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Application EIMT Algorithm on Evaluation Method of English Multimedia Classroom Teaching Quality

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Abstract

INTRODUCTION: Multimedia teaching at this stage requires teachers to have specific technical and pedagogical skills when using multimedia teaching and be able to flexibly utilize multimedia tools for education.
OBJECTIVES: The evaluation aims to provide a reference for teachers to improve their teaching and provide feedback on the quality of instruction for schools and educational management.
METHODS: Based on the EIMT method, a method for evaluating the quality of English multimedia classroom teaching is proposed. The technique considers three factors, namely, teachers' teaching ability, students' learning, and course content, to comprehensively evaluate the quality of teaching.
RESULTS: The final example verification of the selected cases shows that the evaluation system is reasonably constructed and the evaluation model is well applicable.
CONCLUSION: Multimedia classroom teaching can improve students' participation and enthusiasm. Multimedia teaching can stimulate students' interest and curiosity through various forms, such as image, sound, and video, so they can actively participate in learning.

Keywords: EIMT method, English multimedia, teaching quality evaluation

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1 Introduction

The background of English multimedia classroom teaching quality evaluation can be traced back to the development and application of modern educational technology [1-3]. With the rapid growth of information technology, multimedia teaching has been widely used in English education as an innovative teaching method. Multimedia teaching enriches the teaching content, increases the interest and attractiveness of learning, and improves students' learning through various media forms such as images, sound, and video [4-6].

At this stage, multimedia teaching requires teachers to have specific technical and learning skills when using multimedia teaching and to be able to flexibly utilize multimedia tools for education [7-8]. Secondly, multimedia teaching requires interaction and cooperation between teachers and students rather than simply relying on technical equipment to deliver information, so the quality of teachers' teaching ability and teaching methods in multimedia classrooms also become the focus of evaluation.

In addition, multimedia teaching needs to be adapted to the learning needs and learning styles of different students, which also suggests that evaluating the quality of multimedia teaching needs to take into account the students' understanding of the classroom content, their learning participation, and their learning outcomes [9-10]. At the same time, multimedia teaching brings applicability. Absorption makes the course design and selection of teaching materials also one of the critical factors for evaluation, which needs to consider whether the course content is reasonable, whether the teaching materials are applicable, and so on.

In summary, teaching quality evaluation of English multimedia classroom can provide teachers with information about their teaching effectiveness so that they can understand their teaching strengths and improvements [11]; it can understand students' learning participation and learning effects in multimedia classroom; it can provide educational policy makers with evidence of the effectiveness and teaching effects of multimedia teaching, and the evaluation results can help educational policy makers to formulate corresponding policies and measures to promote educational reform and innovation [12-13]; evaluation can understand the use and effectiveness of multimedia teaching resources, which can help educational institutions to rationally allocate teaching resources, improve the efficiency of resource utilization, and optimize the teaching environment [14]; it can provide academic researchers and teachers with the direction of their research and professional development; it can identify the problems and challenges of multimedia teaching, and provide new insights for teaching research and professional development to offer fresh ideas and directions.

In summary, to help teachers improve teaching, promote students' learning effectiveness, promote educational reform and innovation, optimize resource allocation, and encourage teaching research and professional development, this paper applies the evaluation model to the quality of English multimedia classroom teaching to propose relevant improvement strategies.

2 Evaluation Modeling

2.1 Method Introduction and Indicator System Construction

2.1.1 EIMT Method

EIMT (Empirical et al.) research method is a multimedia technology research method based on empirical research, which is mainly used to assess the impact of multimedia teaching technology on learners' learning effectiveness and learning experience.

The steps of the EIMT research method generally include the following aspects:

(1) Determine the purpose of the study: Define the purpose and the research questions, such as exploring the impact of a particular multimedia teaching technology on learners' learning effectiveness.

(2) Designing the research program: designing the methodology of experimental or survey research, determining the study participants, the setting of experimental and control groups, the manipulation of research variables, and the methods of data collection and analysis.

(3) Conducting empirical research: implementing the intervention of multimedia teaching technology and collecting relevant data according to the research program. Standard data collection methods include questionnaires, observations, learning achievement records, etc.

