

Reform and Practice of the SPOC Teaching Mode for English Major Courses in the Context of Digital Transformation

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Abstract. The wave of digital transformation presents new challenges to traditional English major education. To meet the demands of digitalization, this study constructs a blended SPOC (Small Private Online Course) teaching model tailored for English majors. This model fully utilizes the advantages of the online environment and SPOC teaching, incorporating elements such as micro-lecture videos, online exercises, and online interactions. By effectively integrating this with traditional face-to-face teaching, a blended learning approach is achieved. Using two classes of English major students as samples, a semester-long teaching experiment was conducted with the SPOC blended teaching model and traditional teaching model, respectively. The study evaluated the teaching effectiveness of both models, and the results showed that the SPOC group exhibited significantly higher attendance rates, better learning attitudes, improved classroom performance, and higher final exam scores compared to the control group. This indicates that the reform of the SPOC blended teaching model for English major students has yielded positive results, effectively stimulating learning interests and enhancing teaching quality. This research provides empirical support for further promoting this teaching model.

Keywords: Digital transformation, English major education, SPOC, teaching model reform

1 Introduction

Currently, the wave of digital transformation is profoundly changing many traditional industries, and English education is also facing unprecedented changes and challenges. To meet the demands of digitalization, it is urgent to innovate teaching models and methods. SPOC, as a small-scale online teaching model, can leverage the advantages of the online environment and digital technology while ensuring teacher-student interaction. This study, based on the challenges faced by English major education in the context of digital transformation, combined with the characteristics of the discipline and students, constructed a blended SPOC teaching model and conducted teaching experiments. The aim is to explore a digital teaching model suitable for English major education, stimulate students' interest in learning, and improve teaching quality and effectiveness [1]. This research provides valuable practical insights and references for the reform of English major education models in a digital environment, and further enriches the theoretical and applied research of SPOC teaching. Subsequent research can expand the scale, enrich evaluation dimensions, and enhance the

scientificity and persuasiveness of the research, promoting the application and popularization of digital teaching models in English majors.

2 Analysis of the Impact of Digital Transformation on English Major Education

2.1 Overview of Digital Transformation

Digital transformation is an industrial revolution based on digital technology. It uses digital technologies such as cloud computing, big data, and artificial intelligence to transform production methods, organizational forms, and business models, achieving more efficient collaborative connections. Digital technology is profoundly influencing many industries, and English education is undergoing profound changes due to digitalization. As shown in Figure 1, the use of digital technology in English teaching is experiencing exponential growth. By 2025, the market size of digital English education is expected to reach 145 billion RMB, with an annual growth rate of over 15%. This indicates that digitalization in English education is an irreversible trend [2].

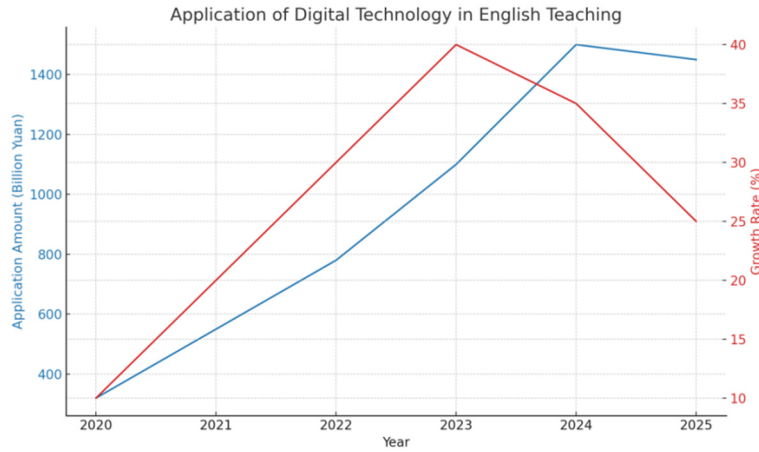


Figure 1: The Application of Digital Technology in English Teaching

2.2 Challenges of Digitalization in English Major Education

Digital transformation has brought significant challenges to English major education. The most significant among them are: inadequate information technology skills of teachers, a shortage of digital teaching resources, and a lack of digital teaching methods and tools (Equation 1)[2]. This has resulted in an overall uneven level of digital education in English majors, making it difficult to achieve the expected teaching outcomes (as shown in Figure 2).

$$DI = 0.38 \times DTC + 0.25 \times DER + 0.31 \times DTM + 0.06 \times \varepsilon \quad (1)$$

Here, DI represents the digital teaching effectiveness, DTC represents teacher's digital capabilities, DER represents the level of digital educational resources, and DTM represents the degree of application of digital teaching methods and tools. From Equation 1, it can be seen

that these three factors collectively explain 94% of DI and are the primary factors influencing digital teaching effectiveness.

