

Retraction

Retracted: Mobile Learning Model of Tour Guide Business in Universities from the Perspective of Distributed Cognition

Discrete Dynamics in Nature and Society

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

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- [1] C. Lin, L. Wang, and Y. Li, "Mobile Learning Model of Tour Guide Business in Universities from the Perspective of Distributed Cognition," *Discrete Dynamics in Nature and Society*, vol. 2021, Article ID 2912882, 9 pages, 2021.

Research Article

Mobile Learning Model of Tour Guide Business in Universities from the Perspective of Distributed Cognition

Chuanhong Lin , Liangju Wang, and Yamei Li

School of Business Administration, Anhui University of Finance and Economics, Bengbu 233030, Anhui, China

Correspondence should be addressed to Chuanhong Lin; 120081560@aufe.edu.cn

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In order to promote the better development of tour guide business, this article takes the tour guide business teaching in colleges and universities as an example and analyzes the current situation and the effect of students' learning in the tour guide business course through investigating and researching the current situation of ideological and political teaching of the tour guide business course. It also proposes corresponding improvement measures for the existing problems, so as to improve the ideological and political teaching effect of the tour guide business course. To this end, this study relies on the powerful functions of UMU platform and builds a hybrid mobile learning mode based on UMU platform by improving the traditional teaching method of "face to face instruction + online lecture." Although the UMU-based blended mobile learning model is formally divided into online learning and offline activities, in the actual teaching process, there are both you and me. In the process of online learning, students can realize the convenient learning through mobile APP terminal anytime and anywhere, or they can sit comfortably at the study table through the computer; in the offline activity classroom, students can sit in the classroom of UMU and communicate with teachers face to face, or they can use their cell phones to project their check-in, opinions, test results, etc. to the big screen. In the whole UMU-based hybrid mobile learning model, there is no clear boundary between online learning and offline activities, and online and offline are integrated with each other and crossed according to the actual learning needs to maximize learning efficiency.

1. Introduction

The campus culture construction in colleges and universities is constantly updated and advanced with the progress of time, and in order to better regulate the effective integration of curriculum thinking and politics with other courses, General Secretary Xi Jinping pointed out that the main channel of classroom teaching should be used to make all kinds of courses and ideological and political theory courses go in the same direction and form a synergistic effect [1]. It can be said that political education on the curriculum and understanding the political development of the country as well as the society are not only an effective way to improve the political consciousness of college students, but also an important initiative to promote the work of ideological and political education in colleges and universities [2]. Curriculum ideological and political education is the development of teaching contents and integration of political elements

through the guide business course in order to improve students' ideological awareness in compliance with the national political regulations as well as the educational and teaching tasks of colleges and universities and students' own cognitive development capabilities [3].

Construction and improvement of tour guide business as the main course in tourism have become the main goal of the curriculum of tourism management. The close integration of professional education and civic affairs helps students to create professional goals and a sense of responsibility, while developing profound humanistic, value, and scientific thinking [4]. At the same time, it provides guidance and demonstration for other professional courses. The purpose of this paper is to summarize the current teaching situation of tourism management professional courses after the integration of the elements of ideology and politics in teaching, analyze the current situation of ideological and political teaching in tour guide business courses, and propose

corresponding strategies for the existing problems to promote the reform and development of ideological and political education in tour guide business courses.

First of all, the work of tour guide staff will have a greater probability of receiving foreign tourists, so tour guides are required to pay attention to their words and deeds when receiving foreign tourists, to be associated with the maintenance of national image, and to consciously safeguard the interests of the motherland and the dignity of the nation [5]. Secondly, the tour guide should love the long history, splendid culture, and magnificent mountains and rivers of the motherland. Through vivid explanation during the tour, tourists can experience the profoundness of Chinese culture while viewing the stunning scenery of our country and enhance the national pride [6].

In the course of a tour guide business, the quality of tour guides requires that tour guides should have the core values of “tourist-oriented, sincere service” [7]. The teacher can tell the advanced needs of excellent tour guides when explaining the content of the teaching materials. The teachers can enhance the students’ understanding of the principles of tour guide service and guide them to pay attention to the quality of service sincerity by telling the advanced deeds of the excellent tour guides and the cases of how the tour guides are tourist-oriented and how to serve the tourists sincerely [8, 9].

