

Exploration of Personalized Teaching Mode for Business Administration Courses Based on Learning Behavior Analysis

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Abstract: The traditional teaching of business administration courses has problems such as theoretical and practical disconnection, single teaching forms, uneven student participation, and one-sided evaluation systems. This paper constructs a personalized teaching mode through learning behavior analysis, and promotes curriculum reform from four aspects: Drawing student learning portraits, layered push of learning resources, designing personalized teaching processes, and establishing multi-dimensional evaluation systems. Learning behavior analysis technology can accurately identify students' diverse learning needs, facilitating teachers to optimize teaching arrangements and resource allocation. Drawing student learning portraits helps teachers provide targeted guidance and facilitate students' independent selection of learning content; Layered push of learning resources according to students' abilities can stimulate their enthusiasm for learning; Designing personalized teaching processes enhances classroom interaction and practice; Establishing multi-dimensional evaluation systems reflects learning outcomes. This teaching mode can improve teaching efficiency and learning effectiveness, providing feasible solutions for personalized teaching reform in business administration courses.

Keywords: Learning Behavior Analysis; Personalized Teaching; Business Administration Course; Teaching Mode

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1.Introduction

The development of higher education has brought new challenges and opportunities to the teaching of business administration courses, and traditional standardized teaching is difficult to meet the diverse learning needs of students. This teaching method has a dual problem: Firstly, there is insufficient classroom interaction and personalized guidance, making it difficult for teachers to timely understand the learning situation of each student; Secondly, there are differences in students' learning interests, abilities, and strategies, and a single teaching method is difficult to meet the learning characteristics of different individuals. As a result, students' learning enthusiasm is polarized, with some lacking initiative and others feeling that the course lacks challenges, which affects the overall learning effectiveness. At the same time, the evaluation system based on exams and assignments makes it difficult to track the learning process, which weakens the teaching adaptability to student differences.

The continuous deepening of higher education reform has made improving teaching quality and meeting students' personalized learning needs a key task. The development of educational informatization and the popularization of big data technology have brought new ways to solve problems. Learning behavior analysis collects and processes learning data

to provide a basis for teaching decisions, help teachers identify students' learning weaknesses, and promote appropriate resources and paths for differentiated teaching based on students' learning habits. Through real-time feedback, teaching strategies are adjusted to improve teaching accuracy and personalization.

The business administration course integrates knowledge from multiple disciplines and combines theory with practice closely. Due to the diverse learning experiences and cognitive patterns of students, their understanding of the courses varies. The traditional fixed course design is difficult to accommodate the diverse learning paces and interests of students, resulting in poor learning outcomes for some students. This paper uses learning behavior analysis techniques and data methods to analyze the learning process behaviors, helping teachers understand the characteristics of students' learning, optimize teaching strategies, and plan suitable learning paths.

This paper researches and constructs a personalized teaching mode based on learning behavior analysis suitable for business administration courses, starting from constructing personalized learning paths, optimizing teaching content and methods, and establishing a dynamic evaluation system, with learning behavior data application as the core. This mode enables teachers to achieve precise teaching, while students adjust their learning strategies based on data feedback to improve efficiency. The research results can provide a reference for curriculum design and teaching management in universities, and promote the development of business administration teaching towards intelligence and personalization.

The development of information technology and the updating of educational concepts bring opportunities for the reform of business administration courses. This paper combines theory and practice to construct a practical personalized teaching mode. Through systematic analysis of learning behavior, it provides a reference for improving learning effectiveness, improving teaching methods, and promoting the intelligence of new liberal arts education. It explores data-driven teaching optimization paths and accumulates practical experience in personalized education.

2.Literature Review

Personalized teaching is an important direction for educational development, mainly focusing on differences in students' interests, abilities, and learning progress, to provide a learning experience that is suitable for each student^[1]. Learning behavior analysis collects and analyzes data on learning activities, interaction frequency, and homework completion through the use of learning management systems or online platforms, helping teachers understand students' learning situations and adjust teaching content and strategies promptly^[2].

The development of digital education has made the integration of learning behavior analysis and personalized teaching a research hotspot^[3]. Universities use learning management systems to record data on students' online learning duration, homework submission, and discussion participation. Through big data analysis, learning needs and problems are further discovered^[4], and teaching content is optimized accordingly to push personalized learning resources. However, current related research is mostly in its infancy, and the theoretical system and practical cases are not yet perfect, requiring systematic research on specific implementation methods.

In addition, personalized teaching is rarely applied in business administration courses, and existing research mainly focuses on subjects such as mathematics and music^{[5][6]}. These disciplines push materials based on students' learning progress, which can provide effective guidance promptly when students encounter difficulties^{[7][8][9]}, thereby enhancing students' self-learning ability^[10]. Their application experience can further provide a reference for the teaching reform of business administration courses.

