Frontiers in Educational Research
ISSN 2522-6398 Vol. 2, Issue 3: 21-26, DOI: 10.25236/FER.033037

Satisfaction, Reading and Learning of Primary School Students to Use Electronic Textbooks

Wang Chen-Yang[1], Wang Xiao-ling[2], Wang Qing-Li[3]

Nanjing Normal University, Nanjing, Jiangsu 210097, China
619513556@qq.com

ABSTRACT. *Electronic textbooks going into the classroom has become an inevitable trend of modern educational information. Considering the teaching of information technology in the majority of schools as the third grade for the starting point, the paper chooses the third grade students as experimental subjects, uses electronic textbook as the main reference resources of classroom, investigates the relationship between the basic situation of students using electronic textbooks . The study's results show that the school and the number of electronic equipment have significant influence on e-textbook reading and learning satisfaction. However, there is no significant effect on the students in three aspects of sex, what kind of electronic equipment and time. In addition, the students' dependence on electronic materials when in operation intensity will affect the learning situation.*

KEYWORDS: *primary school students; electronic textbook; satisfaction; reading; learning; information technology*

1. Introduction

With the in-depth development of information technology, the advantages of digital learning resources in the field of education have become increasingly prominent. In the "Fourteenth National Reading Survey Report" released in April 2017, the development of digital reading has greatly improved the national comprehensive reading rate and the digital reading method contact rate, and the online reading, mobile phone, e-reader and other reading groups The increasing trend once again embodies the importance of digital resources in modern education [1]. In order to comply with the "digital indigenous" demand for new learning methods, as the mainstream trend of teaching development in the information age, electronic textbooks have been put on the agenda of textbook reform [2]. As the initial scholars in the basic education stage, primary school students experience the digital learning atmosphere created by electronic teaching materials in information technology learning, and develop good technical use habits, which helps them to

ISSN 2522-6398 Vol. 2, Issue 3: 21-26, DOI: 10.25236/FER.033037

smoothly integrate into the digital social environment. To this end, it is necessary to pay attention to the use of electronic materials for primary school students.

2. Method

The application of e-textbooks is not only to meet the needs of the digital age, but also to apply new technologies to help students achieve fast, convenient and efficient learning. Therefore, in the implementation process, it is necessary to focus on the students' adaptation and learning effects.

2.1 Research objects

The research subjects selected the third-grade students of the four elementary schools in Nanjing, which started from the third grade as the starting point and did not use electronic textbooks. Based on the principle of not affecting the normal teaching order of each school, a random group sampling method was adopted, and five classes of students were randomly selected as experimental samples in the experimental school. Taking the information technology electronic textbooks in the third grade as the teaching content, a one-semester teaching experiment was carried out in the experimental class, and the preliminary preparation for the experimental investigation of the satisfaction, reading and learning of the teaching materials was completed.

2.2 Research tools

The experiment used a self-made scale. The experimental questionnaire consists of four parts: The first part is the basic information of the students, including the school, gender, the type of electronic equipment in the home and the time of using the electronic equipment daily; the second part is the student satisfaction survey of the electronic teaching materials, including The satisfaction degree of the presentation forms of pictures, videos, tips, animations, etc. in the textbooks; the third part is the students' reading of the teaching materials, mainly refers to the students' reading completion of each presentation form in the textbooks; the fourth part is The survey of student textbooks involves students' learning about each form of presentation.

ISSN 2522-6398 Vol. 2, Issue 3: 21-26, DOI: 10.25236/FER.033037

3. Result

3.1 Correlation analysis between students' personal background and the use of teaching material variables

Using SPSS 20.0 software to compare the student's basic background (including the school, class, gender, number of electronic devices in the home, time spent using electronic devices) and textbook usage variables (whole textbook satisfaction, overall learning and overall reading) related analysis. According to the $\alpha=0.05$ criterion, the correlation of the variables in Table 3 can be considered statistically significant.

3.2 Analysis of the Differences in Students' Personal Background Influence

The presentation form of electronic textbooks includes texts, pictures, tips, animations, videos, and small columns. Analyze the satisfaction, reading and learning of different schools and different gender students.

3.3 Reading of electronic textbooks

In the linear regression model of reading in all aspects of the textbook, the complex correlation coefficient R is 0.793, and the decision coefficient R2 is 0.629, $0<R2<1$, indicating the independent variable “student gender”. "Number of electronic devices in the home" can explain the reading of all aspects of the textbook. In the regression model, $F=38.390$, $p=0.000<0.01$, according to the $\alpha=0.05$ level, the fitted regression equation is considered statistically significant. In the analysis of variance, the sum of squares of regression is 1149.949, which is much larger than the sum of squares of residuals and 677.715, which indicates that the linear model well explains the vast majority of the sum of squares and the fitting effect is better. From the standardization of the residual histogram, it can be found that the reading of all aspects of the textbook is normally distributed.

4. The conclusion analysis

4.1 Gender may affect students' learning and reading

The test was conducted on the students as a whole, and gender did not have a significant impact on the satisfaction of the materials, the learning situation and the reading situation. This result is consistent with the findings of scholars such as He Ping [3].

In view of the different conditions of the school and the class, a separate gender difference test for each school and class was conducted, and some special circumstances were found, such as gender differences between classes or classes.

