Research on Innovation Education Practice of Normal University Students Based on ARCS Model

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Abstract: Modern educational technology is a public compulsory course for students in normal universities to master modern educational technology ability. In view of the current situation of low learning enthusiasm, low motivation and poor learning effect of normal university students in the process of learning modern educational technology, based on ARCS motivation design model, this paper proposes strategies to solve the poor training effect of normal university students' educational technology ability from four aspects of attention, relevance, self-confidence and satisfaction.

Keywords ARCS motive design model; Normal university students; Innovation education practice

INTRODUCTION

Modern educational technology curriculum is a public curriculum that imparts theoretical knowledge of educational technology to normal university students and cultivates talents of educational technology application skills suitable for teaching practice. In the teaching of modern educational technology in normal universities, this paper found some problems such as low student attendance rate and poor learning effects [Li, 2020]. The reasons are lack of motivation, unclear learning objectives, passive learning methods and not being flexible enough. There are also external reasons such as the shortage of resources related to the training of educational technology ability in schools and the insufficient atmosphere for the application of educational technology [Long, 2018]. However, the curriculum of modern educational technology common course is not subject of arts and science and lacks pertinence. Some teachers' educational technology literacy is not high, and the classroom teaching method is single, focusing on the simple teaching method, ignoring the initiative and enthusiasm of students' learning. The course evaluation method is single, focusing only on the summative evaluation, ignoring the process evaluation [Yu, 2020]. The main reasons are disconnection between theory and practice, lack of practice link, inability to provide a platform for improving students' educational technology ability, and inability to realize knowledge transfer. How teachers mobilize students' learning enthusiasm and motivate and maintain students' learning motivation in classroom teaching is a key to improving learning effect and realizing knowledge transfer. Professor Keller of Florida State University put forward ARCS motivation design model with "motivating class motivation" as the core. This model integrates many theories of motivation and produces good results in the application of teaching design. In the education technology ability training of normal university students, this paper believes that teaching design based on ARCS motivation design model can mobilize students' learning enthusiasm and initiative, improve teaching quality and enhance students' educational technology ability [Zhang, 2022].

ARCS MOTIVATION DESIGN THEORY

The theoretical basis of ARCS

Learning motivation, as an internal motivation to motivate and guide learning, is closely related to learners' expectations, experience and cognition. It is a complex psychological structure that varies from person to person. At the same time, motivation is also affected by external factors and has its stable and predictable aspects. Therefore, it can predict the changes of people's learning motivation, work motivation and self-motivation through the system design of the environment, and even carry out a quantitative analysis. Based on the above views, Keller believes that motivation, ability and opportunity are the main factors affecting performance (or learning). The three are interrelated and mutually restricted, and the deficiency of any one of them will affect performance (or learning). In order to truly understand motivation, Keller combined motivation with other factors affecting performance (or learning) and integrated it into a system, as shown in Figure 1, which established the theoretical basis for subsequent motivation system design methods [Li, 2022].
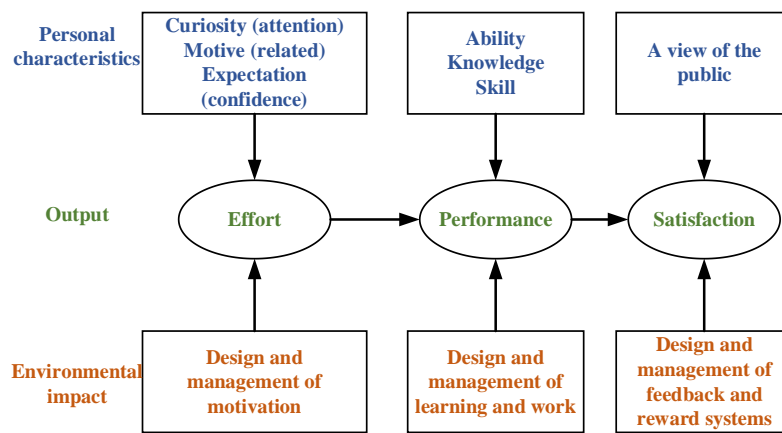
Figure 1 The systematic view of motivation and performance

Components of ARCS motivation

In 1983, J.Keller proposed four elements of the motivational design model: attention, relevance, confidence and satisfaction. The first letters of four English words can be combined into an ARCS model. ARCS model of motivation design can be seen as such a process: in order to stimulate a person's learning motivation, the first thing to get his attention and interest in learning, finish the task to make him understand closely associated with him, then to have the ability to do the matter made him feel her, resulting in confidence, finally let him finish after learning experience a sense of accomplishment and satisfaction [Zeng, 2018].