The term “career planning” is familiar to everyone. Teachers start the course from freshman year, encouraging students to start from themselves and to talk with them about their school experience, schooling experience, and major work experience, and guide them to draw their own career blueprint [10]. Next, students can interact with the topic “What are the requirements to become a qualified tour guide?,” analyze the actual needs of enterprises and the general content of recruitment, and finally adopt the method of situation analysis (Strengths Weaknesses Opportunities Threat, SWOT) to conduct a self-analysis and give students a clear picture of their own career [11, 12]. SWOT for self-analysis helps them make a career plan for themselves that can be achieved by jumping in the near future. The timely and reasonable integration of relevant ideological content in the teaching content is not only conducive to students’ deeper understanding of the professional knowledge of the tour guide business course [13, 14].

In the mid-1980s, the author of [15] in a critique of traditional cognitive science focused on the environment and social culture in which individual cognition takes place and proposed a new paradigm that triggered a multidisciplinary rethinking of cognitive activity—distributed cognition. The research perspective of [16] differs from previous researchers who confined the study of cognitive phenomena to be done and conducted only in the laboratory; they tried to explain that the cognitive processes of cognitive subjects have gone beyond the scope of the brain through real everyday work scenarios and then turned to the environment, social culture, and the interplay of various groups of influential elements in the process. By studying the working environment and the process of positioning a ship at sea and the process of speed fixation in the cockpit of an airplane in

real scenarios, they fully explained that the completion of cognitive activities depended on internal representations of the cognitive subject and external representations such as the environment and tools located outside the subject, and they argued that cognitive behaviors should be specific situational behaviors, thus developing a distributed cognition theory. Since then, related theories influenced by distributed cognition, such as distributed knowledge, situated cognition, activity theory, and organizational learning, have been widely applied [17, 18].

In order to promote the better development of tour guide business, the article takes the tour guide business teaching in colleges and universities as an example and analyzes the current situation and the effect of students’ learning in the tour guide business course through investigating and researching the current situation of the tour guide business course ideological and political teaching. It also proposes corresponding improvement measures for the existing problems, so as to improve the ideological and political teaching effect of the tour guide business course [19, 20]. To this end, this study relies on the powerful functions of UMU platform and builds a hybrid mobile learning mode based on UMU platform by improving the traditional teaching method of “face to face instruction + online lecture.” Although the UMU-based blended mobile learning model is formally divided into online learning and offline activities, in the actual teaching process, there are both you and me. In the process of online learning, students can realize the convenient learning through cell phone APP terminal anytime and anywhere, or they can sit comfortably at the study table through computer; in the offline activity classroom, students can sit in the classroom of UMU and communicate with teachers face-to-face, or they can use cell phones to project their check-in, opinions, test results, etc. onto the big screen.

2. Related Work

2.1. Development of Distributed Cognitive Theory. Nowadays, Western scholars also continue to study distributed cognition theory from daily work situations and also devote themselves to apply it to educational teaching systems outside the fields of psychology and computers, creating such results as distributed learning modules [21]. With the rapid development of information technology, multimedia, mobile devices, etc. have a certain influence on people’s cognitive behavior, and people gradually realize the importance of environment and tools on cognitive process, so distributed cognitive theory is also gradually paid attention to.

The author conducted a literature search for the theme of “distributed cognition” through the Internet and found that there were 1921 related papers as of March 2020. Among them, the number of Chinese literatures is 377, including 219 journal articles and 149 master’s and doctoral dissertations [22]. The research in the field of distributed cognition in China is also in-depth year by year. According to the number of citations and the authority of literature sources, the authors of [23] have introduced the concept and historical origin of distributed cognition, explained the relationship

between distributed cognition and individual cognition, and illustrated the value of the theory of distributed cognition in practical applications, so as to provide researchers with an overview of distributed cognition and ideas for applying distributed cognition to computer, education, and other fields under the rapid development of information technology. The research data on distributed cognition in China can be broadly classified into the following areas [24, 25]:

- (1) Research on learners or learning perspectives under technology support: the main manifestations are the impact of distributed cognition on learning and its theoretical significance, the conversion of online teaching models in distributed cognitive contexts, the construction of collaborative communities and spaces for simulated learning, distance course learning, and interrelationships under the basic theory of distributed learning, the establishment of Internet-supported learning models, the design and development of software under mobile learning, etc.
- (2) Design and strategies related to learning environments: the salient features are the importance of communication among individual learners, the important role of learning tools and media in the cognitive process, the forms of knowledge representation and visualization of learning tools, etc. The research explores how to build individual learning environments for different groups and their technological support, the design of teaching learning environments for different disciplines, the construction of individual learning environment models, etc.
- (3) Research on network transmission capability and resource allocation in the field of computing is based on distributed cognitive wireless networks, and distributed cognitive resource models in coordinated human-computer interaction and other technologies are proposed.