The gender difference in the two classes of H1 school shows that there are significant differences in the overall reading situation among the three (3) classes. The overall reading average of boys (M=35.30) is significantly higher than that of girls (M=32.57). It shows that boys are better at reading than girls.

Shen Haijiao and other scholars found in the relevant research that in terms of e-book reading, boys and girls have less effort, indicating that boys have some gender advantages in reading e-books than girls [4]. However, from the overall reading situation, there is no significant difference in gender among the four schools. It seems that the above conclusions cannot be used to explain the gender differences in the class.

4.2 The school will affect students' satisfaction with electronic teaching materials

During the experiment, the teachers were interviewed and the school code was based on the teacher's recognition of the electronic textbooks. The higher the teacher's degree of recognition, the smaller the representative value of the school, and vice versa. According to the satisfaction of different school textbooks H1>H2>H3>H4, the greater the coding value of the school, the lower the satisfaction of the teaching materials. Therefore, it can be inferred that teachers' recognition of electronic teaching materials is one of the factors that affect the satisfaction of students' teaching materials.

The teachers of H1 School are the authors of the textbooks. They have a very positive attitude towards the preparation of textbooks, content arrangement, and classroom implementation. They have a very positive impact on the students' emotional attitudes during the implementation of the teaching. This is also the H1 school. The reason why students are most satisfied with the teaching materials.

H2 school teachers agree with the form of electronic textbooks and can actively interact with textbook writers and university researchers. Every time after class, I will post in the textbook community. The content involves introducing teaching design ideas, presenting teaching and teaching materials, and summarizing the use experience. After posting, textbook writers and university researchers will answer the questions. In the process of continuous interactive communication, the teacher better understands the ideas of textbook writing and the intentions that need to be expressed. On the basis of a clear understanding of the textbooks, teachers can use the teaching materials with ease, give full play to the advantages of electronic textbooks, and guide students to learn materials. Its attitude and behavior directly promote and improve students' recognition and satisfaction with the teaching materials.

Teachers' teaching cognition, action skills and emotions play a major role in the composition of teachers' teaching behaviors, and teacher behavior is the external

basis of student development [5]. In the process of using electronic teaching materials, teachers as the key figures guiding students' learning behaviors, their recognition of the use of teaching materials will directly affect the emotional attitudes and behaviors of primary school students on electronic teaching materials. The subjects are all students who have not used electronic teaching materials. Their interest in learning materials and their motivation for learning are more due to the recommendation of teachers. If teachers do not agree with e-textbooks, it is difficult for students to form a good impression. Therefore, in the teaching of electronic teaching materials, teachers need to correctly guide students' usage behaviors and tendencies.

Although the research and experiment of electronic textbooks began as early as 2001, the application of domestic textbooks is still in a small trial and research stage. Most teachers are first contact, and the understanding of electronic textbooks is relatively simple. In the face of problems in the application, such as the speed of the network is difficult to support the use of electronic teaching materials by the whole school, the teacher's recognition of the electronic teaching materials is not ideal. Under the guidance of the teacher's complex emotions, students will have different satisfaction with the textbooks.

5. The outlook

As a technical product in the era of education informationization, electronic textbooks will inevitably face many opportunities and challenges when entering the classroom. On the one hand, the introduction of electronic textbooks will bring about some new educational concepts as the new curriculum reform. On the other hand, there are bound to be many difficulties in the beginning of the electronic textbooks. For example, teachers, as the primary figures in the classroom, need to be forced into the new teaching concept from the traditional concept, and slowly accept and digest. In the process of acceptance, teachers' beliefs are influenced by traditional concepts or environmental factors into the dilemma of “moving and retreating”. However, the choice of beliefs determines the implementation of behavior [6], which in turn affects students' behavior and development [7]. From the perspective of students, the change of teachers' beliefs cannot be ignored. Therefore, the post-experiment can consider starting from the beliefs, behaviors and effects of teachers using e-textbooks, and carry out relevant investigations, in order to propose some effective strategies and suggestions to promote the implementation of e-textbooks according to the specific conditions of teachers' beliefs.

References

[1]The 14th National Reading Survey Report released: Digital reading rate increased significantly.(2017,April 19).Retrieved February 15,2019: http://china.cnr.cn/gdgg/20170419/t20170419_523714122.shtml

[2]Gong Chaohua, Chen Wei & Huang Ronghuai. (2012). Feasibility study on the application of electronic textbooks in primary and secondary schools. Research on Audio-Visual Education (1), 94-99.
[3]Wu Minglong. (2010). Questionnaire statistical analysis practice: SPSS operation and application. Questionnaire statistical analysis practice: SPSS operation and application.
[4]He Ping, & Yu Shengquan. (2013). Research on the influence of digital learning on the reading comprehension level of primary school students. China Electro-chemical Education (5), 99-105.
[5]Shen Haijiao, Luo Liming, & Sun Zhong. (2014). Empirical study on the perceived usefulness and perceived ease of use of e-books by primary school students. China Electrochemical Education (8), 82-87.
[6]Li Guoqiang, & Shao Guanghua. (2009). Research on the Influence of Teacher Belief on Teaching Behavior under the Background of New Curriculum Reform ——Based on the Perspective of Fine Analysis of Classroom Activities. Curriculum. Teaching Materials. Teaching Method (10), 80-83.
[7]Gao Wei. (2012). Analysis of the relationship between teacher behavior and student behavior. Educational Research (3), 100-106.