PRACTICAL EXPLORATION OF ARCS MOTIVATIONAL DESIGN MODEL IN THE TRAINING OF EDUCATIONAL TECHNOLOGY ABILITY OF NORMAL UNIVERSITY STUDENTS

ARCS model of motivation design reveals the components of human motivation and puts forward specific methods to stimulate motivation. How to apply this model in specific teaching, Keller listed five stages and ten steps: collecting information (steps 1~2), analyzing needs (steps 3~4), setting motivational goals (steps 5), designing motivational methods (steps 6~8), developing and formating evaluation (steps 9~10), as shown in Figure 2. In different learning environments, teachers can adopt ARCS motivation design model for different stages of work. According to the characteristics of normal universities and the situation of modern educational technology courses, this paper's work stage mainly includes collecting information (obtaining the information of courses and objects), learning object needs (analyzing the current situation of objects' motivation) and designing methods to stimulate motivation.
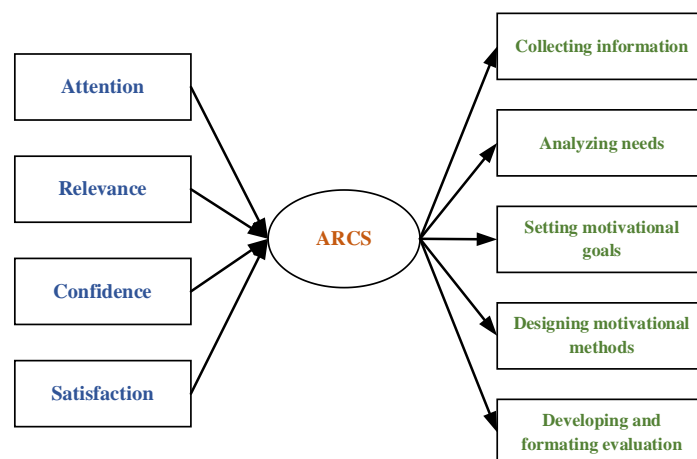

Figure 2 The application of ARCS

Collect information

Modern educational technology is a compulsory public course for normal university students. Through learning, normal university students should have positive educational technology consciousness,

healthy educational technology ethics, solid basic skills of educational technology application, skilled application of technology to solve problems in personal life and study, and a broad vision of educational technology application. According to the

teaching plan, the teaching time is the second semester of the junior year, with a total of 36 class hours, and 2 class hours per week. Experimental classes are not offered. The object of study is all normal students in their third year, including arts, science and art. All the students have learned the computer culture foundation course in the first year and mastered the basic computer skills.

Analysis of learning objects

Learning object analysis is mainly to understand the existing learning basis of learners, their attitude and understanding of school or work and the courses they want to learn, and to describe the motivation of learners according to the reasons of curriculum setting, teaching environment and the actual situation of teaching transmission system. At the beginning of the modern educational technology course, students' learning motivation was understood through the learning motivation scale and interviews adapted from Professor Keller's ARCS Effort and Interest Questionnaire. Before the questionnaire, introduce the curriculum objectives of modern educational technology to the students. Students learn the modern education technology target basically has the following several aspects: to master the basic concepts and theories of modern education technology, to master how to obtain, expression, communication, process, management and evaluation of learning resources, to master the informatization instructional design, to master the use of the information system integration teaching, and to master the use of modern distance education and network education resources. At the beginning of the course, questionnaires were distributed in class, and statistical data were collected and analyzed. Through the analysis of the survey results, we can understand the current situation of students' learning motivation, analyze the existing motivation problems, find out the factors affecting the motivation, and prepare for stimulating and maintaining students' motivation to learn modern educational technology. After a survey of 240 students learning modern educational technology, the results of the survey are as follows after statistical analysis:

(1) The content of "Note" is unbalanced. 90% of the students are not interested in the theoretical basis and basic theory of educational technology. 95% of the students are interested in visual media, auditory media, and audiovisual media production. 97% of the students were interested in PPT courseware making, but it was found in the interview that many students already knew basic operations but did not master the use of some functions in PPT presentation making, such as master, custom animation, content design principles, etc. 65% of the students are interested in information-based instructional design. 46% of the students are interested in the use of integrated

teaching information systems. The ones who weren't interested were mostly girls.

