

Research on the Reasons and Solutions for High School Students Better Balancing Internet Assisting and Independent Thinking in Learning

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ABSTRACT

With the rapid development of Internet, more and more software is being developed with a strong purpose to solve people's everyday problems. Researchers draw their attentions on finding out reasons and looking for solutions for High school students better balancing Internet assisting and Independent thinking in learning, argue that in the Internet era, the exercises searching software is not suitable for Chinese students who grew up under the compulsory education model, they are not strong enough in self-discipline. It will become a tool to breed thinking inertia. Through interviews and online questionnaires with ordinary Chinese high school students, parents and teachers, the researchers think that Chinese students need to be done under the condition of reasonable Internet assisted learning since elementary school, to stimulate students' interest in learning, improve the ability of logical thinking and scientific thinking, so as to promote the cultivation of talents, promote the development of Chinese education.

Keywords: Education exercises searching software, Independent thinking, Online education, Learning efficiency

1. INTRODUCTION

With the rapid development of the Internet, it gradually began to affect all aspects of people's lives. The emergence of all kinds of applications is being developed with a strong purpose to solve people's everyday problems. But while fitting people's needs, it can also have negative effects on people. When the negative effects outweigh the positive ones, in order to fill in the blanks of reasonable measures given for this phenomenon, it's high time for researchers to work out the fatal problem and put forward some practical advice.

When researchers draw attention to the senior high school students group, for them who have complex and mature ideas while adapted to study by rules but are not strong enough in self-discipline under Chinese education style, the emergence of search software does more bad effect on their learning than its advantages as to "teach, think and create", being defined as a bad tool to breed thinking inertia while hide students' present learning degree.

So in this paper, the research investigates some parents and teachers regarding the current situation of

high school students using search software by questionnaires and interview some high school students through online chat for their feelings about using Internet tools when learning, analyzing the advantage and disadvantage of the network assistant learning, finding for reasons of the emergence of the bad effect on students' learning mind and also giving some suggestions worthy of consideration to improve future learning efficiency to both teachers and students.

2. REASONS OF THE EMERGENCE OF THE INTERNET LEARNING APPS

The initial purpose of the search software (especially software searching for subject exercises) is to feed students' need for extra learning or detailed learning. Those online educated projects could help students make better use of fragmentation time to learn. Compared with schooling teaching and ordinary search websites, the powerful and comprehensive learning software, which can search specific exercises, give answers in a second and is equipped with explanations, solves the problem that students lack tutors to solve puzzles immediately when they study independently, improves learning

efficiency and saves money, which was warmly welcomed by students soon after its launch, and the number of downloads continued to increase. Another researcher once conducted surveys on the mobile phone ownership rate of students, the distribution of users of exercise searching software and the usage rate of students' exercise searching software. Finally, it was concluded that "the usage rate of question searching software among students from primary school to high school is equal to the proportion of mobile phone ownership" [1], and high school students use that kind of app the most frequently.

In China, the nine-year compulsory education system is implemented, no matter what grade the students of ordinary public schools are in, most of them are passive learning mode in which the teacher speaks and the students listen and take notes. There are fewer opportunities to do surveys, make charts or do the whole physical, chemical, and biological experiments by students themselves in the laboratory at school, due to the reason of not having enough laboratories to give equal use rights to students of all grades. So it becomes a vicious circle. In order to save the operation time, students often use the correct data designed by the teacher in advance in the so-called experiment class. The teacher has to demonstrate how to do the experiment in advance and then ask the students to follow suit. Based on that ambiguous present learning situation, the researchers designed the questionnaire titled "The Present Experiment Situation of High School Students" for 50 students of senior three, in order to define clearly of students' ability to learn automatically and its three questions are as follows. "How many complete experiments have been done in the laboratory in high school?" "Is the experiment process designed according to the knowledge or the operation process specified by the teacher?" "Is there a great sense of engagement and acquisition in the experimental classes at the high school level? "Deficiencies and their reasons? "

Data and Results are as follows:

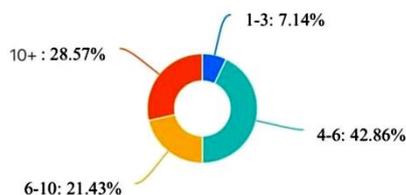


Figure 1. The number of times students went to the lab to do a complete experiment

From the percentage point of view, Figure 1 shows that the number of complete experiments performed by senior high school students in the laboratory is generally only 4-6 times, accounting for 42.86%. By looking through the physics, chemistry and biology high school textbooks, researchers roughly counted the number of

experiments at least 10 times. In this survey data, only 28.57% of students reached the standard. So, what about the experiments that weren't done?



