Strategies for Improving College Teachers' Classroom Teaching Decision-Making Ability Based on Digital Competence

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Abstract: With the rapid development of the digital economy, great changes have been ushered in various fields of society, and the field of education has also seen a new opportunity for the development of digitalization. In this context, teachers' digital competence plays a crucial role in their teaching decision-making ability, as it is directly related to their flexibility, accuracy and innovation in teaching decisions. By analyzing the impact of teachers' digital competence on teaching decision-making, this paper discusses how teachers should improve their teaching decision-making level under the framework of digital competence in the context of the digital era, so as to enhance the quality of teachers' teaching and learning and the effectiveness of students' learning.

1. Introduction

With the rapid development of information technology and the popularization of the Internet as well as the emergence of intelligent AI, college education is facing the challenges and opportunities of digital transformation. With the deepening application of digital technology, teaching personalization, intelligence and innovation are constantly pushing the teaching content and teaching methods of colleges and universities forward. In this digital era, the traditional classroom teaching mode can no longer meet the learning needs of modern students, and as the main bearers of college teaching, the classroom teaching decision-making ability of college teachers has become particularly important, because they need to make more effective and flexible decisions and seek new teaching development in the changing teaching environment. Therefore, college teachers need to continuously improve their classroom teaching decision-making ability to better adapt to the requirements of the digital teaching environment. The purpose of this paper is to explore the improvement strategies of college teachers' classroom teaching decision-making ability based on teachers' digital competence in order to meet the challenges of college teaching in the digital era.

2. The significance of digital competency in teaching and learning decisions in higher education

The concept of "competence" has a long history and was introduced by Harvard University's

David McClelland in 1973 to refer to the characteristics that an individual possesses that are used consistently and in an appropriate manner to achieve desired performance in a particular job, organizational environment, and cultural climate. These characteristics include knowledge, skills, motivation, traits, self-image, thought patterns, and ways of perceiving and acting. Digital competency is an essential requirement for teachers in today's digital age. Teachers' digital competence refers to the traits demonstrated in the teaching and learning process, including motivation, attitudes, digital knowledge, digital teaching skills, and digital assessment and reflection skills, in the use of digital technology to impart knowledge. Its core consists of three dimensions: motivation and cognition, skills and action, and attitude and social responsibility. Teachers need to be intrinsically driven, have clear learning objectives, master digital knowledge, and understand how digital technology can contribute to curriculum design and innovation; They also need to possess skills such as system operation ability, information management ability, digital resource development ability, digital teaching scenario solving ability, and digital communication and collaboration ability; Finally, it is also necessary to have the awareness of digital integration, digital security, digital management, etc., actively adapt to the digital teaching environment, comply with the digital social behavioral norms, pay attention to the frontiers of the development of digital technology, guard against the risks of digital security, and balance the virtual and real life.

At present, digital technology-enabled applications in the field of education and teaching are very extensive. Many schools promote the digital transformation of education from multiple perspectives, such as digital technology and campus management services, and the integration and innovation of digital technology and teaching, and have created a relatively strong atmosphere and successful cases of digital transformation. The importance of digital competence for college and university teachers cannot be overstated. Firstly, Higher education teachers need to be technologically literate and able to skillfully use a variety of digital and educational technologies to support teaching and learning. Secondly, Higher education teachers need to be innovative and able to experiment and explore new teaching methods and strategies. In addition, college teachers need to have information literacy and cooperative communication skills, to be able to effectively access and share teaching resources, and to interact and communicate well with colleagues and students.

In summary, the digital competency model provides a comprehensive framework for college teachers to understand and develop their teaching competency in the digital era. Promoting the transformation of teachers in the digital era, serving students through the digitization of knowledge scenarios, and online and digital teaching have become the general trend of teaching reform. Only teachers with good digital literacy and good digital competence can adapt to the new teaching environment and teaching mode (Tang et al., 2023).

