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# Cloud-based Mobile Edge Computing based Artificial Intelligent System for MBA Guiding Data Analytic Framework

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***Abstract:*** With the rapid development of network technology and computer software and hardware technology, many domestic and foreign universities and various educational institutions have set up distance education, and build a computer network teaching platform to realize remote education and training. Using the multimedia network platform, we can share information and resources more efficiently, and realize the separation of teaching and learning in distance education and training. This is of great significance and far-reaching influence on the development of educational informatization. Network application in the field of education, not only provides people with a lot of convenient learning opportunities, rich and diverse teaching resources, but also makes learning activities more autonomous and personalized. With the rapid development of teaching content and teaching system, network intelligent teaching system has become the research content of educational technology. In modern education, multimedia technology shows incomparable advantages. With the characteristics of text, picture, sound, image, video and interaction, multimedia makes teaching more intuitive and vivid. This greatly improves the transmission efficiency of knowledge information, making teaching and learning is no longer a kind of boring labor. The interactive function and hypermedia characteristics of multimedia make learning an autonomous behavior. Multimedia teaching truly reflects the dominant position of students, and the leading role of teachers is cut into the core of the teaching process.

***Keywords:*** *Artificial Intelligence, Mobile Edge Computing, Data Analysis, Multimedia System, Network Teaching, Agent.*

## I. INTRODUCTION

The sharing of educational information resources in colleges and universities refers to the integration and optimization of educational information resources by using information technology, so as to realize the sharing of educational information resources among colleges and universities. This allows universities to visit each other's excellent educational information resources. The sharing of educational information resources can prevent the repeated construction of information resources, reduce the financial expenditure on educational information resources, make full use of excellent educational information resources, and improve the utilization rate of information-based education resources. Therefore, the sharing of educational information resources in colleges and universities has important practical significance to improve the teaching quality of higher education in China [1-3]. The sharing of educational resources in colleges and universities includes: Hardware sharing, software sharing and teachers sharing, among which multimedia teaching resources belong to the category of software resources. Multimedia teaching means that in the process of teaching, a certain teaching design is adopted, and appropriate modern teaching media are used, and a variety of media information is used in the teaching process to achieve the optimal teaching effect. From the above concept of multimedia teaching, we can infer that the concept of multimedia teaching resources is a teaching resource library applied in modern educational technology to help teaching. The sharing of multimedia teaching resources in colleges and universities can help teachers and students to obtain high-quality multimedia teaching resources more conveniently and quickly, and help to improve the efficiency of teachers' teaching and students' autonomous learning [4].

Multimedia network teaching system is an auxiliary teaching system which integrates the release of courses, distance teaching and evaluation system, and is an important part of campus management system. Its main function is to effectively combine distance education with classroom teaching, and assist traditional classroom teaching by releasing some course information, teaching courseware, exercises after class, and problem solving on the network. By providing students with periodic tests to detect the learning situation of students, and realize the online teaching quality evaluation of students. Through the teaching assistant system, students can preview and review the class content more conveniently, and finish the homework online. With the rapid development of information technology, the sharing of multimedia teaching resources is facing more and more severe difficulties and challenges. For example, some servers providing multimedia teaching resources sharing services are attacked by hackers, and users can't watch or download multimedia teaching resources when browsing them. There are serious obstacles in the sharing of multimedia teaching resources among colleges and universities. At the same time, the forms of multimedia teaching resources are more and more abundant, including documents, pictures, audio and video. In this context, the new service mode of cloud computing has corresponding solutions to the above resource sharing problems, and cloud computing will become a new trend of resource sharing in colleges and universities [5-8].

