

Research on the Construction Plan of Blended Teaching in Higher Education Major Courses

Minghui Ma¹, Shidong Liang^{2*}, Yinan Zhang², Xiaoci Huang¹, Shaoxin Zhang³

¹School of Mechanical and Automotive Engineering, Shanghai University of Engineering Science, Shanghai, China
²Business School, University of Shanghai for Science and Technology, Shanghai, China
³Sunwu No. 2 Middle School, Heihe, China
Email: *sdliang@hotmail.com

How to cite this paper: Ma, M.H., Liang, S.D., Zhang, Y.N., Huang, X.C. and Zhang, S.X. (2023) Research on the Construction Plan of Blended Teaching in Higher Education Major Courses. *Open Access Library Journal*, **10**: e10248. https://doi.org/10.4236/oalib.1110248

Received: May 12, 2023 **Accepted:** August 26, 2023 **Published:** August 29, 2023

Copyright © 2023 by author(s) and Open Access Library Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

http://creativecommons.org/licenses/by/4.0/

Abstract

The advancement of digital transformation and the growing demand for ideological and political education have greatly propelled the reform of the blended teaching approach in higher education. This method offers a distinct advantage of balancing both online and offline teaching methods, leading to complementary benefits. This article draws on the backdrop of the digital information era and the current need for reform in ideological and political education in higher education to propose a plan for integrating ideological and political education into higher education courses within a digital transformation context. The aim of this plan is to enhance students' active learning abilities during the teaching process, increasing their participation and mastery of knowledge in both depth and breadth.

Subject Areas

Higher Education

Keywords

Higher Education, Blended Learning, Ideological and Political Education, Talent Cultivation

1. Introduction

The rapid development of new-generation information technologies, such as 5G, artificial intelligence, and big data, is leading to revolutionary innovations in educational models. Higher education institutions urgently need to leverage modern information technologies to accelerate transformational development, reform educational concepts, content, methods, and management structures,

and explore new models of smart education [1]. They must also promote the integration of online and offline education and actively adapt to new trends in future education. This highlights the need for higher education institutions to remain up-to-date and enhance their characteristics of the era and reform education and teaching [2]. The rapid development of strategic industries has put forward new demands for the cultivation of professional and technical talents in higher education, and to meet these demands, institutions must launch a new round of cross-disciplinary reforms and seek opportunities to refine and integrate their education systems [3]. It is essential to explore teaching models that integrate ideological and political education with digital transformation in higher education, practice cross-disciplinary integration, and research the theory and methods of teaching system architecture and basic information technology under new circumstances for talent cultivation in the higher education system. By adopting a reasonable and scientific blended teaching model that focuses on students and gradually integrates ideological and political elements, students can actively deepen their understanding of taught knowledge, ask critical questions, and solve problems based on what they have learned [4] [5]. This enhances their self-learning ability and helps them achieve comprehensive education goals. Thus, it is imperative for higher education teaching researchers to explore and practice this long-term research topic.

2. Blended Ideological and Political Education Teaching Model

The primary objective of promoting the blended teaching model is twofold. Firstly, it aims to address the impact of sudden events such as epidemics and ensure the seamless progress of higher education teaching without hindering policy promotion [6]. Secondly, it seeks to fully integrate the content of the curriculum system, harness the autonomy of teachers and students, and enhance the initiative, enthusiasm, and creativity of students in participating in course teaching. Depending on the teaching and research methods' proportion, blended teaching can be divided into three categories. The first category pertains to "offline" teaching, which is prevalent in practical courses that necessitate students' participation in course teaching practices such as engineering practice, offline data collection, and similar courses. The second category comprises "online" teaching through micro-classrooms to meet course teaching or special teaching requirements under specific circumstances such as analytical courses, courses impacted by unexpected events, etc. The third category entails "online" and "offline" teaching modes of equal significance. This blended teaching model primarily adopts the micro-classroom online teaching mode for critical and challenging knowledge points, enabling students to learn and review conveniently. This mode effectively resolves students' queries and promptly responds to them. The "offline" teaching component of this mode concentrates on controlling the overall knowledge system and guiding students in the classroom, which is equally vital as the online teaching mode.

In higher education courses, offline classroom teaching and practical learning have traditionally held a primary position in the teaching process [7]. However, a closer examination of the reform of higher education course teaching modes reveals that various innovative teaching models, such as flipped classrooms, small class teaching, micro-lecture teaching, and massive open online courses (MOOCs), have emerged. Many educators have enthusiastically embraced this wave of course reform, leading to the initiation and implementation of numerous teaching innovations.

