Problems and Development Strategies for Art Education in Kindergarten in the New Media Era

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Abstract. The effective combination of education and information technology has developed into a new educational trend, which has also made it a field that has attracted much attention from the education community and is worthy of research. This research uses questionnaire surveys to collect information, analyzes the status quo of art education in kindergartens in the new media era and the current problems in art education, proposes development strategies for art education in kindergartens in the era of new media, further improves the effective integration of new media and traditional art education classes in kindergartens, and promotes the development of kindergarten education.

Keywords: New Media, Electronic Equipment, Kindergarten Art Education

1. Introduction
With the progress of society and the rapid development of modern science and technology, today's teaching methods and tools of classroom teaching have gradually become more advanced and diverse. As the starting point of learners' learning and education, kindergartens play a vital role, and the art education of kindergartens lays the foundation for children's future artistic aesthetics, artistic cognition and artistic creativity. The development and progress of new media technology has brought new methods and models to kindergarten education and teaching. In the era of new media, what problems still exist in kindergarten art education and how teachers should better promote art education in kindergartens are worthy of thinking. This research aims to discover the existing problems of art education in kindergartens in the era of new media and then put forward relevant development strategies to better carry out art education in kindergarten [1-3].

2. Research Design and Implementation

2.1. Research Object
The objects of this research are the two public kindergartens A and B as well as two private kindergartens C and D in Wanzhou District, Chongqing City. In each kindergarten, teachers of each class randomly selected students in the three age groups of young, older and oldest for investigation.

2.2. Research Methods
The main research method used in this research is the questionnaire survey method, which is based on the answer of written questions from teachers in different kindergartens. This questionnaire is distributed and filled out by publishing a network link. A total of 72 questionnaires were distributed in the research, and 72 questionnaires were returned. Among the returned questionnaires, 69 were valid questionnaires with an effective rate of 95%. The questionnaire investigates the use of new media equipment in kindergartens and the quality of teachers themselves, collects and analyzes the final data, finds out the current situation and problems of art education in kindergartens in the era of new media, further analyzes the reasons, and finally proposes relevant feasible strategies [4].

2.3. Research Tools
The questionnaire survey outline of this research is adapted from the online questionnaire "Investigation of Preschool Teachers' Teaching Situation with New Media"

3. Research Findings and Analysis

3.1. Research Findings
In order to understand the status quo of art education in kindergartens in the era of new media, researchers used questionnaires to find out about the situation from kindergarten teachers. The survey content includes teachers’ understanding of new media, teachers’ comprehensive capabilities for acquiring information technology, the application of new media technology in kindergarten art education activities, and teachers and children’s feedback on art education activities involving new media [5].

3.1.1. Teachers’ understanding of new media knowledge. From Table 1, 75% of kindergarten teachers have only a little understanding of new media, and 5% of them do not understand the concept of new media. As an object that can bring new methods to education and teaching, new media technology will be more widely used in kindergartens in the future. Teachers as the main participants in the teaching work of kindergartens, if they do not understand thoroughly or do not understand the elements of the kindergarten classroom participation, then the corresponding teaching work for children cannot be better carried out [6].

| Survey project          | Option    | Percentage |
|------------------------|-----------|------------|
| Understandings of new media | very well | 20%        |
|                        | A little  | 75%        |
|                        | None      | 5%         |

3.1.2. The comprehensive capability for information technology of teachers. From Table 2, the majority of kindergarten teachers have no professional knowledge background related to the comprehensive capability of information technology, but about 80.6% of teachers have self-studied relevant knowledge, and most kindergartens have organized relevant training of information technology knowledge. As the main role of guiding, teachers need to continuously expand their own knowledge reserves. When some emerging teaching methods and technologies appear, teachers need to have enough knowledge reserves to adapt to them, in order to effectively play the role of new media technology and make them provide better services for teaching [7].
### Table 2. Survey table of comprehensive capability for information technology

| Survey project                        | Option | Percentage |
|---------------------------------------|--------|------------|
| Have relevant professional knowledge background | Y      | 24.4%      |
| Does the kindergarten organize relevant training | N      | 75.6%      |
| Does the teacher self-study relevant knowledge | Y      | 67.5%      |
|                                       | N      | 32.5%      |
|                                       | Y      | 80.6%      |
|                                       | N      | 19.4%      |

3.1.3. **New media network configuration, new media product usage and new media equipment configuration in kindergarten art education activities**

(1) Network configuration

Nowadays, kindergartens are basically connected to the Internet, which provides convenience for teachers and their staff to collect teaching materials, prepare lessons, and organize teaching activities. From Table 3, the kindergarten's network usage is good, but some kindergartens have relatively poor network usage.

