

Usage of ICT in Kindergarten Education in Harbin City, China

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HISTORY OF ICT APPLICATION

According to the articles written by Ye P. S., & Liu X. J. (2015), Zhang L.W. (2005), and Gao H.Y. (2014), the history of ICT application in China can be summarized as follows. In the year 2000, the Chinese Ministry of Education held a meeting regarding information communication technology (abbreviated as ICT). As was announced in this meeting, China would like to popularize the usage of ICT in education in middle schools, primary schools and kindergartens. From 2010, the Chinese Ministry of Education accelerated the development from Digital Campus to Intelligent Campus. Digital campus refers to the usage of computer technology and network communication technology to record and manage the kindergarten teaching, scientific research and other useful information resources. This information could be integrated and refined scientifically and regularly, thus promoting the system innovation and management of kindergartens. To achieve intelligent management, education information and resource sharing would be required. Intelligent campus refers to the use of information technology in order to achieve effective integration and optimization of various resources, to achieve effective allocation of resources, to realize the optimization of education and school management processes, and to achieve digital teaching, learning, scientific research and management.

From 2013 onwards, many kindergartens in China have been using the Intelligent Campus Management System where every classroom is equipped with a multimedia teaching TV. Some kindergartens also created professional education websites to establish a bridge for communication between kindergartens, parents and society.

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USAGE OF ICT IN HARBIN CITY

1. Strengthening information construction and establishing an information environment in kindergarten

There are 1,332 kindergartens in Harbin City 338 of which are public kindergartens, and a total of 162,800 children and 18,600 teachers. There were no relevant guidelines for the construction of information environment in kindergartens, so Harbin City referred to the information evaluation index system of primary and middle schools for the construction. The five basis elements for the construction of kindergarten information environment standards were the information infrastructure, the information resource construction, application of information technology, the construction of information technology teams and the guarantee of funds. According to the information given by Harbin Municipal People's Government (2011), Hei Longjiang Provincial People's Government (2014), and Education Thinking Network (2017), Harbin started the implementation of the "Preschool Education 3 years plan of Harbin City" from 2011. Currently, Harbin City has completed all public kindergarten environmental construction and transformation tasks. The investment in kindergarten education has been increasing and has reached 14,865,900 RMB by the year 2015.

The construction of the new hardware environment included the setting up of a campus network system, CCTV, broadcasting system, safety monitoring system, software platform, as well as the provision of equipment for multi-media classrooms. This equipment includes a multimedia teaching display system, Smart-TVs, DVD players, video booths, computers, etc. Construction of a digital office system was important as it could enhance the management system of the kindergartens. In order to facilitate the construction of digital resources, the kindergartens configured notebooks, cameras, scanners, and recording and editing equipment for video and audio. To achieve network communication between kindergartens, a built-in LAN system in kindergartens was constructed (refer to figure A).

