Research on Common Problem and Countermeasures in Micro-course Design and Implementation

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Abstract. Information-based teaching age, the ability to produce Micro-courses has become a necessary core skill for normal university students. In the process of Micro-course design and implementation, there are problems such as inconsistency between Micro-course objectives and course objectives, disunity of design and technical level, insufficient protection of intellectual property rights, and alienation of video information. In order to solve these problems, this paper puts forward some countermeasures, such as keeping the consistency of Micro-course objectives and course objectives, paying attention to the unification of design and technical level, fully considering the protection of intellectual property rights and avoiding the alienation of video information. At the same time, this paper also points out the problems that may occur in the implementation of Micro-courses, such as the mismatch with the teaching practice, excessive reliance on Micro-courses tools, and insufficient feedback and evaluation, and gives corresponding solutions. Through the implementation of these countermeasures, the quality and effect of Micro-courses can be effectively improved, and the cultivation of information literacy of normal university students and the professional growth of teachers can be promoted.

Keywords: Micro-course Design; Implementation Problems; Countermeasure Research

1 Introduction

1.1 Micro-Course is the Essence of Concentration

Micro-course is a short, concise and highly concentrated form of teaching [1], it can effectively help learners master core knowledge and skills in a short time with its prominent theme, refined content, accurate explanation and diverse forms. Through visual analysis and diversified presentation, Micro-course simplify complex knowledge, which can not only improves learning efficiency, but also enhances the interest and attraction of learning. Therefore, mastering the strategies to solve common problems in

the design and implementation of Micro-course is of great significance to the development of information literacy of normal university students, and it is an inevitable requirement to adapt to the educational information age.

1.2   Micro-Course Production has Become a Necessary Skill for Normal University Students

Micro-course production has become the core skill of pedagogical education, and this trend has been fully confirmed in a number of national competitions and recruitment evaluations. The National Normal university Students Micro-course Competition has been successfully held for five consecutive years, and its participation has rapidly expanded from 93 universities in the first session to 169 universities in the fifth session[2], which not only highlights the extensive influence of Micro-course production, but also pushes it to the forefront of discipline competition. At the same time, the Chinese Classics Recitation, Writing and Speaking Contest co-sponsored by the Ministry of Education of China and the State Language Commission also took the ability of Micro-course production as one of the important assessment indicators, further highlighting the key role of Micro-course production ability in inheritance and innovation teaching. In addition, the Education Commission of Haidian District of Beijing explicitly included Micro-course production skills into the assessment system in the recruitment of teachers[3]. This decision not only reflects the high importance of education authorities on the application ability of information technology of normal university students, but also deeply reveals the indispensability of Micro-course production in promoting teachers' professional growth, improving teaching quality and enhancing employment competitiveness.

1.3   The Experience of Four Consecutive Micro-Course Competitions Provides a Solid Practical Guarantee for This Study

Research team has participated in the Micro-course Competition of China Normal University students for four consecutive times, which has built a solid practical foundation for this research. Since the second Micro-Course Competition, we has been engaged in the organization, planning and creation of the competition, and successfully led and helped 48 students to win excellent results, not only demonstrating the excellent results of educational innovation and practical guidance, but also accumulating valuable experience wealth in the vast world of Micro-course teaching. In this process, we carried out a comprehensive and in-depth exploration and practice from various dimensions, such as the refinement of the topic selection of Micro-lessons, the visual art presentation of PPT, the accuracy and fluency of language expression, the aesthetic consideration of picture layout, the strict adherence to copyright awareness, and the efficient use of technical software. The deep integration of theory and practice not only deepens the understanding of the essence of Micro-course design, but also keenly captures the common challenges and bottlenecks in the design and implementation process. Based on this, this study focuses on the key issues in the design and implementation of Micro-course, and strives to provide scientific and effective strategies and suggestions for improving

the teaching quality of Micro-courses and optimizing the learning experience through careful analysis and reflection, so as to further promote a new chapter of education informatization and teacher professional development.