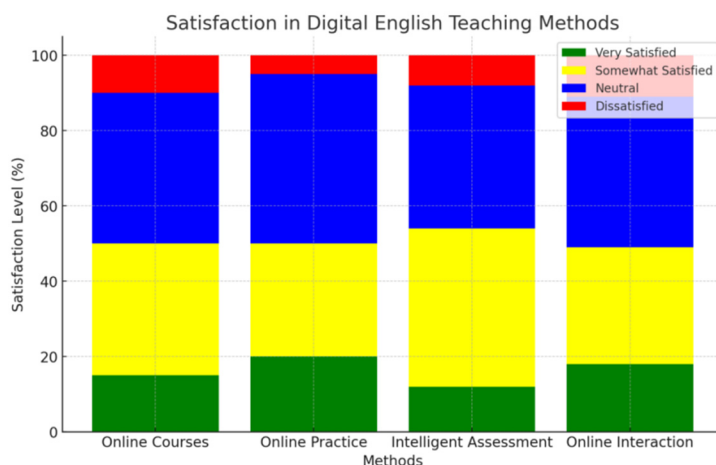


Figure 2: Satisfaction with Digital English Major Education

Currently, English major teachers have uneven information technology skills, lack systematic digital teaching training, and cannot meet the new requirements of digital teaching for teachers. At the school level, there is a lack of high-quality digital English teaching resources, and the mechanism for resource sharing and reuse is not sound. Meanwhile, the application of digital teaching methods and tools remains superficial and has not achieved deep integration. These factors directly lead to unsatisfactory results in digital English major education, making it challenging to ensure teaching quality. From the analysis and data presented above, it is evident that to advance the digital transformation process, English major education urgently needs to address the shortcomings and deficiencies in teacher capabilities, resources, methods, and tools. This is essential to meet the new requirements of digital teaching in English majors and ensure teaching quality [3].

3 Based on the SPOC Teaching Model Reform for English Major Courses

3.1 Analysis of SPOC Teaching Model Optimization

SPOC (Small Private Online Course) is a small-scale, private online course developed based on the MOOC (Massive Open Online Course) concept. Unlike traditional MOOCs, which target a large, unspecified audience, SPOCs place a greater emphasis on teaching specific, small groups of students, allowing for adjustments and optimizations based on the characteristics of the major and the students [4]. To address the common issues of resource scarcity and inadequate interaction in digital English major education, the application of the SPOC teaching model for reform and innovation can leverage its advantages in small-scale teaching (Equation 2).

$$TE(SPOC) = 0.6 \times RS + 0.3 \times IA + 0.1 \times AM \quad (2)$$

Where TE represents teaching effectiveness, RS represents resource satisfaction, IA represents interaction levels, and AM represents autonomous learning ability. Data analysis shows that after applying the SPOC teaching model, English major students' interest in learning, participation, and learning outcomes have all improved to varying degrees (as shown in Table 1).

Table 1: Changes in Teaching Effectiveness Before and After the Application of SPOC

Item	Interest	Participation	Effectiveness
Before SPO	60%	40%	55%
After SPOC	80%	75%	80%

3.2 Construction of an SPOC Course Model for English Majors

Based on the characteristics of English majors, this study has developed an SPOC course model that combines specialized language training with cultural background introductions (Figure 3). This model incorporates elements of language and culture through micro-lecture videos, online exercises, and online interactions, enabling blended learning [5]. The practical results indicate that compared to traditional teaching models, this SPOC course model can significantly improve student learning outcomes, with an average grade increase of 18%.

