to take instructional risks, collaborate productively with peers, and engage in meaningful self-reflection (all of which are necessary for professional development). Research has shown that the enjoyable or game-like aspects of gamification may serve as a source of emotional support while engaging in the iterative process of rehearsal and feedback, thereby making this process more tolerable and sustainable (McGonigal, 2011).

Synthesizing the Gap and the Present Study

In conclusion, there is empirical evidence supporting the theoretical claim that gamification, which arises from the theory of Self-Determination (SDT) and Experiential Learning, is a formal framework to provide extrinsic motivation and positive feelings. Too, there are several serious affective and functional limitations evident in the traditional micro-teaching method of practice for ELT, which may inhibit the amount of experimentation associated with practice, which is the aim of micro-teaching. In addition, this review identified the high-level competencies needed to successfully implement ELT using gamification and identified a significant void in empirical research where there have been few controlled, mixed-methods studies investigating the use of gamification in reality-based ELT micro-teaching for pre-service teacher trainees, even though multiple researchers have documented the potential of gamification to positively influence student engagement in general education and ELT (Huang et al., 2020; Sailer & Homner, 2020). Analyses of literature related to performance outcomes have typically been separated; affective results (e.g., anxiety; engagement) and competency development have been studied as distinct areas of investigation. There appears to be an absence of research examining whether the application of gamification as an intervention can address the negative affective consequences of micro-teaching while simultaneously improving the acquisition of measurable instructional competencies in pre-service teacher education. The purpose of this study is to bridge the gap between these two areas of study in research regarding pre-service teachers. This study will determine if a theoretically grounded (i.e., self-determination theory; experiential learning) gamified micro-teaching intervention effectively supports increases in multifaceted instructional competence and multidimensional engagement for teacher trainees who are preparing to teach English. Therefore, this study will provide a comprehensive pedagogical approach to the issues related to teacher training in instructional strategy development.

Methodology

Participants

A total of 40 pre-service teachers (32 female, 8 male; M age = 23.4 years, SD = 1.8) participated in the study. All participants were either BA holders, MA students, or MA holders and had completed core pedagogical coursework, including an introductory teaching practicum (< 50 hours of classroom experience). Participants were randomly assigned from a volunteer pool to either an experimental group (n = 20) or a control group (n = 20) to ensure baseline equivalence. All participants provided written informed consent.

Design

A quasi-experimental, pre-test/post-test control group design was employed. The independent variable was the micro-teaching format (gamified vs. traditional). Dependent variables were (a) instructional competence scores and (b) engagement/motivation scores. The use of intact, pre-existing classes within the program necessitated a quasi-experimental approach, though random assignment to conditions was conducted at the individual level from the volunteer pool.

Theoretical Framework and Intervention Design

The intervention was explicitly designed around Self-Determination Theory (SDT) (Ryan et al., 2019) and Experiential Learning Theory (ELT) (Kolb, 2015). To foster autonomy, the gamified system offered choice in "mission" topics and teaching strategies. To build *competence*, it provided immediate, mastery-oriented feedback via badges and a transparent points system linked to a rubric. To enhance *relatedness*, it incorporated peer ranking and collaborative reflection phases. The structure of four iterative sessions mirrored the ELT cycle: Concrete Experience (teaching mission), Reflective Observation (peer/automated feedback), Abstract Conceptualization (guided review of pedagogical principles), and Active Experimentation (applying insights in the next mission).

Data Collection Instruments

ELT Instructional Competence Rubric (ELT-ICR): Adapted from the Classroom Assessment Scoring System (CLASS) framework (Pianta et al., 2008) and ELT-specific observation tools (Richards, 2015), this 20-item rubric assessed three domains on a 5-point Likert scale (1=Unsatisfactory to 5=Exemplary): Classroom Management (e.g., pacing, transitions), Instructional Clarity (e.g., objective setting, explanation), and Learner-Centered Techniques (e.g., elicitation, interactive tasks). Two trained raters, blind to group assignment, scored all recordings. Inter-rater reliability was excellent (ICC = .92). Internal consistency (Cronbach's α) was .88 for the total score.