3. The important role of college teachers' decision-making ability in classroom teaching

Classroom teaching is a key way to improve the quality of education. As a very important subjective factor in classroom teaching, teachers' own ability, especially their decision-making ability, plays a key role in classroom teaching. Improving teaching effect: Teachers' decision-making ability in classroom teaching directly affects the quality and effect of teaching. Reasonable teaching decisions can make the teaching process more effective and improve students' learning efficiency and achievement.

The main functions of college teachers' teaching decision-making are reflected in the following aspects: First, it is to meet the needs of students, whose learning needs and characteristics vary greatly. Teachers need to flexibly adjust teaching strategies according to the needs of different students, so as to make them more close to the actual situation of students and meet their personalized learning needs. Secondly, it can stimulate students' interest in learning. Through

well-designed teaching decisions, teachers can stimulate students' interest in learning, enhance their learning motivation and enthusiasm, and thus improve the effect of classroom teaching. The third is to cultivate students' comprehensive ability. Teachers' teaching decision-making ability is not only related to students' knowledge level, but also involves the cultivation of students' comprehensive qualities such as thinking ability, innovation ability and cooperation ability. Finally, to adapt to educational changes, with the development of educational technology and the renewal of educational concepts, teachers need to constantly improve their decision-making ability in classroom teaching to meet the needs of educational changes, constantly improve teaching methods and methods, and enhance the quality and level of education and teaching.

To sum up, the decision-making ability of college teachers in classroom teaching is of great significance to the improvement of teaching quality, the satisfaction of students' needs, the stimulation of students' interest in learning, the cultivation of comprehensive ability and the adaptation to educational changes.

4. Connotations of Classroom Decision-Making Competencies of Higher Education Teachers

4.1 Setting and adjustment of teaching objectives

The setting and adjustment of teaching objectives is an important link in college teaching, which is directly related to the effectiveness of teaching and the learning effect of students. Teachers need to have the decision-making ability of classroom teaching to clarify the teaching objectives. First of all, they need to consider the prior knowledge and ability level of students, and reasonably determine the difficulty and depth of the teaching objectives to ensure that students can understand and accept the teaching content. And according to the actual situation and feedback of students, flexibly adjust the teaching objectives to ensure that the teaching process matches the learning needs of students. In the process of implementation, the following principles should be followed, the principle of clarity, teaching objectives should have a clear and clear expression, can clearly guide teaching practice and learning activities, so that both teachers and students can understand and achieve; The principle of measurability is that teaching objectives should be measurable and evaluable, and it can be used to test whether students have reached the expected learning level and ability level through specific evaluation indicators and methods; Realizability principle, Teaching objectives should be realizable and can be achieved through teaching activities and learning tasks, in line with students' actual level and development needs, not too demanding, not too vulgar; In accordance with the principle of adaptation to the course content, the teaching objectives should be adapted to the course content and teaching methods, which can guide the teaching design and teaching practice, so as to combine them organically and promote the overall development of students and the improvement of learning effect; The principle of student participation, teaching objectives should encourage students' active participation and active exploration, can stimulate students' learning interest and motivation, and promote students' independent learning and independent development; According to the principle of adaptability, teaching objectives should be adaptable and can be adjusted and personalized according to different students' learning levels, learning needs and learning characteristics, so as to promote the personalized development and growth of each student.

4.2 Selection and organization of teaching content

Teachers need to flexibly select and organize teaching content according to the difficulty of teaching content and students' prior knowledge level, so as to make it conform to students' cognitive law and learning process. Teachers should pay attention to the changes of The Times, choose the

teaching content in line with the trend of The Times and students' interests, and enhance students' learning motivation and participation. Teachers can use a variety of teaching resources, including textbooks, network resources, multimedia materials, etc., to enrich the teaching content and meet the learning needs of different students[1]. It should follow the following principles: cover the core concepts of the subject, the teaching content should cover the core concepts, basic principles and important knowledge points of the subject, to ensure that students master the basic theories and basic knowledge of the subject; In connection with practice and application orientation, the teaching content should be closely related to practical life and social application, guide students to combine the knowledge they have learned with practical problems, and cultivate students' problem-solving ability and practical ability; Step by step and systematic, the teaching content should be organized according to the logical order and learning level, step by step, from simple to complex, from shallow to deep, to ensure the systematic and coherent teaching content; Flexibility and diversity, the teaching content should have a certain degree of flexibility and diversity, can be adjusted and expanded according to the learning needs and interests of students, to meet the learning needs of different students; In line with teaching theories and research results, the teaching content should conform to the latest achievements of teaching theories and educational research, and integrate theories and methods of pedagogy, psychology and other related disciplines to improve teaching and learning effects.