2   Problems Needing Attention in Micro-Course Design

2.1   The Micro-Course Goals Should be Consistent with the Course Objectives

Micro-course goals and course objectives need to be consistent, because Micro-course is a part of the course, and its goals should be coordinated with the overall course. To be specific, the consistency between Micro-course goals and course objectives should be reflected in the following aspects: 1) Coverage of Knowledge Points: The content of Micro-courses should cover important knowledge points in the course, and coordinate with the overall knowledge point arrangement of the course.2) Skills Development: Micro-courses should focus on the cultivation of students' skills, which is consistent with the overall objective of skill cultivation of the course. 3) Thinking Ability: Micro-courses should focus on developing students' thinking ability, which is consistent with the overall thinking ability training objective of the course. 4) Emotional Attitude: The Micro-course should pay attention to the cultivation of students' emotional attitude, which is consistent with the overall emotional attitude cultivation goal of the course. In summary, the goals of the Micro-course must be consistent with the course objectives to better utilize the role of Micro-courses in the course and enhance students' learning outcomes.

2.2   Pay Attention to the Unity of Micro-Course Design and Technical Level

Pay attention to the unification of Micro-course design and technical level, because Micro-courses not only need to have the accuracy of content, but also need to be unified in design and technical level, so as to better show knowledge points and improve learning results. Specifically, should be reflected in the following aspects: 1) Reasonable Design: The design of Micro-courses should be reasonable, including interface layout, color matching, text layout, etc., provide a good learning experience. 2) Technical Precision: In the production process of Micro-courses, relevant technical tools, such as video editing software and recording equipment, need to be used for fine production to ensure video quality. 3) Strong Interactivity:Micro-courses can use interactive technologies, such as interactive question and answer, real-time feedback, etc., to improve learners' participation. 4) Media Compatibility:Micro-courses should support multiple media formats, such as video, audio, and images, to cater to different learning needs. In summary, paying attention to the alignment between Micro-course design and technical proficiency is a critical condition for producing high-quality Micro-courses, which can improve learners' learning outcomes and experience.

2.3 The Course Design Fully Consider the Protection of Intellectual Property Rights

Property rights is an important issue in modern society, involving copyright, trademark rights, patents and other aspects[4]. In the course design process, the protection of intellectual property rights needs to be fully considered to avoid infringement and legal disputes. Specifically, should be reflected in the following aspects: 1) Original Content: The material and content of course design should be as original as possible to avoid infringing others' intellectual property rights. 2) Copyright Declarations: The pictures, videos, audio and other materials used in the course design should have a copyright notice to clarify their use rights. 3) Trademark Protection: The trademarks used in the course design should comply with relevant laws and regulations, and do not infringe on the trademark rights of others. 4) Technical Confidentiality: The technical secrets involved in the design of the course should be protected from disclosure to unauthorized third parties. 5) Contractual Agreements: The copyright ownership and use of the course design should be agreed through the contract to protect intellectual property rights. In summary, considering intellectual property protection thoroughly in course design can not only prevent infringement and legal disputes but also enhance the quality and credibility of the course, thereby attracting more learners.

2.4 Avoid Information Alienation in the Video Conversion Process

Avoiding information alienation in the process of video production refers to avoiding information distortion, loss or change of original intention in the process of video production. Specifically, may be reflected in the following aspects: 1) Language Translation: In the process of converting text into speech or subtitles, information may be distorted or lost due to errors in language translation. 2) Visual Effects: The visual effects in the video may cause errors due to technical limitations or the understanding of the producer, resulting in distortion or loss of information. 3) Excessive Editing: Excessive editing may change the rhythm and emotion of the video, resulting in information alienation. 4) Audio Issues: Audio quality problems, such as noise, tone, etc., may affect the accuracy and intelligibility of information. 5) Technical Limitations: Due to technical limitations, such as resolution, color depth, etc., information may be lost or distorted. Therefore, to avoid information distortion, attention must be paid to the following details during the video production process: Maintaining Accuracy and Neutrality: Ensure that production staff remain neutral and objective, faithfully preserving the original message. Using High-Quality Technology and Equipment: Employ high-quality technology and equipment to ensure information accuracy and comprehensibility. By observing these practices, one can minimize the risk of information distortion, thereby creating videos that accurately convey the intended message.

3   Problems Requiring Attention in the Implementation of Micro-Courses

3.1   Avoid the Mismatch Between the Use of Micro-Courses and Actual Teaching

When using Micro-courses for teaching, it is necessary to ensure that the content, method and form of Micro-courses match the actual teaching objectives and the needs of students. Specifically, the following aspects should be paid attention to: 1) Device Compatibility: Micro-courses should be able to play smoothly on different devices and platforms to ensure that students can learn anytime and anywhere. 2) Appropriate Methods: The teaching methods of Micro-courses should be consistent with students' cognitive characteristics and learning habits, and appropriate teaching methods, such as demonstration, explanation, interaction, etc. should be adopted to stimulate students' learning interest and enthusiasm. 3) Proper Formats: The form of Micro-class needs to match the actual teaching needs, can be video, audio, animation and other forms, can better present knowledge and skills. In summary, to prevent a mismatch between Micro-courses and actual teaching needs, it is crucial to consider the practical requirements and students' learning situations during the design and implementation of the lessons. Ensuring that the content, methods, and formats of Micro-courses align with the actual teaching context can significantly enhance the effectiveness of the instruction.

