Investigation and Research on the Content of Evaluation Indicators for Micro-class in China--Based on the Content Analysis of the Evaluation Documents of Chinese 17 Micro-class Competitions

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Abstract: The evaluation standard of micro-class is an important guarantee for the quality of micro-class production. Through the analysis of the contents of the evaluation documents of 17 domestic micro-class competitions, it is found that the evaluation of micro-class mainly involves three dimensions of work specification, teaching design and teaching effect. The "Specification of Work" dimension has a weight of 0.26, which mainly includes aspects such as complete supporting materials and language specifications. The dimension of "teaching design" is 0.60, which mainly includes the value of topic selection and content design. The weight of "teaching effect" dimension is 0.14, which mainly involves teaching characteristics, online voting and other aspects. Based on the results of index content analysis, the following suggestions are put forward: strengthen the work specification requirements, promote the standardization of micro course production; highlight the innovation of teaching design, pay attention to the goal of micro course teaching; pay attention to the feedback of teaching effect, and introduce the diversified evaluation of micro course works.

1. Introduction

The evaluation standard of micro-class is the "compass" for the construction of micro-class resources, guides the design and development of micro-class, and is an important guarantee for the quality of micro-class. The related research on micro-lesson evaluation mainly focuses on: first, the basic principles of micro-lesson evaluation, and puts forward that the principles of student-centered, educational and scientific should be observed in micro-lesson evaluation [1]. Secondly, based on the evaluation index system of micro-course characteristics, the index system is divided into first-level indicators and second-level indicators, the specific content of each indicator, as well as the scores and weights of the indicators. Third, the implementation of micro-class evaluation: whether the evaluation of the topic is reasonable; whether the teaching goal is achieved; whether the teaching content is in line with the student's actual life; whether the teacher's basic teaching language is standardized; Whether the evaluation subjects are diversified. Fourthly, based on various methods of micro course evaluation, scholars proposed the construction of micro course evaluation system based on Delphi method, AHP and so on [2]. On the basis of previous theoretical and practical research, the author collected and analyzed the evaluation documents of Chinese national and provincial and municipal local micro-lesson competitions, analyzed the key contents of micro-lesson evaluation, and provided necessary reference and suggestions for teachers to scientifically make micro-lessons.

2. Research Object

There are four evaluation documents for the national micro-lesson competition, namely, the 4th solicitation of excellent micro-lesson in primary and secondary schools, the 3rd China foreign language micro-lesson competition, the 2015 national university micro-lesson competition, and the 13th national multimedia courseware competition-micro-lesson group.

There are 13 evaluation documents for the national provincial and municipal micro-lesson competitions, namely, the third Chongqing "Higher Education Club Cup" micro-lesson teaching competition for universities, the third Chongqing community education micro-lesson competition, the second Hubei "Yangtze River Education Cup" micro-lesson competition, the third micro class teaching competition of College Teachers in Shaanxi Province, the third micro class teaching competition of colleges and universities in Jiangsu Province, the third micro class competition of East Guangdong Province, the second micro class teaching competition of undergraduate colleges and universities in Shandong Province, the third micro class competition of Anhui Province, the third micro class competition of Shenzhen City, review documents for the Sichuan "extreme lesson education cup" micro lesson competition, the third Hebei province micro lesson competition, the first Heilongjiang province primary and secondary school teachers micro lesson competition, and Zhejiang province colleges and universities micro lesson teaching competition.

3. Results and Analysis

3.1 The content analysis of "work standard" index in micro-class.

Table 1 Statistics on the content of the evaluation index of "work standards" for micro-classes.

