Scholar Publishing Group
International Journal of Art Innovation and Development
https://doi.org/10.38007/IJAID.2022.030304
ISSN 2789-7192 Vol. 3, Issue 3: 46-61

Based on the Auxiliary Role of Mobile Information System in Art Video Teaching

Jumshad Khan Ullah*

Case Western Reserve University, USA

**corresponding author*

Keywords: Higher Art Education, Development Status, Development Strategy, Talent Training Model

Abstract: The widespread diffusion of miniature knowledge have brought about the innovation of artistic forms and the development of diversified technologies. The main research of this article is based on the auxiliary role of mobile information system in art video teaching. In this survey, 80 music teachers and 3 regional music teachers and researchers who are currently engaged in basic music education were selected as the research objects. In addition, the author puts forward his own suggestions in the direction of curriculum setting, training music talents with comprehensive quality, solid foundation and comprehensive quality. The main body of evaluation is developing in a more diversified direction, including individuals, groups, teachers, parents, art workers, etc. their evaluation reflects the different needs of the society for the curriculum, and these suggestions and feedback will contribute to the continuous development and improvement of art education curriculum. They feed back the evaluation results to students in an appropriate way to encourage diversified learning styles. After scoring, the database was established by SPSS16.0 software, and the data was input and analyzed. The data shows that more than half of the students express dissatisfaction with the current situation of music teaching in the school, with 27% dissatisfied and very dissatisfied, and 40% generally dissatisfied. The results show that higher vocational students do not have high requirements for theoretical knowledge, they just need to understand it. Therefore, teachers should focus on the essence of the goal of cultivating higher vocational talents and devote their main energy and time to art practice.

1. Introduction

The problems such as the shortage of teaching equipment, unbalanced proportion of

teachers and the lack of moral quality of students are gradually improved. However, changing the old education concept, improving the humanistic quality of college students, making all aspects of talents develop comprehensively. It is the requirement of human nature, the competition of talent quality, and the competition of national strength. It is a great event related to the rise and fall of the Chinese nation.

The innovation of digital media art education is the creative expression of all platforms for dissemination of knowledge. The field of art video teaching is not limited to relying on computers for artistic creation, but the entire digital technology art creation mechanism, and the overall improvement and integration of the communication composition of the creation results and the market demand. Innovation and digitalization bring not only technology, but also a brand-new way of thinking and survival characterized by new knowledge transfer.

Ong M believes that anti-spaces are generally regarded as "safe spaces". The culture and structure represent traditionally privileged success codes that are conducive to the competition, individualism, and solitary practice codes associated with white male scientists. Although his research content is relatively comprehensive, it is not accurate [1]. EFMD Mendon à a believes that the improvement of information technology in higher education is extremely important not only for the scientific achievements produced by universities, but also for providing adequate training for future graduates; professionals are facing increasingly harsh labor market and new demands. Therefore, university teacher training should be the priority of academic policy, because university teacher training has influence and role in the social evolution, and it is also the basis of the quality of higher education. His research is a case study conducted in the state of goas (Brazil). His method is mixed, not experimental and descriptive, but with the help of data collection and qualitative and quantitative analysis tools (questionnaire survey, interview, monitoring, inventory, document analysis, etc.). However, there is a lack of accurate samples for his experiment [2].

This study analyzes the function of higher art education from the perspective of different needs of human, society and art discipline, and comprehensively analyzes the function of higher art education in the social system by using the research paradigm of functional theory, revealing the potential function of higher art education to the whole social system; using the method of systematic analysis, this paper makes an in-depth analysis of the formation process of the function of higher art education. Using the theoretical analysis framework of the dynamic forming process of educational function, this paper constructs a process model of the forming process of higher art education function. It reveals the system operation logic of the function formation process of higher art education.

2. Development Status of Higher Art Education

2.1. Art Video Teaching

The smooth progress of public art education activities in colleges and universities must be based on a high level of public art education management. Therefore, in the selection system of the source of students, we must get rid of the original method of professional investigation and the low cultural score requirements that are the same as the selection of art students. In order to make art education play its due role in higher vocational education and get a good development, we must deeply realize the importance [3-4].

The application of art video teaching system can help students complete more extracurricular learning and related teaching guidance. The distance teaching system with

professional personality can not only help students with extracurricular learning, but also a good means to realize teaching interaction. It can appear as a continuation and supplement of full-time teachers' face-to-face teaching. It can also be used as a platform and basis for teachers' mutual teaching communication, and also provide a platform for teachers' cooperation. This method is more effective especially for those students who have vocational learning, high absenteeism rate and weak basic knowledge.