Central control system is the core control equipment of multimedia classroom. Its main function is to integrate the functions of various irrelevant multimedia devices by controlling the power supply, audio and video signals, control signal supply and switching. Through the external control panel to simplify complex equipment operation. The central control system with network control function can remotely specify the multimedia equipment in the classroom through the remote server, and detect the working status and usage of the equipment in real time. This reduces the burden of the

maintenance personnel, so as not to be busy for the switching operation of the equipment, so as to focus on the real fault of the multimedia equipment [9]. Therefore, multimedia classrooms generally use the central control system to manage and control multimedia equipment. Around 2000, with the expansion of college enrollment, multimedia teaching has been rapid development [10]. Huagong audio visual education first put forward the concept and conception of using central control system to manage classroom multimedia equipment in South China, and selected and tested the products of several equipment manufacturers. After years of use, the effect and stability are good. Later, facing the huge market share, many domestic enterprises set foot in the field of central control. Through the reference of foreign products and its own technology accumulation, the central control products developed at this stage have been relatively mature. However, in recent years, the industry's research on central control system mainly focuses on the development of new products, emphasizing new applications, new functions and higher equipment integration [11].The construction of multimedia system is divided into three layers: application layer, core layer (protocol layer) and hardware layer, as shown in Figure 1.

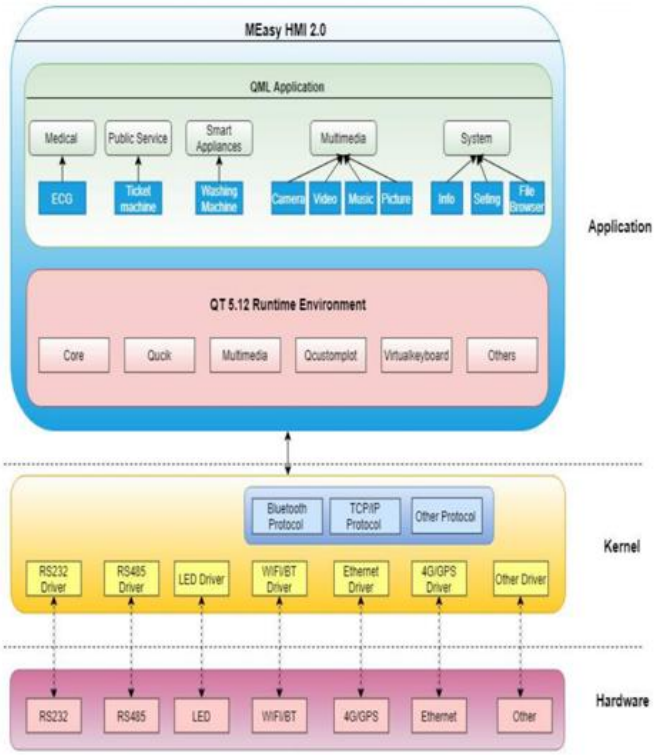


Figure 1. Composition of multimedia system

As a part of teaching media, multimedia network teaching and evaluation system can be accessed everywhere in real time. It also helps to establish a good discussion space between teachers and students. These are very important for improving teaching quality and promoting students' advanced cognitive ability. At present, in the context of promoting teaching reform, in order to improve the teaching quality, colleges and universities throughout the country are constantly improving the teaching quality evaluation system, and have established teaching evaluation system suitable for the situation of schools. In order to reflect the real-time situation of multimedia network teaching, the integration of multimedia interactive information network teaching and teaching evaluation system is particularly urgent. Multimedia information interactive network teaching and evaluation system not only enriches the form and content of teacher evaluation, but also realizes the vision of multi-dimensional evaluation of teachers' teaching in colleges and universities, which is of great help to improve the quality of teaching.

The school running system of MBA builds an educational platform for training young students, management cadres and professional managers. Over the years, China's MBA education has achieved remarkable results, cultivating a number of excellent economic management talents with both political integrity and ability, good at management and able to shoulder heavy responsibilities, which has been widely praised by all walks of life. Combining with Chinese characteristics, adapting to the reality and development requirements of the deepening reform of the market economy system, and accelerating the cultivation of more outstanding MBA students, is an important path to cultivate and cultivate economic management talents in China.In the era of knowledge economy, innovation plays an irreplaceable role in promoting economic development, and the core of innovation activities is high-quality talents with innovative ability. The cultivation of innovative talents is inseparable from the innovation education in Colleges and universities, especially the cultivation of the innovation ability of MBA students. As enterprise managers, their innovation plays a decisive role in the development of the organization [13]. Therefore, it is very important to study the influencing factors of MBA innovation behavior. Existing studies have found that school level factors such as organizational innovation climate, innovation culture and so on have a significant impact on graduate students' innovative behavior [14-16].

