



Discussion on the Application of WeChat Mini Program in the Lifelong Education of Basic Computer Knowledge in the Age of Mobile Learning

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Abstract. Since the beginning of the 21st century, with the rapid development of high technology, the application of computers has penetrated into the daily work and life. At the same time, mobile learning education, a style of education which is based on the development of smart phone mobile technology, has developed into the focus of education. As one of the representatives, WeChat mini program, by virtue of its convenience and ease of use, brings a “shock” to the education field.

How to use mobile technology to popularize computer basic knowledge among the people while bring people the opportunity to enjoy lifelong education? Based on the application of mobile technology in education and the theory of connected learning and lifelong education theory, this paper studies the impact of lifelong education development in the era of mobile technology, and uses the literature research method and literature analysis software “CiteSpaceII” to explore the domestic and international status on the combination of lifelong education and mobile technology.

Through the establishment of an open concept of lifelong education development, and enhance the WeChat mini program civilizing application to narrow the “digital divide”, and build a new model of Lifelong education development as well, this paper explores the popularization of computer basic knowledge and lifelong development of education.

Keywords: Mobile learning · WeChat mini program · Computer basic education · Life-long education · Development ideas

1 Introduction

The thoughts and behaviors of lifelong learning have a long history in Chinese history. For example, in the Spring and Autumn Period and the Warring States Period, which is more than 2,000 years ago, An ancient Chinese sage, the man named Kuang Shi said: “Young eager for knowledge, just like the sunshine at sunrise; adult eager for knowledge, just like the light of the sun at noon; Elderly eager for to learn knowledge, just like the light that lights up the candle. Illuminated by candles and exploring in the dark, which is better?” Another ancient Chinese sage ZiXun believes that “There is never an end to learning.”

The idea of modern lifelong education was put forward by the French adult teaching scholar Paul LeGrand, in 1965 It should abandon the “front-end” education model formed by traditional society, which separates the learning and work, and the education and labor as well. The modern lifelong education model is a new education model which supposes that education should be advocated throughout people’s whole life, and realize the learning and life integration, as well as be participated by the whole society.

With the advancement of science and technology and the improvement of people’s living standards, computers have affected the world’s military, education, business and people’s work and life in a wide range of fields. The information age has brought opportunities to China’s development, but it has also brought challenges. The rapid development of computer technology and the relative lag of the people’s computer level have brought many inconveniences to work and life. So how do you popularize computer knowledge and how to make people of all ages enjoy the benefits of education?

According to a report by the Pew Research Center on June 25, 2018, the penetration rate of smartphones in China has reached 68%, and the smart phone allocation rate is comparable to that in Western countries. According to a research report released by US agency Zenith, the number of smartphone users in China will rank first in the world by 2020, which is 1.3 billion, close to the average manpower level.

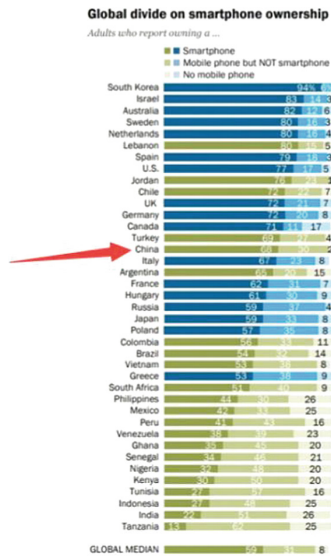


Fig. 1. Global divide on smartphone ownership

In the early morning of January 9, 2017, Zhang Xiaolong's 2017 WeChat Open Class Pro marked the official launch of WeChat's mini program. This is a revolution in mobile applications and a revolution in educational methods as well. The applet is an application that can be used without downloading.

It realizes the dream of the application "at your fingertips". Users can open the application by sweeping or searching, and also embody the concept of "run away". Users don't have to worry about installing too many apps, apps will be everywhere, ready to use, but no need to install and uninstall.

Due to the popularity of smartphone mobile Internet and WeChat and the fragmentation of user time, the Matthew effect of WeChat applet has gradually become apparent. WeChat applet is a kind of "light application". It relies on WeChat, a super APP, which solves the problem of long tail distribution and the connection between users and developers. The user also saves the trouble of downloading and installing the app. Since its launch, the mini program ecology has gradually been built into a huge ecology around the needs of clothing, food, housing, travel, entertainment, etc., which greatly facilitates people's lives and will undoubtedly produce patterns, channels and content for lifelong education. Great impact.

