

Research on the Blended Personalized Teaching Model Based on Learning Style Classification

--Taking the course "Financial Management" as an example

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Abstract

Under the background of "Internet +" education, the deep integration of the teaching model based on personalized learning and the mobile teaching platform has brought vitality to the development of higher education. The construction of an online and offline hybrid teaching model has become a new trend in the teaching reform of higher education. viewpoint. Based on the theory of effective learning and from the perspective of effective learning, this paper analyzes the necessity of the research on the hybrid personalized teaching model based on the classification of learning styles. The characteristics of each dimension are mainly contemplative type, perception type, visual type and sequence type. The corresponding teaching matching strategies of these four dimensions are sorted out through literature. To explore the mixed personalized and effective teaching mode of this course, so as to improve the quality of talent training in this course, and also provide reference and reference for the teaching reform of other courses.

Keywords

Learning styles,blended teaching,effective teaching, personalized learning.

1. Introduction

Personalized learning and blended teaching are new hot issues in current education informatization research, which reflects the objective trend of school education informatization development from concept to practice, from macro to concrete, and from implementation to classroom teaching. With the advent of the "Internet +" era, the rapid development of new-generation information technologies such as the Internet of Things, big data, cloud computing, and mobile Internet, as well as their wide application in school education and teaching, the integration of information technology and subject teaching has been deepened. Important changes have taken place in the collection and processing of teaching data, the evaluation and feedback of the learning process, the interaction of classroom teaching, and the personalized tutoring after class. The traditional classroom teaching environment is developing in the direction of informatization and intelligence. The change and innovation of the new ideas and conditions provide new ideas and conditions.

2. Necessity analysis of research on blended personalized teaching mode based on learning style classification

Under the normalization of epidemic prevention and control, the long-term coexistence and deep integration of classroom teaching and online teaching with the integration of modern information technology has spawned new educational forms and new talent training paradigms such as online and offline hybrid teaching. With the rapid development of educational informatization in my country, the continuous advancement of the national teaching resource

library construction project for higher vocational majors, and the accelerated application of 5G, artificial intelligence and other technologies in educational scenarios, the blended teaching of online and offline integration is bound to become the mainstream model. The premise of integration is to establish a "learning center", and the construction of a "learning center" first considers "student-centered", which is also the focus and difficulty in the process of higher education reform. Blended teaching conforms to the "student-centered" educational philosophy proposed by the Ministry of Education, and has a positive effect on cultivating students' autonomous learning, independent thinking and personalized learning. However, in actual teaching, it is found that the current blended teaching model is largely unsuitable for students. Instead of achieving the effect of changing to "student-centered" teaching, students are more at a loss in the learning process. From the perspective of effective learning, the main reason for this phenomenon is that it does not pay enough attention to the differences of students, and does not fully consider the differences in the dimensions of students' cognitive ability, learning style, and way of thinking. Learning style is one of the individual elements that affect learning, and learners with different styles adapt to different learning strategies and teaching modes. Students in blended teaching have greater autonomy, and their learning style will have a more prominent impact on learning behavior. The development of blended personalized teaching should fully consider learning styles. Based on the theory of effective learning and learning style, it is very necessary to reshape and upgrade the integrated and unified online and offline integrated personalized and effective teaching mode of higher vocational courses in improving the adaptability of professional education.

3. Research on types of learning styles and design of teaching strategies

Learning style is the embodiment of students' different learning behaviors in the process of learning, such as the choice of learning content, degree of abstraction, learning style, expression style, behavior style, choice preference, etc., including students' personality characteristics, learning style, learning tendency, etc. It includes learners' information processing, information receiving methods, learning environment needs, learning condition needs, cognitive methods and other aspects. By sorting out the existing literature, the classification dimensions of learning styles and the influence of each dimension on students' learning styles and learning habits, this study selects the Felder-Silverman learning style model, which is based on four dimensions of information perception, processing, input and understanding. Analysis of accounting learning styles in higher vocational colleges. The scale has been tested by researchers, and its reliability and validity have been confirmed. It has high reliability and validity and is mature in application. This scale has a total of 44 items (each item has two options a and b), and 11 items in the scale respond to the corresponding dimensions. Each learner can only choose one of the options. If they feel that both options apply to them, they need to choose the one that applies more. The meaning of the value is very clear, the letters indicate the different types of learning styles, and the numbers indicate the different degrees. A score between 1-3 indicates a weak learning preference, a score between 5-7 indicates a moderate learning preference, and a score between 9-11 indicates that the student has a strong learning preference.