## II. MULTIMEDIA TEACHING SYSTEM

### *A. Development Technology of Multimedia Information System*

Multimedia technology refers to the technology that can acquire, edit, process, store and display two or more different types of information media at the same time. In modern society, multimedia information publishing system is everywhere. Generally speaking, multimedia information publishing system is a comprehensive carrier which combines text, graphics, image, sound, video, animation and other factors. As a rapidly developing comprehensive electronic information technology, it has brought profound changes to people's study, life and work.

The platform interface design is simple and exquisite, and has the same style, and does not require special browsing skills. Usually, administrators come to the theme interface and can choose any interface color, content layout and font size they like. A lot of code has been written clearly, and users can rewrite it according to different needs. There are a variety of activity modules built into the website, and there are many languages available.

The multimedia communication terminal can complete the decoding and coding of multimedia information in real time, and enhance the network transmission ability coordinately. The use of multimedia teaching software in teaching is actually the use of multimedia teaching system in the teaching process of various teaching information transmission and processing. Teaching information mainly includes teaching content information, teaching response information, teaching control information, teaching feedback information and so on. Teaching content information refers to the knowledge information of various subjects presented to students through the output equipment of multimedia teaching system. The information of teaching content mainly comes from courseware, which is the result of processing subject

information by teachers and relevant personnel by various means. It includes symbolic information, logical structure system and meaning information of knowledge.

Compared with traditional teaching, multimedia teaching software has the following advantages:

1. With the help of computer technology, multimedia teaching has more abundant knowledge expression. For example, multimedia materials such as text, image and video are used to express knowledge.
2. Multimedia teaching resources are not only very rich in content, but also can be used for teaching design in interaction. According to the specific task design certain interaction control, so that students can personalized learning according to the feedback from interaction, to meet their learning needs.
3. With the continuous development of information technology, multimedia teaching resources can be freely transmitted on the network, making resource sharing possible. With the popularity of the network, users can not only obtain a large number of multimedia teaching resources on the Internet, but also contribute the existing resources to share with others.

The knowledge extraction of multimedia system is shown in Figure 2.

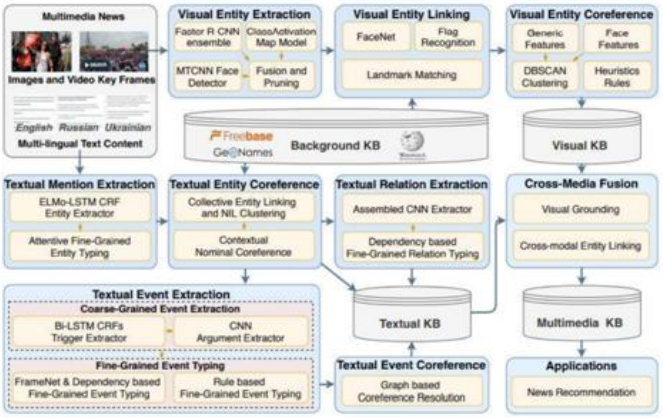


Figure 2. The knowledge extraction of multimedia system

### *B. Development Technology of Network Interaction System*

In large-scale websites, the pages visitors see are basically static pages. Its access speed is fast, more conducive to search engine included. At present, there are mainly two kinds of static: one is to capture and save the dynamic page as a static page through the program. Because the request resources of static websites do not often change, the resources are more likely to migrate, and the network transmission efficiency is related to the distance. The other is to convert the external URL request into the internal file address through the internal module of the server according to certain rules, that is to transform the static address of external request into the actual dynamic page address. Because static resources are easy to be moved, static resource servers need to be distributed according to regions and presented on many nodes. These two methods achieve the effect of URL static, but each has its own characteristics. When a smart user links a website, it puts the request into the nearest node according to a certain routing algorithm, so as to shorten the network transmission length and improve the efficiency of web page access.