(4) Data analysis and interpretation of results: Statistical analysis of the collected data, such as using SPSS and other statistical software for data processing and analysis, to analyze the differences in the learning effectiveness of learners under different conditions.

The EIMT research method focuses on collecting and analyzing empirical data, aiming at the research results to support the practical evaluation and improvement of media teaching techniques.

2.1.2 System Construction

In this paper, when choosing evaluation indicators, consider that the evaluation indicators should match the learning objectives, so the following aspects can be considered when selecting the evaluation indicators for the quality of English multimedia classroom teaching [15-16]:

(1) Evaluating students' learning achievement and progress in the multimedia classroom, including improving listening, speaking, reading, and writing skills, mastering grammar and vocabulary, and so on.

(2) Evaluating students' active participation in the classroom, including taking the initiative to ask questions, answering questions, and cooperating with others.

(3) Evaluating students' interest in and commitment to multimedia classrooms, including whether they like multimedia teaching, whether they are willing to take the initiative to participate, and so on.

(4) Teachers' teaching ability: Evaluate teachers' teaching ability in multimedia classrooms, including teaching design, teaching method, and teaching effect.

(5) Utilization of teaching resources: Evaluate the extent to which teachers use multimedia teaching resources reasonably, including the frequency and effectiveness of multimedia teaching aids.

(6) Classroom management and organization: Evaluating teachers' ability to manage and organize the multimedia classroom, including classroom discipline, time arrangement, and student activities.

Based on the above aspects, this paper believes evaluating indicators must be adjusted and determined according to specific teaching objectives and contents. Relevant data can be collected through questionnaires, observations, and student assignments, and the results of evaluation indicators can be analyzed comprehensively to draw a comprehensive and accurate evaluation conclusion. At the same time, the selection of evaluation indexes should align with the objectivity, scientificity, and operability of evaluation to carry out practical teaching quality evaluation.

Based on the above factors' consideration and related scholars' research, the evaluation index system shown in the following table is constructed.

Table 1 Evaluation system

Objective level	First-level indicators	Second-level indicators
Quality Evaluation of English Multimedia Classroom Teaching	Teachers and students	Teacher's attention to students
		Degree of interaction between teachers and students
		Teachers' use of multimedia
		Teachers' corrections of multimedia use problems
		Multimedia Teaching Enhancement
	Students' Knowledge	Participation in activities
		Communication and Expression
		Level of thinking
		Mastery of basic skills
		Perception of Foreign Language Ideas
		Problem-Solving
		Multimedia fatigue
	Teachers and Knowledge	Basic Teaching Skills
		Multimedia management and mastery
		Grasp of Teaching Content
		Design and use of information technology
		Intellectual enrichment of multimedia lectures
		Question design
		Achievement of teaching objectives

2.2 AHP Method-Fuzzy Comprehensive Evaluation Model

2.2.1 AHP method

AHP (Analytic et al.) is a quantitative analysis method for multi-attribute decision-making problems. It uses the structure of hierarchical analysis to help decision-makers make rational decisions by comparing different factors and determining the weights [17].

The steps of the AHP method generally include the following:

(1) Constructing a hierarchical structure: The decision problem is decomposed into different levels, from the overall goal to specific factors. For example, a decision problem is categorized into goal, criterion, and option levels.

(2) Two-by-two comparison: For the factors in each level, two-by-two comparisons are made to judge the relative importance between them. Comparisons can be made through expert judgment, questionnaires, or experiments. Comparison results are generally evaluated using a scale of 1-9, where one means that two factors have the same importance, and nine means that one factor is significant relative to the other.

(3) Calculation of weights: Based on the results of the two-by-two comparison, the consequences of each factor are calculated. The eigenvector method or eigenvalue method is usually used to calculate the weights.

(4) Consistency test: When comparing two by two, consistency needs to be ensured, i.e., the judgment criteria for determining whether the decision makers are consistent in the comparison. Consistency index (Consistency Index) and consistency ratio (Consistency Ratio) can be used to test the consistency. The consistency meets the requirements if the consistency ratio exceeds a certain threshold.

(5) Comprehensive decision-making: According to the calculated weights, comprehensive decision-making is carried out. The most important factors or options can be selected according to the ranking of consequences.

