The effect of mobile Internet educational software applications on elementary school students' learning ability

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Abstract. With the continuing development of both science and internet technology, because of the growth of Internet software, several educational software is coming up. The application of those software makes a great impact on the learning ability of elementary school students. As a result, this article aims to give this impact a total summary by collecting and summarizing academic papers and searching for relevant information online. Throughout the whole paper, this research shows that the impact of learning software on elementary school students' learning ability is in three aspects, they are expression ability creative ability, and comprehension ability. Different software can help target different abilities. Firstly, this paper discusses the impact of mobile Internet educational software on students' expressive skills through three examples: online education software, online feedback software, and online discussion software. This paper shows that mobile Internet educational software is helpful to improve the expression ability of elementary school students because of its characteristic of breaking the time limit and being able to interact at any time. Secondly, this paper has discussed the impact of mobile Internet educational software on students' creativity and has demonstrated that teachers can use mobile Internet educational software to break space limitations and stimulate students' interest by using three examples: online experiment software, VR, and educational games. By using mobile Internet educational software, teachers can break the space limitation and stimulate students' interest in learning, and enhance students' creativity through this feature. Lastly, this paper discusses the role of using mobile Internet educational software in promoting students' comprehension, and uses three kinds of software: mind map concept map, and argument map, as examples to show how they can improve students' comprehension. The paper shows that mobile Internet educational software is very effective in improving students' comprehension skills.

Keywords: Elementary school; Educational software; Effect.

1. Introduction

With the development of technology, a lot of mobile Internet educational software has appeared. As a result, there is a variety of mobile Internet educational software which are developed to help elementary school students learn. Many teachers are also glad to use this software during and after class to make their classes more interesting and effective. On the topic of the impact of mobile Internet educational software on students, most of the current scholars' studies are more partial. For example, they are only concerned with one type of impact of mobile Internet educational software on students' abilities, and they do not use a whole view of the impact of mobile Internet educational software on students' various abilities. Also, research on the perception of different types of mobile Internet educational software on developing students' different abilities has some limitations.

The main purpose of this paper is to find out the meaning of different mobile Internet educational software in developing students' different abilities, therefore, it can be easier for teachers to select the mobile Internet educational software which they need in order to develop students' specific abilities during their teaching. This paper also aims to demonstrate that technology promotes students' development and that mobile Internet educational software also benefits the development of student's abilities.

The paper draws its conclusions by searching for materials through various academic papers and academic books. The whole paper demonstrated the impact of different mobile Internet educational software on students' different abilities by providing demonstration examples. This paper will take a comprehensive view of the impact of mobile Internet educational software on elementary school

students. This paper presents examples of various types of mobile Internet educational software and summarizes the advantages of their use. On the base of these advantages, this paper discusses the impact of mobile Internet educational software on students' creativity, expression ability, and comprehension of the courses they are studying.

2. The Effect of Mobile Internet Educational Software on Students' Expression Ability

2.1 The Effect of Online Teaching Software on Students' Expression Ability

Online teaching has changed the situation of students passively accepting classroom knowledge, and to a certain extent, it has increased students' initiative in learning. Therefore, when teachers use online educational software such as Zoom, Tencent Meeting, Nails, and Changjiang Rain Classroom. Students will be more positive and more willing to express their views. Those programs are beneficial in improving their expression ability. As some elementary school students may be too shy to express their ideas in front of all their classmates when they are in the classroom, so they often choose not to answer any questions. Therefore, this is not beneficial in the development of those shy students' expression abilities. If the class is in an online classroom, the questions will be answered by opening the microphone or typing. Because of this, these shy students may choose to actively answer questions. As a result, they don't have to be bound by their shy personality anymore. Therefore, their expression ability may have an improvement in this way.

The development of online teaching is based on network technology, which provides a technical platform for personalized services, allowing students to play back relevant instructor course content according to their characteristics, communicate with the instructor through network resources, and interact with classmates to discuss difficult issues. Online teaching software is used as a platform that provides convenient information interaction between students and teachers and enables face-to-face communication between both students and teachers. This undoubtedly offers facilities to promote students' expression ability.

2.2 The Effect of Online Discussion Software on Students' Expression Skills

Unlike the traditional teaching method in which the teacher asks questions and selects a few students to answer, in software such as nearpod, WordPress, and google docs. Richardson calls this software a "read-write" Web, the "read-write" Web allows both students and teachers to publish their work to far-reaching audiences while also promoting collaboration and engagement in online discussions and interactions that go well beyond the classroom.

Therefore, through this software, teachers, and students could exchange their opinions and share information at the same time. All the students are free to express their opinions and communicate with the teacher. Students are not only able to communicate with their teacher, but also can communicate with their peers about different perspectives on the topic. Their expression skills are also developed when they share their opinions or evaluate the opinions of others.

Elementary school is a very important period of development in students' abilities, and in this period, teachers use educational software to allow students to freely express their views and share their opinions. Which is very important for the further development of students' expressive abilities. Only when teachers provide students more opportunities to express their opinions, they will be more willing to express their opinions and their expression ability will be improved.