In essence, all network applications are software running in web browser, and the graphical user interface of these software is the front end. Front end development originated from web page making, and its appellation is changing with time. In the development of the Internet, the era of Web 1.0 created web page production. In that era, most websites were static websites, and the purpose of web pages was basically for users to browse. After 2005, the Internet announced that it had entered the era of Web 2.0. At this time, all kinds of web applications were developed and used in succession. The websites displayed in front of users were quite different from those in the past. Text and pictures alone can't support the function of web page. The content of web page becomes more vivid because of the addition of various rich media. The interactivity of web pages is also stronger because of the rich forms of software, and users will get a good experience.

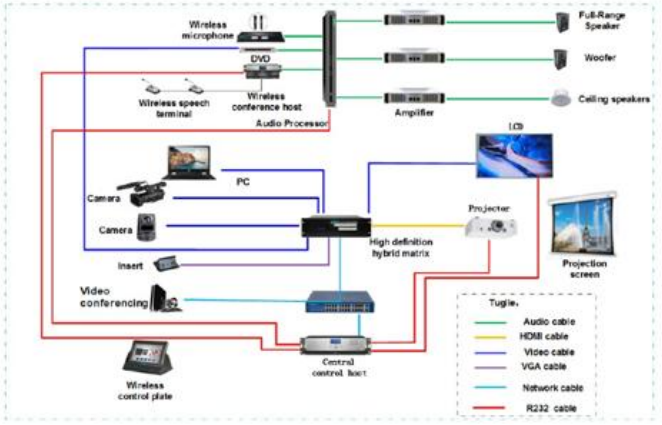


Figure 3. System architecture

### *C. Application of Association Rules Algorithm in Data Analysis of Multimedia Teaching Evaluation*

With the continuous development of computer multimedia technology and network technology, various educational theories and teaching models have been put forward, which makes multimedia teaching face some new problems. The intersection of these aspects is the need for scientific evaluation and analysis of the quality and effect of multimedia teaching in colleges and universities. At present, the existing evaluation system can effectively realize the functions of data entry, query and statistics, but it cannot find the relationship and rules in the data, and cannot predict the future development trend according to the existing data. Therefore, it is of great significance to apply data mining technology to the analysis of multimedia teaching evaluation data in colleges and universities, and to provide decision support for teaching managers.

Association rule is one of the important research fields of data mining. It is mainly used to mine the useful association or correlation between item sets in a large number of data. It has been widely used in various fields in recent years. Its concept was first proposed by Agrawal R. et al. in 1993, and has been widely studied in the industry in a short time.

A collection of items is represented by:

$$I = \{i_1, i_2, ..., i_m\} \quad (1)$$

Transaction databaseis represented by:

$$D = \{t_1, t_2, ..., t_n\} \quad (2)$$

Support and confidence are expressed as follows:

$$\text{support}(X) = \| \{t \in D \mid X \subseteq t\} \| / \| D \| \quad (3)$$

$$confidence(X \Rightarrow T) = \text{support}(X \cup Y) / \text{support}(X) \quad (4)$$

Support indicates how representative the rule is in all transactions. Obviously, the greater the support, the more important the association rules are. Although the confidence level of some association rules is very high, the support degree is very low, which indicates that the association rules have little chance to be practical and generally not important. Generally, the minimum confidence level specified by the user according to the mining needs is denoted as *mincof* and the minimum support is denoted as *minsup*. Confidence is a measure of the credibility of association rules. Generally speaking, only association rules with high support and confidence can be interesting and useful for users.

Visible association rules mining is to find the association rules with minimum support and minimum confidence given by users in transaction database. Therefore, the mining of association rules can be decomposed into the following two sub problems: ①find out all the frequent item sets in the transaction database, that is, the item sets whose support degree is not less than the minimum support given by the user. ②The association rules are generated by frequent item sets, and the association rules with confidence level not less than the minimum confidence level are found in each maximum frequent item set through the minimum confidence given by the user.

Apriori algorithm is a width first algorithm, which can find all frequent itemsets by scanning the database several times. In each scan, only all itemsets with the same length k are considered (k is the number of items contained in the itemset). In the first scan, Apriori algorithm calculates the support of all single items in D, and generates all frequent item sets with length of 1. In each subsequent scan, all new candidate itemsets are generated based on all frequent itemsets found in the previous trip. Then, database d is scanned to calculate the support of these candidate itemsets. Finally, which candidate itemsets become frequent itemsets is determined. Repeat the process until you can no longer discover new frequent itemsets.