Primary indicator	Secondary index	Summary of index contents	Weight	Number of major competitions involved
Work specification	Complete supporting data	All the materials in the process of making micro course: picture material, micro teaching plan, micro courseware, etc.	0.37	16
	Technical specification	The mini-class video is short and concise, with clear images, synchronized sound and pictures, and a beginning and ending.	0.33	14
	Language norm	Language standard, loud voice, rhythmic and infectious.	0.1	6
	Technical realization	It is easy to demonstrate in teaching and has strong universality. It can be viewed on various network platforms.	0.16	2
	Express one's image	Teachers should explain the language to the primary and secondary, vivid and inspiring.	0.02	1
	Recording method	The micro-course video recording method and device selection can be flexible and diverse.	0.02	2

The secondary index "complete supporting data" has the largest weight of 0.37 and is involved in 16 competitions at the same time, which is sufficient to illustrate the importance of this index. As a three-dimensional resource bundle that can effectively support learners' autonomous learning, micro-class should provide a variety of learning support resources besides micro-video with works as its main carrier [3]. Through the multimedia technology to create learning videos and supporting teaching design texts, multimedia teaching courseware and other ancillary materials. The "Technical Specification" has a weight of 0.33 and involves 14 competitions. The micro-course technical specification differs for different types of micro-courses: The shooting micro class will have higher requirements for the accuracy of machine position and the clear focus; the recording micro class will have higher requirements for the picture proportion and output format; the multimedia software production micro class will have higher requirements for the animation fluency and audio-visual synchronization.

The weight of the secondary index "technical realization" is 0.16, and only two competitions are mentioned, which is the technical requirement to ensure the applicability of micro-courses. More

and more learners rely on web-based learning, which requires micro-lesson works to be flexibly displayed on various platforms. After micro-lesson production is completed, independent files of suitable size and suitable for playing in various environments are generated [4]. The "language specification" has a weight of 0.1, but there are 6 competitions involved, and it is also an important content that cannot be ignored. Micro-course production is to first make a draft or implement it on paper. It is also a "script" that we often say; in addition to the need to have a high-quality picture to capture the students' eyes, it also requires a standard and infectious voice to catch The student's ear attracts learners under the dual effects of sight and hearing.

The weight of the "expression image" in the secondary indicators is 0.02. Only one competition refers to the indicator, which will be mentioned in the analysis of the content of the "teaching design" indicators. It is not the secondary indicator content of the work specification. The weight of "recording method" is 0.02, only two competitions have involved system, which is not the secondary index of "work specification".

3.2 Content analysis of micro course "teaching design" index

Table 2 An analysis of the evaluation index content of "teaching design" in micro course

Primary indicator	Secondary index	Summary of index contents	Weight	Number of major competitions involved
Teaching design	Value of topic selection	There is no limit to the types of topics to be selected, "small but precise", which can solve the problems in the teaching process.	0.12	15
	Teaching organization	It conforms to the cognitive rules of students and pays attention to the subjective status and overall development of students.	0.24	14
	Teaching methods and means	Choose teaching methods correctly, stimulate learning motivation and cultivate creative thinking.	0.13	8
	Content of courses	Rigorous and substantial, no scientific, political errors and bad information content.	0.1	7
	Teaching objectives	It can solve problems in practical teaching and promote the improvement of students' thinking and ability.	0.2	12
	Strong interest	Innovative teaching methods, vivid teaching process, improve learning enthusiasm.	0.03	3
	New form	The design angle is novel, not limited to the traditional teaching mode, with strong innovation.	0.07	7
	Teaching implementation	The smooth connection of teaching links helps students to construct a complete knowledge system.	0.06	2
	Highlight	Targeted common knowledge design to solve the important and difficult problems in the teaching process.	0.02	2
	Courseware design	The courseware is simple to produce, the composition is reasonable, and the materials are properly matched.	0.01	1
	Logical clarity	The logical relationship should be in accordance with the cognitive law of students, and the main line of teaching should be clear.	0.04	4

The second level index is "topic selection value", which is mentioned in 15 competitions and has a weight of 0.12, which is enough to reflect the importance of the index. There are two points of attention in the topic selection of micro course. One is to select the content as the key point, difficulty or key point in teaching. The other is to select the content suitable for multimedia presentation, which can mobilize the initiative of students' learning, so the topic selection of comprehensive processing is a valuable topic. "Teaching Organization" was mentioned in 14 competitions, with a weight of 0.24. The "teaching organization" mainly determines the organization form according to the fact that micro classes belong to new classes and review classes. For new classes, the organization arrangement focuses on the transitional connection between students' existing cognitive level and new knowledge. For review classes, it focuses on establishing the knowledge system framework of students and their practical application ability.

