

Research on the Optimization Path of Classroom Management for Foreign Language Teachers in Colleges and Universities Based on AIGC and the Construction of Its Multilevel Decision-Making Model

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ABSTRACT

AIGC-driven development and innovation of regional education has become an important issue, and in the context of the era when AIGC technology has triggered profound changes in education, the traditional education model is experiencing a paradigm shift from the transmission of knowledge to the cultivation of innovation ability. Based on this, we first construct a model of influencing factors in the application of AIGC in course management based on the rooting theory, and verify the proposed hypotheses to provide a theoretical basis for the construction of course management optimization and multi-level decision-making model. Then we optimize the course management of foreign language teachers in colleges and universities by relying on the all-round and multi-level innovation of AIGC in the field of education, and construct a multi-level decision-making model. In the teaching application practice, the scores of the experimental class on learning interest, learning attitude and learning motivation are all higher than 75 points after practice, and the average score is 8.87 points higher than that of the control class, and the P is less than 0.05. The learning achievement of the experimental class is increased from 73.95 to 80.95 ($P < 0.05$), and the optimized multilevel decision-making model of this paper has a significant effect on improving students' learning interest, learning attitude, learning motivation and learning achievement, learning attitude, learning motivation as well as learning achievement, which further validates the application effectiveness of the multilevel decision-making model and provides case references for researchers of AIGC-based instructional decision-making.

Keywords: AIGC, Rootedness Theory, Influence Factor Model, Curriculum Management Optimization, Multilevel Decision Making Model

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1. Introduction

Foreign language teaching in colleges and universities aims to cultivate students' language proficiency, cross-cultural awareness and intercultural communicative competence so that they can better integrate and compete in the international arena [1-3]. Good foreign language teaching also helps to improve students' comprehensive quality and promote their personal development and professional competitiveness. The importance of foreign language teaching in colleges and universities lies not only in the learning of language knowledge itself, but also in the cultivation of students' comprehensive ability and global vision [4]. Foreign language teaching in colleges and universities needs to be more emphasized and improved to promote students' language ability and comprehensive quality. Only by strengthening foreign language teaching in colleges and universities can we better cultivate excellent talents who can adapt to the needs of social development.

Classroom management plays a very important role in foreign language teaching in colleges and universities [5]. Good classroom management can effectively improve the teaching effect. Strengthening classroom management is an aspect that teachers must pay attention to, only in this way can students have a good learning environment and really realize their potential [6-7]. By setting up clear rules and regulations and rationally arranging teaching content and interactive activities, students can be organized and improve their learning motivation and efficiency [8-9]. Classroom management can promote good relationship between teachers and students. Establishing a good teacher-student relationship is one of the keys to the success of teaching and learning, only mutual trust and understanding between teachers and students can better promote the transfer of knowledge and learning [10]. Stimulating students' interest in learning is also an important task in classroom management. Teachers can use a variety of teaching methods to make the classroom more lively and interesting, so as to stimulate students' learning interest and enthusiasm [11-12]. Classroom management in foreign language teaching in colleges and universities is crucial, and only by doing a good job in classroom management can we better improve students' learning outcomes and motivation.

Teachers' classroom management skills play a vital role in determining student achievement [13]. Literature [14] studies have shown that a good classroom climate is conducive to the improvement of students' language speaking skills. It can be seen that maintaining classroom climate is one of the paths to optimize foreign language teachers' classroom management. And literature [15] study shows that the period of teachers' careers varies in their liking for learning classroom management, with early and late stage teachers being more inclined. Teachers themselves, as the main managers of the classroom, their own degree of commitment to classroom management also affects the effectiveness of classroom management. Therefore, improving teachers' personal attitudes towards classroom management is the primary path to optimize their classroom management skills. Whereas, literature [16] describes four classroom management strategies of whole-group response system, motor integration, visual support, and student choice, and integrates these strategies into lesson plans. In addition, literature [17] mentions that Google Classroom can be used for basic classroom management without interfering with the original teaching methods and plays a role in document management. When it comes to document management, Artificial Intelligence Generated Content (AIGC) can be useful. Because, AIGC is an artificial intelligence technology based on multimodal pre-training model, after collecting data, processing data, building training models and other procedures to achieve text-video generation, specification design, management process optimization, strategy generation, complex decision-making and other situations [18]. Then, the classroom management of efficient foreign language teachers can also follow this technique.

