Professional Development of Art Teachers under the Background of Curriculum Reform based on Computer Clustering Systems

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Abstract: Under the new curriculum background, art teachers need to adapt to the needs of reform and development, and change the traditional teaching behavior and the teaching methods. At present, the new education theory, teaching objectives and teaching contents have put forward new and higher requirements for teachers. As an art teacher, his or her own professional hands-on practical ability and theoretical knowledge level determine the effectiveness of teaching to a large extent. Professional art teachers should adapt to the needs of the modern education reform and career development. Therefore, art teachers need to have professional skills, but also to understand and then learn manual, sculpture, calligraphy, photography, design, animation and other aspects. Art teachers need to constantly optimize their own professional knowledge structure and broaden their professional skills. Therefore, this paper introduces the professional development of art teachers under the background of curriculum reform based on computer clustering systems. The cluster data mining framework is integrated to improve the general performance of the traditional methods. We analyze the data from the Internet by Python to provide the statistical parsing of the conditions.

Keywords: Curriculum reform; Art major; Teachers; Professional skills; Scientific computing; Clustering model; Data mining

1. Introduction

In the context of the new curriculum, school art education calls for further changes in the concepts of teacher education and school management systems, and calls for the professional development of art teachers. The utilization and development of training resources for university teaching systems and the overall transformation of continuing education and training for in-service teachers must be adapted to the needs of the new round of curriculum reforms, and comprehensive reforms should be made in terms of curriculum concepts, function structure, content implementation, and evaluation management. All teachers need to recognise new courses and accept new ones. School administrators should also raise awareness in education management, strengthen the emphasis on subject education, and actively carry out in-service teachers' continuing education and training. Art teachers should gradually change from the painter's role to the role of the educator. This requires that the art teacher not only has a certain professional skills, but more importantly, it should also have the teaching ability of this technique. However, in the new art curriculum standard requirements, the teaching of techniques is only one small

aspect. Faced with student-centered art learning activities, art teachers are no longer the traditional "mission, study, and doubt-solving" functions in teaching, but are participants, leaders, and organizers of student learning activities. This requires that art teachers no longer use teaching techniques as the main teaching method. We must explore new ways of teaching, carry out fine arts research, and become teachers of teaching research, and we must be able to play the role of teachers and the role of research in the new teaching methods. Therefore, the necessity for the professional development of art teachers is beyond question.

With the major changes in art teaching methods, methods and contents, art teachers should gradually realize professional development in their own growth. As a member of the teacher group, the art teacher must first have the basic skills of the teacher, and secondly must have professional skills in subject classification, painting, design, photography, etc., thus becoming a professional teacher with many skills. In the new historical starting point, art teachers should pay attention to the professional growth of their own in order to further adapt to the needs of educational development and to better guide students in art activities in the era of the visual culture. The establish-

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ment of a noble aesthetic character and a correct outlook on life and morality can truly promote the development of students' own qualities. We bring inquiry-based teaching methods into the classroom, through inquiry teaching activities, to strengthen students 'inquiry experience, is conducive to then stimulate students' learning interest and enthusiasm is conducive to develop students' creative emotion, general innovation consciousness, innovation ability by exploring the teaching activity, change the students passive acceptance of knowledge, ways of learning, advocates students through group discussions in the form of enhanced exploration and innovation, learn scientific manner, so as to enhance the integrated use of the modern knowledge the ability to understand.