2.2. Research on Mobile Learning. In general, research on mobile learning can be divided into two aspects: theoretical research and practical research. The theoretical research on mobile learning in foreign countries is relatively small, and the main feature is that it mostly starts from practical applications, reflects and evaluates the practice introduced by new technologies and new ideas, improves and sublimates the theory according to the results, and finally uses the theory for practice as a whole trend [26]. In this process, a large number of studies on specific applications, related empirical evidence, and evaluation of mobile learning emerge.

The United States has been at the forefront of mobile learning research. 1994 saw the [27], which focused on the use of PDAs in the classroom. In 2001, Stanford University conducted similar research, focusing on foreign language learning, using mobile communication devices with question testing, voice interaction, and other features for the university's language teaching. The practical application of mobile learning in foreign countries mainly involves the

field of education, and its main research contents can be divided into the following aspects:

- (1) Experiments to verify the feasibility of mobile devices in practical teaching and learning and the effectiveness of using mobile technology to assist learning: For example, the verification of the novelty and curiosity brought to learners in the new technology-supported teaching model in the experiment and the learning effect of learners provide good prerequisites for the research related to the application of mobile learning [27].
- (2) Research and development for digital learning resources: For example, the University of Helsinki in Finland has developed applications that enable access to school curriculum resources anywhere and anytime through mobile terminals such as cell phones. The M-Learning Research Program, undertaken by five organizations in the United Kingdom, Sweden, and Italy, creates mobile learning environments based on mobile communication and develops mobile learning resources such as courses, services, and products suitable for learners [28].
- (3) Experiments on teaching and learning based on short messages: The Short Message Service (SMS) system developed by Kingston University in the UK can verify the superiority of SMS over emails and web pages by sending information such as course schedules and exams. The University of Helsinki in Finland applied the SMS system to teacher training and achieved satisfactory experimental results.

The concept of mobile learning was first introduced to China by the Irish distance educator Keegan in 2000, which has since triggered many domestic researchers and scholars to pay attention to mobile learning. After reviewing relevant information, the author found that the research contents and trends of mobile learning in China have shown certain characteristics and stages. 2000–2005 can be classified as the first stage, and the main research contents were theoretical research on mobile learning, research on the prospect of mobile learning, review-type research, exploration of models, etc. In addition to theoretical research such as research trends, 2006–2011 began to involve platform development and research on mobile learning. In addition to theoretical studies such as research trends and technical systematic studies such as platform development, terminal selection and application design began to be conducted in 2011, and there were also preliminary studies on teaching design. 2011–2018 saw a large number of studies on specific applications of mobile learning, such as mobile library, MOOC, WeChat platform, rain classroom, and other platforms applied to teaching and learning [29]. There are also studies on the application of mobile learning in teaching and learning, as well as research studies on different groups.

The research on mobile learning in China is mainly at the level of basic theory or a more detailed and in-depth study of a certain branch of mobile learning, but in recent years, research on specific applications and learning platforms of

mobile learning has been emerging in the field of education. The research direction of the relevant literature can be divided into the following aspects of mobile learning.

(i) Theoretical studies on mobile learning

It is mainly reflected in the research on the basic theory, definition, current situation, and development trend of mobile learning, including the more authoritative research on introducing mobile learning, the research on proposing the roadmap of mobile learning system environment, etc.

(ii) Technology research on mobile learning

For example, in the area of wireless communication technology, they designed a mobile learning platform supported by Android system to realize online learning and learning community functions and verified the results. In the area of resource development technology, they designed and developed a learning resource system for English words under mobile development technology and evaluated it based on the basic model and method of mobile learning resource design. In the area of WAP2.0 supported mobile learning system technology development, they analyzed the feasibility of mobile learning application for teaching and learning under 4G and 5G network system and designed a specific application model [30].

(iii) Research on mobile learning

The research mainly focuses on the current situation of mobile learning for college students or the use of certain types of software, but also for master's students, primary and secondary school students, teachers, and other groups, and the research for international students mainly focuses on the use of some mobile Chinese learning software.

