

COGNITIVE DISCOURSES

INTERNATIONAL MULTIDISCIPLINARY JOURNAL

ISSN 2321-1075 ISSN 2347-5692

VOLUME 11

ISSUE 1

JULY 2023

cdimj.naspublishers.com

Published Since 2013

Integrating Technology into the Math Classroom: Strategies to Engage the Students

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Abstract

This paper explores the use of information and communication technologies (ICT) in the classroom. They participate in technology-based learning modules aligned with teaching practice taught school and became characteristic of teaching method by using the mathematical software. ICT-based learning environment has been the demands in practice learning to build a more effective approach to the learning process of students.

Keywords: ICT, technology integration, mathematics classroom

Introduction

Technology as an information tool has an impact and change in performance. It can change the subject of teaching and support teachers and students (girls) in learning to use new technologies as tools to collect, organize and analyze information. you can solve real-life problems and develop new ideas and strategies. Many math teachers also use interactive whiteboards, graphing calculators, software math dynamics, program graphics, computer algebra systems, etc. He is also aware of the opportunities in education. But the advantages of using technology lie not only in the use of technology, but also in how the chosen tools are specifically placed in context

Linking Mathematical Concepts to Real-Life Applications

Teachers can use technology to help students understand how to use math in their daily lives. Instead of just having students solve problems, teachers prefer to create short videos that show their decision-making processes for real-life problems. Encourage students to examine the purpose and quantity of purchases of items such as cheese from price and vendor support. These instructional videos can be easily recorded using a smartphone and shared on platforms like YouTube or in the classroom.

Integrating technology into the mathematics classroom allows students to better understand and visualize their learning through interpersonal interactions in classroom settings. Teachers can now hold video conferences with experts in various fields using platforms such as Skype, Zoom and Google Classroom. For example, one teacher used Twitter to ask business professionals for ideas on how they use math concepts in their daily work, which led to students meeting a good park designer. The designer demonstrates the use of measurements, equations and calculation cycles in his work.

The Necessity of Integrating Technology into the Mathematics Course

The integration of technology reflects the daily lives of students. Because students and technology are inextricably linked in today's world, the National Council of Teachers of Mathematics emphasizes the importance of integrating technology into mathematics classrooms. Given that technology has become an important part of their daily lives, including digital tools is a way to guide their thinking, create unique lessons for their special needs experiences, and ensure they understand the mathematical concepts they are learning.

Technology Promotes Truth - World Context of Mathematics

Many students often wonder about the importance of mathematics in daily life. Mathematical literacy is essential to being a 21st-century thinker, enabling collaboration, facilitating communication, and even performing daily tasks like grocery shopping. Technology plays an important role in helping students learn and empowering students through the use of mathematics. For example, they can use interactive text to solve everyday problems, create their own visual aids, or join in the fun of coding.

Increasing Interaction with Digital Mathematics Tools

Integration of digital tools can increase the importance and interactivity of the mathematics learning process in the classroom. Teachers can teach students more by using the right technology. Using multimedia tools such as animations and quizzes adds an extra layer of interest to the classroom. For example, we enhanced our digital textbooks with interactive Geogebra visualizations that not only capture students' imaginations but also allow them to actively explore mathematical concepts. Additionally, it is important to use mind mapping software to promote understanding of various mathematical concepts.

Technology-facilitated Education

It is important to remember that digital technology cannot replace the role of mathematics teachers in mathematics; However, they can also be effective in improving teaching quality while reducing teacher workload. As the examples below show, integrating technology into the mathematics classroom ultimately allows teachers to be more efficient and effective.

Guide to Implementing Technology in the Mathematics Classroom

There are many different educational technologies that can be used for different mathematics applications, but the integration of technology should not be its own goal. The important thing is to carefully consider these options to determine which one best meets the unique needs of your classroom.

The Importance of School Culture for Technology Integration

School culture has a common vision, plans, standards and benefits derived from school membership (Maslowski 2001).