### Table 3. Network use

| Survey project | Option   | Percentage |
|----------------|----------|------------|
| Internet usage | Very well| 37.84%     |
|                | Normal   | 56.76%     |
|                | Poor     | 5.41%      |

(2) Usage of new media products

### Table 4. Development of new media products

| Survey project | Option | Percentage |
|----------------|--------|------------|
| Ever developed new media products | Y      | 75%        |
|                                    | N      | 25%        |

### Table 5. Usage of new media products

| Survey project | Option        | Percentage |
|----------------|---------------|------------|
| Type           | Art appreciation | 60.8%   |
|                | Art operation  | 12.3%     |
|                | Art communication | 26.9%   |

With the rapid development of information technology, people's knowledge reserves are gradually increasing, and more and more new media products are constantly appearing. For example, teaching APP, short video APP, various WeChat official accounts, etc. provide convenience for daily life and study. In kindergarten art education, it is mainly divided into art appreciation, art operation, and art communication. During the investigation, we found that the development of new media products in kindergartens is not very good, and most teachers use art appreciation products, and barely use art operation products [8].

(3) The new media equipment configuration

It can be seen from Table 6 that most of the new media equipment in kindergartens can basically meet the normal daily teaching activities of teachers. There are various types of new media equipment. The most equipped kindergartens are digital TVs, computers and projectors. Electronic whiteboards and tablets are relatively few, and voice recording classrooms are even less [9].
Table 6. New media equipment configuration

| New media equipment                  | Percentage |
|-------------------------------------|------------|
| Digital Television                  | 78.38%     |
| Computer projector                  | 72.97%     |
| Electronic whiteboard               | 17.32%     |
| Voice recording classroom           | 7.89%      |
| Tablet                              | 24.32%     |
| Other                               | 3.11%      |

(4) Types of new media equipment used by teachers in teaching

Table 7. Selection of new media equipment

| New media equipment (multiple choice) | Percentage |
|--------------------------------------|------------|
| Digital Television                   | 81.58%     |
| Computer projector                   | 63.16%     |
| Electronic whiteboard                | 16.05%     |
| Voice recording classroom            | 6.32%      |
| Tablet                               | 20.48%     |

From Table 7, in kindergarten art education activities, 81.58% of teachers choose digital TV, 63.16% choose to use computer projectors, 16.05% choose electronic whiteboards, 20.48% choose to use tablet, and only 6.32% of teachers choose to use multimedia functional classroom for teaching.

3.2. Research Analysis

3.2.1. When kindergartens apply new media teaching, teachers have insufficient relevant knowledge. The US state government mentioned in the document "Early Learning Standards" that a clear technical standard for children who are now 0-5 years old is proposed, and kindergartens have increased the use of information technology. The best way to integrate new media and kindergarten teaching is to infiltrate new media into every aspect of teaching activity. However, there are still some kindergartens with imperfect hardware equipment for new media application, and teachers’ relevant educational background is relatively low. For the mastery of new media technology, many teachers lack essential understanding. In the previous survey of the current situation, we can find that about 75% of teachers have only a little understanding of new media knowledge, and about 5% of teachers even have no knowledge of new media at all, so their knowledge of new media is not deep enough, and relatively speaking, they are also not very proficient in the application of new media technology. With the development of science and technology, information technology is constantly improving. Some kindergartens advertise themselves as informationized, and when using new media technology in teaching, the teachers of them do not consider to effectively integrate the age characteristics, cognitive level, and existing experience of children teaching for better education. The application of new media technology in teaching is becoming more and more frequent, which requires kindergarten teachers to have a deeper understanding of the essence of new media, strengthen their professional development of information technology and expand their skills to optimize the process of kindergarten education [10].