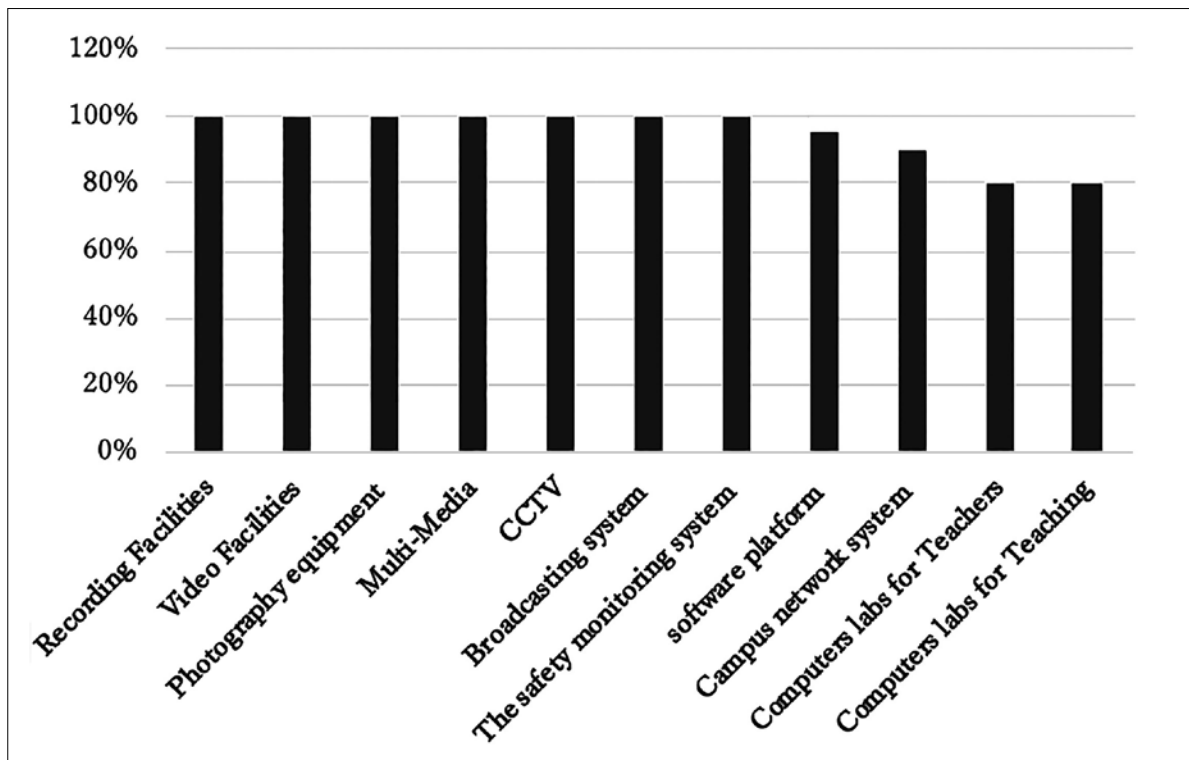


Figure A : Hardware construction of Government Kindergarten
 (According to Harbin Municipal People's Government (2011), Hei Longjiang Provincial People's Government (2014), Education Thinking Network (2017))

The construction of software resources established a platform for educational resources in kindergartens, providing application resources and material resources for children. These resources provided convenience for children's studies and daily life, and built a green and safe network space for the children. A resources platform for teachers was created and it included the creation of a picture database, professional growth, teaching aids, monographic study, teacher documentation, and content materials (figure B & figure C) which were shared to facilitate the teacher's teaching. High quality education resources sharing could be achieved by teaching research and preparing lessons in groups on the internet. These sharing platforms included the using of education internet portal and set up a series of communication platforms such as teachers' dialogues, successful practices in classroom, learning guidances, tutors, etc.