This paper adopts the rooted theory to summarize the influencing factors of classroom management adopting AIGC through repeated comparison and analysis, and constructs the influencing factor model of AIGC application. The analysis of the influencing factor model provides sufficient basis for this paper

to study the optimization of course management based on AIGC and the construction of decision-making model. Then, the optimization of course management based on AIGC is carried out on the basis of the expert teacher decision-making model, and a multilevel decision-making model consisting of three levels, namely, teaching plan, teaching interaction and teaching evaluation, is established. Then the multilevel decision-making model is applied to the teaching practice for verification, and better results are achieved.

2. Optimization of Foreign Language Course Management in Colleges and Universities Based on AIGC

Artificial Intelligence Generated Content (AIGC) is also known as generative AI, and there is currently no unified definition of the concept of AIGC in the academic community. The industry defines AIGC in a narrow sense and a broad sense, and AIGC in the narrow sense refers to "a production method that uses AI to automatically generate content". In a broad sense, AIGC refers to "AI technology that has the ability to generate and create like humans". AIGC often refers to the term "AI synthetic media" and is defined as "the collective term for the production, manipulation and modification of data and media by automated means, in particular AI algorithms". Based on this, the White Paper on Artificial Intelligence Generated Content (AIGC) (2022) released by the China Academy of Information and Communications Technology defines AIGC as a type of content classified from the perspective of content producers, a content method, and a collection of technologies for automatic generation. The AIGC in this article refers to the content that is automatically generated based on large algorithms, large models, and big data.

2.1. Classroom Management Optimization Based on AIGC

With its in-depth understanding of language and text creation capabilities, generative artificial intelligence (AIGC) can effectively assist teachers in implementing intelligent teaching management planning in the field of education, and can significantly improve the efficiency of the lesson planning process, thereby reducing the workload of teachers. Specifically in the teaching design process, teachers only need to input specific requirements to the intelligent teaching aid tool, the tool can quickly extract standardized teaching design elements, including unit themes, teaching purposes, and accordingly automated for the teacher to prepare a set of detailed teaching design scheme. The multimodal resource retrieval capabilities of generative AI, such as graphic, audio, and video, can intelligently generate contextualized pictures, mind maps, and other supplementary teaching materials, making the process of lesson planning more efficient and convenient. In addition, it also empowers multiple scenarios such as homework design, teaching reflection student comments, class meeting design, etc., which greatly saves teachers' time and energy and enables them to focus more on the innovation of teaching content and methods.

In the process of course management optimization, it is not only necessary to focus on the selection of teaching specific content and the use of teaching methods, but also need to take into account multiple factors including teachers, students, teaching content and teaching environment. In this paper, we propose a comprehensive course management design based on AIGC to facilitate learner learning. The design follows the principle of "from easy to difficult", and systematically plans the key aspects of teaching objectives, teaching content, teaching methods and strategies, and teaching evaluation, providing a set of scientific and effective course management programs for teaching practice.

This paper identifies limitations in the effectiveness and relevance of AI course management designs generated through multiple iterations. The performance of AI systems relies heavily on the quality of the data they use. If this data is not comprehensive enough or fails to accurately reflect the needs of a particular student population, then the resulting course management will not be sufficiently targeted. Generative AI, despite its ability to process large amounts of data and attempt to adapt to different

learning styles, is unable to provide a deep understanding of a student's individual background, interests, and motivations, factors that are critical to the learning process. Secondly, education is not just about knowledge transfer; it involves complex social, psychological and emotional dimensions that are key factors influencing the learning process. AI has difficulty in capturing these complexities and integrating them effectively into instructional design. Therefore, the involvement of educational experts is indispensable to ensure that the instructional design comprehensively takes into account these key factors. In addition, teachers' intuition and experience play a key role in designing effective instructional activities. Generative AI lacks this specialized intuition and deep understanding of specific student populations. Therefore, AI should be used as an adjunct to support teachers' decision-making process rather than replacing teachers' professional judgment altogether. In terms of pedagogy, instructional design needs to be personalized for different subjects, course objectives, and student needs. AI has limitations in accommodating this diversity. Despite significant advances in pattern recognition and data analysis, AI is still unable to fully understand and predict the complexity of human behavior. This means that AI-generated instructional designs need to be manually reviewed for applicability and sensitivity.