Figure 2. The form of the experiments

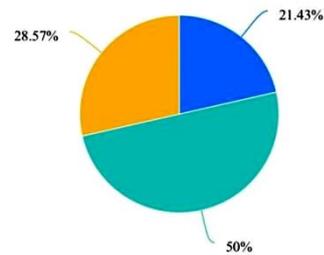


Figure 3. The effect of experiment class

From the percentage of view, figure 2 shows 64.29% of the respondents' experiment time is dominated by their teacher, using the well-prepared data and just going through the process within the limit of time. 7.14% of the respondents' experiment time have fewer operation opportunities but always stand in a circle watching how their teachers completed. Other 28.57% of the respondents are the ones who luckily got more opportunities to complete the whole experiment themselves. In summary of figure 2, less than 30 percent of the students can complete the whole experiment by themselves according to the knowledge, which is far from enough.

From the percentage of view, figure 3 shows that exactly half of the respondents thought that doing experiments only had a positive effect of deepening knowledge and improving ability in the subjects they were interested in. 28.57% of the respondents think that the experiment class actually did not help them anyway! Only 21.43% which equals to 1/5 of the respondents truly got help in nearly all subjects, and it's no surprise that those who got much help are the ones included in the 28.57% in figure 2, whom that always got the opportunities to complete the experiment study independently. So the researchers can clearly see that the ways of teaching decide the learning effect, letting students take part in different ways of learning is an absolutely important means for students to learn to think independently to promote their personal development.

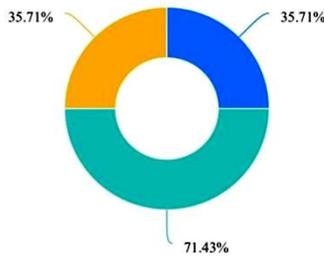


Figure 4.The reasons for the shortage of experimental classes

From the percentage of view, figure 3 shows that the majority reason to quit students' experiments is time. The remaining 2 parts of 31.75% of respondents thought that the main reasons for the unsatisfactory experimental results were that they were not able to devote themselves into the experiment without understanding the experimental purpose and process, or that they were not interested in the experiment because of the teacher's over-preparation for the experiment so that they had not got enough space for self-operation.

In a word, according to the survey results, it is clear that most students have no sense of participation and no interest in the seemingly fast and efficient experiment process under such an experimental arrangement. They just go through the experiment process and know about the experimental instrument.

The subjects that need to do experiments are mostly physics, chemistry, and biology, all belonging to science. Experimental inquiry is not only the teaching content but also the means to cultivate students' scientific literacy. Real experiments can lead students to experience the process of scientific inquiry, stimulate their interest in learning, correctly construct concepts and improve learning efficiency[2]. Doing experiments is an important process to cultivate independent learning ability, from understanding knowledge to roughly knowing the operation process, and then to gradually complete the experiment with individual or group cooperation, and continuously improve to obtain more accurate data. It is an experiment that can help students gain self-improvement opportunities by attempting to comprehend, grasp, and apply practical applications. If this opportunity is stripped because of the limit of time, therefore it is now obvious that students are unable to relate to the real experimental process for in-depth understanding of the knowledge and can only get experimental help in the subject they are interested in the results of low learning efficiency.

Therefore, students in China are not very good at independent thinking.

3. THE PROS AND CONS OF USING THE INTERNET AS A TOOL TO ASSIST LEARNING

As we all know, every coin has two sides, so the pros and cons of using the Internet as a tool to assist learning show the reactions and feelings after the user's experience. For the sake of interests, software developers will take this result as the source of inspiration for the research and development of new products. They will also try to meet the needs of users to a greater extent according to their preferences and data trends, so as to achieve the best purpose of mutual promotion and common progress.

3.1 Pros

Initially, the exercises searching software is professional. The majority of teachers who offer answers and teaching videos on the exercises searching software graduated from a prestigious university with a major related to the subject content. Moreover, it's convenient. It provides all online services, are permitted to use anywhere, anytime, it saves time of asking others, which improves learning efficiency. In addition, it saves money on other courses and tutors. Last but not least, it provides a fast and rich updating question bank, which greatly meets the students' needs for exercises or more detailed lessons in each knowledge module.

