



Research on the Application of Computer Technology in the Value Guidance of Classroom Teaching in Colleges and Universities

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ABSTRACT

At present, there are many problems in the guidance of classroom teaching value in colleges and universities, and the intervention of computer-related technology is helpful to solve the problems. QQ, WeChat and other platforms were used to distribute online questionnaires with the theme of "Changes in college Students' value orientation before and after the epidemic" to college students. 1011 valid online questionnaires were collected and processed by SPSS 24.0 software to obtain some valuable data. After analyzing these data, it was found that ARCS learning motivation model can provide reference for the guidance of values in university classroom teaching. With big data technology as the means, the optimal teaching method selection model constructed by data mining technology is introduced. The model has higher accuracy and better selection accuracy, which can enhance students' independent learning ability and teachers' implementation of differentiated teaching, so as to improve the guidance effect of classroom teaching value.

Keywords: *computer technology; colleges and universities; classroom teaching; value guidance; model*

1. INTRODUCTION

In the classroom teaching of colleges and universities, teachers are faced with college students who already have certain social experience. These college students have their own value judgments on many social phenomena, and different students hold different concepts. Facing the different experiences and judgments of college students, especially the different values, teachers should play an active role in guiding students to form mainstream social values. Although college students have a certain ability to judge value, they are in the immature stage of active thinking and rapid development, and their mental state fluctuates greatly. They are easily affected and interfered by cognition, emotion, will and the external environment, and cannot make correct judgments. Nowadays, the subject consciousness of college students is increasing day by day, and under the influence of various media information, more and more students dare to express their values in the classroom.

Introduce computer software technology, learn from the principle of ARCS learning motivation model, discuss the relationship between ARCS model and value guidance of college classroom teaching, determine the

content of value guidance of college classroom teaching, and construct the value guidance mechanism of college classroom teaching with ARCS model, which is conducive to helping college students form a correct values. At the same time, the introduction of the optimal teaching method selection model based on big data analysis into the classroom teaching of colleges and universities can enhance students' autonomous learning ability and teachers' implementation of differentiated teaching, and improve the effect of classroom teaching value guidance.

2. ARCS MODEL AND VALUE GUIDANCE

2.1. Concepts of the ARCS Model

ARCS is a learning motivation model founded by American scholar Keller J.M., which is widely used in instructional design. ARCS consists of four parts: Attention, Relevance, Confidence and Satisfaction. Among them, the Attention part is to attract the attention of the educated; the Relevance part is intended to make the educational design need to be closely related to the educated; the Confidence part requires the educated to establish a continuous learning confidence; the

Satisfaction session shows that the educated has gained something through education. Classroom teaching can be designed using the ARCS model as shown in Table 1. [5]

Table 1:classroom teaching design

ARCS Session	Attention	Relevance	Confidence	Satisfaction
Instructional Design	How to arouse and maintain the attention of the educated	Strive to make teaching content relevant to the educated	Strive to increase the confidence of the educated to continue learning	Enable educators to learn

2.2. Changes of College Students' Value Orientation and the Mechanism of ACRS Model

Values are the criteria by which members of society evaluate behaviors, things, and choose their own goals from possible goals. Values are reflected in people's behavioral orientations and their evaluations and attitudes toward things. These are the core issues of worldview, the inner dynamics of people's external behavior. They govern and regulate all social behaviors of people, and they are involved in all areas of social life. [1] Values are not innate, they are gradually cultivated and formed in open or hidden educational processes such as family, school and other social environments.

Contemporary college students are living in the self-media and post-epidemic era, and the epidemic will definitely have a certain impact on their values. This paper analyzes the changes in the value orientation of college students before and after the epidemic, explores the significance of value guidance, and provides experience and basis for carrying out value guidance in college classrooms. Jia Guanghui et al. used QQ, WeChat and other platforms to distribute and collect 1,011 valid online questionnaires to college students. Through SPSS 24.0 software analysis, the data on the value orientation changes of contemporary college students were obtained as shown in Table 2. [3]

Table 2: impact of China's successful response to COVID-19 on college students' life value orientation and political value orientation

Question Number	Content	Mean	Standard Deviation
1	Reduce virtual life online	3.13	1.16
2	Pay attention to moral cultivation	3.80	0.98
3	suffer	3.85	0.98