The advantage of the AHP method is that it can deal with multi-attribute decision-making problems in a structured way, decompose the problem into multiple levels, and provide an intuitive and quantitative analysis method. However, the AHP method has limitations, such as relying on subjective judgments and comparisons and a certain degree of subjectivity in determining weights. Therefore, when using the AHP method, attention must be paid to the reasonable selection of experts, appropriate consideration of the impact of different factors, and consistency tests to improve the reliability of decision-making results.

In this paper, considering the limited subjectivity of the hierarchical analysis method, only the hierarchical analysis method is used to determine weights.

2.2.2 Fuzzy comprehensive evaluation

Fuzzy comprehensive evaluation is a decision-making method based on fuzzy set theory, which deals with the ambiguity and uncertainty in decision-making problems. It integrates the weights and scores of multiple evaluation

factors and provides a comprehensive evaluation result for each option or program through fuzzy reasoning and fuzzy operations.

In fuzzy comprehensive evaluation, both evaluation factors and assessment results can be described by fuzzy sets. Fuzzy affiliation functions can represent the fuzzy sets of evaluation factors, while the fuzzy sets of evaluation results can be defined by ambiguous relationships [18-19].

The steps of fuzzy comprehensive evaluation usually include the following aspects [20-21]:

(1) Determine the evaluation factors: Determine the evaluation factors affecting the decision-making problem and transform them into fuzzy sets; (2) Set the evaluation level: Set the evaluation level for each evaluation factor, which is usually described by using linguistic variables or fuzzy numbers; (3) Construct the fuzzy relationship matrix: construct the fuzzy relationship matrix between the evaluation factors by using the expert judgment or statistical data. The fuzzy relationship matrix describes the relative importance between different evaluation factors; (4) Calculating weights: The consequences of evaluation factors are calculated through the fuzzy affiliation function and the fuzzy relationship matrix. Commonly used methods include fuzzy hierarchical analysis and fuzzy comprehensive evaluation method; (5) Fuzzy reasoning and fuzzy operations: using fuzzy logic and fuzzy functions, the weights and scores of evaluation factors are combined to get the fuzzy evaluation results of each option or scheme; (6) Defuzzification: the fuzzy evaluation results are defuzzified to get the deterministic evaluation results.

The fuzzy comprehensive evaluation method can effectively deal with the vagueness and uncertainty in decision-making problems, providing a flexible and reliable decision-making method. It is widely used in many fields, such as engineering project evaluation, investment decision-making, environmental evaluation, etc. Its advantages lie in its ability to deal with the vagueness and uncertainty in decision-making problems: the fuzzy comprehensive evaluation method can quantify the unclear evaluation factors and results, avoiding the binary division of evaluation factors in the traditional evaluation method, which is more in line with the actual situation; it can consider multiple evaluation factors comprehensively: fuzzy comprehensive evaluation The undefined complete evaluation method can combine the weights and scores of various evaluation factors and evaluate the influence of each element on the decision-making result, which is more extensive and objective; the fuzzy comprehensive evaluation method can adjust the weights and evaluation levels according to the actual situation, which is flexible and adaptable to different decision-making problems; the undefined complete evaluation method can construct the fuzzy relationship matrix through expert judgment or statistical data, which makes full use of the knowledge and experience of experts. Fuzzy Comprehensive Evaluation Method At the same time, the fuzzy comprehensive evaluation method involves fuzzy reasoning and fuzzy operation. The calculation process is relatively complex and requires some computational resources and time. Because the evaluation results derived from the undefined comprehensive evaluation method are unclear, there may be some difficulties in interpreting and understanding the results.

To summarize, the fuzzy comprehensive evaluation method has advantages in dealing with ambiguity and uncertainty in decision-making problems. However, it also has some limitations that must be carefully considered in practical applications. Considering the complexity of multimedia classroom teaching evaluation, this paper adopts the AHP method and fuzzy comprehensive evaluation for combination, which not only can make up for the poor weighting brought by the undefined complete evaluation method but also provides a new evaluation model and applies it to the evaluation of multimedia classroom teaching in English, and the detailed steps are as follows.

