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Construction of University Teaching and Academic Community from the Perspective of Digital Transformation

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Abstract: Under the background of digital transformation, the construction of the university teaching and academic community is of great significance for promoting educational innovation and improving the quality of talent training. By strengthening the construction of digital infrastructure, promoting the professional development of teachers, constructing a digital learning platform, and establishing a scientific research cooperation mechanism, an effective university teaching and academic community can be built. This will help promote exchanges and cooperation between teachers and students, improve teaching quality and scientific research level, and cultivate more talents with innovative and practical abilities for society.

Keywords: Digital transformation; Universities; Teaching and academic community

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1. Introduction

With the rapid development of information technology, college teaching is facing increasingly complex and diversified challenges. To meet the needs of the current time, it has become an urgent and important task to build a teaching and academic community in colleges and universities from the perspective of digital transformation. This paper will discuss the meaning and component elements of the university teaching and academic community, as well as the role of digital transformation in it. This paper will also put forward the path and method of building the university teaching and academic community from the perspective of digital transformation [1].

2. The connotation and constituent elements of college teaching and academic community

University teaching and academic community refers to a group of teachers, researchers, and related personnel

with similar professional backgrounds and research interests. In this community, each member can get inspiration and reference from other members, and share their research results with others, to achieve the goal of knowledge inheritance and innovation [2].

Teachers and researchers bear the important responsibility of carrying out teaching and research work and actively participate in the construction of the community. Through a rich and diverse curriculum, they guide students to think deeply and explore, and stimulate their creative potential. In a community, students should be seen as active participants and knowledge creators, not just passive recipients. The university teaching and academic community needs to rely on abundant academic resources, laboratory facilities, and advanced scientific research equipment to provide a good learning and research environment for its members [3]. Laboratory facilities and scientific research equipment are also an indispensable part of the university teaching and academic community and should be maintained and updated promptly. Social partners can also provide universities with practical opportunities, professional guidance, and financial support to promote the development of the community.

3. The role and impact of digital transformation on university teaching

3.1. Innovation of teaching mode

First of all, through the online course platform, students can access a variety of course resources anytime and anywhere, and choose the courses that suit their learning progress and interests. At the same time, teachers can also use the online platform to explain and answer questions and other interactions to improve students' understanding of knowledge and application ability [4]. Secondly, the rise and development of online education platforms provide new ideas for the innovation of college teaching models. Online education platforms can not only provide online traditional face-to-face courses but also provide students with more abundant learning resources and practical opportunities through multimedia technology, virtual laboratories, and other means. This kind of teaching mode reform based on information technology makes college education more flexible and personalized, and also promotes communication and cooperation among teachers [5].

3.2. Improved teacher-student interaction

The wide application of remote interaction tools has created more possibilities for communication and interaction between teachers and students, which can not only stimulate students' learning interests and participation but also promote cooperation and sharing among students. First of all, video conferencing tools enable real-time interaction between teachers and students. Whether it is remote teaching, online discussion, or question-solving, video conferencing tools can provide clear and smooth audio and video transmission, enabling face-to-face communication and discussion between teachers and students. Secondly, online evaluation and feedback systems build a closer bond between teachers and students. Through the online evaluation system, students can keep abreast of their shortcomings and progress in the learning process, and get personalized guidance and suggestions. Teachers can also monitor and evaluate students' learning in real time through the online feedback system, adjust teaching strategies in time, and improve teaching effects [6].

3.3. Sharing and expanding educational resources

The application and popularization of Open Educational Resources (OER) has become an important direction in the development of higher education [7]. First of all, OER can be shared freely with students and teachers all over the world through the network platform. These open course resources include courseware, teaching materials, experiment guidance, and other forms, covering various subject areas. By using OER, colleges and

universities can save textbook acquisition costs and provide more diversified learning resources to students. Secondly, OER promotes cooperation and exchange among universities. By sharing their high-quality teaching resources, universities can attract more excellent teachers and students to join their teaching and academic community. At the same time, universities can also learn from the advantages and experiences of other universities to improve their education level through continuous exchanges.

4. The role and influence of digital transformation on teaching and academic research in universities

4.1. Improving the quality and influence of teaching and academic research

Teachers and researchers continue to expand their knowledge by consulting various literature on the Internet and taking online courses. This expanded access to knowledge not only improves teachers' and researchers' understanding of the latest developments in the relevant fields but also encourages them to think about the diversity of solutions to problems [8]. Digital technology can be used to obtain more comprehensive, accurate, and timely information resources, effectively improving the quality of teaching and academic research. In addition, teachers and researchers can communicate, cooperate, and share remotely through Internet tools, and conduct academic discussions with the help of online conference systems to jointly solve problems and promote research progress. The use of such digital platforms not only expands the social network of teachers and researchers but also improves the efficiency and quality of cooperation among them [9].

4.2. Promotion of cooperation and communication among teachers

First of all, teaching and academic social networks play an important role in teacher cooperation. By joining the social network platform related to the professional field, teachers can share information, exchange experiences, and cooperate on projects with their counterparts from other universities around the world. Such cross-regional and cross-institutional cooperation can help break traditional constraints, bring together more talented people, and improve the innovation and quality of teaching and academic research. Secondly, digital transformation also facilitates the construction and management of interdisciplinary research teams. Through digital platforms, teachers can more easily form interdisciplinary research teams and attract experts from different fields to participate in teaching academic research projects [10]. Such interdisciplinary cooperation helps integrate knowledge from different fields, promoting innovative thinking and the ability to solve complex problems.

