

MOOC-Based Blended Learning Training for EFL Teachers: A Conceptual Framework for Engagement Strategies, Technology Use, and Students' Motivation

Meilin Zhang^{1,2,*}, Ooi Boon Keat¹

¹Postgraduate Centre, Management and Science University, University Drive, Off Persiaran Olahraga, Section 13, 40100 Shah Alam, Malaysia

²Hubei Polytechnic University, Huangshi 435003, Hubei, China

Abstract: *MOOC-based blended learning has become a normalized and quality-oriented direction of higher education reform, yet its effectiveness in English as a Foreign Language (EFL) teaching depends strongly on teachers' pedagogical design and technology integration. This conceptual paper develops a framework for examining the effectiveness of a MOOC-based blended learning training programme for EFL teachers in the Chinese higher education context. Drawing on Activity Theory and Constructivism, the paper argues that teacher training can reshape the instructional activity system by strengthening teachers' engagement strategies and purposeful use of technology, which may subsequently support students' motivation in blended EFL learning. The paper synthesizes recent literature on EFL blended learning, teacher professional development, engagement strategies, technology use, and student motivation, and proposes a quasi-experimental pre-test/post-test non-equivalent group design for future empirical testing. The proposed framework includes five hypothesized relationships: the effect of the training programme on teachers' engagement strategies, teachers' use of technology, and students' motivation, as well as the relationships between engagement strategies, technology use, and students' motivation. This paper contributes to the literature by shifting attention from the general effectiveness of blended learning to the teacher-training mechanism that enables MOOC-based blended learning to become pedagogically meaningful. It also provides practical implications for EFL teacher development, blended curriculum design, and technology-supported language learning in applied university contexts.*

Keywords: MOOC-based blended learning; EFL teacher training; Engagement strategies; Technology use; Student motivation; Activity Theory; Constructivism.

1. Introduction

1.1 Background

Digital transformation has become a major direction of higher education reform. In China and many other contexts, online open courses, learning management systems, smart education platforms, and artificial intelligence-supported applications have increasingly changed how universities organise teaching and learning. In this context, MOOC-based blended learning is no longer a supplementary

teaching option or an emergency response to disrupted instruction. It is becoming a more normalized and quality-oriented model that requires teachers to integrate online resources, classroom interaction, learning support, and assessment into coherent pedagogical designs.

For EFL education, MOOC-based blended learning is especially relevant because it can expand learners' access to authentic language input, flexible learning materials, online communication, and self-paced learning opportunities. However, access to digital resources alone does not guarantee improved learning. Many blended learning practices remain fragmented when online tasks are weakly connected with face-to-face interaction, when teachers use technology mainly for content delivery, or when students complete online activities mechanically without meaningful engagement. Therefore, the central challenge is not whether online and offline learning can be combined, but how teachers can be systematically trained to make this combination pedagogically effective.

The doctoral study from which this article is developed focuses on the effectiveness of an EFL teachers' training programme for a MOOC-based blended learning module at Hubei Polytechnic University, China. The original dissertation establishes one intervention variable, namely the MOOC-based blended learning training programme, two teacher-related outcome or predictor variables, namely engagement strategies and use of technology, and one student-related outcome variable, namely students' motivation. The study uses Activity Theory and Constructivism to explain how teacher training may influence teaching practice and learner motivation, and proposes a quasi-experimental pre-test/post-test design to evaluate the intervention. The dissertation defines the training programme as a structured professional development intervention that includes orientation to MOOC-based pedagogy, technology-supported task design, engagement strategy training, guided practice, and reflection.

Based on this doctoral research direction, the present paper develops a journal-ready conceptual and methodological framework. Because the empirical data analysis is not yet presented, this article does not report fabricated findings. Instead, it offers a theoretically grounded and methodologically explicit model that can guide subsequent empirical investigation. The paper is suitable as a conceptual framework article, research design article, or literature-informed model paper for an international general education or language education journal.

2. Literature Review

2.1 MOOC-Based Blended Learning in EFL Education

Blended learning is commonly understood as the integration of online and face-to-face learning experiences. In MOOC-based blended learning, open online course resources are incorporated into classroom-based instruction to provide richer content, flexible access, and additional opportunities for interaction and assessment. In EFL education, this model can support language learning by enabling students to preview materials online, engage with multimedia input, participate in online discussions, and consolidate learning through classroom interaction.

Recent literature indicates that the effectiveness of blended learning in EFL education is generally promising but not automatic. Alenazi (2023), for example, found that blended learning programmes in English instruction in Saudi universities generally had positive effects, while Peng and Raman (2026) emphasized that EFL blended learning research still requires stronger methodological rigor and clearer outcome measurement. Wu et al. (2025) further show that English e-learning has evolved from a

platform-centered model toward a more complex ecosystem involving blended learning, flipped learning, MOOCs, mobile learning, gamification, and AI-supported learning.