4	Live a meaningful life	4.07	0.97
5	Cherish life more	4.09	0.99
6	More recognition of traditional culture	4.13	0.98
7	Love China more	4.27	0.94
8	Towards the realization of social value	3.99	1.02
9	Accept collectivism	3.89	1.05

It can be seen from the above data that the behavior and achievements of the Chinese government in preventing and controlling COVID-19 have made college students love the country, love life, and recognize traditional culture more than before. The mechanism of the Chinese government's anti-epidemic achievements in guiding the values of contemporary college students is in line with the basic principles of the ARCS model. After the outbreak of the new crown epidemic, the high infectivity and pathogenicity of the epidemic caused great attention of college students, which belonged to the Attention link. The new corona virus may infect college students at any time, so the epidemic is closely related to college students, and it belongs to the Relevance link. The government took decisive action and implemented the virus clearance policy, and college students' confidence in the country's control of the epidemic has increased. This is the Confidence link. Compared with the anti-epidemic performance of other countries, especially the high number of infections and deaths in these countries, college students' trust and love for the country emerge spontaneously, and the values of patriotism and collectivism are further strengthened. This is the Satisfaction session. Therefore, the ARCS learning motivation model can provide reference for the guidance of college classroom teaching values.

3. CONTENTS OF THE VALUE GUIDANCE OF CLASSROOM TEACHING IN COLLEGES AND UNIVERSITIES

Value guidance is an important way to educate people in colleges and universities. The main contents involved in the value guidance of classroom teaching in colleges and universities include ideals and beliefs, Chinese spirit and socialist core values, socialist morality and law.

3.1. Ideals and Beliefs

Ideals and beliefs are the beacon and sail of life, providing direction and motivation for life. Ideals and beliefs are the “calcium” of the spirit. Without ideals and beliefs, the spirit will be “deficient in calcium”, and people will become corrupted and degenerate. To educate and guide college students on the values of ideals, beliefs,

and beliefs is to enable them to establish a lofty ideal of communism in politics, to strengthen their belief in socialism with Chinese characteristics, and to make greater contributions to serving the people and contributing to society in the future. At the same time, it enables college students to be diligent and brave in life, love life, and smile in life.

3.2. Chinese Spirit

"A person cannot stand without spirit, and a country cannot be strong without spirit." The 5,000-year history of the Chinese nation nurtures and inherits the great Chinese spirit. The Chinese spirit is the national spirit with patriotism as the core and the spirit of the times with reform and innovation as the core. To educate and guide college students on Chinese spiritual values, it is necessary to advocate the traditional Chinese view of righteousness and interests, and to promote the spirit of patriotism and collectivism, and to shape loyal patriots.

3.3. Socialist Core Values

Every social form has a value standard that all members pursue together, that is, the core social values, which the ruling class regards as a value weapon to build social consensus and stimulate the power of the country. The 18th National Congress of the Communist Party of China advocated the core socialist values of "prosperity, democracy, civilization, harmony, freedom, equality, justice, rule of law, patriotism, dedication, integrity, and friendliness, which are the core values of contemporary Chinese society. The education and guidance of core values is to enable young college students to practice and lead the socialist values, better adhere to the Chinese path, carry forward the Chinese spirit, and unite Chinese strength.

3.4. Socialist Morality and Law

Morality and law are the basic codes of conduct in modern society. Morality and law belong to the superstructure category and are special social ideology, and they must be consistent with the mainstream value in value orientation. The morals and laws of every society represent and serve the interests of the ruling class. The core of socialist morality is to serve the people, and its principle is collectivism. Socialist law reflects the unity of the party's proposition and the will of the people. To educate and guide college students in socialist morality and law, firstly, enable them to inherit the traditional Chinese virtues, carry forward revolutionary morality, and continuously invest in the moral practice of honoring morality and goodness. The second is to enable them to grasp the essence of the socialist rule of law road and system with Chinese characteristics, improve their legal literacy, and become citizens who study the law, understand the law, respect the law, and use it.

4. VALUE-ORIENTED PATH MECHANISM OF CLASSROOM TEACHING IN COLLEGES AND UNIVERSITIES

Adolescents are in a period of psychological and physical instability. In the era of multi-distribution of social values, college students are prone to make mistakes in value selection. The ARCS model is used to design classroom teaching and establish a value-guided path for classroom teaching in colleges and universities, which will help college students make correct choices among multiple values and form mainstream values in society.