Nowadays, many people still think that art education is only the learning content that professional art colleges and art majors need to master. In fact, through the understanding of the concept of art education, it is not difficult to find that the objects of art education are not only art majors and art colleges, but also all people, it is not only a way to improve professional art skills and theoretical knowledge, but also an important means and method to improve the moral, intellectual, physical, aesthetic and labor qualities of all students.

As a part of education, art education has an unshirkable responsibility on the one hand, and on the other hand, due to the particularity and advantages of the discipline, it is possible to cultivate students' aesthetic and good qualities at the same time. This way, which takes aesthetic enjoyment as the premise, purifies the quality of students in a very natural situation, infiltrates their hearts with the beauty of art, so as to make them form a correct outlook on life and values, undoubtedly not only fulfills the responsibility of art education, but also meets the urgent needs of the current era [5-6].

Determine the Gaussian center surround function required for each channel:

$$F_{k_i}(x,y) = Ke^{-\frac{(x^2+y^2)}{c^2}} \quad (1)$$

Among them, C represents the standard deviation of the Gaussian center wrap function [7].

Perform grayscale correction on the adjusted image of each channel, and correct the adjusted grayscale value of the image to 0~255 to obtain the output image of 3 channels of MSR processing [8].

$$R_i(x,y) = \sum_{k=1}^{K} w_k \left\{ \log S_i(x,y) - \log\left[F_{k_i}(x,y) \times S_i(x,y)\right] \right\} \quad (2)$$

$$R_{0_i}(x,y) = \beta \times R_i(x,y) \quad (3)$$

$$R_{MSR_i}(x,y) = 255 \times R_{0_i}(x,y) \quad (4)$$

Among them, W_k represents the weight coefficient of the connection [9].

Adjust the color ratio of the output image processed by the 3-channel MSR, and obtain the output image processed by the 3-channel image through the MSR:

$$R_{MSRCR_i}(x,y) = C_i(x,y)R_{MSR_i}(x,y) \quad (5)$$

$$C_i(x,y) = \beta\left\{\log[\alpha I_i(x,y)] - \log\left[\sum_{j=1}^{K} I_j(x,y)\right]\right\} \quad (6)$$

Among them, α is the controlled nonlinear intensity [10].

The tracking gate filtering $S(k)$ is the covariance matrix of the vector, and the norm of the information vector $v(k)$ can be expressed as:

$$g(k) = v^T(k)S^{-1}(k)v(k) \quad (7)$$

The Gaussian probability density is [11]:

$$f(v(k)) = ((2\pi)^u |S(k)|^{-1/2} \exp(-g(k)/2) \quad (8)$$

2.2. Factors Affecting Art Education

Information society has changed the social status of school education, school is no longer the only place to impart knowledge. Now we don't have to sit in the school to receive education, we can learn through the Internet anytime and anywhere. At present, the world's respect for cultural diversity is attracting the attention of people all over the world [12]. Education is of great significance to maintaining cultural diversity. Through education, the educated can understand the similarities and differences of various cultures and strengthen their recognition of maintaining multicultural state. In art education, while introducing the art development of western developed countries, we should also pay attention to the art development of other excellent nations, especially strengthen the study of the excellent art tradition of our Chinese nation, because culture is inherited by people who master the cultural tradition [13].

Higher art education is the art education corresponding to the above-mentioned basic art education. In people's minds, higher art education has been cultivating professional art talents, which exists in the higher education system as a typical professional education [14]. In modern higher art education, we should learn art skills, art knowledge, art creation, art appreciation, art criticism, art communication, art design and creation, art facilities

development, art sociology, art aesthetics, art philosophy, art education and scientific research, etc, they are the most advanced art education that learners should enjoy [15-16]. The healthy development of human beings must be completed in learning. At this time, art education has expanded from colleges to ordinary schools, and ordinary school education is more standardized and systematic than the previous colleges. As a basic course, art has become an important part of primary and secondary school education, and its training mode is almost the same as that in today's basic education. Art education courses are set up in primary and secondary schools to cultivate students with basic skills and stimulate their love and pursuit of art [17-18].

2.3. Mobile Information System

The structure of mobile information system is shown in Figure 1. Mobile client usually means that self-developed applications are embedded in wireless mobile terminals. Wireless mobile terminal refers to the mobile terminal equipment supporting wireless data services, mainly including mobile phones (smart phones), PDAs, laptops, etc. At present, the use of mobile phones in mobile phone business is very effective, but the screen is too small, the display content is limited, the keyboard is too small, the input is inconvenient, and the interface provided is complex and difficult to secondary development, which limits the development of data applications. For different mobile database products, the manufacturers of their products are committed to the research of data synchronization technology under mobile conditions. At present, there is no mobile database product that can provide perfect data replication technology in distributed mobile environment.