Based on this, the course management optimization proposed in this paper is shown in Figure 1. Teacher course management is a complex process involving many factors, including students' individual needs, teachers' professional judgment, and classroom interaction dynamics, which are difficult to be fully simulated by current AI technologies. The most feasible strategy is to consider it as an advanced teaching tool rather than a fully automated solution that replaces the teacher's role. In this paper, we determine the optimization process of classroom management for foreign language teachers based on AIGC in accordance with the intelligent teaching model, in accordance with the actual characteristics of the teaching environment of the practicing school, the need to promote the development of learners, and the student-oriented perspective. In the implementation of artificial intelligence-assisted classroom management, in addition to the prevalence of a wide range of intelligent virtual software, with the help of generative artificial intelligence can help teachers to determine the objectives, i.e., to clarify the educational goals to be achieved by the physics curriculum, including the basic knowledge, key skills, and scientific literacy that should be mastered by the students, and to select and organize the learning activities or experiences in accordance with the objectives. In course management, this includes having students visualize the process of practicing knowledge by hand through simulation and demonstration software. Organize the content and teaching process according to the principles of continuity (ensuring that students have opportunities to repeat the exercises to consolidate what they have learned), sequentiality (progressive relationship between knowledge points, learning basic concepts before proceeding to complex problem solving), and integration (lateral connections between different knowledge points). Finally, appropriate evaluation criteria and tools are developed for testing whether students achieve the pre-set learning objectives. This includes diversified evaluation methods such as written tests, laboratory operation assessment, project report evaluation, etc., and adjusting teaching methods and strategies based on feedback from evaluation results to ensure the effectiveness and relevance of course management.

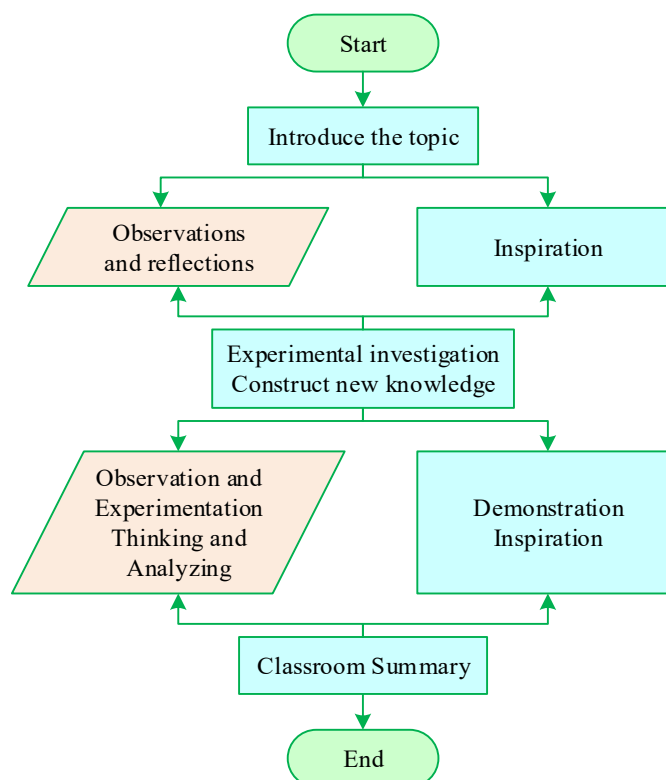


Fig. 1. Curriculum management optimization path

2.2. Multi-level decision-making model construction for curriculum management

Curriculum management for decision-making needs basis, and the data platform has a huge amount of data, through the extraction or mining can get rich effective data, based on the analysis of data can get the basis needed for teaching decision-making. Therefore, AIGC course management decision-making has certain advantages. The course management in this paper is a complex dynamic system that can realize control. The teacher is the controlling subject in this system. Due to the multidimensionality and variability of the movement of the instructional system, decision making becomes particularly important and relatively complex and difficult in exerting control over this system.

In the case of instructional method decisions and instructional management decisions, the learning data required for instructional goal decisions and instructional content decisions are relatively static data. However, for teaching methods and management decisions, the learning data needed for decision-making are changing in the process of teaching in real time. Teachers need to make decisions continuously based on these changing learning data.

Currently there are three main types of research on instructional decision-making, one type is to try to explain the general laws in the process of instructional decision-making through the establishment of mathematical models. Another type of research is conducted by studying teacher-student interaction behavior in the classroom. The last type of research is conducted by studying the decision-making behaviors made by teachers at different stages of teaching. The first type of research requires the researcher to have a certain mathematical foundation, and explains certain laws of the teaching process through mathematical models, which is of low practical guidance significance for teachers who do not have a mathematical foundation. Researchers in the second category focus on teacher-student interactions in the classroom, but the emergence of online courses breaks the temporal and spatial limitations of the classroom, and interactions between teachers and students are no longer limited to classroom teaching. Therefore, this study adopts the third type of teaching decision-making research

orientation, the online teaching process still has the basic characteristics of the three phases of teaching, online teaching can still be analyzed according to the teaching planning stage, teaching interaction stage and teaching evaluation stage of the teacher's teaching behavior.