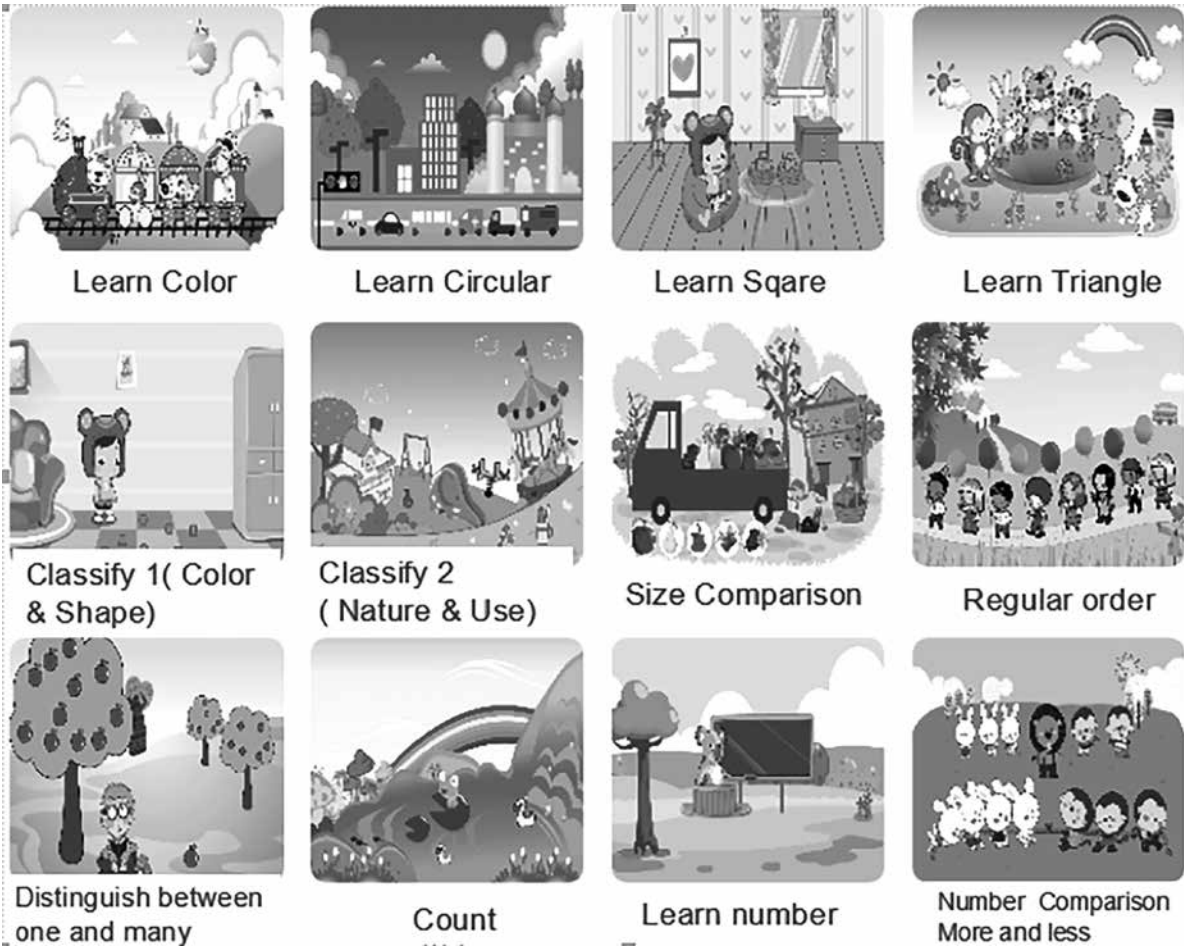


Figure B : Education Resources for 3 year old children

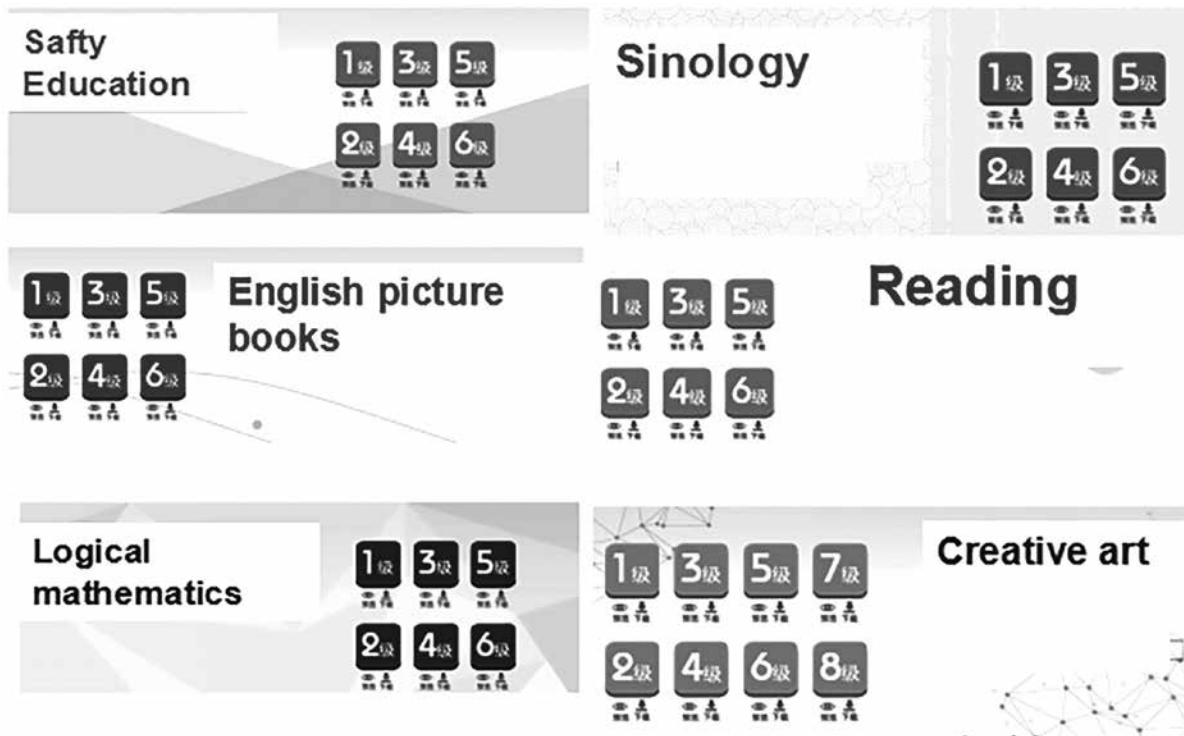


Figure C : Education Resources for 3~6 year old children

In recent years, the hardware and software construction in most kindergartens is becoming more complete than before. I think with the rapid development of information technology, we think that ICT has become the foundation and core of modern science, and the technology revolution from information technology has penetrated into every field of society. With the development of the application software, ICT has brought a new revolution in kindergarten for teaching and management. Following the construction of the primary and secondary school network, the kindergartens have entered the wave of network construction. ICT improves the modernization, standardization and scientific level of kindergarten management, and enhances the methods of new curriculum theory and subject teaching. ICT has also caused changes in education thoughts and ideas, improved teaching modes, contents and methods, and improved the quality of education and teaching. ICT has set up a new platform for the development of kindergartens.

2. Standardizing the management of information in kindergarten administration

According to the articles written by Ma L.(2014), Zhu S.H. and Wang J.D.(2014) and information given by an online education platform called Lang Lang Education, we realised that kindergarten information management is an important factor in the construction of a digital kindergarten. Kindergartens should establish and improve the information management rules and regulations according to the actual situation. These rules will regulate the management, making it convenient for everyone to learn and communicate with one another, thus enhancing the quality of management. Usage of ICT in kindergarten administration will create a digital environment that can improve management efficiency of every departments. Information like messages and notices, meeting arrangements, schedules, public news, transportation etc. will all be managed in one system. This system can make the office management become more orderly, and improve the scientific management level of managers. ICT enables electronic files to be created that include children's personal records, children's art works, learning activities, learning evaluation information, etc. At the same time, a kindergarten can collect students' information such as education ways, human resource files, health care information of children, financial information etc. through the use of ICT. To achieve integrated management of electronic information and hard copy information and to accelerate the process of modern information technology in kindergarten, the Internet becomes a useful tool for the education management.

With the usage of ICT, education managers can also provide feedback and advice on the education plans of teacher and help teachers to make teaching schedules and develop teaching notes and resources. Education managers are able to have a clearer view of the teaching situation in the kindergarten. Teachers can also leverage on ICT as an educational tool to support learning in the classroom and create enriching online learning experiences.

3. Promoting family and kindergarten cooperation