While the number of mobile devices is increasing rapidly, various applications based on mobile devices have emerged one after another. In addition, mobile devices have the advantages of convenient mobility, which makes the traditional entertainment and work, Information interaction and sharing are gradually extended to mobile devices. Mobile users use mobile phones, laptops, PDAs, handheld computers and other mobile terminals to access the Internet through wireless networks, so as to facilitate users to search for content information they are interested in on the move, making it possible for mobile phones to develop applications for retrieving information as terminal devices. The development and implementation of more and more mobile applications has also spawned many different mature and perfect mobile application development schemes. Different solutions have different advantages and disadvantages.

In any web application, the client and server are separated from each other, and the information transmitted between them is the simplest. The server sends an HTML stream to the client. After the user submits the request form, the browser sends back the corresponding information to the server. In the previous web programming, the logic line is very linear. When developing web forms with asp.net, the designed page structure is closer to the real object events, and can create corresponding handlers for list box selection, button click and other events.

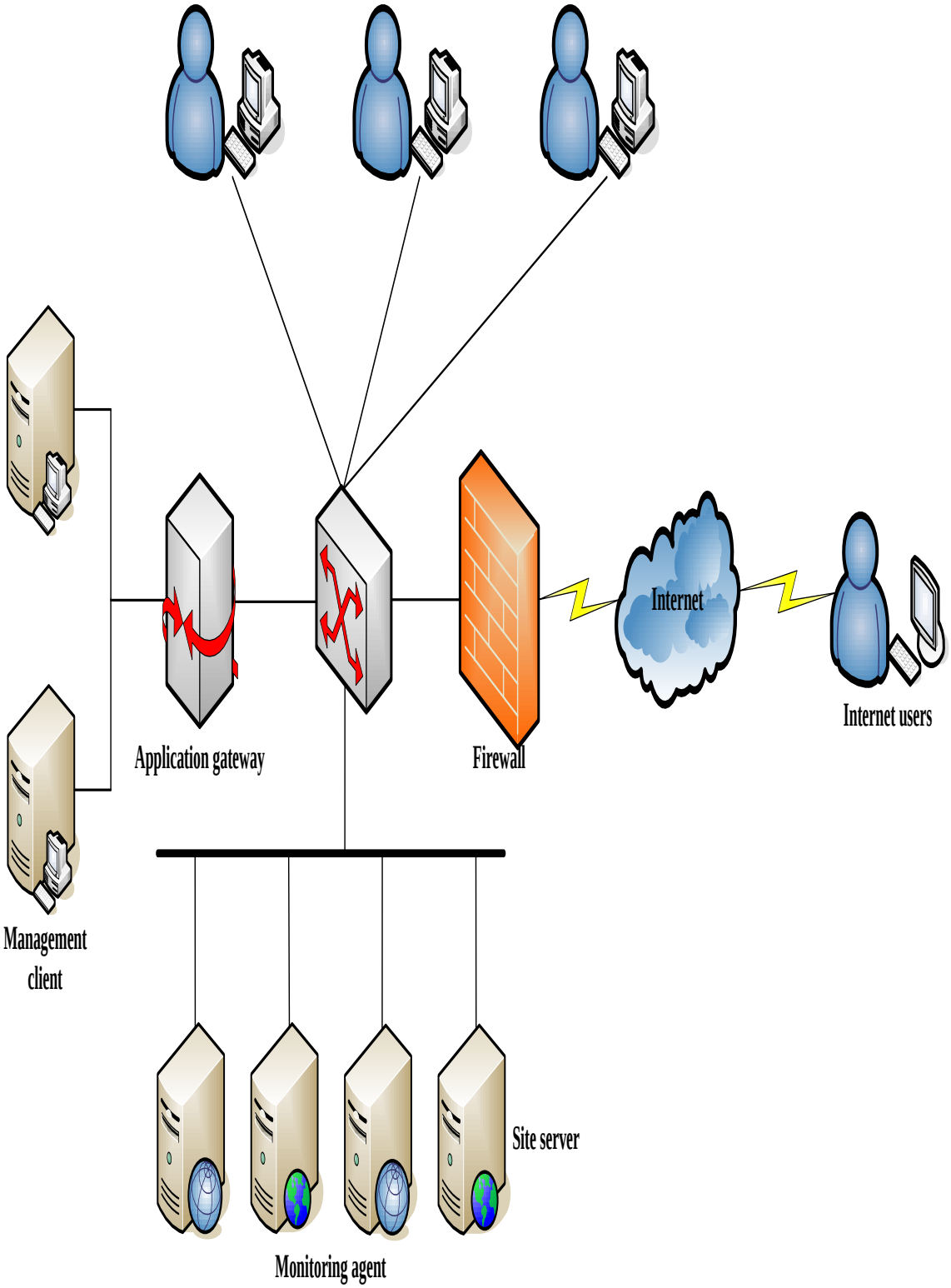

Figure 1. Structure of mobile information system

Creating a local data application in the mobile terminal can move the data in the remote server to the local of the mobile terminal, so that when the mobile device disconnects the network connection, it can also access the relevant data, or after the mobile terminal connects to the central server, it can use local access to the data that needs to be accessed frequently, which can save the network bandwidth. When the server replicates with multiple mobile terminals, due to the characteristics of mobile devices and wireless networks, the replication cannot be carried out as between desktops. When the mobile terminal initializes the local database, due to the large amount of data, it should copy with the server database through USB. The synchronization of small amount of data can be carried out wirelessly. The server should create a good conflict solution to deal with the conflict caused by the concurrent operation of multiple mobile terminals updating data and synchronizing with the server at the same time.

3. Questionnaire on Higher Art Education

3.1. Survey Object

This survey took first-line music teachers and district music teachers and researchers who are currently engaged in basic music education as the survey objects. 80 music teachers and 3 regional music teachers and researchers participated in the survey. These 80 music teachers came from various colleges and universities (music majors). Excluding some teachers as music majors and universities graduated, the remaining 48 music teachers graduated from higher normal colleges (music major) [19].

3.2. Questionnaire Design