3.2   Teachers and Students Should Avoid Over-Reliance on Micro-Course Tools

Over-reliance on Micro-course tools may lead to the following problems: 1) Decline in Learning Ability: Over-reliance on Micro-course tools may result in a decrease in students' learning abilities, as they might habitually seek ready-made learning resources and lack the ability and awareness for independent learning.2) Lack of Critical Thinking Skills: Over-reliance on Micro-course tools can lead to a lack of critical thinking skills in students, as they may passively receive knowledge without the drive for active thinking and inquiry.3) Limited Teaching Methods: Over-reliance on Micro-course tools can result in monotonous teaching methods for teachers, as they might depend too heavily on these tools and lack the ability and flexibility for face-to-face teaching.4) Insufficient Technical Skills: Excessive reliance on Micro-courses might cause students to overlook other information technology-based teaching methods, leading to a decline in their overall information technology skills. Therefore, it is crucial to avoid over-reliance on Micro-course tools by both teachers and students and instead focus on nurturing the following aspects: Independent Learning Capabilities: Foster students' abilities for independent learning, encouraging them to seek out and create learning opportunities on their own. Critical Thinking and Inquiry: Encourage students to engage in active thinking and inquiry to deepen their understanding and knowledge. Diverse Teaching Methods: Promote a diverse range of teaching methods among teachers, ensuring they can adapt to different teaching contexts and needs without over-relying on

Micro-courses. Comprehensive Technical Skills: Ensure students develop a broad range of information technology skills by exposing them to various tech-based teaching methods and tools. By balancing the use of Micro-course tools with the cultivation of these essential skills, both teaching effectiveness and student learning outcomes can be significantly enhanced.

3.3 Pay Attention to the Feedback and Evaluation of Teachers and Students on Micro-Courses

Feedback and evaluation is an important means to improve the quality of Micro-courses, and timely feedback and evaluation can help normal students understand the effects and shortcomings of Micro-courses. To be specific, focusing on teachers and students' feedback and evaluation of Micro-courses can be started from the following aspects: 1) Feedback Channels: Establish a variety of feedback channels, including online evaluation, questionnaire survey, individual feedback, etc., to facilitate teachers and students to provide feedback and suggestions on Micro-courses.[5] 2) Evaluation Standards: Formulate reasonable evaluation criteria, including the content, form of expression, practicability and interactivity of Micro-courses, so as to make the evaluation more targeted and operable. 3) Data Analysis: Conduct in-depth analysis of feedback and evaluation data, find out the root cause of problems and solutions, and provide data support for improving Micro-courses. 4) Continuous Improvement: According to the feedback and evaluation results, continuously improve the design and implementation of Micro-courses, and constantly improve the quality and effect of Micro-courses. 5) Incentive Measures: Take some incentive measures, such as rewards, commendations, etc., to encourage teachers and students to actively provide feedback and evaluation of Micro-courses, so as to improve the quality and effect of Micro-courses. In summary, focusing on feedback and evaluation is a vital method for enhancing the quality of Micro-courses. This requires the implementation and promotion of diverse strategies, including establishing feedback channels, setting evaluation standards, analyzing data, pursuing continuous improvement, and using incentive measures. By doing so, the quality and effectiveness of Micro-courses can be significantly improved.

4   Conclusion

As a modern teaching tool, the design and implementation of Micro-course is of great significance for improving teaching quality and learning effect. Through the analysis of the common problems in the design and implementation of Micro-courses, this paper puts forward a series of countermeasures and suggestions. The key to improve the quality of Micro-courses is to maintain the consistency of Micro-courses and course objectives, pay attention to the unification of design and technical level, fully consider the protection of intellectual property rights, avoid the alienation of video information. At the same time, strengthening the feedback and evaluation of teachers and students on Micro-courses, and constantly improving and perfecting the design and implementation of Micro-courses are important guarantees to promote the sustainable development of

the application of Micro-courses. Through these efforts, we can give full play to the advantages of Micro-courses in education and teaching, and promote the arrival of education information age.

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