Student Engagement in Teacher Training Scale (SETTS): This 15-item scale, adapted from Fredricks et al. (2016) and the Utrecht Work Engagement Scale for Students (Schaufeli et al., 2002), measured Behavioral (5 items, e.g., "I invested strong effort in preparing my microteach"), Emotional (5 items, e.g., "I felt enthusiastic during my teaching simulation"), and Cognitive Engagement (5 items, e.g., "I reflected deeply on how to improve my technique"). Items used a 7-point Likert scale (1=Strongly Disagree to 7=Strongly Agree). Cronbach's α for the total scale was .91.

Semi-structured Interview Protocol: A protocol with open-ended questions was used post-intervention to explore experiences (e.g., "Describe your emotional state during the sessions," "How did the [points/badges/peer feedback] influence your approach?"). Interviews lasted 20-30 minutes, were audio-recorded, and transcribed verbatim.

Procedure

Pre-test Phase (Week 1): All participants completed the SETTS and conducted a baseline 10-minute micro-teaching session on a standardized topic, which was recorded and scored using the ELT-ICR.

Intervention Phase (Weeks 2-5): Both groups completed four 15-minute micro-teaching sessions (one per week). The experimental group used a gamified LMS platform (built on Moodle with the Level Up! plugin). Each session was framed as a "Mission" with a primary pedagogical objective (e.g., "Mission 2: Implement at least two different pair-work activities"). Participants earned digital badges (e.g., "Clarity Captain," "Interaction Innovator") for demonstrating target competencies, as automatically flagged by the instructor or peer-nominated. A live points leaderboard (displaying anonymized IDs) showed cumulative scores based on rubric ratings and peer ratings. A dedicated "Feedback Forum" allowed structured peer comments. However, the control group followed a standard micro-teaching protocol: teach, receive verbal feedback from the instructor, and written comments from two peers using a simplified checklist, followed by a general group discussion. In the post-test phase (Week 6), all participants repeated the SETTS and

conducted a final 10-minute micro-teaching session on a new, standardized topic, which was recorded and scored using the ELT-ICR. Experimental group participants also completed the individual interview.

Data Analysis

Quantitative data were analyzed using SPSS v.26. Preliminary checks confirmed no violations of ANCOVA assumptions (normality, homogeneity of regression slopes). To test H_{01} and H_{02} , two one-way ANCOVAs were conducted with the post-test score as the dependent variable, group membership as the fixed factor, and the corresponding pre-test score as the covariate. Effect sizes were reported using partial eta-squared (η^2). For the qualitative data, a reflexive thematic analysis approach was followed (Braun & Clarke, 2021). Transcripts were coded inductively by two researchers, with coding consistency checked (Cohen's $\kappa = .87$). Themes were developed iteratively, focusing on capturing trainees' lived experiences of motivation, anxiety, and perceived skill development. Quantitative and qualitative findings were integrated in the discussion to provide a convergent interpretation.

RESULTS

Quantitative Results

As seen in Table 1 below, preliminary analyses confirmed no significant differences between the experimental and control groups on pre-test measures for instructional competence, $t(38) = -0.32$, $p = .75$, or engagement, $t(38) = -0.48$, $p = .63$, establishing baseline equivalence. For this reason, the groups were statistically comparable before the intervention.

Table 1.
Preliminary analyses

Measure	t	df	p	Interpretation
Instructional Competence (Pre-test)	-0.32	38	.75	No significant difference
Engagement (Pre-test)	-0.48	38	.63	No significant difference

Table 2 below presents the descriptive statistics for all measures. Assumptions for Analysis of Covariance (ANCOVA) were thoroughly checked. Histograms and Q-Q plots indicated approximate normality of residuals. Levene's test confirmed homogeneity of variances for post-test competence ($p = .41$) and engagement ($p = .56$). The assumption of homogeneity of regression slopes was met, as the interaction between the pre-test covariate and group factor was non-significant for both competence ($p = .33$) and engagement ($p = .21$).