(1) Determine the fuzzy relationship for determining each evaluated object

$$R=\begin{pmatrix} r_{11} & r_{12} & \cdots & r_{1m} \\ r_{21} & r_{22} & \cdots & r_{2m} \\ \cdots & \cdots & \cdots & \cdots \\ r_{n1} & r_{n2} & \cdots & r_{nm} \end{pmatrix} \tag{1}$$

The frequency distribution of the ith factor on the jth rubric, i.e., the rank affiliation, and the sum is 1.

(2) Calculate the overall judgment vector

Combining the weight values and the fuzzy relationship matrix *R*, the overall evaluation vector of the indicator is determined.

$$B=\omega\times R=\left(\omega_1,\cdots,\omega_n\right)\times\begin{pmatrix} r_{11} & r_{12} & \cdots & r_{1m} \\ r_{21} & r_{22} & \cdots & r_{2m} \\ \cdots & \cdots & \cdots & \cdots \\ r_{n1} & r_{n2} & \cdots & r_{nm} \end{pmatrix} \tag{2}$$

In the comprehensive evaluation of this paper, five-level rubrics are set for each indicator, i.e., *V=[V1, V2, V3, V4, V5]* = [Excellent, Good, Medium, Average, Poor], and assigned the value of *V=[5, 4, 3, 2, 1]* The indicator value system is evaluated by several experienced personnel. Each expert individually scores the level of each indicator in the indicator layer. Due to the fuzzy nature of the needle, it is possible to synthesize the number of times each person scored the indicator to derive the degree of affiliation of the hand belonging to a specific rubric level, taking the weight of the rubric level of multiple endorsements of the needle as the degree of cooperation, thus establishing a single-factor fuzzy comprehensive evaluation matrix, in which the subject of the evaluation object subject to the multimedia classroom teaching of English in a particular school.

3 Quality Evaluation of English Multimedia Classroom Teaching Based on AHP-Fuzzy Comprehensive Evaluation

3.1 Data Source

Considering that the evaluation tends to feedback, reflection, and survey, the data used in this paper are derived from statistical data, data to be used primarily in the form of questionnaires and other forms of obtaining the total number of investigations for ten people, the final results of the survey as shown in Table 2.

Table 2 Survey Statistics

Secondary indicators	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5	Survey 6	Survey 7	Survey 8	Survey 9	Survey 10
Teacher's Attention to Students	5	5	5	4	4	3	4	5	4	4
Degree of teachers' interaction with students	4	4	4	4	3	4	5	5	3	3
Teachers' use of multimedia	4	3	3	5	4	4	3	4	5	5
Teachers' problematic corrections of multimedia use	4	4	5	5	5	4	4	4	4	4
Multimedia Teaching Enhancement	4	3	4	4	4	4	3	4	3	3
Participation in activities	5	4	4	3	3	5	4	5	4	4
Communication and expression	3	4	5	5	4	4	4	3	4	5
Level of thinking	4	5	5	5	3	3	4	4	5	4
Mastery of basic skills	4	3	4	4	5	5	4	4	3	5
Perception of Foreign Language Ideas	4	5	4	4	3	5	5	3	5	5
Problem-Solving	3	4	4	3	4	3	4	5	4	4
Multimedia fatigue	5	3	5	4	4	4	4	4	4	3
Basic Teaching Skills	5	5	5	5	4	3	4	3	4	4
Multimedia management and mastery	4	4	4	4	4	4	5	4	4	3
Grasp of teaching content	4	3	4	5	5	3	4	5	5	4
Design and use of information technology	5	4	4	3	4	4	5	5	5	3
Intellectual richness of multimedia lectures	5	5	4	4	4	4	3	4	4	5
Question design	4	4	4	3	4	4	5	4	4	3
Achievement of teaching objectives	3	3	5	4	5	3	4	4	3	4

The data questionnaire was tabulated; the results are in the table below.