These developments suggest that MOOC-based blended learning should be examined as a pedagogical system rather than as a technical platform. The key dimensions include pedagogy, technology, course design, learner support, and assessment. Pedagogy concerns task value, interaction, collaboration, and feedback. Technology includes MOOC platforms, learning management systems, communication tools, digital assessment, and emerging AI-supported applications. Course design requires the alignment of online and offline activities. Learner support includes academic, technical, and emotional assistance. Assessment should integrate online performance, classroom participation, and reflection.

2.2 EFL Teacher Training as a Mechanism for Blended Learning Quality

A growing problem in blended learning is that teachers may adopt technologies without changing their pedagogical practices. In such cases, the MOOC component becomes an additional resource repository rather than an integrated learning environment. EFL teachers need professional development that helps them design online tasks, facilitate classroom interaction, monitor participation, provide feedback, and align technology use with language learning objectives.

Teacher training is therefore central to the quality of MOOC-based blended learning. A training programme should not merely introduce tools; it should develop teachers' pedagogical reasoning, instructional design capacity, and reflective ability. Zhang (2024) found that a MOOC-based and AI-powered flipped teaching and assessment model supported college English teachers' growth in technological pedagogical content knowledge. Karaduman (2025) similarly emphasizes the importance of AI literacy and competency training in EFL teacher education. These studies support the view that technology integration should be embedded in teacher learning rather than treated as isolated tool operation.

2.3 Engagement Strategies in Blended EFL Learning

Engagement is a multidimensional construct involving behavioral, cognitive, emotional, and social participation. In EFL learning, student engagement may be reflected in attendance, task completion, interaction, language practice, sustained effort, emotional involvement, and willingness to communicate. However, student engagement is shaped by teachers' instructional design. Teachers' engagement strategies include clear task guidance, online discussion facilitation, classroom interaction, collaborative learning, timely feedback, reflective activities, and emotional support.

The engagement construct has been widely discussed in educational research. Fredricks, Blumenfeld, and Paris (2004) conceptualize engagement as behavioral, emotional, and cognitive participation, while Skinner's work connects engagement with effort, persistence, and positive emotion. In technology-mediated learning, engagement becomes more ecological because it is influenced by learners, teachers, tools, tasks, and learning contexts. Therefore, in MOOC-based blended EFL learning, engagement strategies should connect online and classroom activities rather than treating them as separate spaces. Alruwaili (2024) indicates that blended learning can enhance student engagement, but its success depends on teachers' ability to overcome technological barriers and integrate pedagogy with digital resources.

2.4 Teachers' Use of Technology

Technology use in EFL teaching has developed from computer-assisted language learning and mobile learning to more diverse forms such as learning management systems, online communication tools, digital assessment, learning analytics, MOOC platforms, and AI-supported resources. In the present framework, technology use refers to teachers' purposeful integration of digital tools to support EFL teaching and learning. It does not mean using technology for its own sake. Effective technology use requires alignment with language learning goals, engagement strategies, feedback mechanisms, and assessment practices.

Recent developments in AI-supported education have expanded the meaning of technology use. Teachers increasingly need to understand how digital platforms and AI-supported tools can support content delivery, practice, feedback, personalization, and reflection. However, technological affordances can become pedagogically ineffective or even distracting when they are not integrated with clear learning objectives. Therefore, teacher training should help EFL teachers move from operational familiarity with digital tools toward pedagogically meaningful technology integration.

2.5 Students' Motivation in MOOC-Based Blended Learning

Motivation is a central factor in EFL learning because it influences students' willingness to participate, persist, and invest effort in language learning tasks. In MOOC-based blended learning, motivation may be strengthened by flexibility, autonomy, multimedia resources, peer interaction, and timely feedback. At the same time, students may experience anxiety, overload, isolation, or low task value if online learning is poorly guided.

Recent studies suggest that students' motivation in blended learning is shaped by teaching presence, basic psychological need satisfaction, anxiety, autonomy, and perceived usefulness. Adam, Hamid, Khatibi, and Azam (2023) link autonomous motivation in blended learning with teaching presence and psychological need satisfaction. Almansour and Alfahad (2024) show that foreign language anxiety can influence EFL learners' attitudes toward blended learning. Alotaibi and Alzu'bi (2025) further demonstrate that students' attitudes toward blended learning-based instruction are context-sensitive. These findings indicate that motivation cannot be explained by the blended mode alone; it is closely related to teachers' engagement strategies and technology-supported learning design.