3.2.2. The professional development of kindergarten teachers faces the problem of relatively low comprehensive capability for information technology. From the big data analysis obtained from the survey of the status quo, we can find that about 75.6% of kindergarten teachers have no relevant professional knowledge background on information technology and no corresponding theoretical knowledge to support their teaching, and about 32.5% of the kindergartens have not organized information technology knowledge training. For related training, kindergartens have not provided corresponding support for the development of teachers' professional knowledge, so teachers will
inevitably encounter certain technical difficulties in operating new media equipment in teaching. On the other hand, there are many ways to use new media equipment, if teachers do not have relevant information technology knowledge, they are relatively unable to actively explore the potential functions of new media equipment.

3.2.3. Specific problems in art education activities

(1) Monotonous use of equipment
Each classroom in the kindergarten is equipped with new media equipment such as digital TVs, computer projectors, electronic whiteboards, and multimedia functional classrooms. These equipment provide teaching convenience for teachers to use modern information technology in art education activities in the classroom. From the collected big data, about 82.5% of kindergarten teachers will choose to use digital TV and about 65% of kindergarten teachers will choose computer projectors, but only 47.5% use electronic whiteboards and only 22.5% use tablet. According to the survey, there are more than these types of new media equipment in kindergartens, such as voice recording classrooms, but teachers have not used them effectively.

(2) Choose blindly
There are many types of new media equipment, and each has different effects and functions. In kindergarten art education, the real purpose of new media equipment is to optimize the teaching process, not to use it because they have. From the perspective of big data, about 63.16% of teachers use new media in class to reduce the burden of lesson preparation, 73.46% of teachers choose new media to show their own operating skills, and 92.11% of teachers use new media to teach children in terms of art appreciation education, only 23.6% of teachers will use it in art creation.

4. Research Conclusion and Inspiration

4.1. Based on the Characteristics of Children's Physical and Mental Development
When applying new media teaching technology to art education in kindergartens, the primary factor that needs to be considered is the characteristics of children's individual physical and mental development. Children have infinite curiosity about everything in the outside world, which seems plain and simple to us as adults as lines and patterns while children can have their unique imagination on those. Therefore, when teachers use new media technology to teach, they should first consider the characteristics of children’s personality development, and then effectively combine children’s teaching goals and content, and select appropriate new media teaching methods. When choosing new media, teachers should know that the teaching is not about how high-level the content and methods are, but whether it is suitable for children's cognitive scope and interpretation ability.

4.2. Consider the Applying Degree of New Media
The application of new media technology in teaching should pay attention to the suitability of the application. It must serve the purpose of teaching, take appropriate teaching content as the core, and promote the development of children's learning ability and stimulate children's learning interest as the primary starting point, use appropriate and effective methods to present teaching content in classroom. While improving the teaching conditions and process, new media will also limit children's thinking divergence and imagination to a certain extent. Therefore, when using new media for teaching, teachers should consider the perspective of using new media in teaching process. It is important to remember not to abuse or misuse the new media equipment, pay more attention to children’s hands-on ability and self-expression ability, and give full play to children’s initiative ability.

4.3. Cultivate Kindergarten Teachers' the Comprehensive Capability of Information Technology
Kindergarten teachers have relatively high levels of professional knowledge and ability in children teaching, while their comprehensive capabilities of information technology are relatively weak. Kindergartens need to strengthen the construction of the teacher team, improve the level of
comprehensive capability of information technology operation of kindergarten teachers, strengthen the systematic new media content training courses for kindergarten teachers and organize corresponding activities to improve the basic content, teaching methods, and operating capabilities of kindergarten teachers in new media equipment operation in order to promote the improvement of kindergarten teachers' professional teaching level in the use of new media technology. In addition, kindergartens can also set the assessment of the new media technology ability of kindergarten teachers, and formulate a series of professional and reasonable assessment systems to encourage kindergarten teachers to learn new media technology more professionally and effectively. In addition, kindergartens also need to introduce advanced new media teaching equipment to enrich the new media teaching equipment in the kindergarten classroom, so that teachers and young children can effectively contact the new media teaching equipment, and can better use the new media equipment for teaching and learning. On the other hand, under the conditions of their own comprehensive capability of information technology, teachers can develop their own new media products, such as children’s learning video software, WeChat official account, kindergarten website, etc., which is not limited to the learning in the school classroom, but enrich children's art education in all aspects of life, so as to provide better teaching conditions for children's educational development.

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