2.3 The Effect of Student Feedback Software on Students' Expression Skills

The feedback is very important in the students' learning efficiency and learning effectiveness. The reason for this is that timely feedback can help the teacher to know what the students are confusing therefore they can better help their students to achieve their desired understandings goals. Teachers use feedback software, such as ED, and Dings. These programs make it easier for students to give

feedback after class on what they have already learned. At the same time, these programs also make it much easier for teachers to adjust their teaching methods and rhythm based on the student's feedback.

Meanwhile, because of there are many possible ways for students to reduce the gap between current and desired understandings in response to feedback, and they are not always effective in enhancing learning. This requires that students' feedback should be meaningful, uncomplicated, and clear. This is because only in this way teachers can better make changes to their lesson plans based on student feedback, thus helping students to close the gaps and achieve their desired understandings. While students give effective feedback, teachers can respond in a timely manner through the feedback software so that students' problems can be solved efficiently. When some students have trouble in can't express their problems clearly, teachers can timely point out their expression mistakes and can help them correct their mistakes immediately, which can help students to improve their expression ability. The feedback software also provides a platform for students to communicate with their teachers after class time, which can effectively help in improving students' expression ability.

3. The Effect of Mobile Internet Educational Software on Students' Creative Ability

3.1 The Influence of Mobile Internet Educational Games on Students' Creativity

Creativity and invention are processes that won't be used in adulthood unless develop in childhood and since today's children's lives have been associated with technologies, one of the most important ways to educate creativity is through technology tools. Also, based on the personality characteristics of the elementary school students, if the teacher uses the traditional teaching method in class it may let the students feel bored. But if the teacher chooses to teach based on the technology tools such as educational games to teach, which could be very useful in raising the interest from the students. Education experts also point out that this method which teaching and learning based on educational games could be very useful. In the book Digi-Game Based Learning, education expert Marc Prensky points out that the learning revolution of the 21st century is not the digitization of the curriculum, the realization of distance e-learning, or the emergence of wireless, broadband, instant learning, or learning management systems, but the real learning revolution is the realization of the ideal of "learning while having fun. The real learning revolution lies in the realization of the ideal state of "learning in entertainment and entertainment in learning.

If teachers use mobile Internet educational games in teaching that will not only motivate students' positivity but also can give them a chance to improve their creativity. Especially in some mathematical geometry games such as Square Tangram, in which students are asked to mend the wounds of a robot through combining triangles, squares, and rectangles. By doing this, students can gain knowledge about geometry with fun. Also, students can play with different combinations in their own arrangement, which promotes their active thinking and creativity.

Educational games require more of the students to do it by themselves rather than through the one-sided output by the teacher. As a result, when students play educational games, they are not guided or assisted by their teachers every moment. Thus, in order to complete the game and achieve an excellent score, students have to think more on their own and they have to keep trying, which is also very beneficial in the development of students' active thinking and creativity.

3.2 Effects of VR teaching models on students' creativity

Because VR technology in education can build virtual learning environments, create virtual learning partners, and provide learners with a learning environment that is time-sensitive, interactive, fun, and safe. It can be said that the combination of VR and education is one of the main trends in the development of education as it overturns the passive learning approach of traditional teaching methods. Nowadays, a lot of teachers choose to use VR teaching models when they teach their courses.

Using the VR teaching models will not only allow students to experience the architectural and historical scenes where they are studying but also enable them to have a better understanding of the lessons

Most importantly, VR technology still plays an important role in cultivating students' creative abilities. In some creative classes or classes that require students to use their imagination, immersion programs can have unimaginable effects. When students are in a VR environment, their minds become very active. Unlike facing boring printed text in a book, students may have a better chance of generating ideas when they are in a virtual environment.

Therefore, the use of VR technology by teachers in the classroom has a very positive effect on cultivating the creativity of elementary school students and plays a catalytic role in this development.

3.3 The Impact of Online Experimental Applications on Students' Creativity

Experimental teaching is an important process for students to acquire knowledge that cannot be embodied in textbooks. Experimental courses are the main practical source of book knowledge, which can better stimulate students' enthusiasm for learning and motivate students to learn . Elementary school students often don't have enough patience when listening to the teacher explain the reasons for the theory and the process of generating it, so if the teacher uses experimental methods, students may be more motivated in the classroom. At present, with the rapid development of technology, many different educational software and educational technology have emerged, experimental teaching is the key technology of modern education, students can use the new teaching form of experimental online teaching simulation platform, eliminate the traditional boring teaching mode, and improve students' enthusiasm for learning.

By using online experiment software, all students can participate in the entire process of doing experiments, which can completely liberate their minds. The teacher publishes the experimental software to the students and publishes the purpose of the experiment. Teachers don't need to instruct students every time, as usual, but only evaluate the results of experiments uploaded by students. During the experiment, students need to explore the right methods and feasible steps on their own. In the process of completing the experimental objectives, students need to be fully active in their thinking and come up with new experimental methods. Through this free exploration, students can fully develop their creativity.

Elementary school students have a wealth of imagination and creativity, so allowing them to explore freely through the use of online experimental software can help them further develop their creativity.