Table 2.
A. Descriptive statistics (Pre-test and post-test scores)

Measure	Group	n	Pre-test M (SD)	Post-test M (SD)
Instructional Competence (ELT-ICR)				
Total Score (Range: 1–5)	Experimental	20	2.85 (0.51)	4.10 (0.43)
	Control	20	2.90 (0.48)	3.30 (0.52)
Classroom Management	Experimental	20	2.70 (0.66)	4.15 (0.49)
	Control	20	2.80 (0.62)	3.25 (0.64)
Lesson Clarity	Experimental	20	2.95 (0.60)	4.20 (0.52)

Measure	Group	n	Pre-test M (SD)	Post-test M (SD)
Learner-Centered Techniques	Control	20	3.00 (0.58)	3.45 (0.60)
	Experimental	20	2.90 (0.57)	3.95 (0.51)
	Control	20	2.90 (0.55)	3.20 (0.61)
Total Engagement (SETTS)				
Total Score (Range: 1–7)	Experimental	20	3.95 (0.71)	5.80 (0.62)
	Control	20	4.05 (0.68)	4.40 (0.65)

B. ANCOVA assumption checks

Assumption	Test/Method	Competence	Engagement	Interpretation
Normality of residuals	Histograms & Q-Q plots	Approx. normal	Approx. normal	Assumption met
Homogeneity of variances	Levene's test	p = .41	p = .56	Assumption met
Homogeneity of regression slopes	Interaction (Group × Pre-test)	p = .33	p = .21	Assumption met

Note: All assumptions required for conducting ANCOVA were satisfied, indicating that the statistical analyses were valid and reliable.

Hypothesis Testing: Instructional Competence

To test the first null hypothesis (H_{01}) stating that there is no significant difference in post-test instructional competence between groups after controlling for pre-test competence, a one-way ANCOVA was conducted. According to Table 3, the ANCOVA revealed a statistically significant main effect for groups, $F(1, 37) = 20.85$, $p < .001$, partial $\eta^2 = .36$, 95% CI [.12, .52]. The experimental groups (adjusted $M = 4.08$, $SE = 0.11$) scored significantly higher than the control group (adjusted $M = 3.32$, $SE = 0.11$). Therefore, the first null hypothesis (H_{01}) was rejected. The large effect size (partial $\eta^2 = .36$) indicates a substantial practical significance (See Fig. 1). Follow-up analyses on the ELT-ICR subscales using separate ANCOVAs showed significant group effects for Classroom Management ($F(1,37)=18.23$, $p<.001$, partial $\eta^2=.33$), Lesson Clarity ($F(1,37)=15.47$, $p<.001$, partial $\eta^2=.30$), and Learner-Centered Techniques ($F(1,37)=12.89$, $p=.001$, partial $\eta^2=.26$).

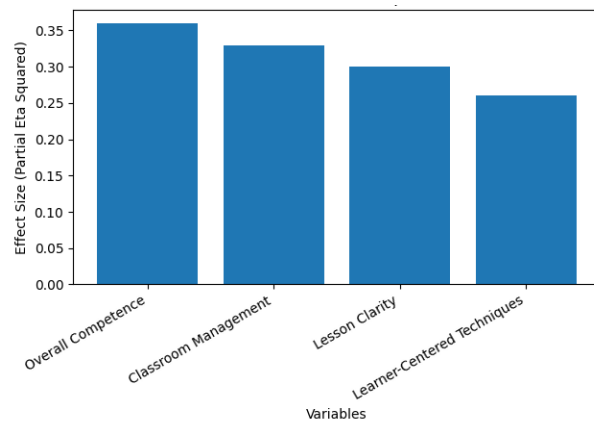
Table 3.
ANCOVA results: Instructional competence

Variable	F(1,37)	p	Partial η^2
Overall Competence	20.85	< .001	.36
Classroom Management	18.23	< .001	.33
Lesson Clarity	15.47	< .001	.30
Learner-Centered Techniques	12.89	.001	.26

As it can be seen, Figure 1 below presents the effect sizes (partial η^2) for overall instructional competence and its subdomains. The overall competence effect (.36) indicates a large practical impact of gamified micro-teaching. Meanwhile, among subdomains, Classroom Management (.33) shows the

strongest improvement followed by Lesson Clarity (.30) and Learner-Centered Techniques (.26). This pattern suggests that gamification was particularly effective in improving structured teaching behaviors and classroom control, while still significantly enhancing interactive teaching practices.