(iv) Research on the application of mobile learning

Domestic research on mobile learning applications in universities is mostly focused on adult education and continuing education. For example, Shanghai Jiaotong University has developed a mobile learning system with the functions of live teaching course, learning resources download, and automatic question and answer. In addition, there is also research on the application of intelligent training systems for enterprises. In the past two years, the application of WeChat and WeChat public platform to learn and teaching research has shown a rapid development rate [31].

2.3. Construction of a Blended Mobile Learning Model.

This study relies on the powerful functions of UMU platform and builds a hybrid mobile learning mode based on UMU platform by improving the traditional teaching method of "face-to-face instruction + online lecture" of Anhui University of Finance and Economics, as shown in Figure 1.

As shown in Figure 1, the UMU platform-based blended mobile learning model consists of three main components: pre-preparation, online learning, and offline activities.

First, the preliminary preparation: One is to prepare for teaching analysis, and the other is to prepare for the design and development of learning resources, in which teaching analysis includes the analysis of teaching objectives, teaching objects, and teaching contents.

Second, online learning: Online learning mainly relies on the UMU platform for synchronous or asynchronous online learning, and the teacher's role changes from that of the main speaker to that of the leader and guide of online learning, leading students in preclass preparation, guiding them how to conduct effective online learning, providing them with learning resources, and setting up learning tasks [31]. Students learn online through teaching videos (knowledge transfer), case studies (internalization and expansion), and online self-assessment (result curing).

Third, offline activities: The offline activities are based on the UMU platform for the design of teaching activities at the classroom site, organizing students to actively participate in classroom communication, task operation, group discussion, and result display and dynamically displaying the links of on-site sign grouping, video playback of important knowledge points, data overview of group discussion ideas, group collaboration task result display, and ranking of on-site assessment results through the large screen to achieve effective interaction between teachers and students at the classroom site [32].

The UMU-based blended mobile learning model emphasizes student-centeredness, and students are the main subjects of both online learning and offline activities, but this study argues that while emphasizing student-centeredness, the teacher's leading role in the entire learning process cannot be ignored. In each specific aspect of online learning and offline activities, in order to enable students to achieve more efficient learning outcomes in less time, teachers need to implicitly lead the whole learning process through appropriate interactions [27, 30]; specifically, if there is some kind or several kinds of deficiencies in social presence, cognitive presence, or pedagogical presence in the online or offline learning process, teachers need to provide the necessary timely instructional scaffolding, and when a certain sense of presence is no longer missing, the teacher timely withdraws the instructional scaffolding.

3. Functional Design of Each Part of the Blended Mobile Learning Model

3.1. *Preliminary Preparation.* The preliminary preparation of the UMU-based blended mobile learning model includes pedagogical analysis and the design and development of learning resources, in which the pedagogical analysis includes the analysis of pedagogical objectives, objects, and

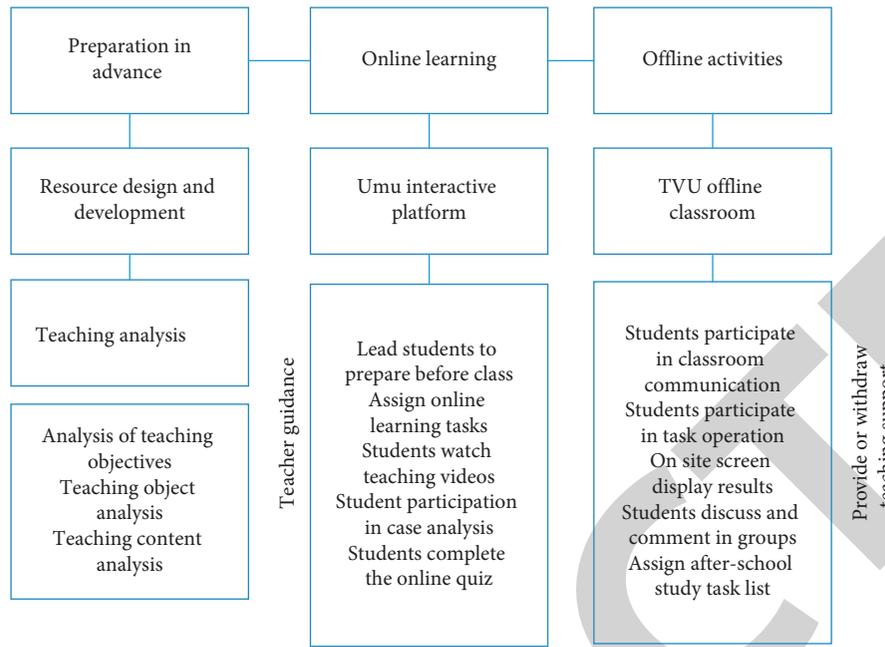


FIGURE 1: Blended mobile learning model based on the UMU interactive learning platform.