4.1. Attract College Students' attention to Teaching Objects

In the design of teaching, teachers should fully consider whether the teaching content and the value contained in the teaching content can attract the attention of college students, which is the premise of completing the value guidance of classroom teaching. In order to stimulate students' attention in class, teachers should give students corresponding experience and perception space, and give students as many opportunities as possible to participate in discussions and activities. Teachers should pay attention to students' personal experience and guide students to think and understand. Teachers should also highlight the integration of different ways of students' understanding, experience, reflection and creation, and overcome single and rigid teaching methods. If the teaching content and the value it contains are not recognized by the student's experience, or if the individual's existing experience cannot be activated at all, then the seeds of knowledge and value cannot take root, blossom and bear fruit. Therefore, the mainstream value of society is not an external "law" and "dogma" imposed on the educated, but should be rooted in life, in line with human nature, and conducive to the growth of human personality and the social requirements of perfect personality. The realization of guiding human nature lies in the experience and understanding of life. [4]

4.2. Strengthen the Relevance between College Students and Teaching Objects

"Value conflict" is the mutual negation and competition between values, and people's value evaluation and value choice conflict. Young college students are active in thinking, love and easily accept new things, and are easily influenced by multiple values, which means that multiple values are highly related to college students. Under the influence of various cultures, college students will inevitably choose one value and give up another value, thus forming a value conflict. Value conflict is of great significance for students to recognize the diversity of social culture, to establish the value criticism standard of subjectivity, to realize the

understanding and identification of society, others and self, and to choose realistic ways to realize and improve self-worth. Value conflict is also the inner driving force to realize the all-round development of human beings and to establish the individual's subjective personality. In classroom teaching, teachers should not only correctly understand the social significance of value conflicts, but also scientifically treat the value conflicts that exist objectively in the daily life of college students. Teachers can neither ignore or suppress value conflicts artificially, nor regard value conflicts as aliens or blindly exaggerate them, but should actively use the relevance between students and multiple values, and help students resolve their own value conflicts through active guidance and comparison. Finally, a healthy and upward mainstream value point is formed. Therefore, in the process of classroom teaching in colleges and universities, the guidance of teachers to the mainstream values of society is not achieved by closing and imprisoning the living environment of students and giving a single source of value. Teachers should take an open attitude to let students face multiculturalism and values, experience, identify, choose, and integrate in conflict, so as to get out of the dilemma of value conflict. [8]

4.3. Improve College Students' confidence in Continuing Their Studies

The traditional teacher-student relationship is one of command and obedience. In traditional classrooms, teachers stand above the ground, represent authority, and are in a dominant position, and students must obey. Teachers blindly instill knowledge into students, and students are the containers that are forced to accept knowledge. Students always follow the rhythm of teachers and lack initiative, autonomy and innovation. However, with the emergence of multimedia technology and the dissemination of diverse information, teachers' values presented in full accordance with textbooks are far from meeting the needs of students, and are constantly being questioned and challenged. At this moment, in the classroom, there is an urgent need to establish a democratic-equal teacher-student relationship between teachers and students, and to create a pleasant, relaxed and equal teaching atmosphere. In this atmosphere, teachers should be full of love, treat students as friends, and allow them to fully express their ideas, instead of criticizing and sarcasm. Teachers can use the principles of positive psychology to create teaching situations and give more positive evaluations to students. Positive evaluation can help students build confidence in learning and stimulate their interest in learning. In this harmonious, equal and harmonious teacher-student relationship, teachers regard each student as an independent individual, respect their different viewpoints, give full play to students' imagination, activate students' thinking, and express their differences insights and values. [7]

4.4. Meet the Choices of College Students to Serve the Society

As higher education has entered the era of popularization, there are more and more college students. It is impossible for every college student to enter scientific research institutions to engage in scientific research, to be admitted to civil servants, or to enter state-owned or foreign enterprises. There must be some people who are doing business and selling pork. In foreign countries, many graduates of prestigious schools also drive taxis and deliver milk. Zhou Qifeng, the former president of Peking University, said: "In addition to entrepreneurs, we have also trained many educators, from all walks of life, including our students, who sell pork well. If Peking University only trains scholars, that is not enough. It is not the best Peking University. Peking University should be able to train talents for all walks of life." College students, as individuals who have not yet developed mature, are eager to be respected. Only by respecting students can their self-esteem be stimulated. As a guide, teachers should respect the subjectivity of students, adopt diversified guidance according to the actual situation of students, and stimulate the emotional experience of satisfaction and happiness of ordinary college students with a more inclusive attitude, so that every college student can have a sense of happiness and satisfaction. On this basis, teachers guide them to establish correct values.