4. The Impact of Mobile Internet Education Software on Students' Comprehension.

4.1 Effect of Concept Mapping Tools on Students' Comprehension

The concept map is based on Ausubel's theory of meaningful learning and is derived from the concept of a high-level organizer in Aussubel's theory. According to Ausubel, meaningful learning occurs when learners can organize information and link previous knowledge to new knowledge in cognitive structures.

At the same time, Wang et al. introduced concept maps as an educational technology that links new information to prior knowledge structures and introduces conceptual understanding through the meaningful presentation of concepts. Teachers use concept maps in the teaching process, which not only helps to link the course content taught in this lesson with the course content taught before, but also helps students to carefully understand the course content. Concept maps help teachers guide students to build on a priori knowledge, and also help students expand their knowledge horizontally and vertically, thereby expanding knowledge, further deepening understanding, and promoting understanding.

At the same time, concept maps serve as visualization tools that help students acquire knowledge intuitively. Concept maps have a simplified structure and a clear hierarchy. In the classroom, teachers can present their concept maps so that students have a better understanding of what they are teaching, or they can use the tool to have students build their concept maps. Both methods are great ways to deepen students' understanding of what is being taught and contribute to their understanding.

4.2 The Effect of Mind Map Tools on Students' Comprehension

The mind mapping method is a method of bringing together a variety of information, and its vivid and colorful structure is consistent with the cognitive characteristics of elementary school students. This is why teachers can use mind maps in their classes to boost students' interest. Mind mapping is through different modules to combine various knowledge points together, through software such as coggle, teachers can also add some pictures or expand the URL of knowledge in the mind map, so that the material-rich mind map may be more convenient for students to better understand the content taught in the classroom.

In the teaching of mathematics, teachers are always worried about how to make students understand boring mathematical formulas and theorems. This is because mathematics is definitely a very difficult subject for elementary school students, and the number of mathematical formulas and theorems may make them feel scared because of the complexity of the subject.

Therefore, if teachers use traditional teaching methods instead of using technical tools, about 90% of elementary school students may not be able to understand what is being taught in the classroom. The presence and use of mind maps can translate complex mathematical knowledge into easy-to-understand visual systems with contrasting colors and organized symbols to help students better understand the content. This shows the use of mind-mapping tools such as Coggle. This can be used to help students better understand what the class is teaching when the teacher is teaching. This will improve their comprehension skills.

4.3 The Effect of Argument Mapping Tools on Students' Comprehension

When teachers are teaching about a historical event, they use historical pictures in combination with the contents of the textbook to clearly explain the cause and effect of the event, but in a series of seminal studies, Pollock, Chandler, and Sweller found that learning is impeded when instructional materials require a high degree of attention switching, for example, between text and figures. They concluded, more generally, that encoding environments that increase the cognitive load placed on the reader tend not only to slow the learning process but also reduce overall levels of learning.

Because of this, teachers can use an argument map to avoid cognitive overload which can cause a decrease in students' learning efficiency. The argument map has visual characteristics so that teachers can clearly show to students the arguments and argumentation process of a certain conclusion in the classroom, which can help students' understanding. At the same time, when the teacher is explaining a historical event, such as World War I which was triggered by the Sarajevo Incident, the teacher can use the argument map to analyze whether if there was no Sarajevo Incident, would the World War I have broken out? What was the reason World War I still occurred? And what was the reason why it may not occur? Using the argument map to make these kinds of speculations and reflections, will help students think to be more active. At the same time, use software that allows students to construct an argument map which can also help students to better understand this historical event.

Some historical events may be a little bit boring for elementary school students. Therefore, if teachers choose to use the argument map tool to teach and let students participate in the process of deducing the historical events on their own, it may greatly increase their interest in learning history and can also help them to comprehend the historical events.

5. Conclusion

Through this research, it is found that the use of mobile Internet educational software during the teaching process can have a positive impact on students' creativity, expression ability, and comprehension of knowledge. As a result, the use of mobile Internet educational software during the teaching and learning process can have a positive impact on the development of student's abilities. That is because the use of mobile Internet educational software provides a platform for direct communication between students and teachers and also allows students to express their opinions freely. Mobile Internet educational software also provides a well-understood structure of knowledge that is intuitive and can help students to better understand the knowledge. This helps students to understand knowledge and improve their learning efficiency. Therefore, the use of mobile Internet educational software during teaching can improve students' abilities and increase the efficiency of teaching.

This study can also provide a reference for future academic research on the impact of mobile Internet educational software on the teacher's teaching and the positive impact on the students. This study summarizes the overall multiple perspectives of mobile Internet educational software for the development of students' multiple abilities. The study also provides a reference for academic research on the significance of mobile Internet educational software for teachers' teaching and its positive impact on students. At the same time, this study is also beneficial for the teachers to organize their teaching activities in this way. This paper gives the impact of different mobile Internet educational software on students' different abilities, which provides a reference for teachers' teaching and helps them to arrange classroom tasks using different software.

At last, this study did not use a large amount of data to demonstrate the conclusion but used a lot of examples to argue. In future studies, it should be noted that more data should be collected to have better support for the conclusion.

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