contents. The teaching objectives of the UMU-based blended mobile learning model are continuously specified in the task list of online learning and offline activities, and each objective interacts and links with each other to form a complete general system of teaching objectives of UMU-based blended mobile learning. It also serves as a guide for the design of teaching activities in UMU-based blended mobile learning, directly guiding the direction, intensity, and duration of teaching behaviors, promoting active behaviors between teachers and students, and serving as a basis for evaluation to promote optimal improvement of teaching effectiveness.

Before starting the UMU-based blended mobile learning model, students need to be characterized in order to understand their prior knowledge and cognitive level [32, 33], mainly in terms of their initial abilities and basic characteristics, in order to understand their motivation and basic characteristics and then to design appropriate, feasible, and effective UMU-based blended mobile learning model teaching activities.

3.2. Design and Development of Learning Resources. The learning resources for blended learning are very important, and there are two main ways to design and develop blended mobile learning resources based on UMU, as shown in Figure 2.

As can be seen from the above figure, in the UMU-based hybrid mobile learning resource library, part of it is from the introduction and adaptation of the existing resources of the National Open University, and the other part is from the self-built learning resources produced and integrated.

- (1) Introducing and transforming existing resources of the National Open University: In the blended mobile learning mode based on UMU, high-quality

learning resources on the learning network platform of the National Open University or the high-quality open course resources already built by the high-quality courses team of [29] are introduced or transformed to make efforts to adapt them to the results of the preliminary teaching analysis, so that students can make effective use of the learning resources, thus enhance the learning effect, and also promote the sustainable development of the UMU platform.

- (2) Teachers analyze students' characteristics, their needs for learning resources, and the current situation of learning resources according to the needs of teaching contents and combine their own information technology ability level to make their own suitable learning resources and integrate them into the UMU resource library. The whole process of resource development is completed through the process links of development such as teaching analysis, curriculum planning, resource design, the release and implementation, evaluation and reflection, and resource optimization [34, 35].

3.3. Online Learning. The UMU-based blended mobile learning model of online learning is mainly based on the UMU platform to achieve mobile online synchronous or asynchronous learning. Teachers are the leaders and instructors of online learning, leading students to prepare for classes, guiding them to conduct effective online learning, providing them with learning resources, and assigning learning tasks, and students learn online through teaching videos for knowledge transfer, case studies for internalization and expansion, online self-assessments for results curing, etc.

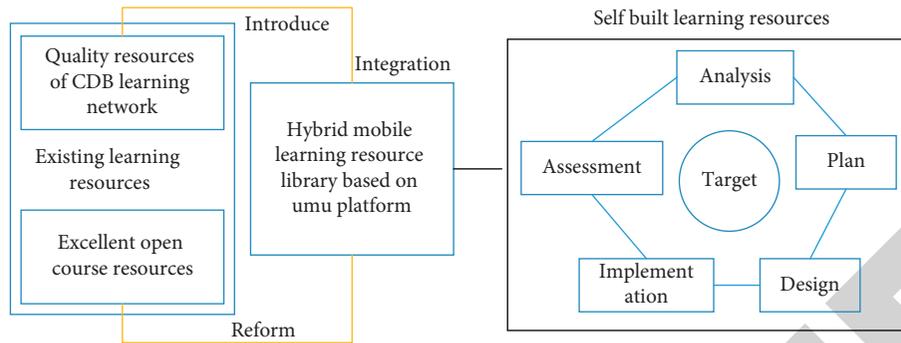


FIGURE 2: Design of UMU-based hybrid mobile learning repository.