(1) Teacher questionnaire: the questionnaire consists of 11 questions, which are divided into three parts. The first part is the basic information survey, which involves age, gender, Graduate School, major and so on. The second part is the basic investigation of the honors and awards of music teachers during their work, and the investigation of the teaching ability of music teachers. The third part is to investigate whether music teachers can apply what they have learned in normal colleges and universities in teaching and the problems that music teachers encounter when they go to work [20].

(2) Questionnaire for teachers and researchers: The questionnaire has 22 questions, divided into four parts. The first part is a survey of the number of regional music teachers and their basic teaching abilities. The second part is a survey of awards for music courses in the district. The third part is to investigate the source of music teachers in this district. The fourth part is to investigate the opinions of music teachers and researchers on the cultivation of music talents in normal universities. The fifth part is to investigate the necessary abilities of basic music teachers.

3.3. Course Evaluation

The main body of evaluation is developing in a more diversified direction, including individuals, groups, teachers, parents, art workers, etc. their evaluation reflects the different needs of the society for the curriculum, and these suggestions and feedback will contribute to the continuous development and improvement of art education curriculum. They feed back

the evaluation results to students in an appropriate way to encourage diversified learning styles; in terms of evaluation methods, different curriculum evaluation schemes are formulated according to the types, objectives, contents, requirements and characteristics of different art education courses.

3.4. Statistical Analysis

After the scoring is completed, use SPSS16.0 software to establish a database for data input and analysis. For the general information of the two groups of subjects in the experimental group and the control group, such as: gender, age, years of education, family residence, and family economic status, the independent sample t test and the four-point table chi-square test were used. Stepwise regression was used to test the predictive effect of the scores of the neuropsychological test on the scores of the MBEA complete musical ability test.

4. Results and Discussion

4.1. Talent Training Model

The results of the survey on the necessity of art education are shown in Table 1. From the valid questionnaire, it can be seen that 89% think it is necessary for the school to conduct art education, 7.9% think it is not necessary, and 3.1% think it is dispensable.

The survey results of music classroom teaching satisfaction are shown in Figure 2. More than half of the students are dissatisfied with the current situation of music teaching in the school, with 27% dissatisfied and very dissatisfied, and 40% generally dissatisfied. 47% of the students are dissatisfied with the music training platform; 29% of the students are dissatisfied with the music curriculum; according to the survey, the content of music teaching in many higher vocational colleges is very single, basically, it's just a course of vocal music or music appreciation. Even in the learning process of this course, teachers only teach students to sing or explain the content related to music works. 28% of the students are not satisfied with the current music teaching methods, and 27% are dissatisfied with the choice of teaching materials. Data show that students are not satisfied with the current situation of teaching materials.