Classroom teaching is a purposeful communication activity between teachers and students. Through communication activities, a consensus is reached between teachers and students or between students and students to achieve teaching goals. In the process of classroom teaching, communication not only constitutes the intellectual background of students, but also makes students involved in the "spiritual field" composed of different personalities and horizons. The classroom is a valuable learning environment for educators and educated people. In the process of classroom interaction, the "mainstream social value guidance" for students is realized. As a leader in the process of students' growth, teachers influence students' value choices and guide students' development. [2]

5. OPTIMIZATION OF CLASSROOM TEACHING METHODS IN COLLEGES AND UNIVERSITIES

With the development of big data and cloud computing, the application of technical means in teaching is becoming more and more extensive. In the selection of teaching methods, the optimal teaching method selection model based on big data analysis is introduced, the advantages of data mining technology are used to select students' preferences, students' self-learning awareness is enhanced, and the formation of mainstream values of college students is guided by teaching students in

accordance with their aptitude. The following is the optimal teaching method selection model based on big data analysis and the model adjusted to improve accuracy.

$$S_{im}(R, T, D) = \frac{\sum_{p=1}^t \sum_{i=1, j=1}^w \sum_{i=1, j=1}^{m+n} (r_p c_p d_{ij})}{\sqrt{\sum_{i=1, j=1}^{m+n} d_{ij}^2} \sqrt{\sum_{p=1}^t r_p^2} \sqrt{\sum_{p=1}^w c_p^2}} \quad (1)$$

In the above expression, R is the additionally constructed data feature induction set, T is the data feature selection standard set, and D is the data estimator set. R mainly includes feature point set, data fitting accuracy evaluation and parameter features, and T mainly includes mined interference data and feature integration results. r_p , c_p , and d_{ij} are the data points in the sets R, T, and D, respectively; w is the number of data points in the set T. [6]

$$\varepsilon = 1 + \lg\left(\frac{w}{t}\right) \quad (2)$$

ε is the coefficient expression to improve the model accuracy. After adding the coefficient ε to expression (1), the new optimal teaching method selection model is as follows. (Xu2018)

$$S(R, T, D) = \frac{\sum_{p=1}^t \sum_{i=1, j=1}^w \sum_{i=1, j=1}^{m+n} (\varepsilon r_p c_p d_{ij})}{\sqrt{\sum_{i=1, j=1}^{m+n} d_{ij}^2} \sqrt{\sum_{p=1}^t \varepsilon r_p^2} \sqrt{\sum_{p=1}^w \varepsilon c_p^2}} \quad (3)$$

At present, the mature optimal teaching mode selection model includes ant colony algorithm selection model and double layer neural network selection model. Through experimental evaluation, the expression (3) based on big data analysis has higher accuracy, better selection accuracy and lower model complexity compared with the above two models. [6] It can be applied to classroom teaching practice to improve the value guidance effect.

6. CONCLUSION

The guidance of outstanding value in college classrooms is an important goal of education and teaching. In order to achieve this goal, education authorities should vigorously promote more teachers to actively infiltrate mainstream values in teaching, remove the "black sheep" with low morality in the teaching force, and increase information technology training for humanities teachers. Teachers should think about how to strengthen the value guidance of classroom teaching. Introduce computer software technology, learn from the principle of ARCS learning motivation model, discuss the relationship between ARCS model and value guidance of college classroom teaching, determine the content of value

guidance of college classroom teaching, and construct the value guidance mechanism of college classroom teaching with ARCS model, which is conducive to helping college students form a correct values. The ARCS learning motivation model can be used for the value-guided design of classroom teaching. The ARCS learning motivation model has four links: A (Attention), R (Relevance), C (Confidence), and S (Satisfaction). According to the classroom teaching design based on the ARCS model, the value guidance of classroom teaching in colleges and universities is constructed from four aspects: attracting college students' attention to teaching objects, enhancing the relationship between college students and teaching objects, improving college students' confidence in continuing to study, and satisfying college students' choice of serving the society. The mechanism is in line with the laws of education and teaching. At the same time, the introduction of the optimal teaching method selection model based on big data analysis into the classroom teaching of colleges and universities can enhance students' autonomous learning ability, enable teachers to implement differentiated teaching, and improve the effect of classroom teaching value guidance.

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