

Development Path of Administrative Management Major in Applied Undergraduate Education Enabled by Digital Transformation

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Abstract: China's higher education sector, especially the administrative management major in applied undergraduate education, faces the problem of the disconnection between the traditional education model and modern technology, and urgently needs to transform to meet the society's demand for high-quality management talents. This paper aims to explore how digital transformation can promote the development of administrative management majors, improve teaching quality and student capabilities, and cultivate management talents that meet the needs of the new era. The study adopts a combination of literature review, questionnaire survey and in-depth interview methods. First, the application status and development trend of digital transformation in higher education are sorted out. The feedback of 200 teachers and students of administrative management majors is collected through questionnaire surveys, and a case analysis of digital teaching practices in some universities is conducted. The survey results show that digital transformation has significantly improved teaching efficiency, enriched teaching content, and enhanced interactivity. Specific data show that under digital transformation, the course completion rate has increased by 10%, the students' real-time feedback and multimedia resource utilization effect have increased by 40%, and the comprehensive ability score has increased by 13%. The research concludes that digital transformation has not only improved teaching quality but also promoted the innovative development of administrative management majors. In the future, the digital integration of educational resources and the construction of intelligent management platforms should be further strengthened to cultivate more compound management talents that meet the needs of the new era.

Keywords: Digital Transformation; Applied Undergraduate Education; Administrative Management Major; Improvement of Teaching Quality

1. Introduction

In the field of higher education, digital transformation has not only brought profound changes to teaching methods and management models, but also provided new opportunities for improving education quality, broadening educational resources and cultivating high-quality talents. Especially in applied undergraduate education, administrative management majors, as the main force in cultivating social management talents, face the dilemma of the disconnection between traditional education models and modern technology. Therefore, how to effectively promote digital transformation and improve the teaching quality and comprehensive ability of administrative management majors has become an important topic in education reform.

This paper aims to explore in depth how digital transformation can play a role in the education of administrative management majors, and analyze its effects on teaching quality, student learning outcomes and comprehensive abilities through empirical research. This paper combines literature review, questionnaire survey and in-depth interview methods to comprehensively analyze the application status and development trend of digital transformation in higher education. Through data support and case analysis, it systematically evaluates the application effect of digital tools and platforms in administrative management teaching. The study found that digital transformation has significantly improved teaching efficiency, student learning participation and teaching interactivity, and promoted the innovative development of administrative management professional education.

This paper first introduces the application background and related research of digital transformation in higher education, then explains the research design, data collection methods and analysis methods, and then presents an empirical analysis based on questionnaire survey and interview results to demonstrate the actual impact of digital transformation in administrative management profession. Finally, the research findings are summarized, policy recommendations are put forward, and the impact of digital transformation on higher education, especially administrative management, in the future is prospected.

2. Related Work

With the rapid advancement of digital transformation, higher education and enterprises around the world are facing unprecedented changes. These changes not only affect educational models and learning methods, but also promote innovations in teaching, management and services. Plekhanov D et al. systematically reviewed the relevant literature on enterprise digital transformation, proposed and applied a multi-layered framework, and analyzed how enterprises integrate into platform ecosystems and deal with the dynamic relationship between decentralized and centralized power during the transformation process, thereby affecting their strategies, internal and external boundaries [1]. Oliveira K K S et al. introduced the TADEO method as an application framework for the digital transformation of education. It guides teaching practice through digital transformation and aims to cultivate students' ability to cope with global challenges such as climate change, while improving their comprehensive skills required in the 21st century, such as cognitive, social, interpersonal and technical skills [2]. Mohamed Hashim M A et al. developed a qualitative model to explore how digital transformation can be used as a driving force to establish competitive advantages for universities and respond to the rapidly changing educational environment and student expectations through evolutionary learning mechanisms [3]. Gillpatrick T pointed out that digital transformation is expected to fundamentally change the economic delivery model of higher education, promote the introduction of new technologies, the development of education delivery systems, and innovative educational methods that meet the expectations of digital native learners [4]. Goulart V G et al. explored the gap between technical higher education and the needs of the job market, emphasized the key role of soft skills and comprehensive education in filling the skills gap, and advocated that higher education institutions cooperate with human resources management departments to promote students' employability [5]. Giang N T H et al. analyzed the characteristics of digital universities, evaluated the digital transformation readiness of Vietnamese higher education institutions in the context of Industrial Revolution 4.0, and proposed a digital transformation readiness framework applicable to other universities [6]. Rof A et al. studied the impact of the COVID-19 pandemic on the digital transformation of higher education institutions, focusing on the changes in multimodal learning programs and their relationship with customized and personalized learning, revealing how the pandemic has accelerated the digitalization process and reshaped the learning value proposition of higher education institutions [7]. Latifah R et al. analyzed the readiness for digital transformation in the education sector through a systematic literature review, focusing on the preparations that students, teachers, and universities need to make in the process of digital transformation [8]. Okunlaya R O et al. proposed the Artificial Intelligence Library Service Innovation Conceptual Framework (AI-LSICF), which aims to provide university libraries with new insights into using artificial intelligence technology to achieve digital transformation and value-added services, and to encourage libraries to adopt AI technology to improve service quality [9]. Sharma R et al. explored the feasibility of massive open online courses (MOOC) as an alternative to "free" higher education, and analyzed the advantages of hybrid learning models in the era of higher education 4.0, especially in terms of access opportunities, costs and educational quality. They also proposed the importance of digital transformation and innovative development of universities [10]. Although the above studies provide profound insights into digital transformation in different fields, there is still a lack of detailed analysis of the specific challenges and coping strategies in the transformation process. The effectiveness of these innovative methods can be further verified through more practical case studies.