Table 3 Frequency statistics

Secondary Indicators	Excellent	Good	Moderate	Average	Poor
Degree of teacher's attention to students	4	5	1	0	0

Degree of interaction between teachers and students	2	5	3	0	0
Degree of teachers' use of multimedia	3	4	3	0	0
Teachers' problematic correction of multimedia use	3	7	0	0	0
Enhancement of multimedia teaching	0	6	4	0	0
Participation in activities	3	5	2	0	0
Communication and expression	3	5	2	0	0
Level of thinking	4	4	2	0	0
Mastery of basic skills	3	5	2	0	0
Perception of Foreign Language Ideas	5	3	2	0	0
Problem-Solving	1	6	3	0	0
Multimedia fatigue	2	6	2	0	0
Basic Teaching Skills	4	4	2	0	0
Multimedia management and mastery	1	8	1	0	0
Grasp of teaching content	4	4	2	0	0
Design and use of information technology	4	4	2	0	0
The intellectual richness of multimedia lectures	3	6	1	0	0
Question design	1	7	2	0	0
Achievement of teaching goals	2	4	4	0	0

Based on Table 3, it can be seen that teachers' attention to students, perception of foreign language ideas, teaching fundamentals, thinking level, grasp of teaching content, and design and use of information technology are the ones that get the highest frequency of excellence, which responds to the high scores of these indicators in the classroom.

3.2 Determination of indicator weights based on the AHP method

In this paper, the first-level indicators include teachers and students, students and knowledge, and teachers and learning; according to the idea of EMIT, it can be considered that there is a closed-loop form of the three first-level indicators, so the first-level indicators are not in the construction of the judgment matrix. It is thought that its three first-level hands are equally important. The final structure of the judgment matrix for the secondary indicators is shown in Tables 4, 5, and 6 below, and the calculated weights are also included in Tables 4, 5, and 6.

Table 4 Teachers and students

Teachers and students	Teacher's attention to students	Degree of teacher-student interaction	Teacher's degree in multimedia use	Teachers' problematic corrections of multimedia use	Multimedia Teaching Enhancement	Eigenvector	Weights	
Teachers' Attention to Students	1	1	1/2	1	1	0.3721	0.1693	
Degree of teacher interaction with students	1	1	1/2	1	1	0.3721	0.1693	Maximum eigen Root t=5.1364 CI=0.0341 CR=0.0304
Degree of teachers' use of multimedia	2	2	1	1	1	0.5727	0.2606	
Teachers' problematic correction of multimedia use	1	1	1	1	2	0.5016	0.2283	
Multimedia Teaching Enhancement	1	1	1	1/2	1	0.379	0.1725	

According to Table 4, it can be seen that the index teacher's use of multimedia is the most important among teachers and students, and the reasons for analyzing are as follows: multimedia can transform abstract English knowledge into concrete images through audio-visual effects, images, animations and other forms, stimulate students' interest in learning, and improve the learning effect; teachers can set up all kinds of interactive sessions through multimedia, such as teaching games, online quizzes, etc., so that students can participate in teaching through Teachers through multimedia can set up various interactive links, such as teaching games, online quizzes, etc., so that students can participate in training through interaction and improve their learning enthusiasm and initiative; multimedia can obtain various learning resources through the network, such as English movies, audio files, Internet articles, etc., which provides students with a wide range of learning materials and enriches the classroom content; multimedia can provide personalized learning content and learning paths according to different learning needs and levels of the students to help the students to better understand and master the knowledge of English. The quality of English multimedia classroom teaching can be improved.

In evaluating the quality of English multimedia classroom teaching, if teachers can reasonably use multimedia technology to improve the quality of education, it will positively impact students' learning.

Table 5 Students and Knowledge

Students and Knowledge	Participation in activities	Communication and expression	Thinking level	Mastery of Basic Skills	Perception of Foreign Language Ideas	Problem-Solving	Multimedia fatigue	Eigenvectors	Weights	
Participation in activities	1	1	1/2	1	1	1/2	1	0.3109	0.1184	
Communication and Expression	1	1	1	1	1	1	1	0.3656	0.1393	
Thinking Level	2	1	1	1	1	1	1	0.4089	0.1558	Maximum eigenroot t= 7.1807CI= 0.0301CR= 0.0221
Mastery of basic skills	1	1	1	1	1/2	1	1	0.3333	0.1269	
Perception of foreign language ideas	1	1	1	2	1	2	1	0.4645	0.1769	
Problem-solving	2	1	1	1	1/2	1	1	0.3766	0.1434	
Multimedia fatigue	1	1	1	1	1	1	1	0.3656	0.1393	