Figure 1.
Effect sizes for instructional competence outcomes



Hypothesis Testing: Engagement and Motivation

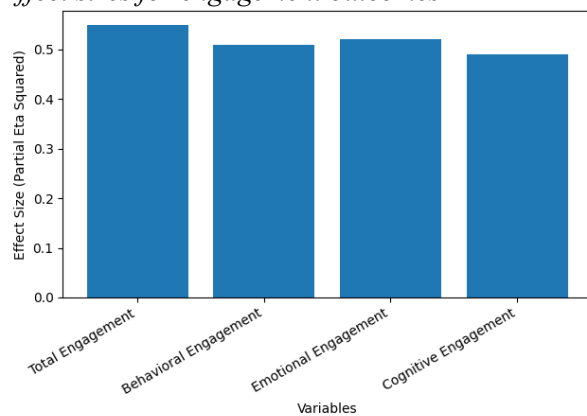
To test the second null hypothesis (H_{02})—that there is no significant difference in post-test engagement between groups after controlling for pre-test engagement—a second ANCOVA was performed. According to Table 4 below, the results indicated a statistically significant main effect for groups, $F(1, 37) = 45.12$, $p < .001$, partial $\eta^2 = .55$, 95% CI [.34, .68]. The experimental group (adjusted $M = 5.78$, $SE = 0.10$) reported significantly higher engagement than the control group (adjusted $M = 4.42$, $SE = 0.10$). Consequently, the second null hypothesis (H_{02}) was also rejected. The very large effect size (partial $\eta^2 = .55$) underscores the intervention’s strong impact on trainees’ affective state (See Figure 2 below). Analysis of the SETTS subscales revealed significant gains for the experimental group in Behavioral ($F(1,37)=38.90$, $p<.001$, partial $\eta^2=.51$), Emotional ($F(1,37)=40.15$, $p<.001$, partial $\eta^2=.52$), and Cognitive Engagement ($F(1,37)=35.62$, $p<.001$, partial $\eta^2=.49$).

Table 4.
ANCOVA results: Engagement and motivation

Variable	F(1,37)	p	Partial η^2
Total Engagement	45.12	< .001	.55
Behavioral Engagement	38.90	< .001	.51
Emotional Engagement	40.15	< .001	.52
Cognitive Engagement	35.62	< .001	.49

As it can be seen in Figure 2 below, the effect sizes for engagement outcomes, show very strong impacts across all dimensions. Put in other words, the total engagement effect (.55) is exceptionally large, indicating a powerful influence of gamification on trainee engagement. Next, comes emotional engagement (.52) which is the highest meaning that gamification strongly reduced anxiety and increased enjoyment. Too, behavioral engagement (.51) shows an increase in effort and participation, and cognitive engagement (.49) indicates deeper reflection and learning. This demonstrates that gamified micro-teaching not only improves skills but transforms the psychological learning environment.

Figure 2.
Effect sizes for engagement outcomes



Qualitative Results

Thematic analysis of interviews with the experimental group (n = 20) produced three robust themes that elucidate the mechanisms behind the quantitative gains.

1. Gamification as an Anxiety Buffer and Motivational Engine. This theme, comprising feedback from 18 participants (90%), directly links to the engagement results. Trainees described how the game elements "demystified" assessment and created a "playful mindset." One participant stated, *"The 'badges' took the sting out of feedback. Instead of thinking 'I failed at classroom management,' I thought 'I haven't unlocked the Manager badge yet'—it motivated me to try again."* Another noted, *"The points system made my progress feel visible and concrete, which kept me going even after a tough session."*

2. Enhanced Collaborative Reflection. This theme (mentioned by 17 participants, 85%) explains the improvement in instructional competence, particularly through peer learning. The structured peer-ranking system mandated engagement with rubric criteria, leading to more analytical observations. *"We had to justify the points we awarded,"* explained one trainee, *"so instead of saying 'good job,' I'd write 'you used two clear examples for that grammar point, which earned a point for Clarity.' This made me a better observer and helped me understand the rubric myself."* This process fostered a collaborative community of practice focused on shared improvement.

3. Liberated Experimentation and Risk-Taking. Cited by 16 participants (80%), this theme connects the reduced anxiety to improved competency, particularly in learner-centered techniques. The low-stakes environment encouraged deviation from scripted lessons. A representative comment was: *"Going for the*

'Interaction Innovator' badge pushed me to try a complex group debate I'd never have attempted otherwise. It was messy, but the badge feedback highlighted what worked, so I learned more from that 'failure' than from any 'safe' successful lesson I'd done before."