In the teaching of sketching, the teacher should refer to the works of some sketching masters, and guide them from the aspects of painting environment, painting state and form feeling of the master. The students should be taken seriously when creating each work, and have a clear understanding of the form and expression of the picture. Through the outstanding works of art appreciation, recognition and extension, students can develop in the understanding of the concept of modelling, and to the overall space of the object's shape, texture, performance, the rhythm of the rhythm, painting language and expression and so on will have the deeper understanding. The design direction courses in the fine arts and the design courses in the arts are very different in terms of the modern curriculum content setting, personnel training goals, and the employment market, which truly reflect the difference in design direction and design specialty.
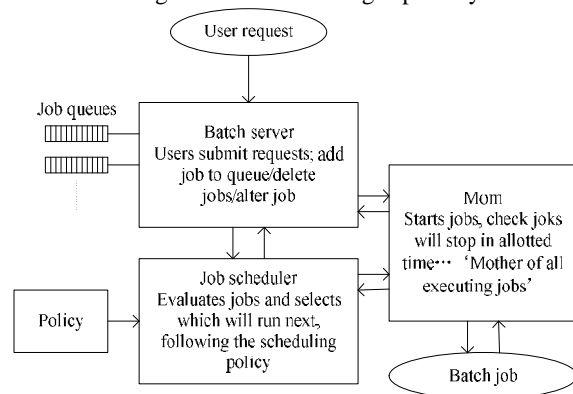

Figure 1. The framework of the proposed model

Education should be oriented to all students and pay attention to quality education. Special emphasis should be placed on each student's emotions, inspire them to learn the interest of art, and help them establish the correct aesthetic and noble aesthetic character, so that they develop aesthetic skills in the learning process, Improve the humanistic qualities, enhance the ability of artistic practice, and cultivate the spirit of artistic innovation. There-

fore, art teachers must change their teaching behavior. First of all, it is necessary to develop students in the art classroom teaching. The biggest difference between it and traditional classroom teaching is that the student's learning behavior has changed. Students are no longer passive knowledge recipients, but they are self-directed, active knowledge seekers. Teachers should be based on student development and change their role in teaching. Secondly, the art teachers must then also change the potential traditional teaching models in their minds, adapt to the needs of the development of the times,andpay attention to the cultivation of their professional knowledge and teaching skills, improve their teaching strategies, creatively teach, and strive to create a democratic, harmonious, relaxed The classroom atmosphere and communication and communication with students become a guide for students to learn and help students learn to learn. Third, art teachers must profoundly understand the basic educational curriculum reform trends and curriculum concepts, and gradually transform them into their own specific teaching behavior.

2. The Professional Development of Art Teachers based on the Background of Curriculum Reform

2.1. The necessity of the reform of teachers' professional training model

In the process of implementing the new art curriculum standards, the impact of the new curriculum concept on traditional high school art teaching models has gradually emerged. At the same time, it also poses a severe challenge to art teachers in primary and secondary schools. Liu Jian, a specialist in primary and middle school education reform at the Ministry of Education, said: "The new curriculum reforms will become teachers and teachers." The quality of art teachers will directly affect the physical and mental development of the students they teach. Its role is immeasurable. In order to implement successful art education, the art teacher must be an excellent modeler himself. Therefore, the process of education and training of art teachers is the process of professional growth of teachers, and the art majors of teachers' universities are responsible for this task. The teachers of fine arts students trained in normal schools are the backbone of the implementation of the new curriculum. Full understanding of the new curriculum reforms and the understanding of the art curriculum standards at the university stage will facilitate the better implementation and implementation of the "standards" in future teaching. However, in the current teacher education system of teacher education, teacher education has a smaller proportion of courses and fewer classes. The acceptance of new curriculum concepts is incomplete and unsystematic, and cannot fully meet the needs of the new curriculum reform.

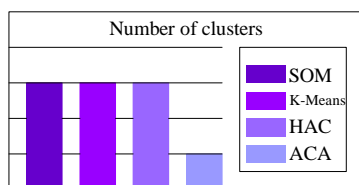Therefore, the professional teacher training model Reform is imperative.