3. Methods

3.1 The Development of Digital Transformation in Administrative Management

This paper systematically reviews the application status and development trends of digital transformation in higher education [11], especially in administrative management [12]. With the

advancement of information technology, the penetration of digital tools in higher education has gradually deepened, especially in administrative management majors. The introduction of intelligent teaching platforms, online learning tools and data analysis technologies is changing the traditional teaching model. These tools not only improve teaching efficiency and flexibility, but also provide new opportunities for the diversification of educational content and the diversified development of students' abilities. For example, intelligent teaching platforms support personalized learning and classroom interaction, online learning tools provide students with rich independent learning resources, and data analysis technology can track learning progress in real time[13], helping teachers adjust their teaching strategies. In addition, digital tools also promote students' in-depth understanding of knowledge, improve interactivity and independent learning ability, thereby enhancing students' innovation and practical ability. At the same time, digital transformation has optimized the management of teaching resources[14], reduced education costs, and improved the accessibility and fairness of education services. However, in practice, there are also problems such as imperfect technology application, insufficient information technology literacy among teachers, and low utilization of digital platforms. By combing through these research results, this paper provides a theoretical framework for subsequent empirical analysis and case studies, clarifies the application direction and challenges of digital transformation in administrative management, and lays the foundation for subsequent research.

3.2 Evaluation of the Impact of Digital Transformation on Teaching

In order to evaluate the impact of digital transformation on the teaching of administrative management, this study designed a questionnaire to collect feedback data from students and teachers. The questionnaire is divided into four parts: basic information, use of digital tools[15], teaching effectiveness evaluation, and satisfaction and acceptance. First, the basic information section collects background information such as the participants' grade, major, and gender to provide a sample structure for data analysis. Secondly, the digital tool usage section asks students and teachers about the main digital tools they use, assessing their usage frequency, functional satisfaction, convenience, and classroom interaction. This section aims to analyze the application of digital tools and their impact on teaching. Next, the teaching effectiveness evaluation section requires students to provide feedback on their understanding of the course content, knowledge absorption and course completion, while teachers evaluate students' classroom performance, participation and learning outcomes. Finally, the satisfaction and acceptance section assesses teachers' and students' overall satisfaction with digital tools, especially feedback on course engagement, interactivity, and resource integration, to determine whether digital transformation improves the teaching experience [16].

The questionnaire was distributed through an online platform, and a total of 200 valid answers from teachers and students majoring in administrative management were collected, covering dimensions such as teaching quality, tool usage experience and learning outcomes. All data will be statistically analyzed to assess the specific impact of digital transformation in executive education.