Apriori algorithm is a typical algorithm in the framework of support confidence, which has the following shortcomings in algorithm design

1. Scanning the transaction database many times requires a lot of load. Each element in the candidate set must be scanned once to verify that it is added to the frequent itemset. If a frequent itemset contains 10 items, then the transaction database needs to be scanned at least 10 times.
2. The algorithm may produce large candidate sets.
3. The rule measurement standard based on support confidence framework has defects. If the user's support confidence threshold is set too low, many rules will be mined out.
4. Apriori association rule model can't deal with multi-attribute problem in relational database. In transaction database, there is only one attribute involved. In addition, the model cannot deal with numerical data directly, which needs to be discretized.

Multimedia teaching evaluation belongs to the sub category of education evaluation, which has three meanings (value judgment, evaluation development and reference standard). However, compared with the traditional teaching, multimedia teaching has its own characteristics. For example, multimedia teaching has got rid of the monotonous teaching form of traditional teaching and adopted the new teaching form of combination of various media. Therefore, multimedia teaching evaluation also shows its unique characteristics

1. Pay attention to the process evaluation, and emphasize the operating ability of the equipment, the utilization rate of various media, and the compilation and teaching ability of teaching courseware.

2. To evaluate the effectiveness of the application of intelligent teaching strategies. The students' initiative, self-control and learning effect are evaluated.

3. Comprehensive evaluation of media, learning support and service system and system management technicians.

Higher education is a science that takes higher education activities as the research object, reveals the law of the occurrence and development of higher education, and discusses the theory and method of training senior specialized personnel. The talents cultivated in higher education not only require the all-round development of morality, intelligence and physical education, but also consider their particularity. The cultivation of specialized talents requires students to master certain professional skills and knowledge, which are also the basic elements of talent quality.

The teaching solution based on multimedia system is shown in Figure 4.

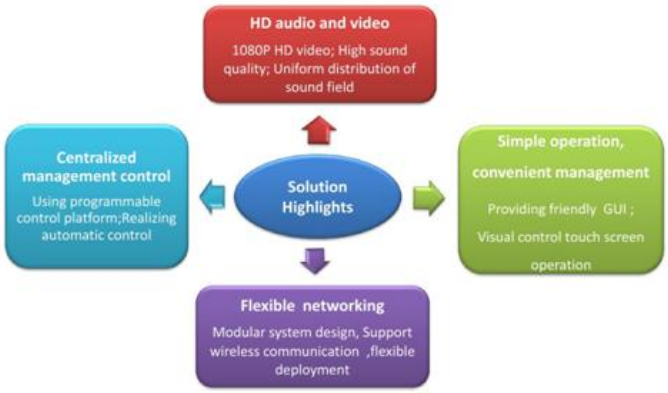


Figure 4. The teaching solution based on multimedia system

A large number of data have been accumulated in the teaching and management of colleges and universities for many years. At present, in view of the needs of the society for the development of colleges and universities and the current situation of data management in colleges and universities, it is very important to use these data to rationally analyze the effectiveness of various aspects of work in colleges and universities and the impact of teachers' development on the decision support system of university teaching management. Data mining technology can find useful knowledge from a large number of data, which is of great significance to the decision support of teaching management in colleges and universities. Using association rule mining technology to obtain high-quality information from the evaluation system database, mining some hidden, unknown and potential information in the multimedia teaching evaluation result data has important reference value for teaching management decision-making. For example, it is necessary to explore the relationship between the construction of multimedia teaching environment, the quality of teaching courseware, the publication of teaching reform papers, and which teachers are well received by students, how to evaluate and how to predict the trend, so as to provide decision support for teaching management.

The application of modern educational technology in multimedia teaching is a complex system engineering, which is closely related to the corresponding theoretical research, technological progress and teaching practice. Its teaching effect is affected by many factors such as the information literacy of teachers and students, the quality of teaching courseware and teaching support platform. At present, multimedia teaching is still in the exploratory stage in teaching mode, teaching methods and teaching strategies. Therefore, it is of great significance to analyze the factors affecting the effect of multimedia teaching through data mining technology, and to provide valuable information for improving the quality of multimedia teaching.