The expert teacher decision-making model is shown in Figure 2, and this paper optimizes the expert teacher decision-making model and builds a multilevel decision-making model for the course management of foreign language teachers in colleges and universities. The model analyzes the influencing factors of teachers' decision-making by comparing the thinking and decision-making ability of expert and novice teachers before, during and after teaching, and constructs the expert teacher decision-making model. The model contains three stages of teaching planning, teaching interaction and teaching evaluation, and the influencing factors of teaching decision-making in each stage are different according to the teaching stage.

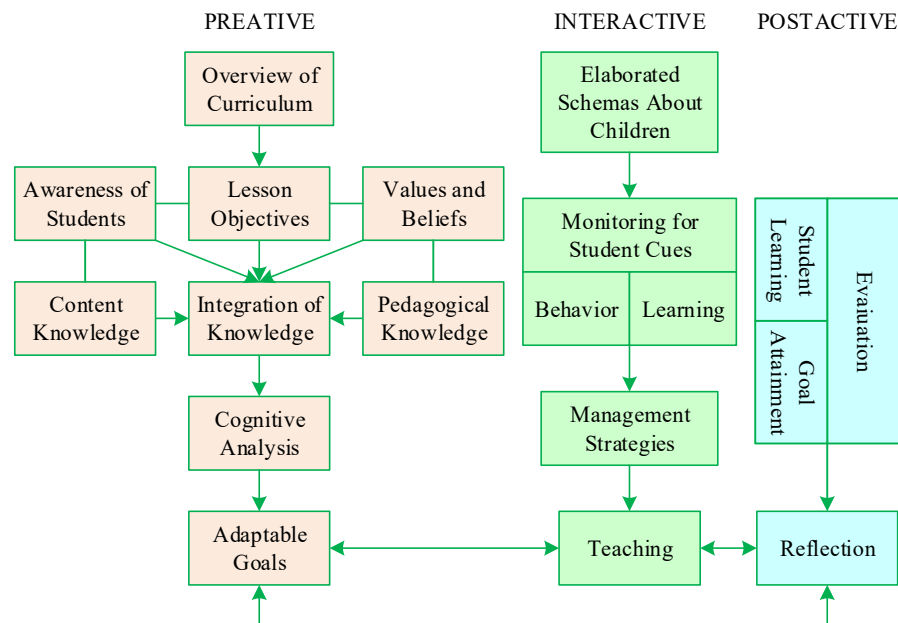


Fig. 2. Expert teacher decision model

The multilevel decision model for curriculum management is shown in Figure 3. This study is based on the AIGC environment, which emphasizes the value of the data captured by the platform during the process of monitoring students' behaviors and statuses, and therefore considers the inclusion of data that can be used for decision making in the decision model. In this model, teachers are required to take a general overview of the course content during the lesson planning stage and make pre-decisions on instructional goals and content to form adaptive instructional goals by combining content knowledge, student perceptions, course objectives, teacher beliefs, and pedagogical knowledge. The so-called adaptive instructional objectives should be understood as dynamically adjustable and ecological objectives that are the basis and pursuit of instructional interactions, yet need to be adapted based on the data generated by the interaction process. In the stage of teaching interaction, decisions on teaching methods should be made according to the adaptive teaching objectives and students' learning conditions, and based on the actual reflections of the implementation of teaching activities, the teaching objectives, contents, and methods should be constantly revised by using formative evaluation, i.e., management decisions are made on the process of teaching and learning activities. At the stage of teaching evaluation, the assessment of learning and teaching effects provides support for decision-making at the subsequent stage of the teaching program.