Since the age, occupation, study habits and learning time of the learners are not fixed, lifelong education in the new era should emphasize "where are the learners, where is the classrooms", creating an organic integration of space and time between the classroom and the learners. To provide "a ubiquitous classroom for learners." The WeChat applet also advocates the service to make the user "at your fingertips". Therefore, the concept of lifelong education has a perfect fit with the mini program, so that education can be "everywhere, at your fingertips".

Compared to APP and web applications, WeChat applets can be used across Android and iOS platforms, with a short development cycle and low cost. At the same time, we share more than 900 million user super traffic on WeChat platform, reducing the cost of acquisition and promotion costs. Moreover, the WeChat applet does not need to be downloaded and registered, and it will always exist when it is used up. It does not occupy memory and will make it easy to use. The mini program can be connected to the WeChat public account and the APP, and has a high level of experience similar to the native APP. Many educational resources are beyond the reach of more people. WeChat applets can enable more micro-courses, courseware, tutorials, handouts and other resources to have a wider market and more audiences.

2 Current Status of Relevant Theoretical Researches

By using the "WeChat mini program" and "lifelong education" as the key words, the author eliminates the unrelated literature by analyzing and comparing the search results. It is found that as of today, it is basically impossible to search the literature about the lifelong education applet. The related research that combines lifelong education with new things such as mini programs is still in the primary stage, and relevant theoretical research is not mature enough.

3 The Main Service Content of WeChat Mini Program About Lifelong Education

Construct standards for the integration of curriculum resources, and set up a curriculum system.

Integrate case materials, case resources, test resources, material resources, and training resources suitable for self-study. Based on WeChat applet, we design a platform that includes student management, material library, online video course, problem test, and courseware download to realize online teaching resource sharing of “everywhere, at your fingertips”. The user’s personal center has a wide range of services, including user certification, my courses, my appointments, courses already taken, courses want to learn, my favorite lessons, personal information, and more.

4 Mini Program + QR Code Optimizing the Lifelong Education Model Offline Services

At present, most educational resources need to download a special APP to scan the code, which increases the difficulty of the reader’s operation. After using the mini program, the user can directly use the WeChat scan code to obtain the service, which greatly reduces the difficulty for the scholar to obtain the teaching resources. The operation flow is shown in Fig. 1. It can be shown that the process of using the APP requires a total of six steps, and the user operation process using the applet only needs four steps. Each additional operation step increases the difficulty of the user operation. Some users may give up halfway, which using mini programs to optimize the two-dimensional code application scenarios for lifelong learning could shorten the service path. You can use the mini program to expand more application scenarios, such as the mini program sweeping the query course progress, sweeping the QR code through the mini program to complete the new scholar certification, sweeping the QR code to sign up for the course, sweeping the customer service. Introduce the QR code to get the course consultation and more (Figs. 2, 3 and 4).

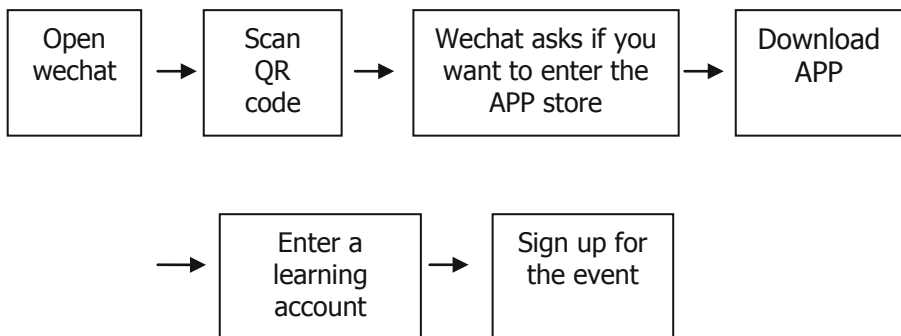


Fig. 2. App's Process

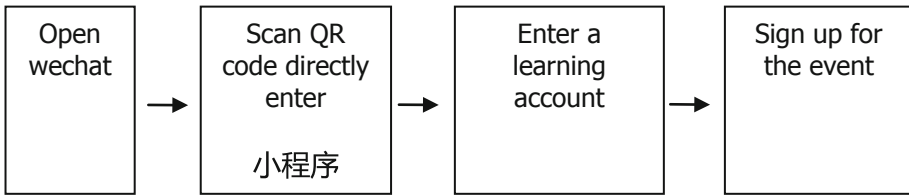


Fig. 3. The process of the mini program



Fig. 4. The QR code of this project

5 The Design Principles of Computer Basic Knowledge Popularizing Lifelong Education Mini Program

The design highlights the two principles of “light” and “smart” as much as possible. Light refers to ease of use, users can quickly enter the teaching Resources page any-time, anywhere, in the enjoyment of teaching resources without the limitation of time and space, there is no psychological burden, run out of the walk.