In the mobile blended learning mode, students can access diversified media resources and targeted personalized learning paths through smartphones and other devices on the UMU platform to achieve mobile online asynchronous learning or synchronous learning. Asynchronous learning on the UMU platform refers to students directly watching teaching videos, micro-lessons, graphic materials, and other learning resources released by teachers in advance on the platform to learn independently and complete knowledge transfer anytime and anywhere. Moreover, synchronous learning generally relates to live classes, which students can watch on both cell phones and computers without installing APP and any plug-in, and mainly solves the key points and difficulties in teaching and problems in students' independent learning in live classes.

3.4. Offline Activities. UMU-based blended mobile learning model offline activities, relying on the UMU interactive platform for classroom site teaching design, organize students to actively participate in classroom communication, task operation, group discussion and results display, on-site sign-in grouping, explanation of important and difficult points and student feedback problems, group discussion data overview, group collaboration task results display, on-site assessment results ranking, and other links through the large screen. The dynamic display of classroom interaction between students and teachers is realized. The offline activity classroom supported by UMU changes the status quo of "students cannot use their cell phones in class" and interconnects students' cell phones with the teacher's screen, transforming the traditional "only one person can communicate with the teacher at the same time" into "multiple people expressing their opinions at the same time." It can change the traditional "only one person can communicate with the teacher at the same time" to "multiple people can express their opinions at the same time," and all the important keywords in the opinions can be displayed on the big screen in the fastest and most clear way, making the classroom teaching more vivid and efficient.

Thus, although the UMU-based blended mobile learning model is divided into online learning and offline activities; in the actual teaching process, there are both you and me. In the process of online learning, students can realize the convenient learning through mobile APP

terminal anytime and anywhere, or they can sit comfortably at the study table through the computer; in the offline activity classroom, students can sit in the classroom of the university and communicate with the teacher face to face, and they can also use their cell phones to project their check-in, opinions, test results, etc. onto the big screen. In the whole UMU-based hybrid mobile learning model, there is no clear boundary between online learning and offline activities, and online and offline are integrated with each other and crossed according to the actual learning needs, maximizing learning efficiency.

3.5. Experimental Effects. As shown in Figure 3, this paper first performs through six student volunteers the learning interest experiment of the tourism course of this paper program. It can be seen that through the evaluation of the students through the pre-course in the course content "digging," in the current affairs events "selection," the teachers should integrate the content of ideology and politics, such as the principles of doing things, the Chinese dream of achieving the great rejuvenation of the Chinese nation, and the core socialist values, into the teaching of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. At the same time, teachers should make full use of the teaching links such as "understanding" in vivid cases and "practicing" in practical activities to integrate the civic and political elements into the teaching process and stimulate the students' patriotism and responsibility. Teachers should also fully implant the code of ethics for tour guides and the case of gold medalist tour guides into the whole teaching process and guide students to objectively compare and analyze their career plans while learning from the shining points of the role models, so as to cultivate strong cultural confidence, national sentiment, and good professional ethics [4]. Students' interest in learning has been high in student 1.

The probability of learning the distribution of interest in the tourism course in this paper is shown in Figure 4, giving a random variable X as the length of time in minutes. Over time, students begin to realize that many things in nature and real life often behave similarly, with variables sharing a distribution, or having the same density function (or similar functions changing some of these constants). The teaching method focuses on Outcome Based Education (OBE)

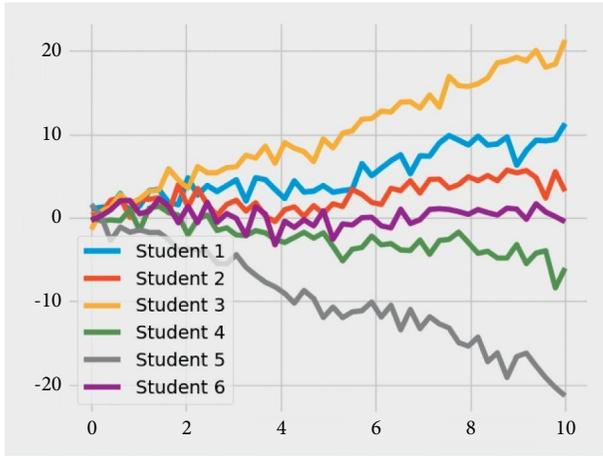


FIGURE 3: Learning effect of different students.