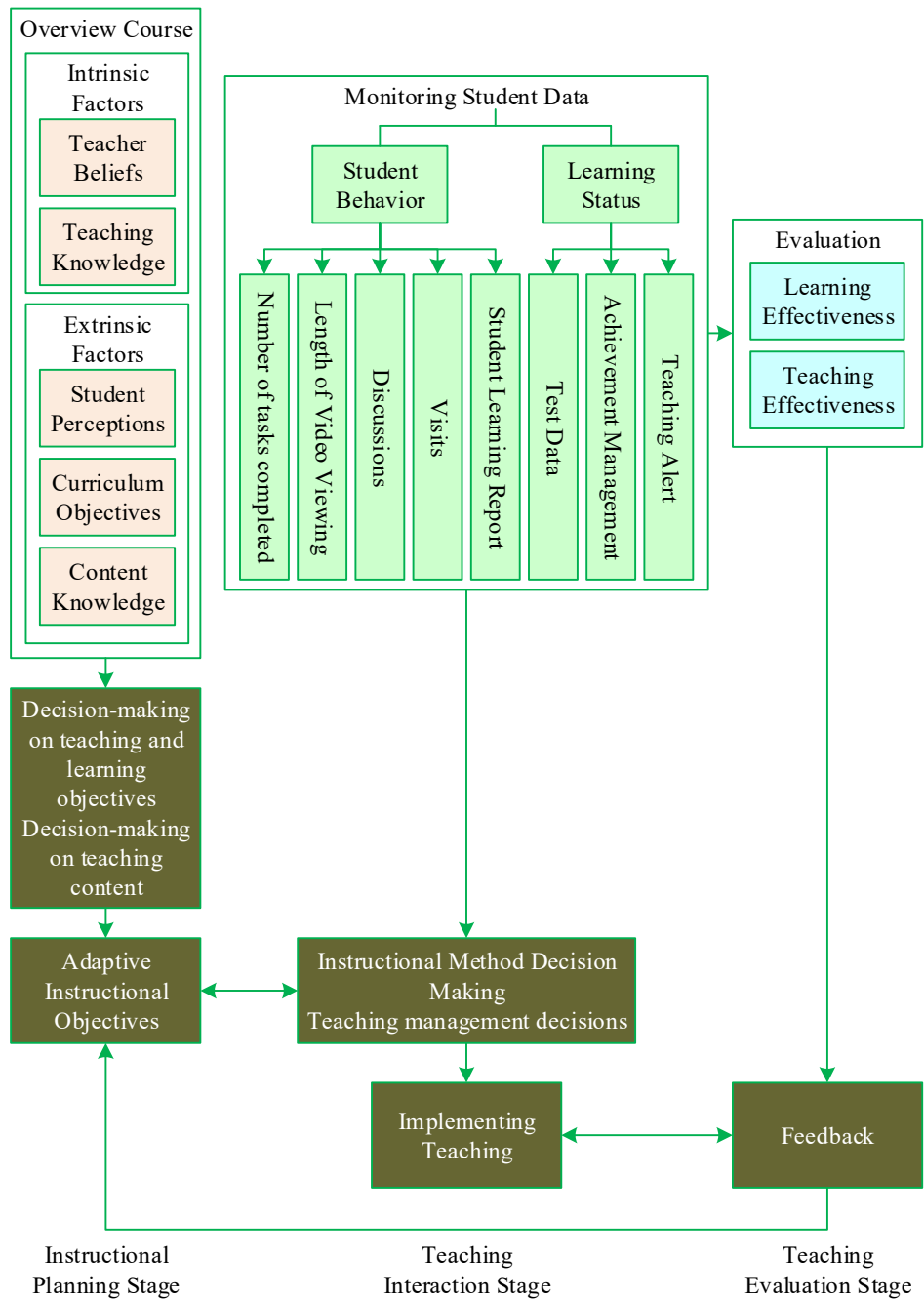


Fig. 3. Multi-level teaching decision model

3. Teaching applications of multilevel decision modeling

3.1. Impact analysis of the use of AIGC-based classroom management

In order to study the influencing factors of foreign language teachers' classroom management in adopting AIGC-generated content, this chapter adopts the Zagan Theory for the study. Rooted theory is a research method that collects information, analyzes information, forms a theoretical model, collects information again, verifies the theoretical model, and refines the theoretical model. Through repeated comparison and analysis, the influencing factors of classroom management adoption of AIGC are summarized, and the concepts and categories are gradually abstracted by using the three-level coding of the Nvivo12 software, and the concepts and categories are constantly summarized, so as to summarize the influences of the users' adoption of the AIGC factors and the relationship between the

factors, while adhering to the principle of theoretical sampling, the last four interviews were tested for saturation. Finally, based on the results of Zagan theory, a theoretical model is constructed and research hypotheses are formulated.

In this study, Zagan theory is applied to explore the influencing factors of users' adoption of AIGC, and six variables of perceived ease of use, perceived usefulness, source credibility, information quality, social influence, and willingness to use are summarized through coding to form 11 path relationships. On the basis of analyzing the technology acceptance model and information adoption model, a model of influencing factors of AIGC user adoption behavior is constructed, and the influencing factor model is shown in Figure 4.