The application of learning behavior analysis in personalized teaching of business administration courses can promote theoretical innovation and practical development. Although relevant research is still in its infancy, it can be further developed in the future with technological advancements and increased teaching experience. Based on this, this paper intends to conduct in-depth research on how to use learning behavior analysis techniques to optimize the specific practices of personalized teaching in business administration courses.

3.Problems in Business Administration Courses

Business administration courses are an important component of higher education, but there are currently some issues that

affect the improvement of teaching quality. Firstly, the course content emphasizes theory over practice. In class, abstract concepts and theoretical modes are mainly introduced, with little integration of practical business cases and enterprise management experience. Students find it difficult to apply the knowledge they have learned in real business scenarios, lack a deep understanding of theory, and struggle to develop systematic practical abilities. This reduces the practicality of the course and makes it difficult for students to apply theoretical knowledge to practical management. Especially in the business administration field, emphasis is placed on cultivating decision-making, teamwork, and innovation abilities. The lack of practical teaching directly affects the development of students' comprehensive management skills.

Secondly, the teaching methods are traditional and singular. Most courses are still mainly taught by teachers, with less classroom interaction and monotonous teaching forms, making it difficult to achieve differentiated teaching based on students' foundations and interests. At the same time, the flexibility of the course is poor, making it difficult to meet personalized learning needs, resulting in some students lacking enthusiasm for learning. Students with strong learning abilities also feel that the content is too simple. This single teaching method makes students unwilling to participate in case analysis and project practice, limiting the development of innovation and problem-solving abilities.

Thirdly, there is a difference in students' level of classroom participation. Due to the single form of teaching activities and limited classroom interaction, students have few opportunities for active learning, and their learning motivation is polarized. Some students passively listen to lectures and lack opportunities for independent exploration; Another group of actively participating students also find it difficult to fully utilize their abilities due to a lack of targeted guidance. This difference in participation may affect the learning experience and bring difficulties to teachers' teaching feedback and classroom management, making it difficult to achieve personalized teaching.

Fourthly, the teaching evaluation system tends to be result-oriented. At present, most courses evaluate students' grades, focusing on final exams and daily assignments. The evaluation criteria are relatively simple, with more emphasis on assessing knowledge mastery, but less attention paid to students' depth of classroom participation, practical hands-on ability, teamwork performance, and innovative thinking. The above evaluation methods are difficult to fully demonstrate the entire process of student learning and provide useful references for teachers to adjust teaching strategies, resulting in inaccurate feedback on teaching reform and ultimately making it difficult to effectively carry out personalized teaching.

Overall, there is still room for further improvement in the content design, teaching methods, learning process, and evaluation system of business administration courses. The lack of close integration between theory and practice, differences in students' enthusiasm for participating in courses, and incomplete evaluation systems can affect teaching effectiveness. This indicates that traditional teaching methods are unable to meet the learning needs of different students, and also highlights the necessity of introducing personalized teaching modes based on learning behavior analysis. By carefully analyzing various learning behavior data of students and combining personalized teaching concepts, starting from optimizing course content, innovating teaching methods, mobilizing students' learning enthusiasm, and improving the evaluation system, this paper can further improve teaching quality and cultivate students' comprehensive abilities.

4. Construction of personalized teaching mode based on learning behavior analysis

Business administration courses often encounter problems such as theoretical and practical disconnection, single teaching forms, uneven student participation, and one-sided evaluation systems. Therefore, this paper designs a personalized teaching mode based on learning behavior analysis, with the goal of achieving comprehensive dynamic optimization of courses, tasks, teaching, and evaluation. This mode uses learning behavior data analysis technology to obtain students' learning situation and ability data, combined with personalized teaching theory, to customize learning plans for different students, improve learning quality and classroom participation. The specific content is as follows:

Draw a student learning portrait. Drawing learner portraits is the foundation of this mode. Teachers study students' learning goals, interests, basic abilities, and behavioral characteristics, and divide them into three categories: Steady, growth, and breakthrough. Stable students have strong learning abilities and flexible application of knowledge, suitable for learning high difficulty tasks and complex business cases; Growth students have a certain knowledge foundation, but need to stimulate their potential through designing tasks; Breakthrough students require teachers' attention and guidance in terms of knowledge

mastery or learning habits. These portraits provide data support for course design, planning learning paths, pushing learning resources, and teaching interventions, achieving student-centered differentiated teaching.