Table 1. Survey results of the necessity of art education

The necessity of art education	Number of people	Proportion
Necessary	133	89%
Dispensable	5	3.1%
No need	12	7.9%

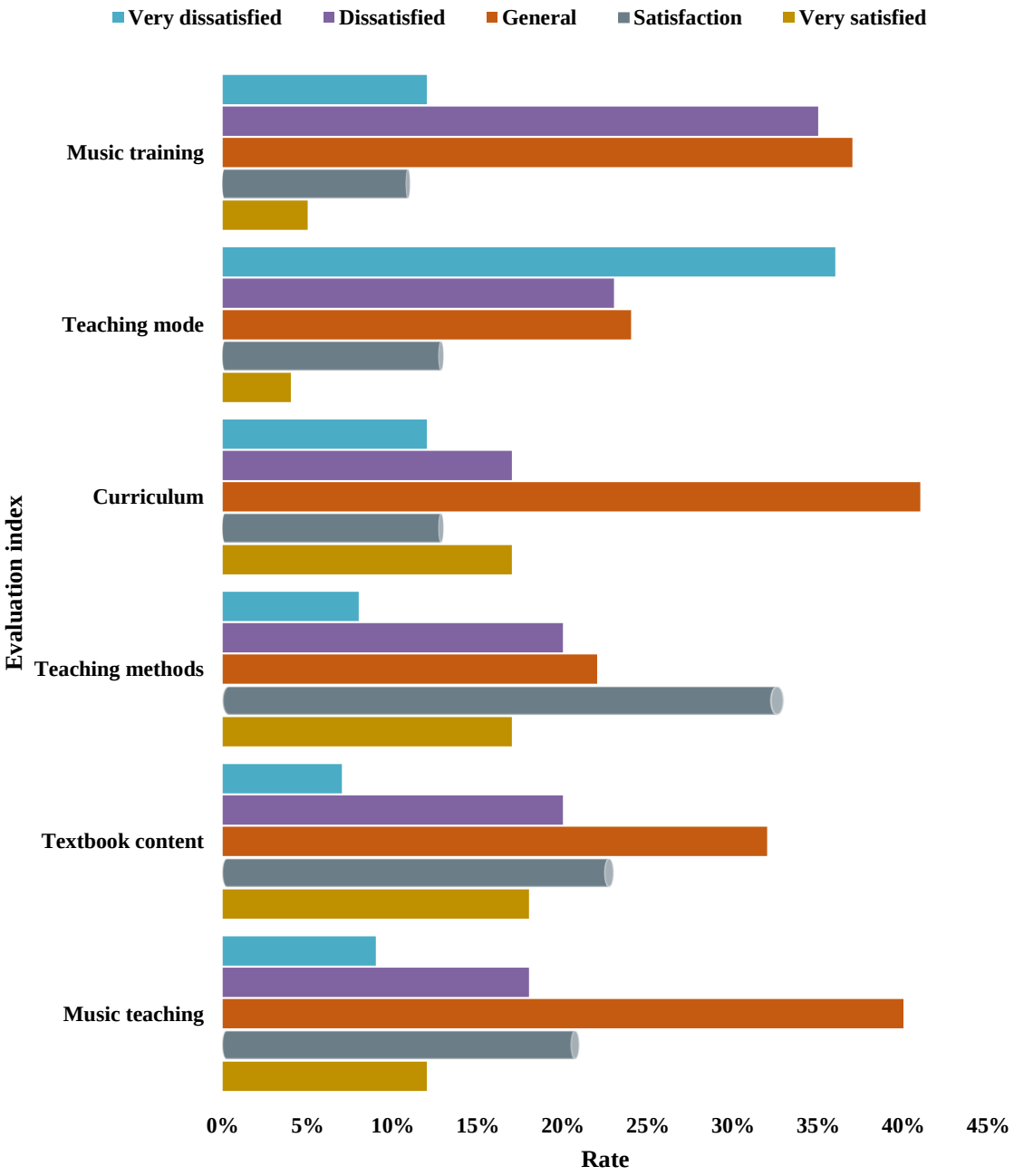

Figure 2. Survey results of music classroom teaching satisfaction

Table 2 shows the correlation between teaching materials and aesthetic creativity and satisfaction. At present, more and more students are aware of the importance of art education courses, especially the aesthetic creativity as one of the goals of art education courses. The vast majority of students think that through the art education curriculum, aesthetic creativity has been improved to a certain extent. Among them, 13.8% of the students think it has been greatly improved, 62.4% think it has been improved, 18.8% think it has not been improved, and 5% don't feel whether their aesthetic creativity has been improved. At present, the art education courses in schools are mainly in the form of elective courses, and only 22.9% of the students say that their art education courses are in the form of compulsory courses. Among them, 55% of the students have corresponding teaching materials in class, and 45% of the students have no teaching materials in class.