The second-level index "teaching methods and means" was mentioned in 8 competitions, with a weight of 0.13. This indicator is an activity method for teachers to achieve teaching objectives and guide students to master knowledge and skills and acquire physical and mental development. Teachers are encouraged to use a variety of teaching strategies to stimulate students' learning motivation, and to use a variety of teaching media technologies. In the teaching process, teachers should start from actual needs and innovate on the basis of existing teaching methods. "Teaching content" is mentioned in seven competitions, with a weight of 0.1. It is the presentation of teachers' careful analysis of teaching materials and reasonable organization of teaching. Teaching content should be rigorous and substantial, be able to integrate theory with practice, reflect social and professional development, and be free of scientific, political errors and bad information.

The second level index "teaching objectives" has 12 competitions mentioned, with a weight of 0.2. There are two specific objectives of micro class teaching. One is to meet the needs of students' autonomous learning and to supplement and extend classroom learning. The second is to facilitate the use of teachers in teaching, to make up for the lack of flexibility and thinking in traditional classrooms. The goal of the micro-course is to reduce the cost and burden of cognition. The significance of this is to provide low-cost and high-efficiency support for students' knowledge construction and skill construction [5].

There are only 3 competitions involved in the "interesting" index of the secondary index, with a weight of 0.03, and 7 competitions mentioned in the "novel form" index of the secondary index, with a weight of 0.07. These two indicators are closely related, and "novelty in form" is a basic feature of teaching design. It is necessary to innovate in content and form instead of sticking to the traditional teaching mode. When the teaching form is novel enough, the educational concept is sufficiently innovative, and with the vivid image of the micro-course content, it is naturally "interesting" and can also enhance students' enthusiasm for learning.

The second level index "teaching implementation" is only mentioned in two competitions, with a weight of 0.06. "Teaching implementation" is an important process to achieve teaching objectives. It should not only meet the requirements of teaching, but also take into account the physical and mental development characteristics of students. In the process of teaching implementation, students' interest in learning should be constantly aroused, new knowledge should be taught based on students, and the content of knowledge should be led to the depth, so that it can be integrated into students' cognitive structure. Only two matches with a weight of 0.02 were mentioned for "focus". Teaching emphasis generally includes two kinds of knowledge: one is the content that students are difficult to understand and master, and the other is the content that students are easy to confuse and make mistakes. Therefore, it is necessary to highlight the key points and grasp the key points. Teachers must be familiar with the overall planning of the teaching materials and the requirements of the curriculum standards, start from the actual situation of the students, and make clear the confusion points of the students, so as to determine the teaching focus and highlight it [6].

The second-level index "logic clear" has been mentioned in 4 competitions, with a weight of 0.04. Teachers should strictly follow the internal logic of scientific knowledge and students' cognitive development rules to teach, so that students can master knowledge systematically. Teachers should follow the students' cognitive order and teach from shallow to deep. The

"courseware design" indicator is only mentioned in one competition, and the weight is 0.01. It cannot explain the importance of this indicator, so it can not appear in the evaluation system of the micro-class competition.