Pelgrum and Law (2009) focused on the importance of school culture in ICT integration, saying that effective ICT integration depends on the understanding and vision of school principals rather than ICT teachers. School culture has a mediating role in affecting teachers' attitudes, beliefs and behaviors (Chai, Hong and Teo 2009). Therefore, in addition to the previously mentioned internal and external changes, school culture also plays an important role in effective technology integration (Tezci 2011b).

To investigate teachers' understanding of school culture regarding ICT use, Tezci (2011b) examined Turkish teachers in terms of technology use and motivation. The results show that their thinking is not good from their perspective because most do not believe they will receive adequate support from school. However, when the school culture becomes positive, teachers also step in. The level of ICT usage has improved. Ward and Parr (2010) stated that in order to incorporate technology into the classroom, teachers need to be confident in their ability to use technology to improve student learning. To achieve this, more professional development is needed that focuses on improving teachers' skills to overcome technology-related concerns. Additionally, schools must provide new instruction and support that allows them to support computer-based learning while maintaining control. In general, implementing effective teaching through technology integration

requires changes in teacher education, beliefs, and school culture (Ertmer and Ottenbreit-Leftwich 2010).

We can now generate new ideas for successfully integrating technology into Mathematics lessons:

1. Automate the most repetitive tasks

Online training tools save you valuable time by automating repetitive tasks in your business. Our platform ranks students and provides them with automatic recommendations.

In this example, we see a teacher using Google Forms to manage questions, with each user asking the same question in a different way. Teachers later realized that feedback and discussions on the platform encouraged students to participate in class and achieve higher levels.

2. Using Learning Analytics

Getting anywhere in the classroom can be difficult and time consuming. Learning Analytics allows you to view the entire course. You may be teaching math to many people with different math backgrounds and experiences. Identifying struggling students allows you to provide them with additional support in a timely manner.

3. Encouraging collaboration with e-learning tools

Although mathematics is widely seen as an individual activity, group learning is more effective at the end of the lesson (Koçak, Bozan, & Işık, 2009). Among the many activities for shared math e-learning, there are some useful ones, such as free-text discussion papers or graded worksheets. Digital media can also help create a safe space for the quietest and shyest students and encourage their participation

4. Using Gamification to Increase Classroom Engagement

Learning games are a great way to learn. Connect with your students and encourage them to engage in learning. They can stimulate interest and interest in mathematical concepts. Gamification makes content more interesting for students and improves their performance.

Integrating technology into the mathematics classroom also means:

- Independent learning: students can learn on their own and receive feedback and feedback.
- Collaboration: Students can work together anytime and anywhere.
- Real World Applications: Machines can test real-world situations that require mathematical thinking and reasoning skills.
- Saves time for teachers: Technology helps teachers monitor learning, provide quick feedback, and identify where students need support.

The best technology in the math classroom is active, not active. They also invite deep thinking and creative thinking, not quick learning.

Here are some ways to encourage collaboration:

- Use an interactive table or projector: Display math problems and solutions, diagrams, and simulations so students can interact with visualizations of mathematical concepts and operations.
- Use math calculators and virtual objects: Helps students visualize and solve complex math problems and prepares them to better understand math concepts.
- Use gamification techniques: You can make mathematics useful for your students.
- Use online sharing tools: These tools can help students do math and homework together, even if they are not in the same physical space.

- Use selected publications and other online resources: Create a math community where students can collaborate, share resources, and ask questions.
- Use math software and apps: These programs help students practice math, solve problems, and visualize math concepts in 3D or interactive models.

How is Desmos Math 6–A1 presented?

Desmos Math 6-A1 is this program. It offers digital and interactive learning as well as simple and creative outputs. The teacher dashboard is designed to support classroom communication and collaboration. It invites students to explore a variety of teaching methods and teachers to celebrate and create positive experiences in the classroom.

The dashboard also allows teachers to measure the performance of each student and class and allows students to write feedback for use in the classroom. class.

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