4.3 Application of teaching methods and strategies

Teachers need to flexibly select and use appropriate teaching methods and strategies according to different teaching situations and students' characteristics, such as lecturing, discussion, case analysis, group cooperation, etc., in order to promote students' active participation and in-depth learning(He & Zhao 2021). The following principles should be followed in the application of teaching methods and strategies: The student-centered principle puts students' learning needs and interests at the core of teaching, and designs teaching content, methods and strategies according to students' characteristics and needs to promote students' active learning and independent development; The principle of diversity and effectiveness, on the premise of meeting the learning needs and ways of different students, providing colorful learning experiences, promoting the overall development of students and ensuring teaching, ensures the effectiveness and efficiency of teaching, so that students can master knowledge and skills faster, improve learning results and achievements; The principle of interactivity and inspiration advocates the interaction and communication between teachers and students, adopts interactive teaching methods and strategies, stimulates students' learning interest and enthusiasm, and promotes good relations and cooperation between teachers and students. Guide students to actively explore and discover knowledge, adopt heuristic teaching methods and strategies, cultivate students' creative thinking and problem-solving ability, improve their learning motivation and self-confidence; The practical principle emphasizes the combination of theory and practice, adopts practical teaching methods and strategies, and enables students to deepen their understanding and application of knowledge through practical operations and practical activities, so as to improve the effectiveness and practicability of learning.

4.4 Utilization and innovation of teaching resources

Teachers should be good at using various teaching resources, including textbooks, multimedia materials, network resources, etc., and constantly innovate and update teaching resources to improve teaching effect and attract students' attention (Wang, 2021). For example, teachers can use multimedia equipment, such as projectors, electronic whiteboards, etc., to display teaching videos, images, animations and other multimedia materials to enrich classroom content and improve

students' learning interest and attention; Teachers can integrate various online resources on the Internet, such as websites, blogs, social media platforms, etc., as supplementary materials for classroom teaching to provide students with more abundant learning resources; Teachers can introduce practical cases and practical activities, so that students can deeply understand theoretical knowledge and cultivate problem-solving ability and practical skills by analyzing real cases and participating in practical activities; Teachers can use interactive teaching tools, such as online voting system, teaching game software, etc., to interact and communicate with students, promote the interaction and cooperation between teachers and students, and improve the effect of classroom teaching; Teachers can design experiment and observation activities, let students participate in the experiment operation and on-site observation, so as to deepen the understanding and mastery of knowledge, and cultivate students' experimental skills and scientific literacy; Teachers can organize students to carry out project-based learning, let students complete project tasks through cooperation, realize the application and transformation of knowledge, and cultivate students' teamwork ability and innovative spirit[2]. Through the above methods, college teachers can effectively grasp the use and innovation of teaching resources in classroom teaching, improve the teaching effect and learning effect, and achieve the goal and mission of education.

5. Strategies for Improving Classroom Teaching Decision Making Ability of College Teachers Based on Digital Competence

With the advancement of the research, especially on the basis of teachers' classroom observation, interview and analysis of text materials, we find that the formation of teachers' classroom teaching decision-making ability is not the result of a single factor, but the comprehensive influence of multiple factors (Wang & Wang, 2023). Teachers' knowledge reserve restricts the reform and innovation of teaching decision making, situational knowledge and subject basic knowledge affect the flexibility of classroom teaching decision making, and students' knowledge affects the scientific and reasonable effectiveness of classroom teaching decision making. Through the learning of theoretical knowledge, teachers acquire indirect decision-making experience, which affects teachers' decision-making cognition and thus affects the development of teachers' decision-making ability.