3.1. Learning style types research

The subjects of this survey are 187 students from the 2019 accounting major of Wenzhou Polytechnic 's Department of Finance and Accounting in 4 classes of "Financial Management" courses, including 47 in tax accounting, 32 in financial auditing, 16 in investment and financing management, and 16 in investment and financing management. There are 90 people, and samples of different majors in different campuses of the current year are selected, including 149 girls, accounting for 79.68% of the total number, and 38 boys, accounting for 20.32% of the

total number. The sample situation is in line with the situation of the students of this major, see [Table 1](#).

Table 1: Felder-Silverman Learning Style Questionnaire Statistics

Dimension type	processing		perception		input		understanding	
	Active	contemplative	comprehension	Intuitive	Visual	Speech	sequence	Comprehensive
Number of people	81	106	150	33	155	31	126	61
Proportion	43.32%	56.68%	80.21%	17.65%	82.89%	16.58%	67.38%	32.62%

It can be seen from the survey that accounting students in higher vocational colleges have obvious category characteristics in four dimensions, mainly contemplative, perceptual, visual, and sequential, with a large proportion, and the distribution of the four learning styles is relatively balanced. .

3.2. Learning Styles, Learning Characteristics and Teaching Strategies

The unique learning style features allow teachers to design appropriate teaching matching strategies, provide different learning resource presentation methods (images, videos, etc.) and teaching methods (group discussion, hands-on operation, etc.), so as to better integrate teachers' teaching and learning. The integration of learning, stimulate students' learning enthusiasm and potential, and achieve teaching effect put forward requirements, and also provide teaching design ideas. The first step in effective teaching is to analyze the teaching objects in order to teach students in accordance with their aptitude. According to the Felder-Silverman learning style classification, and the existing literature on the matching teaching strategies for different learning styles, through conversations with different types of students, the teaching strategies applicable to students with different learning styles in higher vocational accounting are summarized, including: Teaching guidance focus, learning resources and presentation methods, selection of learning tools, etc, see , [Table 2](#).

Table 2: The main learning style and teaching strategy design of accounting major in higher vocational colleges

Dimension	Type	Learning features	Learning resources and presentation methods	Learning tools
Processing	Contemplative	Before carrying out learning tasks, they tend to be independent, think quietly and solve problems, think about it before doing it, and study alone or with a fixed learning partner as the main form of learning. May not be too involved in classroom activities	Sample activity results, activity task guide sheet	Study guides, forums, information retrieval tools
perception	Perception	Like concrete facts and data learning resources closely related to real life, detailed learning resources, memorizing declarative knowledge, theoretical knowledge, cases and other practical application learning resources. Use standardized methods to solve problems and avoid complex things	Practical and applied learning resources (cases, phenomena, projects, etc.), graphic learning resources	Course discussion area, QQ group and WeChat group, cases

input	Visual	Likes to use eyes to learn teaching resources, prefers to receive knowledge from vision, accepts external information through pictures, videos, etc., has a higher interest in graphics and images, and is good at remembering his pictures, charts, flowcharts, images, videos and presentations Medium content	Mind-mapped knowledge overviews and "Tutorial video" resources	Simulation of physical objects, network search engines and other learning tools
understanding	sequence	Follow the linear reasoning method to carry out learning, connect each knowledge point of logical relationship, and solve problems step by step and in logical order.	Text-based and video-based learning resources, activity task guides	activity task list web search engine Course discussion board

4. The integration of learning style theory into the blended teaching model path

Blended teaching breaks through the limitation of learning space in teaching space, extends the learning process to online and offline, and effectively extends knowledge learning to three stages before class, class and after class in teaching time, and concentrates the classroom to solve difficult points, to effectively ensure classroom efficiency. The teaching method is a mixture of traditional face-to-face teaching based on the teaching method + modern student-centered teaching methods (such as discussion, debate, online learning and flipped classroom, etc.), and the teaching evaluation is based on paper and pencil tests. + Hybrid of procedural evaluation based on big data. Its core concept has evolved into "a teaching situation based on the combination of mobile communication devices, online learning environment and classroom discussion". This teaching situation is re-understood from the student's perspective to create a truly highly engaging and personalized learning experience for students, provide effective learning support for students' learning, and focus on the changes that learning brings to students. Learning style is an element of personalization. Different learning styles will have a great impact on learning quality and learning efficiency, and will be different due to differences in environment, personal experience, regional culture, education system, etc. The development of blended teaching should be learner-centered, respect students' individual differences, transform teachers from traditional knowledge imparters to students' learning guides, and provide students with the most effective learning methods and learning environment. To improve the effectiveness of blended teaching, learning style theory must be integrated into it. According to the characteristics of learning style theory and blended teaching mode, learning style theory is integrated into blended teaching. The integration path mainly includes three links: before class, during class and after class. The test questions, assessment methods, etc., see [Figure 1](#).