Figure 2. The cluster model presentations

The theme of the 1980 World Yearbook of Education is "professional development of teachers". Teacher professionalization is the requirement and inevitable trend of modern education development. Constantly increasing the level of professionalism in teachers in China is also a practical need to implement the strategy of rejuvenating the country through science and education and to realize the great rejuvenation of the Chinese nation. With the intensification of social life informatization and economic globalization, the era of visual culture has come, "influence the use of mass media, shopping malls, game arcades, local sculpture parks, or public art, internet, fashion furniture, etc. Visual art is everywhere." "Visual arts education is an era of visual culture. Under the guidance of the all-round development of quality education ideas, the school's education system develops students' abilities of observation, imagination, thinking, creativity, appreciation, appreciation, and artistic expression, forminga basic visual arts literacy in order to improve the student's personality discipline." In this visual and cultural context, today's society has entered the age of reading, text has become a simple note, and more information is expressed by the image elements. It is necessary to carry out in-depth discussions through the appreciation and review of art education. The importance of art education is increasingly prominent. The correct aesthetic attitude, noble aesthetic character, and perfect aesthetic expression have become indispensable qualities for first-rate talents.

2.2. Transform teaching methods and explore classroom teaching

Positive emotional input from teachers is the basis for transforming teaching methods. The main factors affecting the efficiency and quality of education in the analysis of educational psychology results are not the differences in the intelligence of students but the non-intelligence factors in emotional will and quality. Excitation The enrichment of positive emotions can effectively promote the healthy development of cognitive processes and individual qualities, among which the influence of teachers' emotional effects is even greater. Teachers' classroom emotions affecting students' entire awareness activities, teachers' emotional cultivation and caring for students can lead students to turn from their initial love to enthu-

siastic and positive thinking in their teaching activities, strengthen their willpower, and enable the energy of non-intelligence factors.

The love of the teachers for career is the driving force behind the work and the ability to concentrate on one's own career. Research and explore educational and teaching work eagerly and eagerly. In the teaching activities, students' cognitive learning and affective learning are closely linked. When teachers send sincere and affectionate messages to students, it will bring a sense of trust and encouragement. Therefore, teachers should focus on working with emotions, care for students with rich emotions, and combine emotional factors with intellectual factors in teaching activities to form mutual advancement. The improvement of teachers' teaching knowledge and background literacy is a prerequisite for changing teaching methods. Art curriculum knowledge background includes art ontology knowledge, conditional knowledge and practical knowledge. Art ontology knowledge is about teaching knowledge; conditional knowledge is about the understanding of teaching, that is, the transformation of art ontology knowledge to student understandable subject knowledge; practical knowledge is the accumulation of teaching experience. The key to the growth and development of specialized teachers is to continuously enrich their conditional and practical knowledge. In teaching, teachers should regard preparing lessons as writing scripts, teaching as performances, and making themselves as spectators. Therefore, the clustering models and patterns should be integrated.

The traditional data distribution method fails to then fully consider the heterogeneity of the heterogeneous nodes of the cluster database. When the data distribution of the cluster database is performed, it is easy to produce a relatively serious situation of data division, which affects the performance of the cluster database.After the cluster device receives the pending data packet from the network, the first step is to use the load balancing algorithm to perform the task allocation in the load balancing subsystem. This link can effectively achieve the reasonable distribution of the data packet processing task, directly affecting.

The overall performance of the clustered firewall system is reached; after the allocation is completed, the data packets flow to its corresponding processing system, that is, the fault-tolerant subsystem, and is analyzed and filtered in the system; the online monitoring subsystem is responsible for monitoring and managing each node such as the maintenance and adjustment of the rule set, recording and alarming of the failure of a certain equipment.

When we cannot avoid using a non-primary key attributes to access the data, and the distributed storage system performance becomes the developer need to face the problem. Create a secondary index is a database system to improve access performance of an important