5.1 Technical training and professional development

If digital technology training is held regularly, teachers' knowledge structure, ability level and development needs are different in different stages of development, and their decision-making ability is also different. New teachers in the guidance stage are not innovative and adaptable in teaching decision-making, and they lack attention to classroom teaching effects and students' feedback. Teachers in the stable and stagnant stages have formed the implicit self-teaching theory, have rich decision-making experience, and can make a lot of immediate decisions, but they often neglect teaching reflection, and the overall decision-making ability of classroom teaching shows the characteristics of closure and rigidity. Therefore, according to the characteristics of teachers' teaching decision-making ability at different stages, digital technology training for teachers is designed and organized, covering teaching software, online teaching tools, teaching methods, classroom management, subject knowledge update and other aspects of training, so as to improve their digital technology application ability and improve their teaching level and classroom teaching decision-making ability.

5.2 Sharing and cooperation of teaching resources

Schools should establish a teaching resource sharing platform, build an online platform for teachers to share teaching resources, case teaching, and teaching design experience, and promote resource sharing and teaching mutual assistance. Promote online education platform training, guide teachers to become familiar with and use online education platforms, cultivate remote teaching and online course design abilities, and enhance the flexibility of classroom teaching. Support teachers to participate in academic conferences and seminars, learn about the latest teaching technologies and research achievements, and promote the professional development of teachers. Encourage interdisciplinary cooperation and communication, encourage teachers from different disciplines to collaborate across disciplines, jointly design and implement diverse teaching activities, and enrich classroom teaching content.For example, many universities share teaching resources by establishing MOOCs platforms. For example, online learning platforms such as Coursera, edX and Udacity, which are founded by the world's leading universities, share their high-quality teaching resources and offer free or paid online courses to learners around the world. At other universities, faculty members have formed teams to work together to develop curricula, design activities and assess student performance. Through teaching team cooperation, we can make full use of their respective professional knowledge and experience to provide more rich and diversified teaching resources and teaching activities. These successful experiences tell us that in the digital era, the contribution of resources and cooperation play an important role in promoting the teaching reform of higher education, which is conducive to promoting the professional development of teachers and the improvement of teaching decision-making ability.

5.3 Support teaching innovation and personalized teaching

Schools should establish a special fund for teaching innovation, encourage teachers to carry out teaching innovation practices, and explore new teaching methods and strategies. Provide personalized teaching guidance services to help teachers design personalized teaching plans based on the different needs and interests of students (Su Mei, 2015).There are many success stories that are helping us, like the University of Michigan-Flipped Classroom, which enables students to study course content outside of the classroom through online video lectures and reading materials and instead engage in discussion, problem-solving and practice in the classroom. This mode enables students to participate more actively and improves the classroom interaction and learning effect. Harvard University has established the Teaching Innovation Fund to encourage faculty to propose innovative teaching projects and provide funding and support. Through the support of the fund, teachers can try new teaching methods and technologies, promote teaching innovation and personalized teaching practice. Stanford University has developed an online course platform that provides a rich variety of online course resources, including video lectures, online quizzes, and forum discussions[3]. Teachers can use these resources to design personalized teaching programs to meet the different learning needs and interests of students. The University of Chicago's group Cooperative Learning teaching method organizes students to work on group discussions and projects in the classroom. Through group cooperation, students can better share knowledge, exchange ideas, and enhance teamwork and problem-solving skills. These successful cases give us inspiration.

5.4 Construct teaching evaluation system and feedback mechanism

Schools need to establish a comprehensive teaching evaluation system, including multidimensional evaluation methods such as student evaluation, peer evaluation, and expert

evaluation, to provide comprehensive feedback to teachers. Regularly provide teaching feedback and guidance to university teachers, help them adjust teaching strategies and methods in a timely manner, and improve teaching effectiveness.The construction of teaching evaluation system and feedback mechanism plays an important role in improving teaching quality, promoting teaching improvement and teachers' professional development. By using various evaluation tools and methods to comprehensively and multi-dimensionally evaluate the teaching performance of teachers, and providing personalized feedback and support, it is conducive to promoting continuous innovation and improvement in university teaching.