4.3. Expand access to knowledge and strengthen innovation capacity

Teachers can make use of multimedia teaching resources, online interactive tools, and other means to enhance the interest and effect of classroom teaching. At the same time, through the data analysis and evaluation system, teachers can also know the learning situation of students in time, and give targeted guidance and guidance. Technological means such as data analysis and artificial intelligence are used to carry out scientific research work, and the research results are applied to practical problem-solving. From the perspective of digital transformation, the university teaching and academic community benefits from the opportunities brought by digital technology. By expanding access to knowledge, promoting exchanges and cooperation, improving teaching effectiveness, and strengthening innovation capacity, teachers and researchers can better conduct teaching and academic research, and achieve better quality and impact [11].

5. Approaches and methods to build college teaching and academic community from the perspective of digital transformation

5.1. Promoting the professional development of teachers

5.1.1. Provide IT training and support

Comprehensive IT training and support must be provided to promote the professional development of university teachers in digital transformation. First, colleges and universities can organize regular training courses that cover basic computer operation and network application knowledge, as well as more in-depth content such as educational technology and online teaching methods. These training courses, which can be provided by professionals or external organizations, are combined with practical cases and operational demonstrations to help teachers quickly master relevant skills [12]. In addition, universities can set up an IT support team or center to provide teachers with continuous technical support both offline and online. The team can answer questions that teachers may have in using IT, and provide solutions and guidance. At the same time, they can also regularly update and share the latest educational technology information and resources to help teachers stay on top of digital transformation trends.

5.1.2. Build a digital teacher experience-sharing platform

Universities can establish a platform for teachers to share experiences to promote communication and cooperation among teachers. This platform can be an online community or a dedicated academic forum where teachers can share their own experiences and teaching practices in digital transformation to learn from each other. At the same time, the platform can also provide the collection and sorting of some excellent cases and teaching resources, which is convenient for other teachers to reference and learn from. Colleges and universities can also organize regular seminars or workshops to invite some education experts with extensive experience in the field of digital transformation to share their insights and practical experience. This will further promote communication and interaction among faculty members and stimulate innovative thinking [13].

5.2. Strengthening information technology infrastructure

It is important to strengthen the IT infrastructure in universities to support digital transformation [14]. First of all, universities should invest in upgrading and improving campus network equipment to improve network bandwidth and stability. This will ensure that teachers and students can communicate and operate smoothly when using services such as online learning platforms, teaching resources, and online classes. In addition, universities can consider introducing more advanced network technologies, such as 5G networks or wireless local area networks (WLAN), to provide faster and more stable network connections. This will provide a better digital learning environment for teachers and students, and promote the improvement of teaching results. In addition to network infrastructure, universities should also strengthen the construction of intelligent classroom environments. This includes equipping teachers with advanced multimedia equipment and tools such as interactive whiteboards to support them in carrying out digital teaching activities in the classroom. At the same time, an intelligent management system can be introduced to facilitate teachers' real-time monitoring and management of the classroom. Universities can also explore the use of artificial intelligence technology to improve the teaching experience. For example, introducing voice assistants or robots to assist teaching in intelligent classrooms to provide personalized study guidance and feedback. This can increase classroom interaction and improve student engagement and learning outcomes.

5.3. Encourage diversified cooperative modes

5.3.1. Promotion and management of interdisciplinary cooperation projects

Diversified cooperation models need to be encouraged to promote the construction of university teaching and academic community. First, universities can promote interdisciplinary cooperation projects. Through interdisciplinary cooperation, teachers can share resources and knowledge to provide more comprehensive educational services. At the same time, it is also conducive to cultivating students' comprehensive quality and innovative ability. To effectively promote interdisciplinary cooperation projects, special institutions or teams can be set up in universities to take charge of project planning and management. They can coordinate resource allocation and communication among various disciplines, and provide necessary support and guidance [15].

5.3.2. Develop and share curriculum across departments

Through cooperation and exchanges between different departments, interdisciplinary courses that meet the needs of the digital age can be jointly developed to realize the sharing of curriculum resources. Organizing teacher training and professional exchange activities can promote knowledge exchange and experience sharing among teachers, and improve the overall quality of teachers. Joint research projects are combined to establish an industry-university-research cooperation platform. The implementation of joint research projects can promote the transformation of scientific research results into practical application fields, and promote industrial upgrading and innovative development. Through in-depth discussion on the impact of digital transformation on university teaching and academic research, corresponding strategies can be put forward to build a teaching and academic community with the characteristics of collaboration, innovation, and sustainable development .

6. Conclusion

To sum up, this paper systematically introduces the impact of digital transformation on teaching and academic research in universities, and at the same time provides specific strategies to promote communication and cooperation among teachers by promoting the professional development of teachers, strengthening the construction of information technology infrastructure and encouraging diversified cooperation modes. This will help improve the quality of education and cultivate talents with innovative ability and competitiveness.

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Disclosure statement

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