3.2 Cons

Considering that most parents and teachers are not encouraged to use exercise search software, the researchers conducted interviews with a small number of parents and high school teachers respectively, and also have a short talk with a few high school students. The interview process is as follows: the answers of parents and teachers are a collection of views of all interviewees.

According to high school teachers, the exercises searching software does harm more than good to students when using it as a homework assistant. Students become dependent on answers, lose patience with independent thinking, and are less truthful about what they are learning. This prevents us from teaching students precisely about their weaknesses.

According to parents of high school students, the frequency of their child using exercises searching software is quite high. Sometimes it does provide more good ideas for students to solve problems, but according to the observation on score, there is a clear difference between children's homework scores and test scores. It might make them addicted, so it's probably not a good thing.

According to high school students, there's not enough ability to work out hard exercises only by themselves

although strongly against using that software anymore before they start doing their homework. They are in a dilemma. Some of the students start to use this kind of software because of the lack of confidence in weak subjects or the personality kind of introverts, therefore, they were afraid that they would be punished by the teacher for the difference between them and good students. In fact, at that time, students' worries are greater than their thirst for knowledge. The emergence of the exercises search software actually provided great help to them, but after accustomed to its assistance, they admitted that it's unavoidable that they are no longer patient to listen to the analysis, only to see whether the answer is correct, so it's also not a great long-term helper.

To sum up, for Chinese high school students, this kind of way of Internet assist learning provides cons more than pros.

Firstly, students' excessive reliance on answers leads to the inertia of thinking, which hinders teachers from making clear considerations of the real learning situation of students. Homework assigned to students every day is a routine way for teachers to test students' understandings of new knowledge, which tests students' independent thinking ability and their learning ability to reasonably transfer and apply knowledge to solve practical problems. Some students will correct their previous wrong answers to get better surface work quality after using the software or listening to the explanation. In this case, the students will gradually form excessive dependence on answers and perfect homework, becoming impatient in independent thinking, causing them to deceive themselves in the illusion of a perfect homework, thinking this is the proof that they have mastered the knowledge of the topic, produce the wrong cognition about their learning condition, thus has repeatedly deceived the teacher, and live on it as a habit. If teachers can't get a real understanding of students' learning status, they will develop teaching programs and teaching content that are inconsistent with students' actual abilities. This will lead to an increasing difference between students' learning and teachers' teaching. Teachers will wonder why their teaching does not bring positive effects to students' understanding, but worse grades. Students can not eliminate the thinking inertia, and even cheat in the exam in order to match the test results and surface learning status; Parents also just see the result as one side, actually also do not understand their child's learning status, blindly sign up for more after school study class to their child, not even know that the promotion of the score may not be attributed to the after school class. In the end, it is the students themselves who suffer the results related to their unknown future.

Secondly, It will hide students' personality shortcomings even deeper. According to the interviewer, this software and all other Internet assistants are initially regarded as their refuge in order to escape from their

personality flaws, such as introversion, a lack of talkativeness, a lack of confidence, and a great deal of worry. But it's actually temporary. When they found that they were addicted to it, often it has become an even bigger mistake. They will wander between asking the teacher and searching questions, which will inevitably distract them, add more anxiety and affect the outcome of the matter. Apart from their studies, these weaknesses will also affect their future life.

Finally, lessons in the virtual world will never win the form of natural face-to-face. The virtual media leads to the low authenticity of the classroom, the physical and mental distance between students and online teachers leads to the low sincerity, authority downward leads to the low correctness, and the situation differences lead to the low comprehensibility[3].

4. EFFECTIVE ADVICE

For schools, schools had better introduce computer-assisted instruction appropriately under the network limitation[4].

Under the current situation of the large population base and a large number of students in China, the school cannot equip one person with a mobile computer. At present, each class shares a display computer. It is suggested that the school should have at least five mobile computers for each class. Students can use computers to search literature, calculate data, record the process of inquiry, and finally form research reports when doing group research projects. This exercises the students' scientific thinking and the ability to use network tools to help them learn, which greatly improves their learning efficiency and interest. And software applications on the market now has a lot of relevant experimental software, the process of adding reagents and observing the changes can be simulated on the computer, so for a few small experiment, students can be provided the opportunities to try out, which also saves time to go to the lab, in such a game playing way to learn operations will deepen the impression of the experimental details and added fun to the boring theoretical study life.