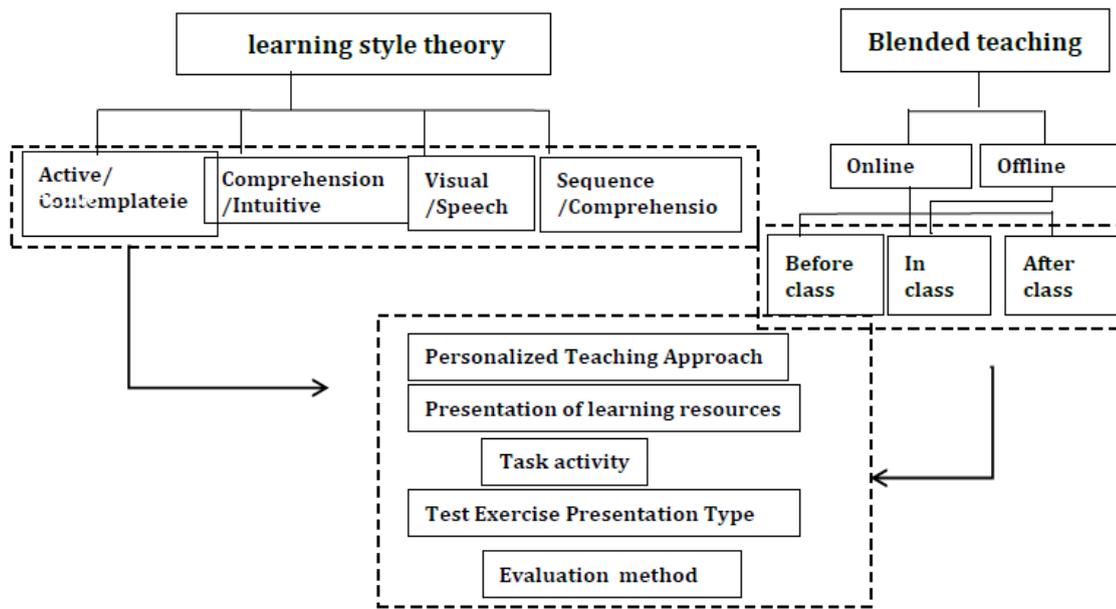


Figure 1: Integrating learning style theory into blended teaching pathways

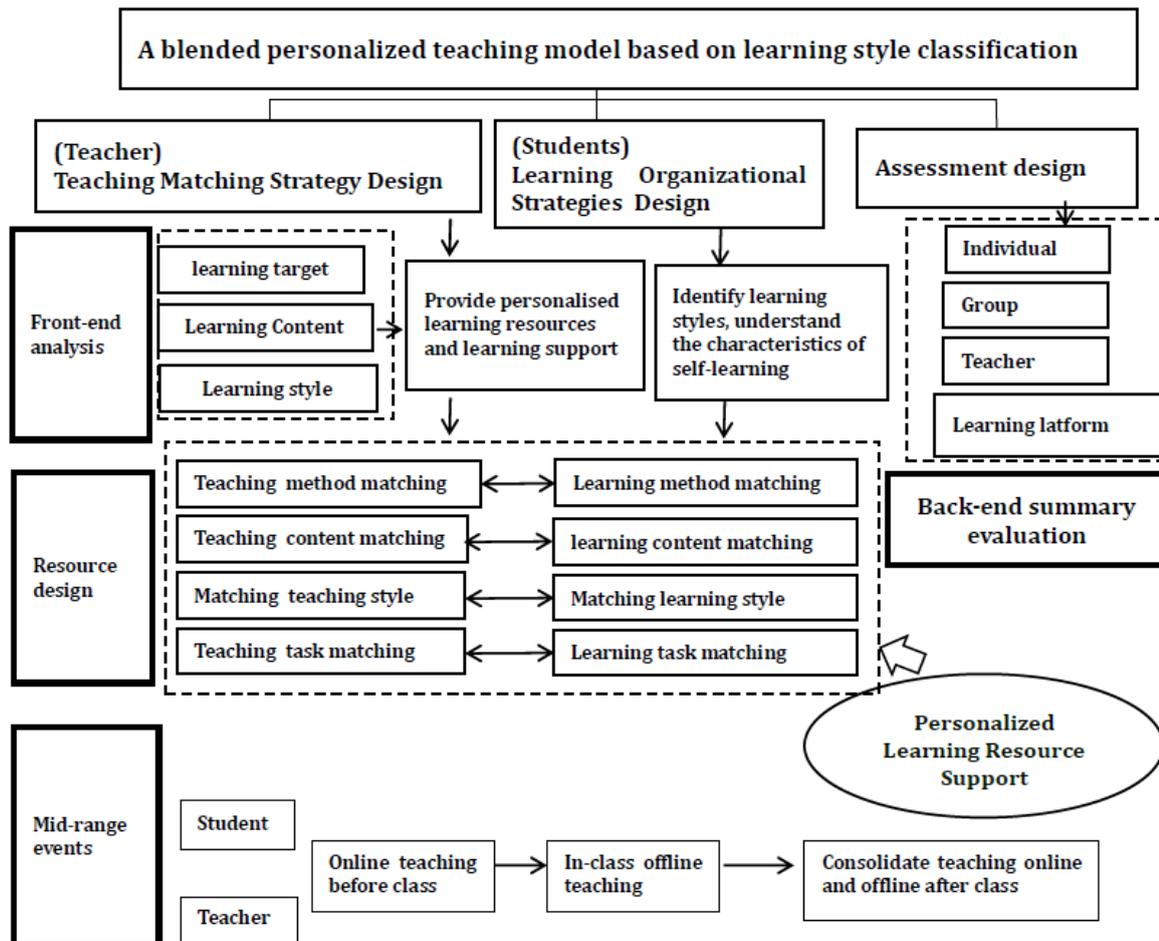


Figure 2: A blended personalized teaching model based on learning style classification

5. Constructing a blended personalized teaching model of higher vocational "Financial Management" based on learning style classification

5.1. Overall design idea

Combining learning style theory, effective learning theory and existing blended teaching model, try to construct a blended personalized teaching model based on learning style classification with three links before class, after class, online and offline platforms. Through the front-end analysis of learning objectives, learning content, and students' learning styles, combined with the three characteristics, it