(2) "Correlation" is not high. 39% of the students feel that modern educational technology is very relevant to their study and future work; 15% of the students feel that modern educational technology is relevant to their study and future work; Ten percent of students feel that modern educational technology is irrelevant to their study and future work.

(3) High "Confidence". 58% of students are very confident about reaching their goals, 30% are confident, 7% are not sure, and 5% are not confident.

(4) High "satisfaction". 75% of the students were very satisfied with their educational technology competencies as set out in the educational technology development learning objectives, and 13% were satisfied.

From the above data, it can be seen that the content of "attention" is not balanced, and students think it is not "relevant" to their study and work, but students are "confident" and "satisfied". The data show that we should try to use relevant strategies to attract students' attention to the theoretical basis and basic theory of educational technology, arrange the curriculum content reasonably, enhance the relevance of curriculum content with students, maintain students' confidence in learning, and make students have a certain sense of satisfaction.

THE DESIGN AND IMPLEMENTATION OF MOTIVATIONAL STRATEGIES

According to the analysis results of the above stages, this paper determines the focus of motivational strategy based on the four elements of ARCS motivation. Attention, relevance, confidence and satisfaction are a whole, there is no primary or secondary, and the lack of any one element may make learners lose motivation to learn. Therefore, the teaching of modern educational technology courses needs to systematically consider the design of these four elements. Ignoring any one of these elements will affect the learning effect of students. In specific course teaching, the strategies selected from four aspects of "attracting attention", "personal relevance", "building confidence" and "obtaining satisfaction" are as follows:

Attracting attention

Attracting attention is the primary factor to stimulate and maintain students' learning motivation, as well as the prerequisite for all activities. Attention-enhancing design strategies involve not only evoking perception, using novel means, or using personal or emotional material, but also stimulating the learner's inquiring mind by asking questions and making counterarguments. Here are the teaching strategies used in this article for "getting noticed". First, attract

students' attention through cases and changes. In order to arouse students' interest in modern educational technology, the course started with a digital story (Teddy's story) to attract students' attention, and let students discuss, analyze and summarize the differences between the storytelling and the past to stimulate students' interest in learning this course. When learning the integrated teaching information system, a large number of pictures are used to present the existing integrated information system of our school, and the functions and use of multimedia classrooms (projectors, video displays) and interactive electronic whiteboards are learned through videos. In the image collection, processing through video to learn the use of digital cameras and scanners. Second, problem discussion arouses inquiry. The theoretical basis of educational technology is rather boring content, using the traditional teaching method will make students' enthusiasm for learning not high. In the teaching of learning theory, this paper first presents typical experiments of behaviorism and cognitivism learning theory, and then asks students to discuss the experimental results and analyze the influence on modern teaching and learning. In the constructivism learning theory, the "fish and cow fairy tale" is introduced, and the students discuss why this phenomenon occurs, the students communicate, and the teacher summarizes the constructivism learning view; Then the story of "frogs looking at the sea" is presented. Let the students discuss, analyze and summarize the constructivist view of teachers. Third, change classroom teaching method and organization form. In the course of modern educational technology, the use of audio-visual media is a basic skill that normal university students must master. However, the school does not arrange experimental teaching, and simply teaching the principle of each media will make students less enthusiastic about learning. This article makes use of the advantages of multimedia teaching to provide pictures, videos and other materials for students to learn. First show the pictures and video materials to let the students have a preliminary feeling, then listen to the teacher, put forward their questions, again through the video materials to deepen their understanding. Some students can also share their methods and skills to provide some references for their peers.

Personal relevanceomponents of ARCS motivation

During the learning process, the student will think, "Why do I have to learn this?" Teachers must strive to find tasks related to students' study and future work to stimulate students' learning motivation. Specific strategies are as follows: First, there is a sense of familiarity. In the teaching of information teaching design, the students can understand what is teaching design and what problems can be solved by teaching design with the help of the video of winning

contestants in the teaching skills competition of Henan normal university students. Then take the teaching design scheme of excellent players as an example to study the teaching design. Second, target orientation. Most students take their previous learning experiences with them when learning modern educational technology, and have an expected goal for the problems encountered in the learning process. Therefore, in the teaching process, this paper first understands what problems students have in the past learning process, and make learning objectives with students, explains the effectiveness of learning. For example, students often encounter problems such as picture format conversion, sound media conversion and video format conversion in the acquisition and processing of learning resources. In the teaching process, teachers communicate with students first, let students say their familiar picture, sound, video format, and then ask questions, want to convert how to do? Some students share their experiences, teachers summarize and systematically teach the common formats of pictures, sounds and videos and the conversion between formats, and use video experts to record the actual operation process and share it with students.