3. Theoretical Foundation

The proposed framework is grounded in Activity Theory and Constructivism. Activity Theory explains learning and teaching as mediated activities occurring within a social system. In the context of this study, EFL teachers are the subjects, MOOC-based blended teaching is the object, and digital tools, training rules, learning tasks, peer communities, institutional expectations, and division of labour mediate the activity system. The training programme can change this activity system by providing new tools, new pedagogical rules, collaborative support, and reflective tasks. As a result, teachers may improve their engagement strategies and use of technology.

Constructivism explains how teachers and students actively construct knowledge through interaction, scaffolding, reflection, and meaningful tasks. For teachers, professional learning occurs when they reconstruct their understanding of MOOC-based pedagogy and technology integration through guided training. For students, motivation may be supported when teachers design tasks that are meaningful, interactive, and connected to both online resources and classroom learning. Thus, Activity Theory explains the structure and mediation of the training system, while Constructivism explains the learning mechanism through which teacher development may influence student motivation.

4. Proposed Conceptual Framework and Hypotheses

The conceptual framework consists of one intervention variable, two teacher-related outcome or predictor variables, and one student-related outcome variable. The intervention variable is the MOOC-based blended learning training programme. EFL teachers' engagement strategies and use of technology are teacher-related outcomes of the intervention and may also function as predictors of students' motivation. Students' motivation is the major student-related outcome variable.

Proposed Conceptual Framework

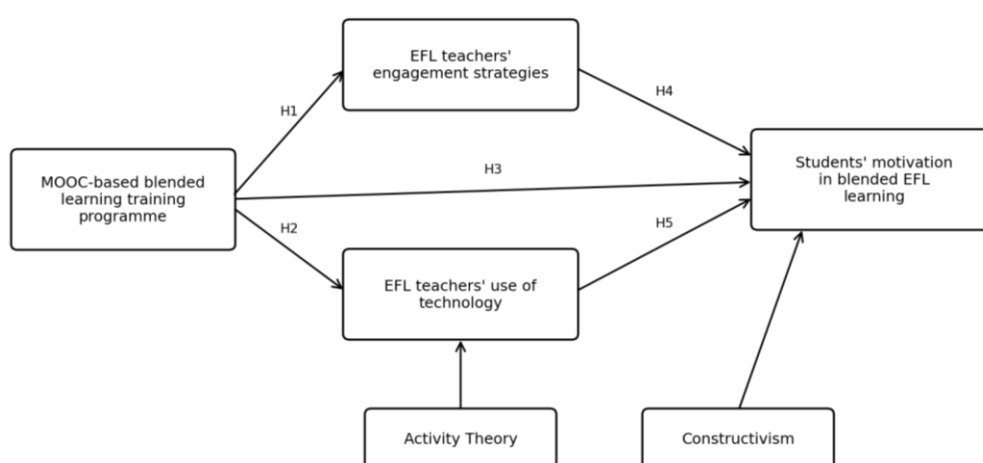


Figure 1: Proposed conceptual framework of the study.

Based on the framework, the following hypotheses are proposed:

H1: The MOOC-based blended learning training programme has a positive and significant effect on EFL teachers' engagement strategies.

H2: The MOOC-based blended learning training programme has a positive and significant effect on EFL teachers' use of technology.

H3: The MOOC-based blended learning training programme has a positive and significant effect on students' motivation.

H4: EFL teachers' engagement strategies have a positive and significant relationship with students' motivation after the implementation of the training programme.

H5: EFL teachers' use of technology has a positive and significant relationship with students' motivation after the implementation of the training programme.

5. Proposed Methodological Design

The proposed empirical study can be conducted through a quantitative quasi-experimental pre-test/post-test non-equivalent group design. A quasi-experimental design is appropriate because strict random assignment is often difficult in authentic university teaching contexts. Existing teacher groups and their corresponding student classes may be used, with one group receiving the MOOC-based

blended learning training programme and the comparison group continuing regular teaching during the intervention period.

The design allows the researcher to compare baseline scores, examine within-group changes from pre-test to post-test, and compare post-test differences between the experimental and comparison groups. It is more appropriate than a purely descriptive survey because the purpose is to evaluate the effectiveness of a structured training intervention. The design also allows relationship analysis among teachers' engagement strategies, use of technology, and students' motivation after the intervention.

5.1 Participants and Sampling

The participants should include EFL teachers at Hubei Polytechnic University and students taught by those teachers. Teachers are the direct participants in the training programme, while students provide motivation data related to the blended EFL learning environment. A non-probability sampling approach may be used if intact classes are involved. The final sample size should be justified according to the number of available teacher groups, student classes, and the statistical tests planned for the study.