In the secondary indicators of students and knowledge, it can be seen that the perception of foreign language thinking, thinking level, and multimedia fatigue are critical, and the reasons are analyzed as follows. Learning a foreign language requires perception and understanding of foreign language thinking. In the English multimedia classroom, the teacher's teaching method and multimedia will directly affect the students' perception of foreign language thinking. Suppose teachers can flexibly use multimedia technology to transform abstract foreign language knowledge into concrete images so students can better understand and feel foreign language thinking. In that case, it will help improve classroom teaching quality. At the same time, an English multimedia classroom can cultivate students' thinking abilities through various interactive sessions and thinking-stimulation activities. Teachers' teaching methods and the use of multimedia will directly affect students' thinking levels. Suppose teachers can guide students to think deeply, analyze and solve problems, and cultivate students' critical thinking, creative thinking, and cooperative thinking. In that case, it will help improve students' thinking levels and the quality of classroom teaching. The degree of multimedia use in the English classroom also affects the students' fatigue. Suppose multimedia is used too frequently or inappropriately. In that case, it may cause students to have visual tiredness, auditory fatigue, etc., which affects students' concentration and learning effect, so teachers should use multimedia technology reasonably according to the actual situation of the students and the needs of the classroom and avoid overuse to improve the quality of classroom teaching.

Table 6 Teachers and Knowledge

Teachers and Knowledge	Basic Teaching Skills	Multimedia management and mastery	Grasp of teaching content	Design and use of information technology	Intellectual enrichment of multimedia lectures	Question design	Achievement of teaching objectives	Characteristic vector	Weights	
Basic Teaching Skills	1	1	1	1	2	2	3	0.5098	0.1967	Maximum eigenroot t=7.3585CI=0.0598CR=0.0439
Multimedia management and mastery	1	1	1	1	1	1	2	0.3831	0.1478	
Mastery of teaching content	1	1	1	1	1	1	2	0.3831	0.1478	
Design and use of information technology	1	1	1	1	1	1	2	0.3831	0.1478	
The intellectual richness of multimedia lectures	1	1	1	1	1	1	1	0.3521	0.1359	
Question design	1	1	1	1	1	1	1	0.3521	0.1359	
Achievement of teaching objectives	1/3	1/2	1/2	1/2	1	1	1	0.2278	0.0879	

The most crucial indicator visible in Teachers and Knowledge is the fundamental teaching skills, and it can be seen that no matter what kind of teaching methods are used, it is necessary to take into account the teacher's ability to design teaching, organize instruction, and to use teaching skills and teaching methods. Only through assessing these aspects can a more comprehensive understanding of the effectiveness of classroom teaching and the teaching level of teachers be gained so that teaching methods can be further improved and the quality of education enhanced.

The finalized comprehensive weights in this paper are shown in Table 7.

Table 7 Comprehensive weighting results table

Objective Layer	First-level indicators	Second-level indicators	Weights	Comprehensive weights
Evaluation of the quality of English multimedia classroom teaching	Teachers and Students	Teachers' attention to students	0.1693	0.0564
		Degree of interaction between teachers and students	0.1693	0.0564
		Degree of teachers' use of multimedia	0.2606	0.0869
		Teachers' problematic correction of multimedia use	0.2283	0.0761
		Multimedia teaching enhancement	0.1725	0.0575
	Student and Knowledge	Participation in activities	0.1184	0.0395
		Communication and Expression	0.1393	0.0464
		Thinking Level	0.1558	0.0519
		Mastery of basic skills	0.1269	0.0423

		Perception of foreign language ideas	0.1769	0.0590
		Problem-solving	0.1434	0.0478
		Multimedia fatigue	0.1393	0.0464
	Teachers and Knowledge	Basic teaching skills	0.1967	0.0656
		Multimedia Management and Mastery	0.1478	0.0493
		Teaching content mastery	0.1478	0.0493
		Design and use of information technology	0.1478	0.0493
		The intellectual richness of multimedia lectures	0.1359	0.0453
		Question design	0.1359	0.0453
		Achievement of teaching objectives	0.0879	0.0293

3.3 Quality Evaluation of English Multimedia Classroom Teaching Based on Fuzzy Comprehensive Evaluation

This paper's fuzzy comprehensive evaluation is based on formula (1)-equation (2).