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means, in the traditional relational database and distributed database in the field already have a fairly sophisticated indexing techniques. In the first place in the following data information completeness, consistency, and under the condition of the moderate size determination data fragmentation, and according to the core relevant principles to choose the appropriate partition properties based on the improved genetic algorithm to build cluster database data distribution model, to then obtain the optimal data allocation strategy, implement the data distribution of the balance. From another angle to see the database cluster of different ceramic resistance is inevitable. Heterogeneous nodes with different computing power are mainly due to the CPU speed, memory capacity, and disk resources of a heterogeneous configuration are the cause. Some studies have focused on distributed memory multi-machine parallel processing, while other studies mainly consider the parallel disk system in the IO parallelism or heterogeneous file system IO load balancing, and other studies in a heterogeneous cluster, considering only the CPU-based load balancing policy while only when each of the nodes of all compute resources fully utilized. The cluster system in order to obtain the efficient parallel processing performance and therefore, in order to effectively utilize the core heterogeneous node computing resources, we will in a heterogeneous cluster based on different node weights are calculated for non-uniform data into the classifications. Compares with traditional the simple point memory system deployment to need to carry the server to provide the high performance data processing and the memory support high, the distributional memory system by quantity multitudinous, the cost low ordinary server is usually composed, in the colony each server node can save and the management system management system part data.In the distributional system, the data uses the general multi-transcription redundancy to save generally, when some node appears the breakdown, in this node data may find the corresponding transcription in other nodes, still might visit.
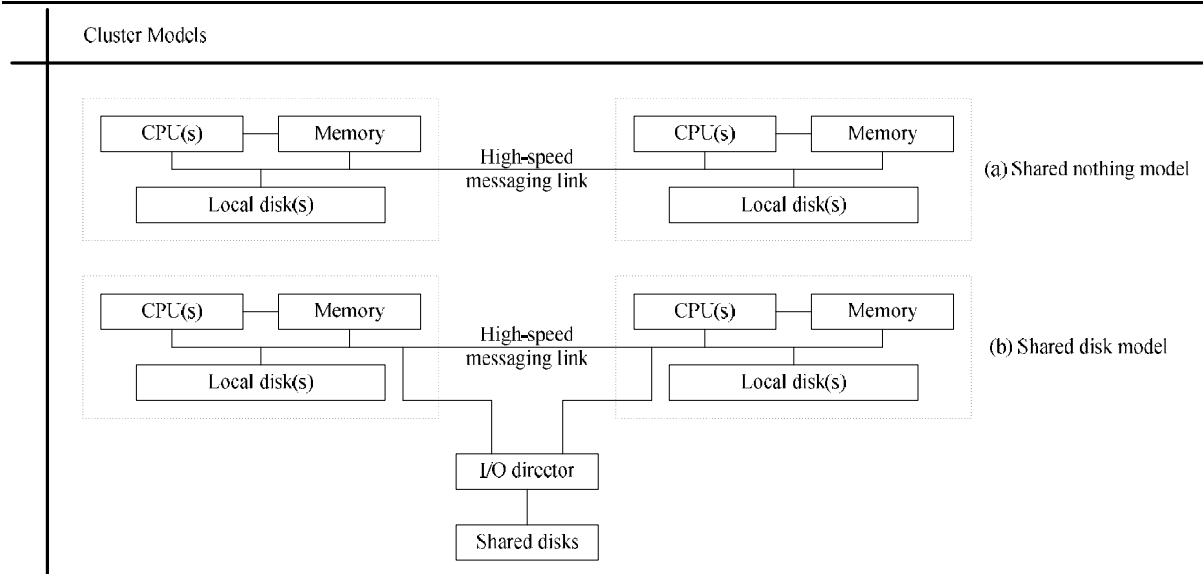
The distributional memory system all has the good linear extendibility generally, through the increase memory node may linear increase system processing and memory property.Given SOM network structure, with a random sampling of 20 million to 120 million samples unequal data set for training, the obtained root node of the SOM network weights difference is small, this revelation to us: for bulk-data set, randomly take some, but not all of the data for training to obtain substantially the same network and thus, can be used to gradually increase the sample of the way for SOM network training, and network weights convergence for the iteration control conditions, in order to achieve SOM of iterative incremental sampling training.

In practical applications, the data access rate of each node in the cluster is uncertain as the load increases.