According to an international school student's diary, she said it's a different attitude in using the computer In Compulsory education schools, the teachers put a lot of emphasis on the moderate use of electronic devices, students cannot touch computers except in computer class. While in international schools, computers are one of the necessities, as much of the work such as learning projects, exams, using calculation tools, asking teachers questions, and communication with the school is all done online. Surprisingly, they have fewer paper textbooks but electronic editions, so students don't need to carry a heavy backpack everyday. Not only can they finish their study tasks quickly on the laptop, but they can also learn a lot of tricks about how to use a computer from it.

Through the use of this technology, they have developed other skills that they could never have anticipated at a domestic school. That makes learning both convenient and fun.

In addition, that way also has disadvantages like students lose many opportunities to practice their handwriting and always feel their neck and eyes hurt, and long-time sitting may also result in obesity. There are some undisciplined students who chat online and play games during class time, which affects their studies.

To investigate the feasibility of information teaching means, researchers tracked the preparatory courses at Cornell University and were surprised to find that American schools had a high reading volume, ranging from online material to most books. However, some of the students who go to compulsory education schools in China suffer great losses because they are not used to using computers to access a large amount of information. And some students, who are too infatuated with online games, wasted the summer vacation learning time so the final result is quite unsatisfactory. But what is unexpected is that most European and American students are more diligent than Chinese students. Few of them play games on the Internet, but they are more adept in checking data, so they write more professional papers. This is closely related to their childhood training. So in compulsory education schools, it's a desirable approach to begin to expand half-opening teaching right from primary school. Teachers divided their learning content into several plates, then let the students find information on papers to preview new knowledge, start group discussions in class, and do study reports after class that are equal to homework exercises, so that students are no longer a machine to accept knowledge but form scientific thinking, logical and methodical handling of things, that will be a great way to improve students' learning interest and the atmosphere of study in a classroom.

For exercise search software designers, it would be better to limit such search software to adults, requiring identification, that is, only suitable for parents and teachers to check or grade homework[6], cutting off the idea of lazy thinking. It may also be able to develop software functions suitable for teachers to revise homework in large quantities and share the pressure of teachers' work[5].

5. CONCLUSION

In the face of all kinds of Internet-assisted learning tools, we must correctly analyze their advantages and disadvantages, try to overcome the disadvantages when using them, turning the tools into a ladder of success to gradually achieve our dreams. Education departments need to seriously consider the students' actual abilities level, and set up suitable education policies to promote Chinese education indeed. Schools should on the one

hand actively perform the education policy and positively make brave decisions to innovation, gradually applied the advantages of the Internet-assisted learning to the different stages of students' study in class, let the students willing to learn, taking the initiative to devote themselves to study with a simple and effective method. Parents should pay proper attention to their children's learning status, pay attention to their independent thinking, communicate with their children patiently, it will be great if parents reduce the times of coercion and criticism. Students in such a high quality and highly-developed learning conditions need to understand the main task in their current stage, know the purpose of learning, consider more for their ideal quality of future life, think twice before they act, self-discipline always trumps all rules.

At present, apart from the high-tech big cities, China has few public schools that can meet the requirements of computer technology application network teaching[6]. Moreover, there is a lack of perfect online education infrastructure, which will lead to the disconnection between online courses and classroom teaching and the inability to manage the curriculum system scientifically for the time being. Teachers cannot guarantee that such auxiliary teaching with defects can be better than the traditional education model. This is unfortunate but will be one of the goals of future development. So the development of science and technology still depends on the national economy development.

Then is about the deficiencies of this research and the direction of further research. In this paper, researchers have not carefully combined China's current education policies to study the impact of several changes in the development of modern China's education, and predict the future development trend of China's education more authoritatively. Researchers need to make a detailed interpretation of Chinese and foreign education methods in more aspects through comparative pedagogy. That's also what needs to be improved in further research.

ACKNOWLEDGMENTS

First of all, I would like to extend my sincere gratitude to my scientific research mentor, prof. Geoff from University of Cambridge and prof. Li from Minzu University of China. It was their profound knowledge and interesting teaching methods that enabled me to increase my professional knowledge in education as well as their patience and strong encouragement that gave me confidence to put forward my own questions after digestion, and I was very happy to receive satisfactory professional answers. Secondly, I also own my appreciation to my thesis advisor Miss Huang, for her instructive advice and useful suggestions to my first personal English thesis. Finally, the special thanks should go to respondents who provide me with data and more detailed thinking to back it up.

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