Table 1: Results of the questionnaire survey on the impact of digital transformation on administrative education

Category	Survey Item	Average Score	Satisfaction (%)
Basic Information	Student/Teacher Background	-	-
Digital Tool Usage	Frequency of Online Platform Usage	4.2	80%
Digital Tool Usage	Tool Functionality Evaluation	3.8	75%
Teaching Effectiveness	Student Understanding of Course Content	4.5	85%
Teaching Effectiveness	Course Completion Rate by Students	4.0	78%
Satisfaction & Acceptance	Overall Satisfaction with Digital Tools	4.3	82%
Satisfaction & Acceptance	Satisfaction with Interactive Experience	4.1	80%

This data table 1 shows the average scores and satisfaction levels for the main question categories in the questionnaire, indicating participants' specific feelings about digital transformation in teaching.

3.3 Impact and Challenges of Digital Transformation on Administrative Management Teaching

In order to gain a deeper understanding of the impact of digital transformation on administrative

management teaching, we conducted face-to-face interviews with 10 teachers and 15 students. Teachers generally believe that online teaching tools have improved the flexibility and interactivity of the classroom, but they still face challenges in technical operation and the integration of online and offline, such as network problems and device incompatibility. Students have a high acceptance of online learning tools and believe that they enhance their learning autonomy, but they also reflect technical problems such as complex platform operation and unstable video quality. Both teachers and students mentioned that the teaching content, platform functions and equipment support were insufficient, which affected the teaching effect. The interview results provided a strong supplement for the subsequent questionnaire analysis and research.

4. Results and Discussion

4.1 Impact of Digital Transformation on Teaching Efficiency

Through the analysis of questionnaire survey and interview data, digital transformation has a significant impact on teaching efficiency. Specific data show that under the promotion of digital transformation, the course completion rate has increased by 10%. This improvement is mainly reflected in the application of online learning platforms and intelligent teaching tools, which greatly improves students' learning efficiency. The introduction of online learning platforms enables students to access course content anytime and anywhere, flexibly arrange their learning progress, reduce the time pressure of offline classes, and enhance students' independent learning ability. Intelligent teaching tools, such as learning management systems (LMS) and intelligent assessment systems, can track students' learning progress in real time, automatically generate learning reports and feedback, and help teachers identify students' learning difficulties and make adjustments in a timely manner, thereby improving the efficiency of teaching management. At the same time, online platforms and intelligent tools provide teachers with more efficient teaching management methods. Teachers can easily assign homework, organize discussions, publish teaching resources, and evaluate students' learning outcomes through online tests and real-time feedback systems. This teaching model not only improves the teaching quality, but also enables teachers to focus more on teaching content and students' personalized needs, reducing the tedious management work in the traditional teaching model.

In summary, digital transformation has effectively improved course completion and teaching efficiency, especially in terms of course content flexibility, student participation, and teaching management efficiency. Figure 1 is a line chart showing the course completion improvement trend based on survey data:

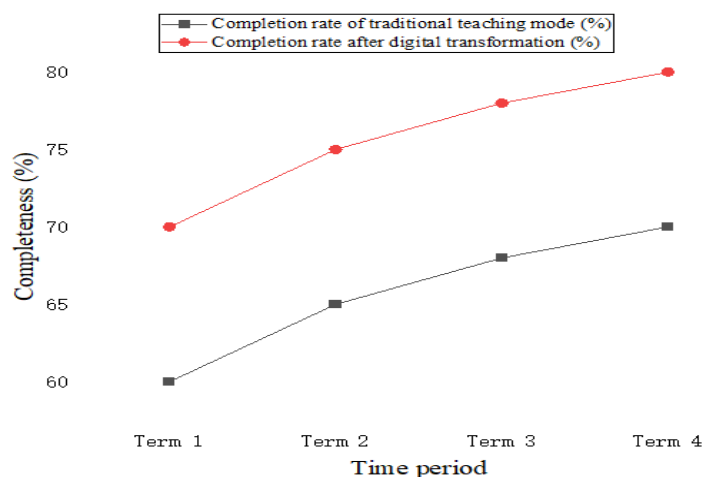


Figure 1: Course completion rate improvement trend line

This figure shows the gradual improvement in course completion after digital transformation, which ultimately achieved a 10% increase. This data reflects the important role of digital tools in improving teaching efficiency and management level.