provides suitable teaching matching strategies, including matching selection of teaching methods, teaching content, teaching methods, and teaching tasks. Provide students with sufficient information to help students identify their own learning styles, understand the characteristics of self-learning, find learning resources that suit them, and allow students to clarify their own learning methods and learning methods, and accept the matching learning content and learning released by teachers. task, so as to improve the learning effect and obtain the applicability of learning, Figure 2.

5.2. Specific implementation process

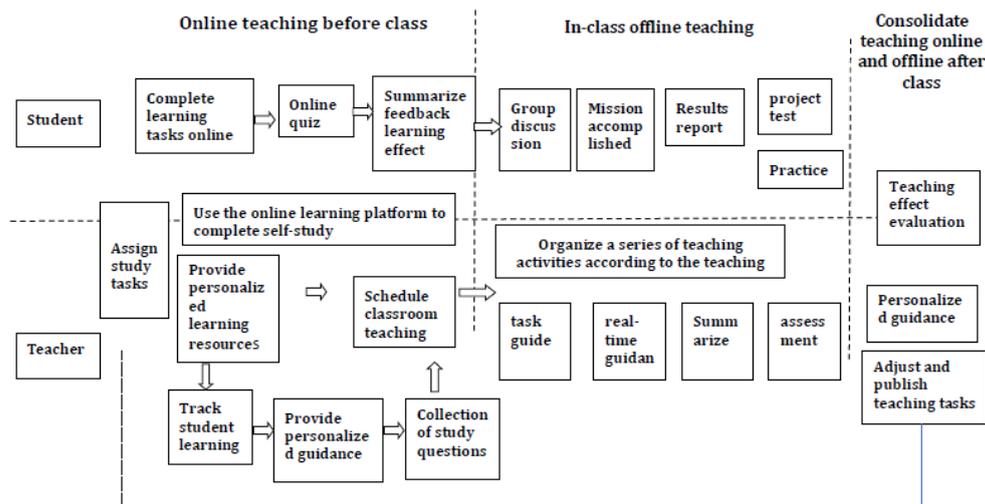


Figure 3: The overall process of blended personalized teaching of higher vocational "Financial Management" course based on learning style classification