Coincidentally refers to the ingenious design, reflected in the interface value, process convenience, navigation clear and program abnormalities in the control, so that Let the user feel the lightness of learning with the small program.

- (1) Interface value, pleasing to the eye: In order to improve the fun and convenience of learning, developers should pay attention to the uniformity and continuity of page color matching and page conversion, try to choose the uniform control and interaction mode, and have adapted to most of the use. The habit of the person.
- (2) Clear navigation and smooth process: The navigation should be clear and clear, so that users can clearly understand their current location, how to go directly to the desired location, and save energy time.
- (3) Reduce waits, highlight the point: If the page load waits longer, use a progress bar to let the user know what the program is doing. Minimize the waiting time of users, so the mathematical data uploaded should be short, mini, and precise, and focus on solving the difficult problems that may occur in learning.
- (4) Reduce input, use interface: In order to avoid repeated input and time-consuming, you can make full use of the “memory” function, such as selecting in history or recent search, and using other methods of WeChat to quickly connect information resources.

- (5) Abnormal prompt, solve the problem: When an exception occurs, the program should have a status indicating the possible cause of the exception, and inform the user how to solve the problem.

6 The Design of Users' Interfaces of This Project

See Fig. 5.



Fig. 5. Users' Interfaces

7 The Mini Program Further Empowers the Computer Basic Knowledge of Lifelong Learning

- (1) Mini program with a variety of entrances may expand the service radius. If the public number menu can directly set the mini program entry, the user can press the identification and enter. The picture and text in the public number can be inserted into the mini program code to open the applet, applet message card, etc. through the picture or text, in addition to Nearly 50 entrances, such as mini programs, circle of friends, WeChat group, and mini program search, can realize more reach and expand service radius, which provides technical feasibility for the realization of this research.
- (2) The mini program is comparable to the native APP experience, allowing the public to get more loyal users. Mini programs can get more system privileges through WeChat APP, such as network communication status, data caching ability, etc. Mini programs use the interaction between systems to make the mini program have the experience of the native APP, and the experience is not lost to the native APP and H5, and the delays, visual distortions, etc. that may occur in them will not appear in mini programs.

8 WeChat Applet + Social Sharing Helps the Popularity of Computer Basics and the Promotion of Lifelong Education

Compared with people's interactions such as "social islands", WeChat communication is a niche communication based on acquaintance networks, and its credibility and availability are unmatched by traditional media. After a period of development, WeChat mini program has accumulated an excellent "human relationship" and also reflects a strong market advantage. Users can share applets and friends with WeChat groups and forward them to circle of friends. What we need to do is to use the functions in WeChat to do the public content and mini program functions and interfaces, and create a scene based on active content sharing. When users are infected by content, they will be willing to share it actively, which may stimulate more. People come to participate in learning.

9 Conclusion

According to the author's understanding, the construction practice of China's existing lifelong education system mainly focuses on the following points:

- (1) The general education is constantly expanding.
- (2) Vocational education has developed rapidly.
- (3) Adult education continues to advance.
- (4) Community education is booming.
- (5) Old-age education has sprung up everywhere.
- (6) Enterprise education has gradually transformed.
- (7) Social education is widely extended. 8. Open education prospered.

However, the current system construction practice of lifelong education is influenced and restricted by the time, space and occupation of the educated person, and the combination of WeChat mini program and lifelong education has solved this problem perfectly. Whether it is a young child or an old man, whether it is an unemployed or a social elite, as long as a smart phone has a WeChat app installed, you can use the WeChat learning program to learn the time at any time and anywhere.

All in all, from the above perspective, the construction of a new model for the development of lifelong education is conducive to the promotion of the WeChat mini program civilian platform to narrow the imbalances between the countries, regions, classes and individuals due to the rapid development of information technology and the imbalance of social and economic development. The problem of the "digital divide" brought about by the imbalance of information data between the social class and the social class and between people. To a certain extent, it guarantees people's rights and opportunities to participate in lifelong education, realizes the sharing of high quality resources on a global scale, and Optimizes the social atmosphere of public participation to ensure the fairness of education.

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