Interactive Design of APP for Children Traditional Chinese Culture Education

Jiabin Li*, Tong Chen, Yan Wang and Ping He
Harbin Institute of Technology, Heilongjiang, China.
* ljb_hit@foxmail.com

Abstract. A large number of children traditional Chinese culture education APPs have entered our sight with rapid development of digital terminals. These APPs are divided into two categories in the paper. Characteristics and shortcomings of the two categories are analyzed. The development trend of children traditional Chinese culture education APPs in the future are summarized accordingly.

Keywords: children; Traditional Chinese culture. Interactive design.

1. Research Background and Significance

China second baby boom main force inheriting ancestors' will in words and deeds enters the child-bearing age, and two-child policy is comprehensively implemented. These two major factors promote the growth of newborns and K-12 stage population. People at child-bearing age are more willing to give birth to two children due to the improvement of resident income level in China. The average ideal number of children for married people at childbearing age is 1.93, and nearly 40% of the target population of the two-child policy desire to have another child according to the survey results of National Health and Family Planning Commission of the People's Republic of China. The declining trend of children population in China will be improved with the implementation of the two-child policy. The number of newborns will be between 17.8 million and 19.5 million in the future, and the total number of children will be maintained between 220 million and 250 million. The potential educated population base is large, and the market space is broad, which is beneficial to market development in the future. The population born in 2016 was 17.86 million according to 1% sampling survey calculation data released by National Bureau of Statistics (as shown in Figure 1), which was more than that in 2015 by 1.91 million, and it became the highest level since 2000. Students at the K-12 phase is the main force of education consumption. The number of children from 0 to 14 years is about 242 million in China according to the data released by National Bureau of Statistics. The total amount is huge, such a huge number leads to huge demand for education in China. Modern parents pay more and more attention to children's education and increase their investment in children's education in addition to the huge number of students at the K-12 phase, and the proportion of education consumption in the family consumption is increased year by year.

![Figure 1. Population data from 0 to 14 years old](image-url)

Chinese culture is the crystallization of the collective labor and wisdom of Chinese nation in the long history. It is extensive, profound and well-established after sedimentation and development for thousands of years in China., including the Four Books and the Five Classics, Tang and Song poems,
articles in Han Dynasty, Yuan verse and novel in Ming and Qing Dynasties. All classics and styles of writing are shining in the long history.

Digital terminals undergo rapid development, which have been developed to all aspects of life. Meanwhile, modern way of life is also changed by the terminals. Society is in ceaseless progress, technology is in ceaseless development, and the appliance of study and educational means also must be more and more intelligent accordingly. Mobile phone media are developed rapidly. Children are guided to learn traditional cultural classics by virtue of the convenience of mobile phone media, and children in the stage of enlightening learning can learn Chinese traditional classics more quickly and conveniently, who can feel the charm of traditional culture. Digital media have gradually entered classroom learning, especially mobile devices for learning -- learning and teaching practice through different mobile devices. Learning is more and more common with the help of mobile device, and it is regarded as one of skills that should be adapted by children in their early school years in the 21st century. [4]

Children grow up under the edification of traditional Chinese culture at the spiritual level, and traditional Chinese culture classics are deeply cultivated in their heart at the spiritual level. As they grow up slowly, they become mature gradually, traditional Chinese culture has certain positive role to children for the whole life. Current popular culture has more and more influence on children. Many children suffer from serious deficiency phenomenon in the aspect of literacy. Therefore, they develop an attitude of respect and gratitude, who can be more polite by learning the knowledge of traditional culture. Meanwhile, they can learn to be considerate of their parents and respect for others.

Basic teaching of Chinese subject is more and more emphasized in modern college entrance examination system from the perspective of practical learning. Learning and investigation on the traditional Chinese culture are especially strengthened. Therefore, the learning of ancient poetry and classical Chinese is more and more focused in modern teaching, students are encouraged to independently explore the internal rules based on language phenomena. The inheritors of traditional culture are cultivated to promote the inheritance and development of traditional culture for children in order to carry forward the excellent traditional culture of Chinese nation.

2. Analysis on Classic Products of Traditional Chinese Culture Education

Domestic classic works of traditional Chinese culture education are roughly divided into two categories according to survey and summary of application market. A large number of traditional Chinese culture classics are input into the database in the first category, namely the APP has a large number of traditional Chinese culture works, which has a relatively simple interface and is similar to traditional Chinese culture books, such as 'Master for Traditional Chinese Culture'. One book is focused as the other category. However, the APP is similar to Chinese book. There are only a few sentences for simple explanations below, which cannot attract the fun of children, such as 'Essence of Traditional Chinese Culture' series.