Multimedia teaching combines the advantages of multimedia teaching and traditional teaching, and plays a great role in improving the teaching quality of colleges and universities. However, it also puts forward higher requirements for the quality and ability of teachers engaged in multimedia teaching. In the process of evaluation, we should strive to provide teachers with useful information through the guidance, diagnosis and timely feedback of the evaluation system. Through the analysis of the evaluation data, this paper finds out the problems and deficiencies of teachers in various aspects of multimedia teaching, and helps teachers improve their integration ability of multimedia information technology and classroom and information technology and curriculum, so as to promote teachers' self-improvement and improvement.

Evaluation is a kind of subjective activity, and the attitude of evaluators has a direct impact on the evaluation results. If the evaluator's attitude is not serious, the evaluation results will be seriously distorted. For example, in the evaluation of teachers, students as the main evaluator is the key to the success or failure of the whole evaluation work. But at present, there are some deviations in students' understanding of this kind of teaching evaluation, or deliberately raise or lower the score out of a certain psychology; or they think it is a routine matter, which has nothing to do with themselves, and perfunctorily. The result is obviously unfair. Therefore, it is important to evaluate the quality of data. In other words, in addition to the ideological education of evaluators, we should also take some technical measures to find out the evaluation data given by those irresponsible evaluators as far as possible. Especially those who are perfunctory in evaluation, their evaluation results are usually inconsistent and full of loopholes, such as giving full score or the same score to all items. In practice, after collecting the evaluation data, we will eliminate the suspicious data with full score or all the same score, but only a small part of invalid data can be eliminated. Therefore, it is very important to find a more effective method to test the reliability of evaluation data.

Because the indicators are derived from the same objective, there must be some internal relationship between the indicators, which also leads to some correlation between the evaluation data of different evaluation indicators. We can find out the association between the evaluation data through association rule mining, and test the reliability of the evaluation data according to the association. If the evaluation data does not meet this correlation, it can be considered as invalid evaluation data.

## III. RESEARCH ON MBA TEACHING INNOVATION

### *A. Innovative Atmosphere and Innovative Behavior of MBA Teaching*

According to the theory of social information processing, social information affects the attitude of individuals everywhere. MBA adjusts its attitude and behavior to learning by perceiving and judging situational information, especially the characteristic information of teaching environment. If MBA's perception and evaluation of the innovation climate tends to be positive, it is likely to promote their own valuable innovative ideas by changing their subjective consciousness or enhancing their objective behavior, and try to apply them in practice.

According to the theory of planned behavior, subjective norm is the social pressure that individuals feel to engage in a certain behavior, which reflects the influence of organizational environment on individual behavior decision-making. The innovative atmosphere of MBA teaching is a perception of graduate students to the teaching environment. When teachers encourage students to actively carry out innovative activities and meet their innovative needs, students will feel the atmosphere of attaching importance to the development of their potential and innovation support, thus forming a subjective norm of teaching incentive and supporting graduate students' innovation. Because subjective norms can predict the generation of behavioral intention. Therefore, it can be inferred that MBA teaching innovation atmosphere as a subjective norm will help to enhance students' willingness to innovate.

According to the theory of planned behavior, the behavior intention of micro subject is the motivation of implementing specific behavior, and reflects the degree of acceptance and recognition of members for taking certain actions. As an important manifestation of graduate students' perception of the atmosphere of teaching innovation, MBA innovation intention can be internalized as the internal motivation of MBA innovation behavior.

In terms of MBA curriculum system. It should be based on and closely linked to the training objectives of MBA students, after full investigation, analysis and demonstration. The construction and design of curriculum system, including basic courses, compulsory courses, public elective courses, professional elective courses and special research courses. To coordinate the internal logical relations among the courses, such as relevance, complementarity, echo and integration. At the same time, appropriate textbooks should be selected reasonably.