With the arrival of the "Internet + digital" era, a teaching mode that combines online and offline methods has emerged and become increasingly prevalent in the course teaching process of higher education institutions. However, online teaching has generally been viewed as an accompanying teaching mode. Its simple superimposition of online learning, review, and homework has been criticized for failing to fully realize its true educational value. The outbreak of unexpected events, such as the pandemic, has exposed the inadequacy of this simple hybrid teaching mode.

Therefore, it is crucial to explore how to create an organic blended teaching mode that integrates online and offline teaching methods in the digital era of higher education. This is an important issue that requires urgent attention and discussion by institutions and educators alike.

3. Design of Ideological and Political Education Teaching Plan

Embracing the impact of digital transformation, promoting the optimization and innovation of the integrated ideological and political education teaching mode, selecting teaching content based on importance, reconstructing teaching methods to guide learning, and thereby improving students' comprehensive quality and innovation ability are the key issues to be addressed by this project. To address these issues, this paper takes students as the center, the reform of ideological and political education and teaching methods under the digital transformation environment as the starting point, and the "14th Five-Year Plan for the Development of Higher Education in Shanghai" proposed by the Shanghai Municipal Education Commission as the guide, and deeply promotes the reform of curriculum ideological and political education teaching methods, strengthens the coordinated development of teaching and learning, and explores and researches the construction plan of ideological and political integration in higher education courses under digital transformation.

The main directions of this paper's research include four aspects.

Firstly, sorting out the teaching plan and optimizing the curriculum system structure. After the reform of the higher education teaching mode, cross-fusion of multiple professional basic courses will be conducted, using the digital branching and budding model to achieve the hierarchical diffusion of knowledge

3

system structure. How to adopt a first-line branching and multi-line budding form, efficiently utilize digital opportunities, optimize and reconstruct the teaching knowledge system, and connect theoretical and engineering practical knowledge to form a clear and hierarchical teaching plan is one of the purposes of this paper's research.

Second, student-centered orientation should be adopted to enhance students' scientific practice and innovation capabilities. Despite the fact that some Shanghai universities have incorporated digital teaching methods into their curriculum, online teaching still remains a complementary teaching mode in the context of normal teaching tasks. In non-normal teaching tasks, all teaching is directly transferred to the classroom, which fails to facilitate students' in-depth understanding of the course content and to stimulate their interest in active learning. Therefore, this paper aims to analyze the applicability and ideological factors of the curriculum, focusing on the combination of the complex knowledge system and practical application. Furthermore, the paper takes into account the students' subjective status in the teaching process to inspire their learning interests, cultivate their practical and innovative abilities, and play an important role in cultivating students' ideological and practical abilities.

Third, teaching methods and means should be designed to improve assessment and evaluation methods. In the digital context, teaching methods and modes should be innovated with a student-centered approach, taking the improvement of students' learning and application abilities as the starting point. A scientifically reasonable hybrid teaching system should be designed to improve the quality of teaching and students' learning interests. This paper reconstructs the higher education teaching system based on the basic idea of digital positioning-branching-budding, formulates a digital teaching and hybrid reconstruction mode, and mobilizes and stimulates students' initiative and creativity in learning. Additionally, course evaluation and student mutual evaluation game mechanisms should be designed to improve assessment and evaluation methods based on the different teaching stages of the curriculum, which can achieve more comprehensive and fair evaluations of students, thereby promoting their learning and capacity-building.

Fourthly, the objective of this paper is to enhance the exchange of teaching experiences among teachers and to elevate their teaching quality. The research for this paper is conducted through close collaboration within the teaching team, and it primarily relies on teachers' personal teaching and research experiences. Teachers can continuously enhance their teaching creativity, collaborative communication, critical thinking, and problem-solving abilities by participating in teaching research activities, teacher experience symposiums, and other initiatives that promote learning from diverse teaching methods and advanced teaching modes. These efforts will also improve the teaching team's pedagogical expertise, reform teaching techniques, enhance teaching quality, and further stimulate enthusiasm for educational and teaching reforms.

4. Construction of Blended Ideological and Political Teaching Methods

By using digital teaching methods and developing multimedia teaching materials, we can enrich classroom teaching content, increase student learning interest, improve learning efficiency, deepen students' understanding and awareness, and enable students to receive more information in a limited amount of time. We aim to combine the process of students learning professional knowledge with their personal and societal development, as well as national development, in an effort to establish a professional education concept that cultivates "socialist successors". The specific teaching methods for construction are as follows:

1) Creating a knowledge system and ideological mind map avoids the random listing of a large number of basic concepts and terms, which not only allows students to fully understand the course knowledge system within a limited time but also makes the ideological and political education process more transparent. It guides students to transform the knowledge they have learned into their own basic professional and industry skills, and emphasizes the combination of personal development with social and national development, conforming to the requirements of the era of social development, and attempting to establish a professional education concept for cultivating successors to socialism.