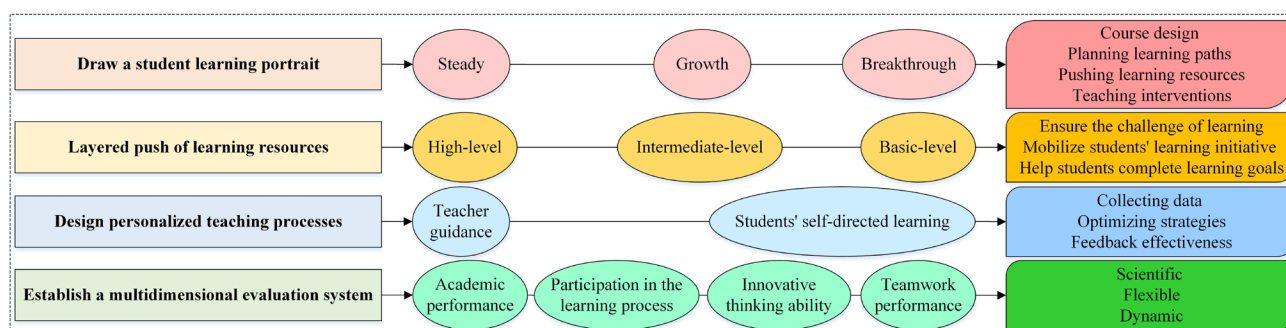
Layered push of learning resources. Personalized resource push is an important implementation step. The case library and learning tasks are designed according to difficulty and application scenarios. For example, in strategic management courses, complex enterprise strategic simulation cases are arranged for stable students to exercise their comprehensive decision-making abilities, medium difficulty cases are used to cultivate problem analysis and scheme design abilities for growth students, and basic cases are used to consolidate core knowledge points for breakthrough students. The learning tasks are also divided into high-level (strategic decision simulation), intermediate-level (in-depth analysis of business cases), and basic-level (specialized exercises on knowledge points), which not only ensure the challenge of learning but also consider students' acceptance ability, mobilize students' learning initiative, and help students complete learning goals at their own pace.

Design personalized teaching processes. The teaching process closely integrates teacher guidance with students' self-directed learning. Teachers rely on data analysis of learning behavior to identify students' learning difficulties and flexibly adjust classroom teaching priorities; Students can independently choose suitable learning tasks and case study routes based on their own interests and abilities. The classroom adopts various interactive methods such as case discussions, role-playing, project collaboration, and business simulations, with a focus on cultivating students' practical and teamwork abilities. This paper establishes a real-time feedback system using learning behavior analysis technology to continuously track students' classroom and online learning situations, and provides timely data feedback to teachers and students. Teachers improve teaching methods based on feedback, while students adjust their learning strategies, forming a complete teaching cycle of "collecting data, optimizing strategies, and feedback effectiveness".

Establish a multidimensional evaluation system. Traditional evaluations often focus on final exam results, but the new evaluation system is no longer limited to this. Instead, it comprehensively considers academic performance, participation in the learning process, innovative thinking ability, and teamwork performance, paying more attention to the entire learning process of students. In case discussions or project practices, by analyzing students' problem-solving approaches, decision-making processes, and team collaboration performance, key steps are recorded to form a complete learning record. This evaluation method can comprehensively reflect learning outcomes and provide data support for optimizing personalized teaching strategies, making course evaluation more scientific, flexible, and dynamic.

Overall, the personalized teaching mode based on learning behavior analysis consists of four core components: Drawing a student learning portrait, layering push of learning resources, designing personalized teaching processes, and establishing a multidimensional evaluation system. These parts are closely linked by data, and teachers can provide targeted teaching based on the characteristics of each student. Students can also obtain learning resources and paths that are suitable for themselves, forming a cycle of continuous optimization of learning data and teaching strategies. This mode solves the problems of theoretical and practical disconnection, single teaching form, uneven student participation, and a one-sided evaluation system in traditional teaching, and provides a practical and feasible solution for the reform of business administration courses. Practical application can prove that this mode can effectively enhance students' comprehensive abilities and academic performance, and promote the development of personalized and intelligent new liberal arts education in universities. The logical relationship among the above contents can be intuitively presented by Figure 4-1.