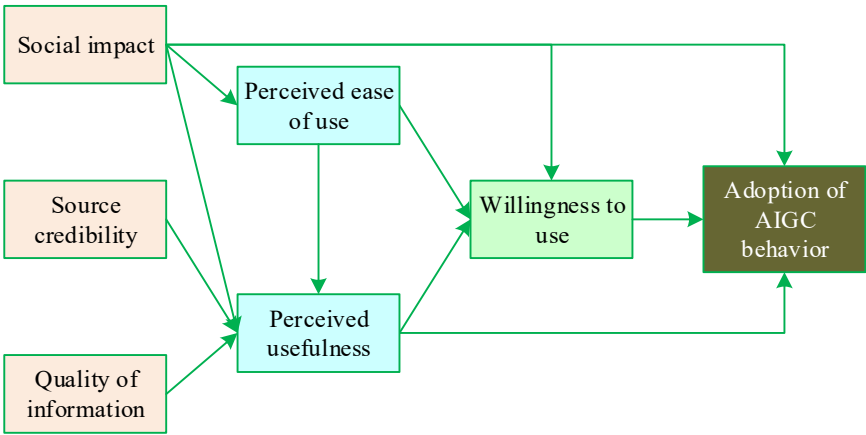


Fig. 4. AIGC users adopt behavior influence model

The test of goodness of fit of the model is usually analyzed using χ^2/DF , NFI, IFI and other indicators, a series of indicators for comprehensive analysis, structural validity indicators shown in Table 1. From the table data can be seen that the value of χ^2/DF is 1.952, which does not exceed 3. NFI, IFI, TLI, CFI, GFI, and RMSEA indicators were 0.901, 0.973, 0.954, 0.961, 0.902, and 0.057, respectively, and all indicators passed is fitness judgment and reached the ideal standard, so the structural validity of the theoretical model constructed in this study was good.

Table 1. Structural validity indicator

Inspection index	χ^2/DF	NFI	IFI	TLI	CFI	GFI	RMSEA
Model result	1.952	0.901	0.973	0.954	0.961	0.902	0.057
Ideal standard	<3	>0.8	>0.9	>0.9	>0.9	>0.8	<0.08
Suitability	Pass	Pass	Pass	Pass	Pass	Pass	Pass

The concept of discriminant validity refers to the extent to which observations can be distinguished when different dimensions are measured using different analytic methods. In general, the basis for considering a model to have good discriminant validity is that the square root of the AVE of the factors in the model is greater than the correlation coefficient. The results of the discriminant validity indicators are shown in Figure 5, with the square roots of perceived ease of use, perceived usefulness, source credibility, information quality, social influence, willingness to use, AIGC adoption behavior, and AVE marked as S1~S8, respectively. It can be clearly seen from the figure that the correlation coefficient of the green part is 0, and there is no significant correlation between the white part of S4 and S8, and there is a significant correlation between the other indicators ($p<0.01$), that is, the perceived ease of use, perceived usefulness, source reliability, information quality, social impact, willingness to use, and AVE square root of AIGC adoption behavior are all greater than the correlation

coefficient, indicating that the validity of the theoretical model in this paper can be effectively divided.

Index	S8	0.818***	0.820***	0.815***	0.835	0.820***	0.820***	0.830***
	S7	0	0.260***	0	0	0.160***	0.285***	0.685***
	S6	0.125***	0.275***	0	0	0.230***	0.672***	
	S5	0.411***	0.130***	0	0	0.675***		
	S4	0	0.211***	0	0.695***			
	S3	0	0.272***	0.660***				
	S2	0.160***	0.671***					
	S1	0.668***						
		S1	S2	S3	S4	S5	S6	S7
		Index						

Fig. 5. Differential validity index results

Regarding hypothesis testing, the main thing to look at is the value of P. The P value gives an idea of whether the correlation between the independent variable and the dependent variable in the model is significant or not, i.e. whether the hypothesis is valid or not. Where S.E. is the standard error and C.R. is the critical ratio. The criterion for the hypothesis to be established is that the absolute value of C.R. is greater than or equal to 1.96, and at the same time satisfy P less than 0.05. The results of the hypothesis test are shown in Table 2, and from the results in the table, in the path relationship of H1 Perceived Usefulness to Willingness to Use, the value of C.R. is 4.013, the value of P is less than 0.001, and the test is passed. In addition to this, H2, H3, H5, H7, H8, H9, H10, and H11 also pass the test, H4 Perceived Ease of Use on Willingness to Use, and H6 Social Influence on Perceived Usefulness do not pass the test, with a C.R. of 1.765, 1.792, and a P value of 0.083 and 0.075, respectively.