5.5 Develop adaptability and reflective skills

Teachers are encouraged to actively participate in the research of teaching practice, reflect on their own teaching practice, and constantly explore and improve teaching methods. Through teaching reflection, teaching log, teaching group discussion and other ways, I can reflect on my own teaching practice and experience, find problems and seek improvement, and constantly improve my teaching level. Providing more professional-led teaching reflection for teachers to improve their teaching decision-making ability is a process in which teachers constantly seek various possibilities to improve and improve teaching[4]. Reflective teaching decision-making ability refers to teachers' accurate judgment ability and decision-making optimization ability of teaching effect in the process of teaching reflection. Teachers will make optimization decisions based on the judgment of teaching effect. Teachers' decision-making optimization ability in classroom teaching is based on continuous reflective learning. In previous studies, we found that teachers would reflect on the teaching process and teaching effect after the implementation of teaching, based on reflection, optimize the cooperative learning plan by learning relevant theoretical knowledge, and promote group cooperative teaching more effectively. Therefore, professional guidance can become a booster for teachers to improve their reflective classroom teaching decision-making ability, and can give teachers advanced ideas, ideological methods and advanced experience guidance.

6. Conclusions

In the digital age, digital literacy and teaching decision-making ability of college teachers are very important to improve teaching quality. Based on the above strategies, we can clearly see that by strengthening digital literacy training, conducting thematic training, encouraging teaching practice and reflection, and strengthening teamwork and communication, teachers' digital skills and teaching decision-making ability can be significantly improved. This not only helps teachers better adapt to the digital teaching environment, but also promotes the innovation of teaching methods and the optimization of teaching effects. Therefore, universities should continue to invest resources to provide necessary support and training for teachers, so as to build a team of teachers with high digital literacy and excellent teaching decision-making ability, and promote the sustainable development of education and teaching. In the digital age, digital literacy and teaching decision-making ability of college teachers are very important to improve teaching quality[5]. Based on the above strategies, we can clearly see that teachers' digital skills and teaching decision-making ability can be significantly improved by strengthening digital literacy training, promoting project-based learning, conducting thematic training, encouraging teaching practice and reflection, strengthening team collaboration and communication, and introducing external expert resources. This not only helps teachers better adapt to the digital teaching environment, but also promotes the innovation of teaching methods and the optimization of teaching effects. Therefore, universities should continue to invest resources to provide necessary support and training for teachers, so as to build a team of teachers with high digital literacy and excellent teaching

decision-making ability, and promote the sustainable development of education and teaching.

References

[1] Tang, Y. B., Zhao, Y. H., Shi, W. P. (2023). Hot topics and implications of teacher digital competence research at home and abroad. Journal of Open learning research, 02, 53-62. DOI: 10.19605 / j.carol carroll nki kfxxyj. 2023.02.007.
[2] He, Z., Zhao, L. L. (2021). Research on the dilemma and Strategy of Teachers' Digital Competency Development in the Intelligent Era. Journal of Guizhou normal university, 03, 53-61. DOI: 10.13391 / j.carol carroll nki. Issn 1674-7798.2021.03.009.
[3] Wang, L. Z. (2021). Teachers' classroom teaching decision-making ability promotion strategy research (a master's degree thesis, northwest normal university). DOI: 10.27410 /, dc nki. Gxbfu. 2020.000448.333.
[4] Wang, X. D., Wang, J. (2023). Research on the Construction and Application of Digital Competency Model for University teachers. Social Sciences Journal of Jiamusi University, 41(06):128-131.
[5] Su, Y. X., Mei, L. (2015). An Empirical study on the cultivation of decision-making ability in foreign language classrooms. Journal of Anhui University of Technology (Social Science Edition) 03, 63-65.