

Abstract

Educational trends show that computers are becoming the standard tool for teaching students. Not only does this technology make learning more effective than traditional methods, but it also enhances student engagement. We explore the advantages and challenges of introducing one-on-one computing for the learning of fundamental mathematics in the classroom. In particular, we focus on the pedagogical benefits.

Introduction

Primary and Secondary education has and will continue to be a vital part of every society. It shapes the minds of our next generation and causes children to think outside of their comfort zone. Although education has always been a pillar, its methods have grown, wavered and gone through trial and error.

Recently, technology has been transitioning from simple textbooks, notebooks, and pens to computers and other modern devices. One on one computing could simply be achieved by providing each and every student with his or her own personal computer to work with or his or her own individual software. Mathematics, in particular, has made great advancements from simple arithmetic done with a pen on paper to online programs that are both, informative and fun.

This can all be accomplished by incorporating 1 on 1 computing into the primary and secondary education of mathematics. 1 on 1 computing is the most efficient way to teach students in the modern era and in the long run, it will create better learners than basic books have in the past because of the versatility and potential to learn through this program.

Pros

There are many positive things that one on one computing brings to the table primary and secondary students in mathematics. Kevin Larkin, a journalist, says, "The current orthodoxy regarding computer use in schools appears to be that one-to-one (1:1) computing, wherein each child owns or has sole access to a computing device, is the most efficacious way to achieve a range of desirable educational outcomes, including individualized learning, collaborative environments, or constructivist pedagogies"(Larkin 514-530). The first positive, of quite a few great ones, is the accessibility to the material and questions that need answering to. With this personal computer, a student can take it home for homework or study and be able to access different problems, videos, and explanations. When a question arises, the student will then be able to revert back to posted videos of the explanation and worked out problems. While the student is in the classroom, he or she can get instant feedback or answers to his or her problems until the teacher is available to explain. The student can also work ahead due to the vast resources the Internet and education companies now offer online. The second reason is the enticement to learn for students. When working on a computer through an application or a math game, the student is able to see progress and will continue to stay engaged. The will feel accomplished when they are excelling and they will immediately know what is wrong when they are struggling. Likewise, programmers and education companies have begun to make online programs more fun and more appealing to the student. One on one computing in mathematics brings a great deal of advancement to the learning and teaching of primary and secondary mathematics.

Cons

One of the other major concerns with moving from basic learning techniques to one on one computing in math is that students will be much less methodical in their ways. In the past, primitive learning forced the learner to follow a step-by-step process, especially in mathematics. Edward Zuber remarks that "mathematics teacher frequently support the view that organizing student in "ability groups" or "sets" is the most appropriate since they are better able to cater to students need and avoid classroom management problems" (Zuber 282 – 283). With learning math on computer software, students may not be inclined to write down the actual processes as they go through each and every problem. This issue can easily be solved if the one on one computing uses reputable methods and is sure to hone in on how to do a problem, not how to just get the problem right. The process and theorem are the roots of the concepts and that is where one on one computing can provide extra help and support to students as they conquer primary and secondary mathematics. The programs can take them on a step-by-step tutorial for numerous problems while also saving time and wasted textbook words. With this being said, though, as society moves forward, one must be sure that we do not lose the fundamental concepts of math to technology. One should use the technology in K-12 classrooms expand the student's potential for delving into mathematical processes and theorems.

Images



Conclusion

One on one computing will allow for our society to grow as a whole and to continue growing. Where basic learning has limits, one on one computing is limitless and will continue to help our future learners. Yes, primary and secondary mathematics concepts are very basic in the grand scheme of things and they could be taught by basic methods, but they are the building blocks for any lifetime learner and future employee where technology will be needed in that form of mathematics.

References

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