In MBA teaching methods. We should advocate guiding and heuristic teaching to fully mobilize the initiative and enthusiasm of MBA students. Strive to improve the students' observation ability, understanding ability, discrimination ability, coordination ability, practical ability and innovation ability. We can use a variety of new teaching methods and means to lead students to adapt to the actual combat and innovation in MBA education and teaching.

MBA students have more or less work experience. With different expertise and skills, they are not willing to passively accept knowledge, but expect to express and contribute knowledge. This is especially true when the knowledge received is not consistent with his experience or experience judgment. Obviously, the teaching method does not meet the characteristics of MBA students. The experiential teaching method is adopted to let students construct knowledge based

on the experience and perception of teaching scenes, and have the opportunity to share and express with others. This can meet the psychological needs of students to show their expertise and talents, which will be more popular with MBA students.

### *B. Exploration and Practice of MBA Experiential Teaching*

Management or decision-making problem is not the only solution, there is no optimal solution, only satisfactory solution, whether satisfied or not is related to the value orientation of managers or decision-makers. Management is both science and art. In the face of a certain management or decision-making problem, there is no universally applicable scientific theory to guide, but to establish contingency thinking, that is, the management method or decision-making content should be changed according to the change of time, place and environment. Based on this, MBA teachers can not simply indoctrinate students with an idea or theory, that is, they can not adopt a single teaching method aiming at imparting certain knowledge. We should create a certain environment to guide students to experience and comprehend, and then come to the answer or conclusion that is in line with the reality.

Management science is very practical. Whether the management theory is effective or not needs to be tested in the practice of enterprise management. Restricted by China's education management system, many teachers have no practical experience in running and managing enterprises, so that the teaching theory is relatively vague, and it is difficult to arouse students' enthusiasm for learning. Entrepreneurs have rich practical experience in operation and management, and have directly experienced and dealt with a large number of living management examples. They will give more vivid and lively lectures on the business management cases that occur in the enterprise or handled by individuals themselves. Students will also be more involved in the actual case, and even feel personally. Based on this understanding, MBA center of China University of science and technology specially formulated the "MBA practice classroom teaching management method", which requires that the highly applicable courses (about 2 / 3 of the total courses) must implement the "double teacher teaching mode", that is, the classroom teaching mode participated by school teachers and at least one entrepreneur, in which the entrepreneur's teaching time accounts for about 1 / 6 of the total teaching hours.

We should actively carry out academic theory exchange, provide conditions and create opportunities for MBA students to carry out various forms of professional academic theory exchange. For example, we should organize more extensive and broader field of vision, open up academic gardens, hold salon forums and other activities to promote international academic exchanges. We should actively explore a broad perspective and high-level mode of Sino foreign cooperation in running schools, establish an international education system with Chinese characteristics, and vigorously cultivate innovative talents in international management.

## IV. EXPERIMENT AND ANALYSIS

### *A. Experimental Data Analysis*

This study refers to the innovation climate assessment scale (KEYS) developed by amabile, which is the most widely used and the most classic. The scale of MBA teaching innovation self-efficacy was obtained by selecting three dimensions of communication and cooperation, learning growth and resource security. The revised questionnaire includes 9 items. The questionnaire was measured by Likert five point scale. The scoring method was from "totally disagree" to "totally agree". The higher the score, the better the atmosphere of teaching innovation.

MBA innovation behavior: the scale of organizational members' innovation behavior developed by Covin et al. Includes two dimensions of innovation generation and innovation implementation. The revised questionnaire includes 7 items. The questionnaire was measured by Likert five point scale. The scoring method was 1-5 points from "completely inconsistent" to "completely consistent". The higher the score, the more innovative behavior.

MBA innovation Willingness: the scale of organizational members' willingness to innovate developed by hurt et al. Includes three items. The questionnaire was measured by Likert five point scale, and the scoring method was from "completely inconsistent" to "fully conforming", with a score of 1-5. The higher the score, the higher the willingness to innovate.