3.3 Analysis of the index content of "teaching effect"

Table 3 Analysis on the evaluation index content of "teaching effect" of micro course

Primary indicator	Secondary index	Summary of index contents	Weight	Number of design competitions
Teaching effect	Teaching characteristics	Reflect the characteristics of disciplines and teaching contents, with strong interactivity and openness.	0.43	7
	Teaching specification	The lecturers express the norms, the logic is rigorous, and the teaching links are closely linked.	0.15	3
	impact assessment	To achieve the set teaching objectives and effectively solve the problems in teaching.	0.21	4
	Online voting	Pay attention to the click rate, the number of votes, the heat of discussion and user evaluation, etc.	0.21	5

The secondary indicator "teaching characteristics" was mentioned by 7 competitions at the same time, with a weight of 0.43. "Teaching characteristics" is a teaching culture with the characteristics of the times. Each teacher's teaching characteristics are different. It is not only the performance of teachers' education and teaching level, but also the spiritual quality that teachers transmit in the whole teaching process. The "Teaching Standards" has three competitions, with a weight of 0.15. It points the direction for teaching practice, and regulates from the teaching behavior and ideas of the teachers themselves to the teaching links of the teachers to the production technology.

The second-level indicator "Evaluation Evaluation" has 4 competitions with a weight of 0.21. From the "effect evaluation" is based on the teaching objectives, through certain standards and means, the judgment of the value of teaching activities and results; it is the process and result of the organic combination of teaching objectives, teaching equipment, time and other factors For evaluation purposes. "Online voting" has 5 competitions mentioned, with a weight of 0.21. Wechat allows users to learn and evaluate online. Online voting is a voting method based on the network platform. The voting process will be more transparent and convenient, and the number of people participating in the voting will continue to expand. The author can actively interact with users and evaluators, and constantly update the concept of wechat system.

4. Conclusions and Suggestions

To sum up, the evaluation of "teaching design" pays more attention to breakthroughs in micro-class teaching organization, teaching methods and means and teaching objectives, and requires that interest and novelty be penetrated into it. The "Specification of Works" is also very important in the evaluation of micro-classes. The side reflects the high requirements for the production techniques of teachers' micro-classes, and the integration of linguistic expressions and image expressions. "Teaching effect" has also been paid more and more attention in the evaluation of micro courses. In the evaluation, more attention has been paid to teaching characteristics, teaching norms, etc., and the most attention has been paid to online voting. It is a direct evaluation of learners' experience in learning micro courses and a reflection of teachers' professional quality and ability to capture information.

Based on the analysis of the evaluation index content of micro courses, the following suggestions are put forward for teachers to design and make micro courses:

4.1 Strengthens the work standard request, impels the micro-lesson production to move towards the standardization

With the continuous optimization and development of educational resources, micro-class not only put forward high requirements in teaching, but also put forward high requirements in the overall specification of micro-class works. The first thing to do is to make clear the auxiliary resources, such as micro lesson plans, micro videos, micro reflections, etc. Technical specifications shall be carried out. For example, the duration of a micro class video is suitable for 3-8 minutes. There shall be titles, credits and subtitles in the video, and the finished video shall not exceed 100m. There is no mandatory requirement on the production tools, but the video parameters must be versatile and uniform. They must be able to be viewed on various electronic devices, and have uniform technical specifications to standardize and standardize the production of micro-courses.

4.2 Highlight the innovation of teaching design and pay attention to achieving the goal of micro-class teaching.

In the aspect of teaching design, first of all, it is necessary to define "small but precise" topics. There is no limit to the types of topics, but they should be representative and exemplary and be able to solve practical problems. In addition to combining teaching content, students' cognitive rules and respecting teaching facts, teaching design should also pay attention to innovation, such as innovation in design concept, teaching methods and production technology. Grasp the difficult points and key points in teaching to highlight the design, and achieve the teaching goals through breakthroughs in key difficulties and key knowledge. All the design is achieved by the goal, and the achievement of the established goal is the final evaluation requirement of an excellent micro-class work.

4.3 Pay attentions to the feedback of teaching effect and introduce the diversified evaluation of micro class works

In addition, we should pay attention to the feedback of teaching effect, which is helpful for teachers to find out the lack of design and technology, and improve it. In the feedback of teaching effect, more attention is paid to whether the teaching features are distinct, whether the teaching process is standardized, especially the diversity of teaching effect feedback subjects, such as expert professional review, peer review, online public review, etc., which are all helpful to improve the quality of teachers' self-taught micro-lesson works.

Acknowledgement

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