The rank affiliation matrix is calculated according to Table 3, as shown in Table 8 below.

Table 8 Affinity matrix

Secondary Indicators	Excellent	Good	Medium	Fair	Poor
Teachers' attention to students	0.4	0.5	0.1	0	0
Degree of teacher-student interaction	0.2	0.5	0.3	0	0
Degree of teachers' use of multimedia	0.3	0.4	0.3	0	0
Teachers' multimedia use of problem correction	0.3	0.7	0	0	0
Enhancement of multimedia teaching	0	0.6	0.4	0	0
Participation in activities	0.3	0.5	0.2	0	0
Communication and Expression	0.3	0.5	0.2	0	0
Thinking Level	0.4	0.4	0.2	0	0
Mastery of basic skills	0.3	0.5	0.2	0	0
Perception of foreign language ideas	0.5	0.3	0.2	0	0
Problem-solving	0.1	0.6	0.3	0	0
Multimedia fatigue	0.2	0.6	0.2	0	0
Basic Teaching Skills	0.4	0.4	0.2	0	0
Multimedia management and competence	0.1	0.8	0.1	0	0
Mastery of teaching content	0.4	0.4	0.2	0	0
Design and use of information technology	0.4	0.4	0.2	0	0
The intellectual richness of multimedia lectures	0.3	0.6	0.1	0	0
Question design	0.1	0.7	0.2	0	0
Achievement of Instructional Objectives	0.2	0.4	0.4	0	0

The table of weights and the table of the results of the subordination calculations show the calculation of the evaluation level of the example in this lesson. The results of the analysis are shown in Table 7.

Table 9 Evaluation results

Evaluation items	Excellent	Good	Medium	Average	Poor	Rating
Teachers and Students	0.2483	0.5369	0.2149	0.0000	0.0000	4.0334
Students and Knowledge	0.3084	0.4773	0.2143	0.0000	0.0000	4.0940
Teachers and Knowledge	0.2836	0.5270	0.1892	0.0000	0.0000	4.0937
Evaluation of the quality of English multimedia classroom	0.2801	0.513	0.2062	0.0000	0.000	4.074

teaching		7			0	0

A level can be seen for the first level indicators and the target. The evaluation value is greater than 4. That is, the evaluation value is above good, towards excellent, indicating that the teaching quality of the English multimedia teaching class, which this paper carries out the example validation, is high. According to the maximum affiliation, teaching and students rated as good rating is slightly higher than reasonable; students and knowledge class evaluated as good, the rating is somewhat more excellent than good—teachers and knowledge assessed as suitable. The rating is slightly more excellent than good.

4 Conclusions

In this paper, the EIMT method to construct the index system, while based on the AHP method and the fuzzy comprehensive evaluation method to carry out an example of analysis, the results prove that the model can be used, and in the whole process of the application of the model can be seen that the evaluation results can be used for the English multimedia classroom to improve the quality of teaching and learning further to provide effective feedback. The conclusion is that Multimedia classroom teaching can improve students' participation and enthusiasm. Multimedia teaching can stimulate students' interest and curiosity through images, sounds, and videos, making them more active in learning. Multimedia classroom teaching can improve students' comprehension and memorization. Multimedia instruction can vividly display the teaching content through intuitive images and animations, helping students better understand and memorize the knowledge points. Multimedia classroom teaching can improve students' learning effect. Multimedia teaching can make teachers present the teaching content more intuitively and help students understand and master the knowledge better to enhance learning. Multimedia classroom teaching can cultivate students' creativity and innovation. Multimedia teaching can develop students' innovative thinking and problem-solving abilities by stimulating their imagination and creativity. To summarize, multimedia classroom teaching positively impacts students' learning participation, understanding and memorizing power, learning effect, and cultivating creativity. It plays a vital role in improving teaching quality.

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