The sample statistical information is shown in Table 1

Table 1. Sample statistics

| Variables | Classification | Frequency | Proportion (%) |
|---|---|---|---|
| Gender | Male | 138 | 56.8 |
| | Female | 105 | 43.2 |
| Age | <=25 | 72 | 29.6 |
| | 26~30 | 105 | 43.2 |
| | >=31 | 66 | 27.2 |
| Working years | <=3 years | 87 | 35.8 |
| | 4~6 years | 99 | 40.7 |
| | >=7 years | 57 | 23.5 |

In this study, three factor model, two factor model and single factor model were compared by confirmatory factor analysis. The results are shown in Table 2. The data of three factor model are better than other models, and the indicators meet the reference value of relevant research recommendations. This shows that the three factor model can well fit the actual data, and there is a good discriminant validity among the three constructs of MBA teaching innovation atmosphere, innovation intention and innovation behavior.

Table 2. Confirmatory factor analysis results

| Models | Three factor model | Two factor model 1 | Two factor model 2 | Single factor model |
|---|---|---|---|---|
| $\chi^2$ | 262.0 | 437.7 | 471.0 | 873.1 |
| $df$ | 149 | 151 | 151 | 152 |
| $\chi^2 / df$ | 1.759 | 2.899 | 3.199 | 5.744 |
| TL1 | 0.944 | 0.861 | 0.845 | 0.653 |
| CF1 | 0.952 | 0.877 | 0.863 | 0.691 |
| RMSEA | 0.056 | 0.089 | 0.094 | 0.140 |
| RMA | 0.043 | 0.070 | 0.080 | 0.099 |

Note: the three factor model includes three factors: MBA teaching innovation atmosphere, MBA innovation willingness and MBA innovation behavior; two factor model 1: merges the two factors of MBA innovation willingness and MBA innovation behavior into one factor on the basis of three factor model; two factor model 2: integrates MBA on the basis of three factor model The items of innovation intention and MBA

innovation climate are combined into one factor; single factor model: three variables are combined into one factor.

The ave value of innovation atmosphere of MBA education is 0.535, CR value is 0.912; ave value of MBA innovation behavior is 0.555, CR value is 0.897; AVE value of MBA innovation intention is 0.560, CR value is 0.792. According to the AVE values of the above variables, the square root of AVE values is greater than the correlation coefficient between the variables. The reference values AVE>0.5 and CR>0.6 indicated that the aggregation validity of each variable met the needs of this study.

In order to explore the relationship among the variables of innovation climate, innovation willingness and innovation behavior in MBA education, correlation analysis was conducted on the three variables. The average and standard deviation of each variable and the correlation coefficient between variables are shown in Table 3.

Table 3. Mean value, standard deviation and correlation coefficient of each variable

| Variables | Mean value | Standard deviation | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| Gender | 0.43 | 0.496 | | | | | |
| Age | 1.98 | 0.755 | 0.029 | | | | |
| Working years | 1.881 | 0.761 | -0.023 | 0.469 | | | |
| Innovative atmosphere | 2.427 | 0.722 | -0.001 | -0.013 | 0.003 | | |
| Willingness to innovate | 2.611 | 0.826 | 0.084 | 0.062 | -0.047 | 0.217 | |
| Innovative behavior | 2.167 | 0.685 | -0.057 | 0.023 | 0.066 | 0.054 | 0.321 |

## CONCLUSION

With the development of education informatization in China, the development and use of a large number of teaching software or teaching management system are also developing rapidly in China's colleges and universities. In order to create a self-learning and collaborative innovation environment for students, so that college students can learn through the use of various curriculum resources, but also to achieve good interaction has become a focus of current teaching research. Intelligent multimedia interactive software can effectively realize the application of information communication, file sharing, electronic whiteboard, voting scoring, meeting information management between teachers and students in the learning process. From the perspective of MBA teaching innovation atmosphere, combined with the theory of planned behavior, this study collected 391 samples from universities and used multiple regression equation and structural equation model to explore the interaction between MBA innovation willingness and MBA innovation behavior based on MBA teaching innovation atmosphere. The results show that MBA teaching innovation atmosphere has a positive impact on innovation intention and innovation behavior. MBA innovation intention has a positive impact on innovation behavior. MBA innovation intention partially mediates the relationship between MBA teaching innovation atmosphere and MBA innovation behavior.

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