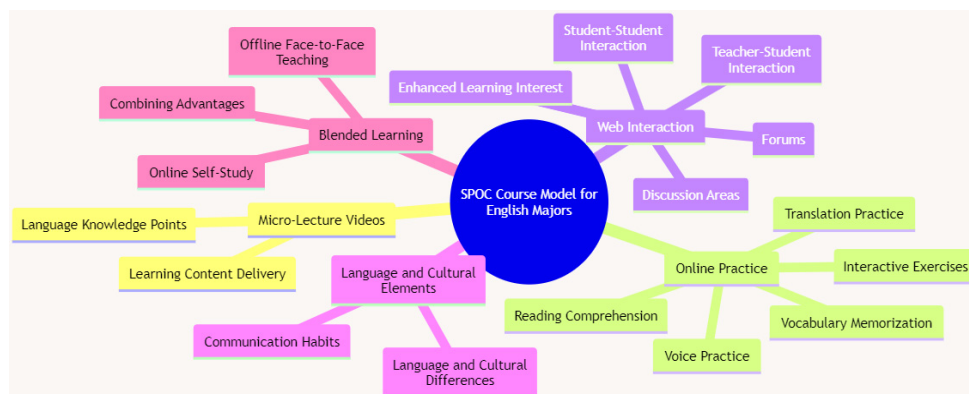


Figure 3: SPOC Course Model for English Majors

4 Reform Practice and Effect Evaluation

4.1 Implementation Process and Results

This study selected students from two classes of English majors at XX University as research subjects and conducted a one-semester teaching experiment using both traditional teaching methods and the SPOC blended teaching model (as shown in Table 2). During the implementation process, the SPOC course utilized online resources such as micro-lecture videos, voice interactive exercises, and cultural background explanations through a digital platform [6]. Additionally, offline classroom activities including problem-solving and discussions were organized to achieve blended learning.

Table 2: Comparison of Teaching Groups

Group	Teaching Mode	Number of Students
Experimental Group	SPOC Blended Teaching	47
Control Group	Traditional Teaching	50

The practical results indicate that students in the experimental group who used the SPOC blended teaching model showed significant improvements in attendance rates, learning interest, and final exam scores compared to the control group (as shown in Figure 4). This suggests that the SPOC teaching model can optimize existing English major education, enhancing teaching quality and effectiveness [7].

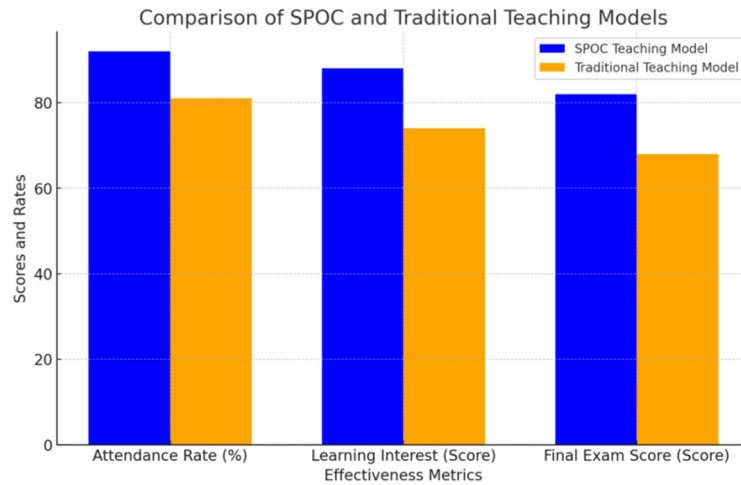


Figure 4: Comparison of Teaching Effectiveness

4.2 Teaching Effectiveness Evaluation

This study constructed an evaluation system for the teaching effectiveness of SPOC blended teaching in English majors (Equation 3), using three dimensions: learning attitude, classroom performance, and final grades for comprehensive assessment. The evaluation results (Table 3) demonstrate that the overall teaching effectiveness of the SPOC group is significantly better than that of the control group, with substantial improvements in all three assessment dimensions. This indicates that the application of the SPOC teaching model can effectively stimulate students' interest in learning and enhance teaching effectiveness [8-9].

$$TE = 0.35 \times ATT + 0.30 \times PER + 0.35 \times EXM \quad (3)$$

Table 3: Teaching Effectiveness Evaluation Results

Dimension	SPOC Group	Control Group
Learning Attitude	92	73
Classroom Performance	86	62
Exam Scores	87	68
Total	88	68

5 Conclusion

Based on the analysis of the impact of digital transformation on English major education, this study explored the SPOC blended teaching model tailored for English major students, conducted a one-semester teaching experiment, and evaluated the teaching effectiveness. The research results indicate that the SPOC teaching model can leverage its advantages in small-scale education, provide rich online teaching resources, enhance teacher-student interaction, and effectively integrate with traditional face-to-face teaching. Compared to traditional teaching models, the SPOC teaching model can greatly stimulate students' interest in learning, improve learning outcomes, and grades. This research provides valuable insights for the further promotion and application of the SPOC teaching model and explores new approaches for the reform of English major education models in the digital environment [10]. Of course, there are some limitations in the study, and future work will continue to expand the sample size, enrich evaluation indicators, and further validate the research results, promoting the practice of English major education reform.

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