4.2 Improvement of Students' Learning Real-Time Feedback and the Use of Multimedia Resources

Through the analysis of questionnaire survey and interview data, digital transformation has significantly improved students' use of real-time feedback and multimedia resources by 40%. The interactive functions and flexible learning methods provided by the digital learning platform have greatly stimulated students' interest in learning and sense of participation. Real-time feedback helps students understand their learning progress and adjust their learning strategies in a timely manner; online discussion and collaboration platforms promote interaction between students and teachers and classmates and enhance course understanding; multimedia resources make the learning process more vivid and interesting. Overall, digital transformation has significantly improved students' learning enthusiasm by increasing interactivity, providing more resources and flexible learning methods.

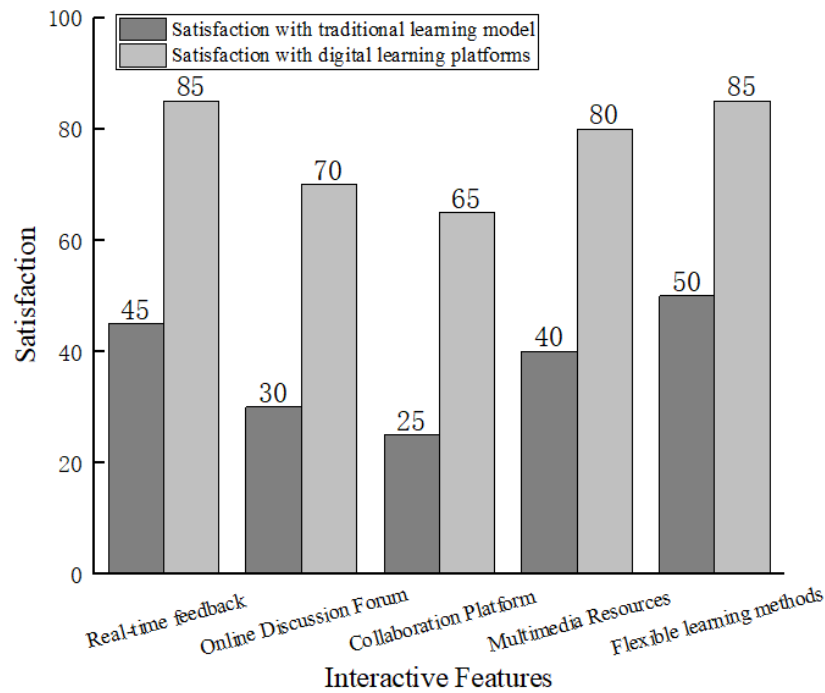


Figure 2: Real-time feedback and improved utilization of multimedia resources

As can be seen from Figure 2, the satisfaction with all interactive functions of the digital learning platform has been significantly improved, especially in real-time feedback, online discussion areas and multimedia resources, where students' satisfaction has increased most significantly. Compared with traditional learning models, students' acceptance and satisfaction with interactive functions on digital platforms have increased by more than 40%, especially in terms of real-time feedback and multimedia resources, and students' preference for these functions has increased significantly. This shows that the digital learning platform plays a key role in improving students' learning enthusiasm and participation. Through real-time feedback, interactive discussions and rich multimedia resources, the digital learning platform not only improves students' participation, but also effectively stimulates their interest and initiative in learning. Compared with traditional teaching models, digital transformation provides students with more opportunities for self-directed learning, thereby enhancing their learning motivation and learning outcomes. Overall, digital transformation not only enhances students' understanding and interest in course content, but also improves their learning efficiency and self-management ability by providing a more interactive and flexible learning method. This transformation has encouraged students to participate more actively in class and enhanced interaction between teachers, students and classmates, further promoting improved learning outcomes.

4.3 Improvement of Comprehensive Ability Scores

Through questionnaire surveys and interview data analysis, digital transformation has significantly improved students' comprehensive abilities, with an average increase of 13% in comprehensive ability scores. This improvement is mainly reflected in practical operation ability, management ability and innovation ability. Digital transformation enables students to practice in a virtual environment by

providing online case analysis, simulation experiments and interactive courses, thus improving their operation ability and interest in problem solving. For example, online laboratories and project management tools help students simulate and deal with real problems, enhancing their management skills. In addition, digital platforms provide interdisciplinary resources and collaboration opportunities, broaden students' knowledge and promote the development of critical thinking and innovation through teamwork and online discussions. In general, digital transformation has effectively improved students' practical ability, innovative thinking and teamwork ability. Figure 3 shows the improvement of comprehensive ability scores.