Building confidence

Students often give up when they feel they have little chance of achieving the goal. Therefore, the expectation of success is the key to motivating students. Specific strategies are as follows: First, clearly tell students learning requirements, eligibility standards and evaluation basis. Only when students know the clear criteria and evaluation basis, can they have the direction of their efforts and try their best to achieve it. At the beginning of the course, the teaching content, teaching objectives and evaluation criteria of the course will be told to everyone in the form of mind mapping, and the teaching content, teaching objectives and evaluation criteria of the chapter will be presented again when the specific chapter content is studied. To build students' confidence in completing the prerequisites for learning modern educational technology. Second, provide opportunities for success. With the rapid development of educational technology, it is necessary to provide students with opportunities to use the knowledge they have learned in different situations if they want to keep the knowledge and practice together and the teaching content and practice closely linked. For example, the student studies the visual information processing, processing in this paper, the teaching content, is now widely used image processing software "light and shadow magic hand" and "beauty picture show" alternative materials in Photoshop to make student to study the image information processing, used in the process of learning to let students practice and practice methods together after class, Improve your study confidence.

Third, classroom exercises and after-class reviews. When learning the study method of the information age, this article introduces the mind map to learn and use, and to let the students in the classroom practice the "fruit" mind map, students learn how to draw a mind map, independent practice after class "introduction" or "one-semester planning" mind maps, teachers selected students to work for selection, To make each student feel that he can succeed with his efforts.

Obtaining satisfaction

Motivation for continuous learning depends on the satisfaction learners get from the learning experience. This satisfaction may come from internal or external stimuli. Internal stimulus is the sense of accomplishment of completing the task, and external stimulus is external recognition, reward, positive feedback and so on. The specific strategies are as follows: First, provide opportunities for students to use the knowledge and skills they have learned to achieve satisfaction. After the students finish learning multimedia courseware making and teaching design, let the students speak, they can practice their knowledge of multimedia courseware making and teaching design ideas, the students apply what they have learned and get satisfied. When students are learning the development of distance education and network education resources, they should randomly select several students to share their distance learning and use network education resources. It is suggested that students visit NetEase Open Class, Middle School Subject network, sky software website and other websites after class to use network education resources. Second, do not deny students easily, so that students feel recognized and concerned. Learning is a dynamic process, and students' current level cannot solve all the problems, which requires teachers to choose different methods for different problems and for students to solve them together. For example, when students encounter the problem of "how to convert. PDF files into. Doc files", the teacher suggests that students use the search engine they have mastered to solve the problem, and then share the experience, the teacher summarizes, and add that they can use CAJViewer reader "font recognition" function to solve, so that students can obtain satisfaction. Third, use fair testing and grading standards. The standard of learning evaluation should be consistent with the teaching objectives of the course, only in this way can students actively participate in various teaching activities. Modern educational technology courses are awarded credits in the form of evaluation, which combines process evaluation (50% of the total grade) with summative evaluation (50% of the total grade). Among them, the process evaluation includes the evaluation of personal works (mind mapping, production of sound materials, production of video materials, lecture presentation) and class discussion.

CONCLUSIONS

ARCS motivation design model emphasizes the importance of learning motivation in classroom teaching and highlights the subject status of students, which requires teachers to fully consider how to stimulate and maintain students' learning motivation in teaching design. According to the interviews with students after the teaching, students are satisfied with the learning effect. During the teaching, students' attendance rate is improved, and students communicate more with teachers and peers when they encounter problems in the learning process. ARCS motivation design model also puts forward high requirements for teachers, college teachers must transform their thinking, truly take teachers as the leading, students as the main body, in the teaching process, fully consider students' motivation needs, mobilize students' enthusiasm and initiative in learning. When designing motivation promotion strategies, we should fully consider the teaching conditions of each school and the characteristics of students in each class, try to understand the motivation of students first, and design teaching for the lack of specific motivation, so as to achieve good teaching effects.

ACKNOWLEDGEMENTS

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