Table 2. Relevance of teaching materials to aesthetic creativity and satisfaction

		Aesthetic creativity	Course satisfaction
Teaching material	Pearson	-0.005	-0.123
	Sig	0.936	0.069
	N	218	218

4.2. Questionnaire Survey Results

The types of art education courses studied by vocational students are shown in Figure 3. The art education courses offered by higher vocational colleges mainly revolve around eight items stipulated by the state, namely music, fine arts, film and television, drama, opera, dance, calligraphy and art introduction, in addition to literature appreciation, flower arrangement, tea art. Through the survey, it is found that the current higher vocational students mainly study music appreciation (f=98, 26.3%), art appreciation (f=89, 23.9%), and drama (f=13, 3.5%) and opera appreciation (f= 9,2.4%) have fewer schools.

The school's emphasis on art education courses is shown in Figure 4. Through the survey found that the vast majority of students think that the current school attaches importance to art education courses, and most of the courses are in the form of elective courses. At the same time, 45% of the students said that although they have set up art education courses, there are no supporting teaching materials. This is because China's higher vocational colleges started relatively late, and the emphasis on art education has emerged with the national political policy in recent years. It mainly reflects that there are some problems in Colleges and universities, such as insufficient attention to public art education, ineffective management, unreasonable curriculum structure, inadequate teachers and supporting facilities. It is urgent to standardize the mode, optimize the organization, integrate resources and get rid of the existing pattern.