Accumulation of a large number of traditional Chinese culture classics: the APP is characterized by attracting users with a lot of traditional Chinese culture classics mainly under the mode. However, the APP makes people feel uncomfortable in interface setting firstly. Though there are a lot of traditional Chinese culture classics, original works are given to users only without specific explanation. For example, 'Master for Traditional Chinese Culture' (some pages are shown in Table 1, its integration of 20,000 classic books, 280,000 volumes and about 2.4 billion words are mainly introduced in the introduction part of the APP. It also supports full text retrieval of ancient books and other functions. However, interactive design of the APP and specific content of each article are not qualified enough. There are only original texts of ancient books without detailed explanation. Therefore, the APP is only applicable to some adults with certain foundation of traditional Chinese culture during material inquiry rather than children to learn traditional Chinese culture.
APP for concrete explanation of some traditional Chinese culture classic work: the APP focuses on one or some traditional Chinese culture classics. Although these APPs focus on some traditional Chinese culture classics, their interpretation of these traditional Chinese culture classics is not thorough, which is similar to the explanation in Chinese book. Children cannot understand traditional Chinese culture classics better. Similarly, their interface design is not acceptable enough, which cannot attract children for learning better. I adopt 'Sound Meters in Chinese Poetry- Chinese Sound Traditional Chinese Culture' as an example aiming at the APP. We should read 'Sound Meters in Chinese Poetry' with children together according to introduction of the APP, children can touch inherent life experience by reading these 'meaningful sounds' and 'musical sounds. The combination of beautiful sound and beautiful painting can stimulate children's interest in ancient poetry. However, the APP gives a person the feeling like Chinese book. Although there are explanations on 'Sound Meters in Chinese Poetry', the explanations are not specific enough, which can't make children better understand 'Sound Meters in Chinese Poetry'. Though the APP also has some pictures, it fails to combine the pictures with the traditional Chinese culture classic 'Sound Meters in Chinese Poetry', children cannot understand the classic better, thereby they are not interested in it.
3. Overview on Development Classic Products of Traditional Chinese Culture Education

Mobile phones, tablet computer and wearable devices have become indispensable in daily life, and the demand for excellent software applications based on mobile terminals is also increasing with the rapid development of wireless mobile technology. [1] Wherein, many traditional Chinese culture education APPs attract more and more users due to their convenience, practicality and flexibility. Although classic APPs of traditional Chinese culture are developed rapidly, a lot of classic APPs of traditional Chinese culture are popular among people, but there are still some problems in the classic APPs of traditional Chinese culture.

Survey on users is insufficient: current traditional Chinese culture APPs pay more attention to marks and simple explanation of the original texts. Children fail to understand the meaning in the article truly, and they also can't achieve a better understanding on the article, let alone for learning knowledge during study of traditional Chinese culture. In addition, these traditional Chinese culture APPs do not pay attention to the idea of parents and teachers, which can't get the trust of the parents. Although these APPs are geared to children's development and learning, they are mainly selected by parents. It is difficult for parents to trust these traditional Chinese culture APPs at present. Therefore, the possibility of these APPs to face children directly is very low. Existing APPs of traditional Chinese culture are not excellent enough for both adults with certain learning ability and children with weaker learning ability accordingly. It is necessary to investigate children using the APPs, children's parents and teacher as important support of traditional Chinese culture APPs.

Products are not innovative, and a lot of similar APPs are introduced in the market: If you search traditional Chinese culture in application market, you will find a series of APPs. However, when you download the traditional Chinese culture APPs, you will find that many APPs are exactly the same. There are only two categories: APPs which only care about the number of traditional Chinese culture books, these APPs can provide users with original texts of a lot of traditional Chinese culture books without concrete explanation, and most APPs belong to the category. A classic work is mainly regarded as the basis in another APP category. The APP is similar to a Chinese book, there are only simple explanation and a part of literary quotations related to traditional Chinese culture. There are only these two categories of traditional Chinese culture APPs in the application market, and similar phenomena are severe. If the developers of these APPs can pay more attention to the innovation of traditional Chinese culture APPs and traditional Chinese culture, they can carefully consider how to make an APP of traditional Chinese culture and consult some children educators and some masters for traditional Chinese culture, they can better design, improve user experience, control attitude of users, they can better carry forward the APPs, more users can use the APPs, more children can benefit from learning of traditional Chinese culture.