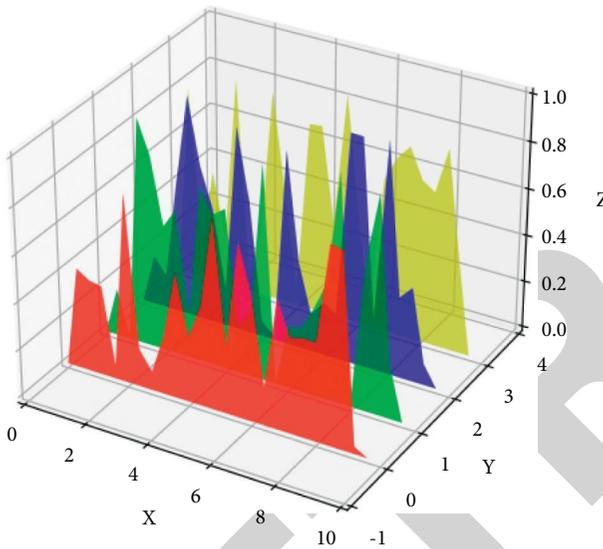


FIGURE 4: Distribution of learning interests in tourism courses.

throughout, presenting a student-centered tour guide business classroom with ideological and political elements. The teaching format can be in the form of group discussion, group debate, role play, group PK, brainstorming, blue-ink voting, etc., so that students can really participate in the classroom on their own, actively thinking and reflecting. For example, for a topic of “The rise of online tour guide, are you willing to try it?,” through the debate, both sides of the argument can cultivate the spirit of cooperation and for the correct values.

In Figure 5, the assessment of different teachers’ guide business teaching that integrates the elements of civics involves the ideological and political parts, and teachers can use a combination of self-assessment, mutual assessment, and teacher assessment for dynamic assessment, such as submitting learning reports, case study reports, reflection reports, and learning file record forms to stimulate students’ interest in learning and facilitate teachers’ grasp of students’ learning dynamics and changes. Preachers themselves must first understand and

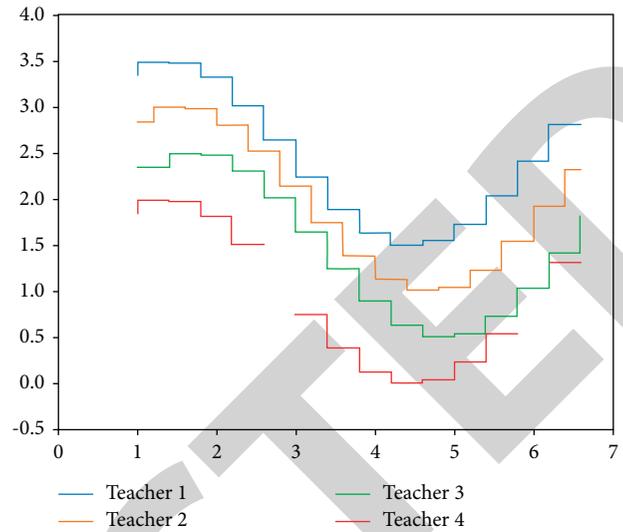


FIGURE 5: Teaching patience of different teachers.

believe in the way. Teachers must dig deeper into the ideological and political education elements contained in professional knowledge, organically integrate such civic and political elements as family and country sentiment, awareness of the rule of law, social responsibility, humanistic spirit, and benevolent heart, and silently guide students to closely link their personal growth with the future and destiny of the motherland. Although there is a break in the middle of the Teacher 4 course, the subsequent teaching interest is based on a high level. The tour guide business course combines the teaching reality of tourism management majors, and while teaching knowledge, it also pays attention to guiding students to establish ambitious political ideals and ideological aspirations, establish a correct outlook on life and values, cultivate students’ cultural confidence in their hometowns, regions, and national countries, tell the world the Chinese story, spread the Chinese voice, explain the Chinese characteristics, and establish a sense of home, the overall situation, professionalism, and moral conduct.

4. Conclusion

In order to further strengthen the organic integration of the professional course of tour guide business and the ideological and political education course, the tour guide business course takes Anhui Province attractions and school campus as the carrier to learn the content of tour guide service, which not only fits the course content but also expands the professional ability, and more importantly, the unique charm of Chinese history and culture in the study. The research on the curriculum of the tour guide business needs to be further improved in the following aspects: to further realize the automatic integration of data and accurate pushing; to continuously enrich the cloud tourism resources to meet the needs of the new era of Internet development; to further expand the integration of “curriculum + ideology and politics + hybrid teaching.”

Data Availability

The datasets used in this paper are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding this work.

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