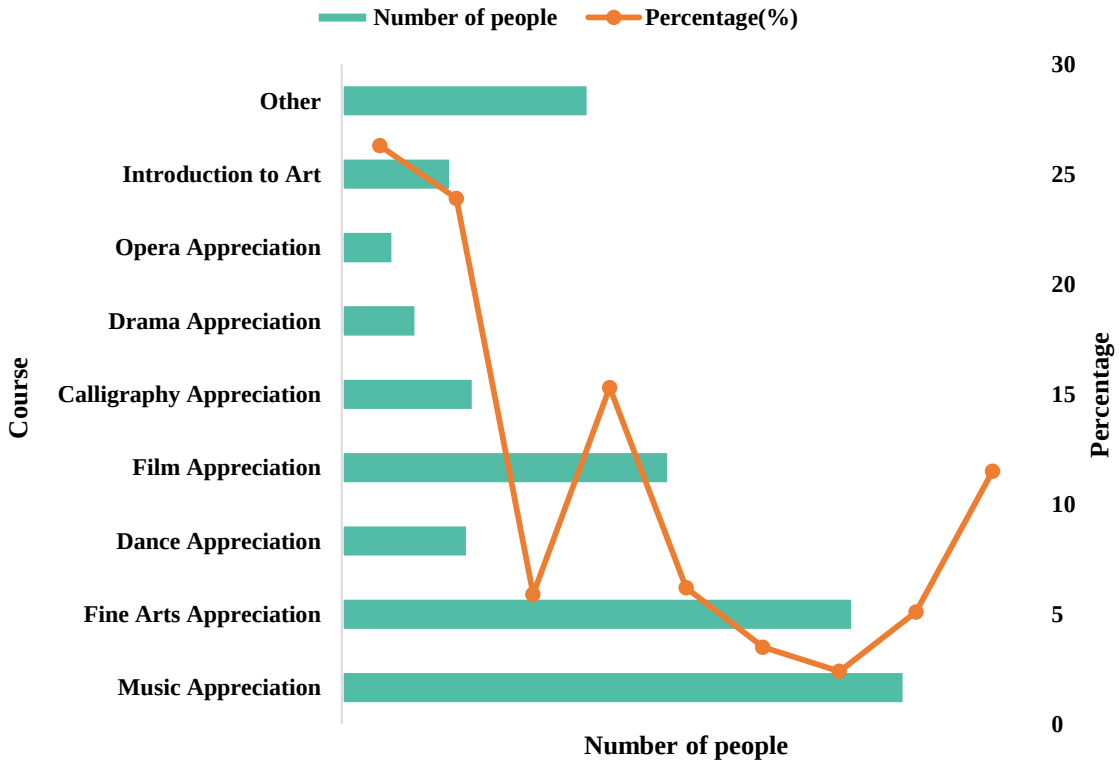

Figure 3. The types of art education courses studied by vocational students

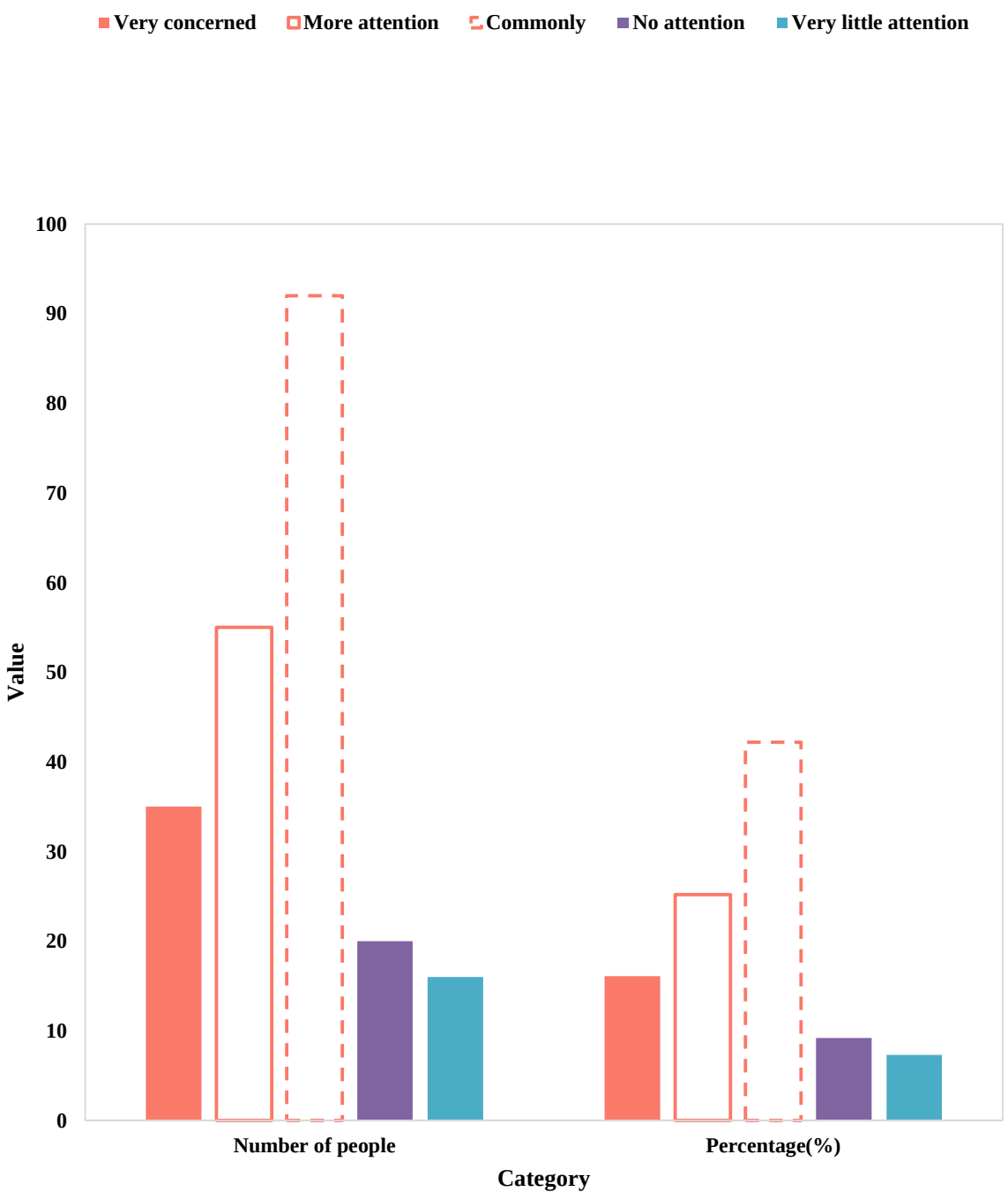

Figure 4. The school's emphasis on art education courses

5. Conclusion

Art education can promote the development of human intelligence. The theory of multiple intelligences makes music teaching out of the shadow of the traditional ultimate goal of imparting knowledge, positioning the teaching purpose in the cultivation and development of students' intelligence. We should change our ideas, establish a new management mode suitable for the requirements of political, economic and social development, formulate operable incentive measures, increase the assessment and evaluation of teachers. Change the old concept of talent, establish a new talent flow, interactive mechanism, so that the indicators and measures of the construction of teaching staff tend to be reasonable and perfect. The key of distance teaching system is the content of design and operation and the services it provides. Building a personalized and targeted professional teaching system will be a learning and communication platform for art teachers and students in the new era. Distance teaching system can be used as an attempt of teaching reform in art and design schools. At the same time, it can also be used as the combination of professional disciplines and information technology, and become an important way to improve students' information quality.