Too much emphasis is given to education rather than interest: most traditional Chinese culture APPs available in the APP market are designed from the identity of an adult, these traditional Chinese culture APPs look like a Chinese book and a teaching materials for learning traditional Chinese culture. Contents are piled simply. There are not enough explanation on traditional Chinese culture. Some adults can not better understand the meaning in the traditional Chinese culture when they user.
the traditional Chinese culture APPs for learning traditional Chinese culture, let alone children. Learning of traditional Chinese culture is too emphasized rather than features of children-interest. We should broaden the development concept of the traditional Chinese culture APPs according to the feature of children. More interesting elements should be added. For example, some pictures are added for assisting learning. Some games can be added, children can better learn and understand the contents of traditional Chinese culture in games. Children can enjoy learning the traditional Chinese culture rather than simple 'duck-stuffing' teaching. Learning of traditional Chinese culture can be interesting and interactive. The teaching mode integrating more concepts can be well received by children, parents and teachers.

There are shortcomings in content statistics and production: it is found from the statistics of traditional Chinese culture APPs that there are no traditional Chinese culture APPs offering sufficient explanation of a certain book or a certain kind of books. In other words, there is only the original text of the book in classical Chinese in terms of content rather than sufficient explanation on the article contents. The practice of some traditional Chinese culture APPs is similar to Chinese book in that there is nothing for children to learn and understand better. Rich learning content is the key to attract children to learn and impress their parents and teachers. However, existing R & D teams belong to technical talents who can not well understand the content of traditional Chinese culture, thereby resulting in insufficient content in the APPs of traditional Chinese culture. The teams may only provide beautiful interface rather than substantial content. The APPs of traditional Chinese culture strengthen the production of contents so that children can learn more about traditional Chinese culture knowledge and get interested in traditional Chinese culture for obtaining more nutrients from traditional culture culture.

4. Development Trend of Traditional Chinese Culture Classic Education Products

4.1 Knowledge Content Should be Enriched

Existing traditional Chinese culture APPs does not attach much importance to the content, there are only original texts of traditional Chinese culture classics in most traditional Chinese culture APPs, which is insufficient for people who need to learn traditional Chinese culture. In addition, some traditional Chinese culture APPs are similar to Chinese books, which only include simple explanation rather than in-depth explanation of traditional Chinese culture classics. Parents and children can't form certain confidence and interest in traditional Chinese culture APPs accordingly. Similarly, we learn traditional Chinese culture so as to gain a better understanding on traditional Chinese culture. We learn traditional Chinese culture and knowledge from traditional Chinese culture. If we cannot understand traditional Chinese culture classics, we deviate from the purpose of producing traditional Chinese culture APP. Therefore, the APPs of traditional Chinese culture should be more enriched in contents so that users can really learn knowledge in the APP of traditional Chinese culture.

4.2 Teaching Through Lively Activities Should be Adopted

The study of traditional Chinese culture itself makes people feel boring. If teaching is not combined with entertainment for teaching in traditional Chinese culture APPs, the APPs cannot attract children to learn. Parents are not willing to download and let children use traditional Chinese culture APPs. Therefore, we should popularize abstract language, use humorous language, tell beautiful stories or examples vividly, and insert thought-provoking and convincing pictures. [2] Children and games are inseparable, the nature of children is naughty, so we should make traditional Chinese culture learning interesting and entertaining, children can learn traditional Chinese culture in game experience. Children fall in love with traditional Chinese culture learning accordingly, thereby improving children's experience of fun. Children can memorize knowledge more solidly through the entertaining learning, they can get interested in traditional Chinese culture learning, and parents can
accept traditional Chinese culture APPs so that they can download for children and children can use them.

4.3 Knowledge Should be More Interesting.

Children often know the world through images. [3] Learning of words is boring. APPs of traditional Chinese culture should make knowledge interesting in order to make children love learning knowledge. Traditional Chinese culture learning APPs with more interests is of great attraction to children. Children would feel boring and have no motivation to learn traditional Chinese culture only by knowledge explanation through lateral explanation in traditional Chinese culture learning. However, if some interesting elements and some other knowledge are added for the knowledge, children are consciously brought into the relevant situation described in the text step by step. They feel that 'the situation is in front of them' and 'I am in the situation'. [9] For example, some pictures can be used, children can achieve certain understanding in learning on the one hand, they can memorize the knowledge of traditional Chinese culture on the other hand. Some additional knowledge also can be adopted on the other hand. For example, the formation of cloud and rain can be explained for children during learning of cloud and rain, thereby meeting their curiosity well. Similarly, we can assist children to memorize traditional Chinese culture in a more vivid way under the circumstance.

References