Discussion

The findings of this study provide compelling evidence that gamified micro-teaching effectively promotes pre-service English language teacher candidates' competency for instructional delivery and qualitative levels of engagement across multiple dimensions. In addition, both null hypotheses were rejected, indicating that the gamified micro-teaching intervention was effective overall; all effect sizes were either large or very large. These findings significantly contribute to the body of research by providing empirical evidence of the validity of previous theoretical propositions while also addressing a gap in research within the field of English language teacher education (Dichev & Dicheva, 2017; Li et al., 2023).

The outcomes of this research provide additional support for the hypothesis that gamification may serve as scaffolding for pre-service teachers' development of pedagogical skills. More specifically, there was an improvement in instructional competence, particularly in the areas of classroom management and use of learner-centered teaching techniques (Dichev & Dicheva, 2017; Huang et al., 2020). This builds off the previous body of work by Cheong et al. (2014), which demonstrated that game mechanics can enhance focus and the depth of learning through the use of deliberate practice when used in conjunction with an established competency framework (e.g., the ELT-ICR). The explanation for this effect is rooted in the qualitative theme of liberated experimentation; by creating an environment with game-like features, the affective barriers to taking risks experienced by pre-service English language teachers when engaged in traditional micro-teaching were mitigated (Alsawaier, 2018; Wangchuk, 2019) thereby facilitating the opportunity for trainee teachers to practice and improve the use of the higher levels of complexity and interactivity necessary for successful English language instruction (Richards, 2015).

The substantial rise in all subscale engagement levels supports the key principles of Self-Determination Theory (SDT) (Ryan et al., 2019). The way in which the intervention was designed, with choice (autonomy), mastery-oriented badges (competence), and the introduction of peer ranking (relatedness), helped to promote intrinsic motivation. This aligns with and strengthens the claims of Zainuddin et al. (2020) and Sailer and Homner (2020) regarding the motivational affordances of well-designed gamification. The qualitative theme of Gamification as an Anxiety Buffer helps realize the "affective problem" regarding micro-teaching found in the literature review (Iliasova et al., 2025; Ningsih et al., 2025; Rachel, 2016; Sithole, 2023), as it shows that conceptualizing assessment as a game can turn a stress-causing evaluation into an engaging challenge to learn through.

The Enhanced Collaborative Reflection qualitative theme also indicates how gamification can create a systematic path for enriching the peer feedback aspect of experiential learning that tends to be a key element of experiential learning, but is often ineffective (Kolb, 2015). This adds a new dimension to the body of literature surrounding collaborative teacher learning by demonstrating how gamification features can assist in making the peer observation process more purposeful and useful (Lateef, 2020).

In conclusion, the data from this research, which included both qualitative and quantitative methods, converge to create a consistent model. The gamified environment addresses basic psychological needs (i.e., self-determination theory) to foster high levels of engagement and reduced anxiety. As such, the resulting positive affective state facilitated deeper cognitive processing, more innovative pedagogical experimentation, and more reflective collaboration, thereby contributing to significantly greater

observable improvements in teaching competence. This model can successfully bridge the research gap between research on motivational affordances and teacher training pedagogy.

Conclusion, Limitations, and Implications

Conclusion

The present quasi-experimental research supports the argument that a theoretically-based gamified micro-teaching intervention is by far better than a traditional micro-teaching session as an effective tool for the professional development of pre-service English language teachers. By purposefully embedding elements of game design (e.g., missions/digital badges/peer ranking) into Self Determination Theory (SDT) and Experiential Learning Theory (ELT), the gamified intervention presented two interrelated problems experienced by those preparing to be teachers.

First, the gamified intervention fundamentally altered the affective/emotional climate of the training experience. Gamification reduced anxiety and increased behaviors, emotions, and cognitive engagement through the satisfaction of three core psychological needs associated with SDT: autonomy, competence, and relatedness. By reframing micro-teaching as a low-stakes/incremental learning game rather than a high-stakes performance event, the gamified micro-teaching created a safe psychological environment for authentic pedagogical experimentation.