Figure 4-1 Construction of personalized teaching mode based on learning behavior analysis



5. Conclusions

In response to the problems of theoretical and practical disconnection, single teaching forms, uneven student participation, and one-sided evaluation systems in the teaching of business administration courses, this paper has created a personalized teaching mode based on learning behavior analysis. Integrating learning behavior analysis, personalized teaching theory, and the characteristics of the new liberal arts course, this paper has explored course reform plans from four aspects: Drawing a student learning portrait, layering push of learning resources, designing personalized teaching processes, and establishing a multidimensional evaluation system. Research has found that using learning behavior analysis techniques to collect students' learning data, combined with differentiated teaching strategies, can further assess students' learning needs, optimize course and teaching arrangements, and improve teaching efficiency and learning outcomes. The specific summary can be shown as follows:

Firstly, building a learner profile lays the foundation for personalized teaching. This paper has analyzed students' learning goals, interests, abilities, and behavioral habits, and categorized them into three types: Steady, growth, and breakthrough, to facilitate targeted teaching by teachers. After understanding their own learning characteristics, students can independently choose appropriate learning tasks and paths to improve their learning enthusiasm and classroom participation. Secondly, a layered push of learning resources. By building a graded case library and designing layered tasks, this paper has provided learning content of corresponding difficulty levels for different students. Advanced tasks such as strategic decision simulation, intermediate tasks such as case analysis, and basic tasks such as knowledge point exercises can meet different learning needs and stimulate students' enthusiasm for learning. Thirdly, personalized teaching emphasizes the combination of teacher guidance and student self-directed learning. Adopting various interactive forms such as case discussions, role-playing, project collaboration, and simulation to enhance students' practical and teamwork abilities. This paper has established a real-time feedback mechanism based on learning behavior data, where teachers adjust teaching strategies based on student performance, and students improve their learning methods based on feedback, forming a closed-loop teaching process of "data collection, strategy adjustment, and effectiveness feedback". Finally, the multidimensional evaluation system has changed the single performance evaluation method. This paper has included academic performance, participation in the learning process, innovation ability, and teamwork ability in the evaluation, focusing on the students' learning progress process, which provided a scientific basis for teaching improvement.

Overall, the personalized teaching mode based on learning behavior analysis can solve the problems of traditional teaching, create an intelligent teaching system based on data, and provide practical methods for course reform. In this mode, teachers can develop teaching plans based on the different characteristics of students, and students can also find suitable learning resources and paths, thereby improving the effectiveness of course learning and practical abilities.

In the future, this mode can be further improved. With the development of educational technology and the increasing application of artificial intelligence, learning behavior analysis tools are expected to continue improving. Integrating more data, such as changes in student interests and teamwork, can make students' learning profiles more accurate and detailed, and make teaching more tailored to students' needs. Due to the interdisciplinary nature and emphasis on practical experience of business administration courses, it is necessary to flexibly adjust the mode according to the actual situation of different schools and majors, and find a balance between achieving course objectives and meeting students' personalized needs. In addition, to continuously optimize the evaluation system and teaching design, it is necessary to establish a long-term effective feedback mechanism and form a development mode of "practice, evaluation, and improvement" that continuously cycles and improves.

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Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

Reference

- [1] Li, Y. K., & Shi, J. (2025). Multimodal deep learning for art behavior analysis and personalized teaching path generation. *Discover Artificial Intelligence*, 5, 215.
- [2] Wang, S. J., Cheng, Z. J., Sun, H. Z., & Luo, P. C. (2018). Mooc learning behavior analysis of the military academy cadets based on hierarchical clustering method. *Education Teaching Forum*, 2, 116–117.
- [3] Wang, M. (2024). Design of a college student management platform based on embedded neural network algorithm for network security technology. *Computer Fraud and Security*, 10, 91–101.
- [4] Dai, J. X., & Li, Q. Y. (2022). Improving random forest algorithm for university academic affairs management system platform construction. *Advances in Multimedia*, (4), 1–9.
- [5] Lu, H. (2024). Personalized music teaching service recommendation based on sensor and information retrieval technology. *Measurement: Sensors*, 33, 101207.
- [6] Guo, W. (2025). Research on artificial intelligence-driven mathematical knowledge mapping construction and personalized teaching path optimization. *Academic Journal of Management and Social Sciences*, 10(2), 230–236.
- [7] Chen, Q. Q. (2018). The trade-off between teacher-student commonality and individuality in teaching—reflection based on personalized teaching. *Modern Education Science*, (10), 123–128.
- [8] Jia, S. (2025). A personalized recommendation approach for blended English teaching database services based on content retrieval. *International Journal of High Speed Electronics & Systems*, 34(1), 2540181.
- [9] Zhong, J., & Zhang, W. J. (2025). Optimizing personalized recommender systems for teachers' digital learning models using deep learning algorithms. *IEEE Access*, 13, 78461–78470.
- [10] Hartley, K., Hayak, M., & Ko, U. H. (2024). Artificial intelligence supporting independent student learning: An evaluative case study of ChatGPT and learning to code. *Education Sciences*, 14(2), 12.