From the test results, it can be seen that the path coefficients of perceived usefulness on willingness to use and adoption of AIGC behaviors are 0.291 and 0.273, which indicates that perceived usefulness has a positive and significant effect on the willingness to use AI-generating tools for foreign language teachers' course management. It also has a positive and significant effect on classroom management adoption of AIGC behavior. Its perceived usefulness is mainly manifested in classroom management's ability to satisfy information needs, solve problems, save time, and improve efficiency through the use of AI.

The path coefficients of perceived ease of use on perceived usefulness and willingness to use are 0.175 and 0.148, with perceived ease of use having a positive and significant effect on perceived usefulness and no significant effect on willingness to use. Artificial intelligence generation improves management efficiency and saves time, and management thus perceives the usefulness of AI tools. However, when the time of use becomes longer, the positive effect of ease of use on intention to use gradually decreases.

Social influence has a positive and significant effect on perceived ease of use, intention to use, and AIGC adoption behavior, and has no significant effect on perceived usefulness. In addition, source credibility also has a significant evidence positive effect on perceived usefulness, information quality on perceived usefulness, and willingness to use on adoption of AIGC behavior. This suggests that the source reliability of AI-generated content is mainly manifested in the professionalism and authority of the information source will make people believe more in AI-generated content and thus perceive the usefulness of AI-generated content. The high quality of information of AI-generated content will be

more recognized by AI-generated content, thus feeling the usefulness of AI-generated content.

Artificial intelligence will be the future development trend, artificial intelligence tools will be applied to all aspects of work, study, life, the user's willingness to use artificial intelligence tools will be higher and higher, with a positive attitude to the use of artificial intelligence tools, serious study of artificial intelligence-generated content, for the output is not satisfied with the results, but also try to try to find another way to ask the artificial intelligence, the way of asking questions more and more accurate, the answer in the process of continuous revision, will be more and more useful. In the process of constant revision, the answers will be more and more in line with the needs of users, and the behavior of adopting the content generated by it will be more and more.

Table 2. The model assumes the test results

Numbering	Let's say the relationship between variables	Estimate	S.E.	C.R.	P	Results
H1	Perceptual usefulness→Use will	0.291	0.075	4.028	***	Pass
H2	Perceptual usefulness→Adopt AIGC behavior	0.273	0.074	3.755	***	Pass
H3	Perceptual ease of use→Perceptual usefulness	0.175	0.080	2.230	0.025	Pass
H4	Perceptual ease of use→Use will	0.148	0.081	1.765	0.083	No pass
H5	Social impact→Perceptual ease of use	0.375	0.066	5.955	***	Pass
H6	Social impact→Perceptual usefulness	0.133	0.073	1.792	0.075	No pass
H7	Social impact→Use will	0.237	0.071	3.155	0.001	Pass
H8	Social impact→Adopt AIGC behavior	0.170	0.070	2.412	0.015	Pass
H9	Source credibility→Perceptual usefulness	0.272	0.065	4.052	***	Pass
H10	Information quality→Perceptual usefulness	0.242	0.073	3.367	***	Pass
H11	Use will→Adopt AIGC behavior	0.291	0.075	3.861	***	Pass

3.2. Practical analysis of the pedagogical application of multilevel decision modeling

Experimentally selected W institute-of-design and sciences, Broadcasting and Hosting Arts major Class 1 and Class 3 are the experiment subjects. Among them, 52 people in class 1, 51 people in class 3, a total of 103 people in two classes. In the two classes, class 1 is the control class adopting the traditional teaching mode, and class 3 is the experimental class adopting the multilevel decision-making model of this paper for course management. Both classes were taught by the same teacher. Classes 1 and 3 were chosen as experimental subjects mainly based on the following reasons: first, the two classes were appropriately proportioned in terms of number of students, and the ratio of male to female was equal (16 males and 36 females in class 1, and 14 males and 37 females in class 3). Second, the two classes are exactly the same in terms of professional direction. Thirdly, the raw scores of the two classes are roughly equivalent, and by implementing the pre-test on the scores of the two classes, analyzed by the independent samples t-test, the pre-test score of the experimental class is 73.51, and the pre-test score of the control class is 73.34, with a p-value of 0.31. This indicates that the starting proficiency level of students of the two classes is comparable at a confidence level of 95%, and there is no significant difference. According to the principle of statistics, it can be directly used to test the significance of the posttest scores of the two classes. In this experiment, the questionnaire method was used to collect questionnaire data from a total of 101 students in the experimental and control classes about learning interest, learning attitude, learning motivation, and the recognition of teaching effectiveness. The questionnaire on learning interest, learning motivation, and learning attitude, with a total of 24 questions, was based on a 5-point Likert scale, with higher scores representing better scores on students' interest in learning, learning attitude, and learning motivation.