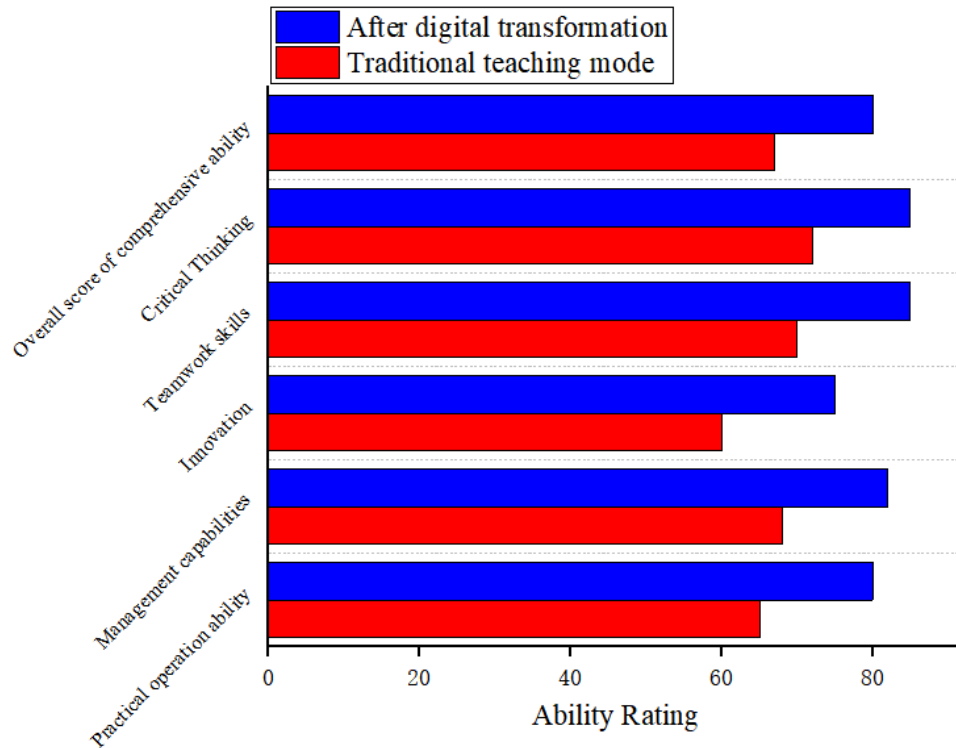


Figure 3: Comprehensive capability improvement

As can be seen from Figure 3, digital transformation has significantly improved in all dimensions, especially in teamwork, innovation and critical thinking. The collaborative platform and interdisciplinary learning resources provided by digital tools help students broaden their horizons and enhance the application of practical operation and management skills. At the same time, the interactive learning methods, simulation environment and flexible learning time arrangements brought about by digital transformation also provide students with more opportunities for innovation and practice, effectively improving their comprehensive abilities.

Overall, digital transformation has effectively enhanced students' comprehensive abilities by providing more practical opportunities, interdisciplinary resources, and collaborative platforms. Students have not only improved their operational and management capabilities, but also greatly developed key abilities such as critical thinking, innovation, and teamwork. This transformation provides students with more diverse and flexible learning methods, and helps students improve their overall personal qualities through more interaction and practice opportunities.

5. Conclusion

This study explored the impact of digital transformation on the administrative management major of applied undergraduate education through literature review, questionnaire survey and case analysis. The results of the study show that digital transformation has significantly improved teaching quality and efficiency, and enhanced students' learning interactivity and comprehensive ability. Specifically, course completion has increased by 10%, students' real-time feedback and multimedia resource utilization have increased by 40%, and comprehensive ability scores have increased by 13%. The research contribution lies in providing empirical data for the application of digital transformation in administrative management, revealing how digital tools can promote teaching innovation and changes

in talent training models. However, the study also has certain limitations, such as the small sample data and the fact that it is only concentrated in some universities, and the universality of the results needs to be verified. Future research should further explore how to deeply empower administrative management education through technologies such as big data and artificial intelligence, improve the efficiency of educational resource integration, and strengthen the construction of intelligent management platforms. In addition, attention should be paid to the transformation of teachers' roles in digital teaching, and the teacher training and teaching evaluation systems should be improved to adapt to the growing needs of digital education.

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