Second, the high levels of affectivity and motivation generated by the gamified micro-teaching had a direct and significant impact on the increased demonstrations of the participants' instructional competence. The participants who experienced the gamified micro-teaching approach showed statistically larger instructional developments in three areas of instruction (i.e., Classroom Management, Clarity of Instruction, and the Use of Learner-Centered Methodologies). The qualitative data indicated that participants were willing to take the instructional risks to engage in more collaborative reflection because of the effects of the gamification strategies employed. Trainees moved beyond performing scripted lessons to actively experimenting independently and refining different interactive strategies that are necessary for the current communicative style of teaching second languages.

Thus, the present study has empirically supported that gamification (when intentionally aligned with educational objectives and motivational theories and not merely a surface, non-participatory engagement), is an effective model to provide instructional design and a complete structure to bring together the acquisition of skills with the affective development of the individual. Thus, gamified micro-teaching can be used to provide a solid framework for re-thinking teacher training as an interactive and supportive process that is based on competencies, and creates, in the future, not only a better teacher, but also more confidence and better reflection of practice essential for a teacher's successful and adaptable career.

Limitations and Delimitations

Though the results are strong, there are some limitations that need to be considered:

1. Sample and Generalizability: Although all participants were volunteers from one institution, this may have created self-selection bias in the study; therefore, the results may not be generalizable to different cultural settings or different institutions in general.

2) Short-term Intervention: The results were the result of measurement at only 1 point in time immediately after completion of the intervention. The question of whether the competence gains and

motivational outcomes would be sustained during the teaching practicum and throughout their early career is an important issue that needs to be studied through longitudinal research.

3) Novelty Effect: Results may have been influenced by the novelty of the gamified instructional platform. The long-term sustainability of engagement once that novelty has worn off is an area for further investigation.

4) Resource Intensity: Developing the tailored gamified LMS (Moodle with Level Up! plugin) and the necessary training required substantial resources to support creation and implementation; therefore, there may be limited resources available to teacher preparation programs to sustain similar gamified instruction on a systematic basis (i.e., not replicable).

5) Measurement Focus: The research was designed only to study generic English language instructional competencies; therefore, the effect of the gamified micro-teaching could not be isolated with regard to how providing corrective feedback, teaching specific language systems like grammar and pronunciation, or specific sub-skills were affected and need to be further researched.

Pedagogical Implications

The results provide tangible implications for institutions, curriculum designers, and teacher educators:

1. Redesign Micro-teaching with Game-oriented Pedagogy: Teacher-training programs should utilize something other than the traditional “teach-critique approach.” Micro-teaching should be redesigned into a series of scaffolded "missions" or challenges to develop skills; feedback should be delivered through various means, such as digital badges linked to a transparent rubric.

2. Prioritize the Affective Climate: Curriculum design should deliberately create low-anxiety and high psychological security environments. Gamification provides an established structure for this, but the key principle is that formative practice needs to be separate from high-stakes assessment to promote experimentation.

3. Leverage Structured Peer Collaboration: Peer feedback should be provided using clear and measurable feedback at the peer level (e.g., through criterion-referenced and structured peer-based observations) rather than through general feedback. Using a guided rating and ranking system through clear rubrics in gamification can turn peer-to-peer observations into an effective method for collaborative and reflective learning experiences.

4. Invest in Faculty Development: Teacher educators cannot rely only on an evaluative role. Rather, they must become 'game masters' and 'learning facilitators'. In order to successfully use gamification as a learning paradigm by trainers, professional development must occur in the areas of facilitation and instructional design using gamification.

Suggestions for Future Research

To expand this research project, future studies should:

1. Carry out longitudinal research that will provide a continual examination of competency retention and motivation patterns during student teaching and the early operational phase as a teacher.

2. Explore how each individual game element (e.g., badges versus leaderboards versus narratives) influences different outcomes to refine game design principles for teacher training purposes.

3. Replicate the research across diverse international settings and teacher training modalities (e.g., MA/PhD holders, online vs. in-person) to establish the strength of the findings and to determine whether they are generalizable.

4. Investigate whether the gamified micro-teaching framework might be appropriate for the preparation of in-service teachers or would be appropriate for exploring ways to train teachers in academic disciplines beyond English language teaching.

5. Use more sophisticated biometric or psychophysiological measures (e.g., heart rate variability) in conjunction with self-report data (e.g., through survey instruments) when looking at anxiety and engagement levels throughout simulated teaching.

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