After the experiment, the questionnaires were distributed to the experimental class and the control class students for testing, and the results of the comparison of teaching practices are shown in Table 3. The scores of the experimental class on learning interest, learning attitude and learning motivation

are 80.95, 79.12 and 77.15 respectively, with an average score of 79.07. In comparison, the scores of the control class on each index are below 71, with an average score of 70.20, which is lower than that of the experimental class by 8.87, and the scores of the experimental class and the control class on each index are significantly different, with P less than 0.05. This shows that the multi-level decision-making model of this paper can be applied to the experimental class. Applying the multilevel decision-making model of this paper to classroom management is conducive to improving students' learning interest, learning attitude and learning motivation.

Table 3. Comparative analysis of teaching practice

Test content	Laboratory class		Cross-reference class		P
	M	SD	M	SD	
Study interest	80.95	7.52	70.12	6.15	0.003
Learning attitude	79.12	7.86	70.32	6.54	0.012
Learning motivation	77.15	8.12	70.15	6.02	0.001
Mean	79.07	7.83	70.20	6.24	0.004

In order to verify the effect of the multilevel decision-making model of this paper on learning achievement, after the end of the experiment, the results of the two classes were analyzed horizontally, and the comparison of learning achievement before and after the teaching practice of the experimental class is shown in Table 4. From the comparison of learning achievement, after the application of the multilevel decision-making model in this paper, the learning achievement of the experimental class is improved from 73.95 to 80.33, which achieves obvious teaching effect. From the results of the sample t-test, the P -value of the experimental class's academic performance before and after the teaching experiment is less than 0.05, which further illustrates the effectiveness and practicality of the multilevel decision-making model in this paper.

Table 4. Comparison of academic achievements before and after teaching practice

	N	Mean	SD	Std. Error Mean			
Before	50	73.95	6.96	0.841			
After	50	80.33	8.51	1.203			
Results of paired sample T-test of test scores before and after experimental class							
Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference		t	df	p
			Upper	Lower			
6.38	1.093	1.1502	11.321	7.335	-7.332	48	0.000

4. Conclusion

Based on AIGC, this paper studies the optimization path of course management for foreign language teachers in colleges and universities, constructs a multilevel decision-making model, applies it in foreign language course teaching, and obtains the following research conclusions:

First, the analysis of the factors affecting the application of AIGC in course management shows that the path coefficients of perceived usefulness on the willingness to use and the adoption of AIGC behavior are 0.291 and 0.273, and perceived usefulness has a positive and significant impact on the willingness to use AI-generating tools for foreign language teachers' course management, and it has a positive and significant impact on the adoption of AIGC behavior for classroom management. Perceived ease of use has a positive and significant effect on perceived usefulness and no significant effect on willingness to use. Social influence had a positive and significant effect on perceived ease of

use, willingness to use, and adoption of AIGC behavior, and no significant effect on perceived usefulness. Source credibility also has a significant positive effect on perceived usefulness, information quality on perceived usefulness, and willingness to use on AIGC adoption behavior. It also provides a boost to the future development trend of AIGC, and the behavior of adopting its generated content will be more and more.

Secondly, this paper proposes an optimization path based on AIGC by fully considering the complex process of teachers' course management, including students' individualized needs, teachers' professional judgment, classroom interaction dynamics and other needs. At the same time, optimization is carried out on the basis of the expert teacher decision-making model, and a multilevel decision-making model is constructed from the three levels of teaching plan, teaching interaction and teaching evaluation.

Thirdly, the multilevel decision-making model was practically verified, and the scores of the experimental class on learning interest, learning attitude and learning motivation were 80.95, 79.12 and 77.15 respectively after the practice, and the average score increased by 8.87 compared with 70.20 in the control class. Learning achievement also improved from 73.95 to 80.33, P are less than 0.05, thus, it verifies the effect of multilevel decision-making model in classroom management in this paper.

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