As can be seen from Figure 3, the teaching process of this model is through the smart cloud platform before class. Teachers publish learning tasks, provide personalized learning resources, track students' learning, and provide personalized guidance according to learning styles. The online platform realizes intelligent push of personalized teaching resources, records learning behavior, monitors and evaluates learning data, analyzes learning effect, and prepares for subsequent classroom teaching activities. Collaborative learning, real-time detection of learning effects, and real-time evaluation and feedback, effectively achieve efficient classrooms and improve teaching quality. After class, through the evaluation of the teaching effect, according to the evaluation results, provide personalized guidance again, consolidate and improve skills, adjust the teaching strategy according to the implementation of this teaching link, and publish the teaching tasks for the next class.

5.2.1 Online knowledge independent teaching before class

Teachers integrate teaching resources, do a good job in the selection of teaching content and pre-class design, and make short and micro teaching videos according to important and difficult points. According to students' learning styles, they provide different forms of learning materials

on the teaching platform, including cases, pictures, charts, etc., to make teaching materials. Task list, clarify the work content, tasks, degree of completion, etc., so that students can learn independently and efficiently. Real-time monitoring of platform data, grasp of students watching videos, reading clicks, etc., timely supervision and providing personalized guidance, to a certain extent to ensure the effect of online teaching before class. The pre-class discussion area module is set up, and the topics with high error rate of students' pre-class tests are discussed in the way of discussion. Participate in the discussion of the student list, and encourage students to participate in the discussion and solve difficult problems by inviting or re-distributing learning tasks. Through the feedback of the pre-class test results and the discussion area, the difficult problems that need to be solved in the classroom can be sorted out in time.

5.2.2 Offline knowledge internalization in class

Taking the difficulties found in the pre-class test and discussion as the entry point of classroom implementation, creating a financial situation, guided by specific tasks, focusing on the combination of knowledge explanation and practical operation, carrying out group cooperation to explore solutions to problems, and improving the application of practical financial management Skill. After the task is completed, the thinking process and results will be uploaded to the platform, and the platform will randomly select personnel to explain the knowledge, methods and results involved in completing the task. After the students show the process, students will conduct mutual evaluation and teachers' supplementary comments and summaries in time to promote knowledge. Comprehensive mastery and ability enhancement. Classrooms encourage inquiry-based, collaborative learning. Encourage students to carry out self-evaluation and mutual evaluation, improve self-discrimination ability, and form critical thinking. Realize the activation, application and integration of knowledge in the classroom.

5.2.3 Online and offline knowledge consolidation and teaching improvement after class

The teaching effect evaluation is released through the platform to understand the shortcomings of the teaching implementation method so that the next class can be improved in time. Assign various forms of homework, encourage group collaborative learning, and set a clear deadline for homework. This time is earlier than the time of the next class, so that the remaining problems of this class can be solved in time before the next class. According to the prevalence of homework errors, the importance of knowledge involved, and the individual differences of students, teachers can use online group discussions or push personalized learning materials to individual students to help students fill in the gaps in time and provide confidence in learning Heart.

5.3. Teaching Evaluation

Based on the classification of learning style, the assessment of the mixed and personalized teaching mode of the higher vocational "Financial Management" course includes the use of evaluation methods, Evaluation methods with diversified evaluation subjects and evaluation contents. The evaluation method includes two aspects: formal evaluation and summative evaluation. The main body of evaluation includes four aspects: student self-evaluation, teacher evaluation, inter-group mutual evaluation and intra-group mutual evaluation. The ability of middle school students in independent learning ability, task completion ability, problem analysis and solution, achievement display and so on.

6. Epilogue

The blended teaching model makes up for the deficiencies of the traditional classroom, and provides a more personalized second classroom for the teaching subject and object. The blended personalized and effective teaching model that integrates the learning style theory and

the effective learning theory is an effective method for blended teaching. Once again, it can effectively realize people-oriented, make learning more personalized, and effectively improve students' academic performance, learning efficiency, effect, practical ability, and autonomous learning ability, which also has important practical significance for improving the pertinence of teachers' teaching.

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