5.2 Intervention Design

Module	Training focus	Expected teacher development outcome
Module 1	Orientation to MOOC-based blended EFL pedagogy	Understand the principles of online-offline integration and the role of teacher guidance.
Module 2	Engagement strategy design	Design tasks, discussions, collaboration, feedback, and reflection activities.
Module 3	Technology-supported teaching practice	Use MOOC platforms, LMS functions, communication tools, digital assessment, and AI-supported resources appropriately.
Module 4	Implementation and reflection	Apply the design in teaching practice and reflect on difficulties, student responses, and improvement strategies.

5.3 Instruments and Data Analysis

The main instruments may include a teachers' engagement strategies questionnaire, a teachers' use of technology questionnaire, and a students' motivation questionnaire. All instruments should be validated through expert review and pilot testing. Reliability can be examined using Cronbach's alpha. Descriptive statistics should be used to describe baseline levels. Paired-sample t-tests can examine within-group changes, independent-sample t-tests or ANCOVA can compare group differences, and Pearson correlation or multiple regression can test relationships among post-test variables. Mediation or SEM analysis should be used only if the sample size and assumptions are adequate.

Research question	Focus	Suggested statistical analysis
RQ1	Baseline levels of engagement strategies, technology use, and motivation	Descriptive statistics; baseline equivalence test
RQ2	Effect of training on engagement strategies	Paired t-test; ANCOVA or independent t-test; effect size
RQ3	Effect of training on technology use	Paired t-test; ANCOVA or independent t-test; effect size
RQ4	Effect of training on students' motivation	Paired t-test; ANCOVA or independent t-test; effect size
RQ5	Relationships among engagement strategies, technology use, and motivation	Pearson correlation; multiple regression; optional mediation if justified

6. Discussion

The proposed framework has three main implications. First, it reframes MOOC-based blended learning as a teacher-capacity issue rather than a platform-access issue. Earlier discussions of MOOCs often emphasized openness, scale, and resource availability. However, the quality-oriented stage of blended learning requires attention to how teachers design, facilitate, and evaluate learning. Without teacher training, MOOC resources may not translate into improved engagement or motivation.

Second, the framework highlights the mediating role of teacher practice. Students' motivation is not expected to improve simply because a course includes online resources. Rather, motivation is more likely to be supported when teachers use engagement strategies and technology in pedagogically meaningful ways. This view is consistent with constructivist assumptions that learners are motivated when tasks are meaningful, interactive, and supported through feedback and scaffolding.

Third, the framework provides a more coherent route for future empirical research. By aligning research objectives, research questions, hypotheses, variables, instruments, and statistical tests, the study can avoid the methodological weakness of purely descriptive or perception-based research. The proposed quasi-experimental design is suitable for authentic university contexts while still allowing intervention effects to be examined systematically.

7. Practical Implications

For university administrators, the paper suggests that investment in MOOC platforms should be accompanied by structured teacher development. Professional development should include not only technical training but also pedagogical design, task sequencing, interaction management, feedback strategies, and ethical technology use.

For EFL teacher educators, the framework can be used to design training activities that connect online resources with face-to-face instruction. Teachers should be supported to develop engagement strategies such as pre-class preparation tasks, guided online discussion, peer collaboration, reflective writing, classroom problem-solving, and formative feedback.

For EFL teachers, the framework provides a practical reminder that technology use should be aligned with learning objectives. MOOC videos, online quizzes, discussion boards, digital assessment, and AI-supported tools should be selected according to their contribution to language practice, interaction, motivation, and feedback rather than their novelty.

8. Limitations and Future Research

This article is conceptual and methodological rather than empirical. It proposes a framework and research design but does not report field results. Future research should implement the training programme, collect pre-test and post-test data, and test the proposed hypotheses through appropriate statistical analysis. Qualitative data, such as teacher interviews, classroom observations, or student reflections, may also be added to explain how and why the training influences engagement strategies, technology use, and motivation.

The framework is developed for the EFL context of Hubei Polytechnic University, China. Therefore, future studies should examine whether the model can be adapted to other universities, disciplines,

regions, or learner groups. Further research may also examine how AI-supported tools influence teacher training and student motivation within MOOC-based blended learning environments.

9. Conclusion

MOOC-based blended learning has entered a quality-oriented stage in which teacher capacity is central to successful implementation. This paper developed a conceptual and methodological framework for examining the effectiveness of a MOOC-based blended learning training programme for EFL teachers. Grounded in Activity Theory and Constructivism, the framework links teacher training with teachers' engagement strategies, teachers' use of technology, and students' motivation. It argues that student motivation in blended EFL learning is influenced not only by the availability of MOOC resources but also by teachers' ability to design meaningful tasks, integrate technology purposefully, facilitate interaction, and provide feedback. The proposed quasi-experimental design provides a systematic route for future empirical testing and offers practical implications for EFL teacher development and blended learning reform.

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