2) Theory teaching and practical training are equally emphasized, with theory teaching explaining the principles to students, and project practical training not only testing students' understanding and mastery of basic principles, but also cultivating their application and innovation abilities, increasing students' interest in learning, and improving their humanistic and professional literacy.

3) By organizing periodic debates among teachers and students around course topics, with targeted debate topics, students' spirit of free innovation, teamwork, practical integrity, and lifelong learning are cultivated. At the same time, the mastery and breadth of knowledge systems by teaching faculty are strengthened.

4) Creating an online learning platform by establishing dedicated communication areas, enables the creation of a collaborative, communicative, and research-oriented online learning environment between students, students and teachers, and teachers with other teachers. The adoption of MOOC teaching models can effectively enhance students' initiative in learning and stimulate their enthusiasm for consulting questions. Students can choose the knowledge content they need according to their abilities, levels, and interests, making online learning very suitable for individualized and independent learning.

5. Conclusion

The hybrid teaching model for ideological and political integration in bilingual courses is a blended teaching approach that combines the strengths of traditional classroom teaching and personalized digital learning. This teaching method thoughtfully considers the benefits of both digital and traditional teaching methods, and integrates them into a cohesive teaching model. The teaching reform

plan incorporates active teaching strategies and hybrid teaching methods, utilizing a multi-point integrated approach to ideological and political teaching. Through this approach, students can improve their understanding of course content both in depth and breadth, while fostering a collaborative teaching and learning environment between teachers and students.

Acknowledgements

This research was partly funded by Shanghai University of Engineering Science "Ideological and political courses" construction projects (c202301002) and the 2023 Teacher Development Research Project of University of Shanghai for Science and Technology, titled "Exploration of the Construction Plan for the Integration of Ideological and Political Education into Higher Education Curriculum under Digital Transformation." (NO. CFTD2023YB12), University of Shanghai for Science and Technology Student Innovation Project (NO. SH2023078; XJ2023160), and Projects of School Enterprise Joint Virtual Teaching and Research Office of Automobile Chassis Structure and Principle of Shanghai University of Engineering Science and Projects of Intelligent Connected Vehicle Course Ideological and Political Education of Shanghai University of Engineering Science.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- Lane, A. and Mcandrew, P. (2010) Are Open Educational Resources Systematic or Systemic Change Agents for Teaching Practice? *British Journal of Educational Technology*, 41, 952-962. <u>https://doi.org/10.1111/j.1467-8535.2010.01119.x</u>
- [2] Fidalgo-Blanco, Á., Sein-Echaluce, M.L. and García-Pealvo, F.J. (2014) Knowledge Spirals in Higher Education Teaching Innovation. *International Journal of Knowledge Management*, 10, 16-37. <u>https://doi.org/10.4018/ijkm.2014100102</u>
- [3] Romero, M.C., Baena, C., Gómez, I.M., *et al.* (2010) Innovative learning and Teaching Methodology in Electronic Technology Area: A Case of Study in Computer Science University Degrees. *IEEE EDUCON* 2010 *Conference*, 14-16 April 2010, Madrid, 1217-1224. <u>https://doi.org/10.1109/EDUCON.2010.5492386</u>
- [4] Chang, Q., Pan, X., Manikandan, N., et al. (2022) Artificial Intelligence Technologies for Teaching and Learning in Higher Education. International Journal of Reliability, Quality and Safety Engineering, 29, 2240006. https://doi.org/10.1142/S021853932240006X
- [5] Farzad, R. and Simon, G. (2022) A Transition to Online Teaching and Learning of Mathematics in Norwegian Higher Education Institutions: The Perspectives of Lecturers and Students. *Teaching Mathematics and Its Applications: An International Journal of the IMA*, 1-21. <u>https://doi.org/10.1093/teamat/hrac014</u>
- [6] Somabut, A. and Tuamsuk, K. (2022) Online Teaching and Learning Ecology in Thai Higher Education during the COVID-19 Pandemic. In: Waller, L. and Waller, S., Eds., *Higher Education—New Approaches to Globalization, Digitalization, and Accreditation*, IntechOpen, London, 1-14.

https://www.intechopen.com/chapters/78784 https://doi.org/10.5772/intechopen.100222

 [7] Li, H. (2021) Application and Analysis of Internet and Information Technology in Higher Education Computer Teaching. 2021 4th International Conference on Information Systems and Computer Aided Education, Dalian, 24-26 September, 2021 843-846. https://doi.org/10.1145/3482632.3483033