Even the application of the system performance is a good data distribution policy, after running for a long time, still can cause some hot data overload, which can lead to node is data skew. System performance will be serious decline at this moment, therefore, need to transfer some hot data to other nodes share the load in low load condition, in order to keep the dynamic balance of cluster system.When a node device receives a data packet, it calculates the hash value of the data packet according to the information such as the address in the header, and judges whether the calculated result falls within the weighted value range owned by the current node device. If the yes, then accept the data packet for the next step and report the acceptance status to the system and the cluster system records this acceptance in the maintenance table, and assigns the same IP address packet to the same priority in the next round of distribution as the node to improve the consistency of data processing; if not, then discard the packet.

2.3. Expand professional skills and improve scientific research capabilities

Art has a strong practicality. As an art teacher, its own professional hands-on practical ability and theoretical knowledge level, to a large extent, determines the effectiveness of teaching. Professional art teachers must adapt to the needs of education reform and professional development. In addition to their professional skills, they must also understand and study in manual, sculpture, calligraphy, photography, design, animation and other aspects, and constantly optimize their own Professional knowledge structure, broaden professional skills. First of all, the diversity of art knowledge themes requires the teacher to understand in detail the characteristics and effects of different subject matter techniques and to be familiar with various skill techniques. Secondly, the richness of art teaching activities requires teachers to pay attention to the research of various technologies such as computers, networks, and multimedia production, and they can actively use them in teaching. Therefore, the expansion of fine art techniques and the learning of modern educational media technologies are crucial for the professional development of teachers. Teachers should further strengthen their vocational and technical skills and establish the concept of life-long learning on the basis of the existing art education of some teachers' colleges. They should combine the development trend of Chinese and foreign art education and visual cultural information in real teaching, and explore new elements of art teaching techniques, and improve art criticism. And the ability of aesthetic discrimination enables arts skills and educational professional skills to work better in the setting of multi-class modules for art courses.

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Figure 3. The cluster model pattern

With the implementation of the new art curriculum, education and scientific research ability has become the soul that leads the curriculum and advances with the times. Fine art research capabilities include the following aspects. To find and dig out the problems that arise in the process of art education, choose the issues that are of outstanding research value in teaching and management of fine arts, and make predictions and design of topics. Identify, classify, compare, evaluate, and use information related to art education. Under the condition of the diversity of visual culture, the information flow is developed and the sources are many. The value of such capabilities is even more important. Exploring innovation and implementing operational capabilities. Under the conditions of the new curriculum, scientific research in art and teaching in primary and secondary schools is a brand-new creative activity. The range and mode of research that can be referred to are often narrow, and there are sometimes no uniform rules to follow. This requires teachers to have pioneering and innovative spirits and innovative capabilities. Teach scientific research to implement the specific research process, and organize and coordinate the research team's work. Text representation Communication skills. It is necessary to resort to the conclusions of the study and to formulate the capabilities expressed through research reports, articles, and so on. This is also the basic condition for the exchange and promotion of results. At present, the use of modern technology to produce chart information will be more conducive to the description and promotion of results.

First of all, as a professional art teacher, in addition to having his own long-term expertise, he must also be able to do a lot of specialization. To adapt to the development of fine arts education, in addition to a variety of painting skills, art teachers must also have other relevant art skills, such as the photography, video, graphic design, product design, environmental design, multimedia design, etc., to adapt to the era of visual culture. Changes in the content of art courses. In terms of other skills, art teachers must also have a certain level of understanding and awareness, optimize their own knowledge structure, and make themselves take on the corresponding art teaching work.

3. Conclusion

Art teaching and art teaching have mutual promotion and also intrinsic links. Teaching and scientific research have powerful comprehensive functions. It can ensure that teachers' energy and intelligence are accurately, properly, and efficiently put into teaching practice. Under the guidance of the new educational concept, teachers' awareness of teaching and research can translate into research teaching, finding problems, exploring teaching and forming positive solutions. We must pay attention to all aspects of the modern daily teaching, integrate teaching research with the professional development of teachers, and promote the overall improvement of teaching and research quality.

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