According to the article written by Lin Y.L. (2016) and information given by the online

education platform Lang Lang Education, most of the kindergartens in Harbin City set up network communication channels between family and kindergarten, to achieve effective interaction between teachers and parents. These communication channels include opening a forum column in the kindergarten website, class space, etc. Parents and teachers use these online forums to discuss and communicate between parents and teachers or among parents. At the same time, the kindergarten can also use other online communication platforms such as QQ communication groups, or WeChat communication groups, to achieve a two-way communication between teachers and parents, and to provide a synchronous and asynchronous communication platform. Online platforms like “Ai Youbao” (refer to figure D), that allows sending of messages and information to parents, have features that can inform the dynamics and temporary notices of classes, enable teachers to communicate with parents at any time thus giving feedbacks on children's performance in kindergarten timely. In addition, parents can express their views and suggestions through online applications tools using their mobile phones. ICT helps teachers and parents solve the problems of children timely and captures the opportunities of teaching.



Figure D : Ai Youbao APP

Kindergarten education activities cannot be separated from the support of parents. The rational use of resources of parents is a new way to promote the education development. ICT is applied in kindergarten, and fully displays characteristics of ICT interactive information and shared resources. The widespread use of smart phones makes communication between schools and families, teachers and parents more convenient and quick. Through the usage of ICT, parents can know children's dynamic and problems in kindergarten timely.

CONCLUSION

This paper is based on the preceding research about the usage of ICT in kindergarten education in Harbin city, China. The researches made us realize as follows. With the development of ICT, an E-learning system has been used in many kindergartens in China. With the usage of an E-learning system, it enriches the learning experiences and knowledge of the children. This enables learning to take place at anywhere and during anytime. This system incorporates the application of multimedia technology to stimulate children's interest in learning. ICT also supports the traditional teaching model and improves the quality of teaching.

We think kindergarten education should be based on the characteristics of children and ICT could be used to enhance teaching. ICT can make the abstract and boring teaching methods interesting and flexible, stimulate the interest of children in learning, and promote the comprehensive development of the children. Information technology's main goal is to increase the children's learning opportunities, enrich the children's learning content, and strengthen the communication between family, kindergarten, manager and children. It should not deprive the children of opportunities of direct perception, cognition, and operation that could reduce children's imagination space and creativity.

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