Funding

This article is not supported by any foundation.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

References

[1] Ong M , Smith J M , Ko L T . Counterspaces for women of color in STEM higher education: Marginal and central spaces for persistence and success. Journal of Research in ence Teaching, 2018, 55(2):206-245. https://doi.org/10.1002/tea.21417

[2] EFMD Mendonça, JG Galán. Professional Practice in Higher Education: A Case Study in Faculty Training and Development in Brazil. Social Science Electronic Publishing, 2018, 2(2):51-64. https://doi.org/10.18562/ijee.018

[3] Lee M T , Raschke R L . Freeing "workplace prisoners" in higher education: Configurations for collective knowledge building and educational value decisions. Journal of Business Research, 2018, 88(7):443-448. https://doi.org/10.1016/j.jbusres.2018.01.022

[4] Hewitt-Dundas N , Roper S . Innovation in UK higher education: A panel data analysis of

undergraduate degree programmes. Research Policy, 2018, 47(1):121-138. https://doi.org/10.1016/j.respol.2017.10.003

[5] Bassi F . Students' satisfaction in higher education: the role of practices, needs and beliefs of teachers. Quality Assurance in Education, 2019, 27(1):56-69. https://doi.org/10.1108/QAE-05-2018-0061

[6] Kupfer A . Policies of Differentiation in Higher Education in Britain and in Germany: Effects on Social Recruitment. Analytica Chimica Acta, 2018, 726(9):44-49.

[7] Amber K P , Dunn A , Parkin J , et al. Development of a Combined Heat and Power Sizing Model for Higher Education Buildings in the United Kingdom. Energy & Buildings, 2018, 172(8):537-553. https://doi.org/10.1016/j.enbuild.2018.02.027

[8] Bylsma, Paul E . Stuber, J. M. (2011). Inside the College Gates: How Class and Culture Matter in Higher Education. Studies in Philosophy & Education, 2018, 37(2):1-3. https://doi.org/10.1007/s11217-017-9588-x

[9] Brewer R , Movahedazarhouligh S . Successful stories and conflicts: A literature review on the effectiveness of flipped learning in higher education. Journal of Computer Assisted Learning, 2018, 34(4):409-416. https://doi.org/10.1111/jcal.12250

[10] Baltaru R D , Soysal Y N . Administrators in higher education: organizational expansion in a transforming institution. Higher Education, 2018, 76(2):1-17. https://doi.org/10.1007/s10734-017-0204-3

[11] Lafuente-Ruiz-De-Sabando A , Zorrilla P , Forcada J . A review of higher education image and reputation literature: Knowledge gaps and a research agenda. European Research on Management and Business Economics, 2018, 24(1):8-16. https://doi.org/10.1016/j.iedeen.2017.06.005

[12] Pacheco E , Lips M , Yoong P . Transition 2.0: Digital technologies, higher education, and vision impairment. The Internet and Higher Education, 2018, 37(4):1-10. https://doi.org/10.1016/j.iheduc.2017.11.001

[13] Heuij K , Neijenhuis K , Coene M . Acoustic environments that support equally accessible oral higher education as a human right. International Journal of Speech-Language Pathology, 2018, 20(1):1-7. https://doi.org/10.1080/17549507.2017.1413136

[14] Kim E , Labianca A S . Ethics in Academic Writing Help for International Students in Higher Education: Perceptions of Faculty and Students. Journal of Academic Ethics, 2018, 16(2):1-21. https://doi.org/10.1007/s10805-017-9299-5

[15] Haar, Mindy. Increasing Sense of Community in Higher Education Nutrition Courses Using Technology. Journal of Nutrition Education & Behavior, 2018, 50(1):96-99. https://doi.org/10.1016/j.jneb.2017.04.015

[16] Sim M , Conduit J , Plewa C . Engagement within a Service System: A Fuzzy Set Analysis in a Higher Education Setting. Journal of Service Management, 2018, 29(3):422-442. https://doi.org/10.1108/JOSM-08-2016-0232

[17] Dixit M K , Singh S . Embodied energy analysis of higher education buildings using an input-output-based hybrid method. Energy & Buildings, 2018, 161(2):41-54. https://doi.org/10.1016/j.enbuild.2017.12.022

[18] Faizi R . Moroccan higher education students' and teachers' perceptions towards using Web 2.0 technologies in language learning and teaching. Knowledge Management and E-Learning, 2018, 10(3):86-96. https://doi.org/10.34105/j.kmel.2018.10.005

[19] Matongolo A , F Kasekende, Mafabi S . Employer branding and talent retention:

perceptions of employees in higher education institutions in Uganda. Industrial and Commercial Training, 2018, 50(5):217-233. https://doi.org/10.1108/ICT-03-2018-0031

[20] Al-Rahmi W M , Alias N , Othman M S , et al. A model of factors affecting learning performance through the use of social media in Malaysian higher education. Computers & Education, 2018, 121(6):59-72. https://doi.org/10.1016/j.compedu.2018.02.010