

“BLENDING MATHEMATICS”

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Introduction

Why do we learn and study Mathematics ?Is it to learn numbers, building numeracy in children addition, subtraction, multiplication, division, measure, fractions etc or is it just needed in STEM education i.e, Science, Technology, Engineering and Mathematics .What is the main objective and aim of Mathematics? Mathematics prepares every individual to face the challenges of life and overcome them. But Mathematics teaching and learning is sometimes challenging for both students and teachers and with Blended or Hybrid mode of teaching and learning mathematics indeed challenges are more. And the biggest question is how effective is the blended or hybrid mode in mathematics learning!

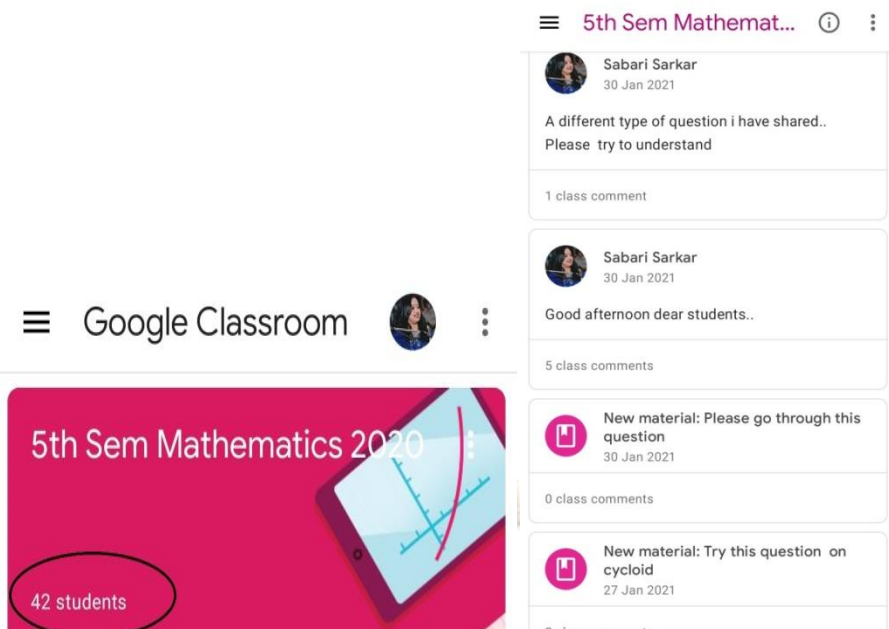
Mathematics and Blended mode of teaching and learning

Math plays a very important role not only in building numeracy in children or turning out employable adults who will contribute to social and economic development but it has higher aim. Mathematics helps to build ones character, it helps in critical and logical thinking. Developing the right attitude and approach for problem solving and tackling all problems in a systematic manner helps one to tackle problems in life and solve in a systematic way. Mathematics prepares every individual to face the challenges of life and overcome them. It develops scientific attitude and curiosity. The person asks, tries to know, understand new situations, gathers information and investigate. A person when thinks critically and logically, decides rationally becomes intellectually honest and open minded. So, the most important in Mathematics contributes in building an overall strong human being with good character, personality and heart.

At the initial level the goal of Mathematics education is the Mathematization of the child's thought process, i.e, child is able to visualize, think logically, analyze problems and situation and has a spatial sense. Also, employment may be considered as a narrow aim of Mathematics education but the higher is the overall development of a person who makes and contributes to and for the society and Nation.

When we think about the best way to teach Mathematics is by chalk and duster but with digitalization and technology today the modern world, the modern system talks about the blended mode. Online learning has become the new normal for many institutions. The teacher is broadcasting a fixed curriculum for all students, and students are then watching it according to their convenience. So it's basically passive learning rather than active learning but in this case advantage is that students can do later putting more time and effort but also clarifying doubts with the teacher becomes difficult. During the pandemic time all the classes were held online and both teachers and students had a tough time. Teachers had to prepare the materials and presentations to teach and the students tried their level best to understand, solve problems. Sometimes teachers shared notes online and did not explain, the sincere students however tried enquiring from the teachers, from internet but many students who were not so serious used to login for the class and do other thing. The pandemic situation which the whole world faced made us realize the importance, advantages and disadvantages of online teaching and learning.

Presenting the screenshots of Google Classroom of a particular class during pandemic time where the students were supposed to respond and the attendance was marked.



But research has shown many benefits of blended learning and experience shows few disadvantages also.

Blended or Hybrid learning is defined as an approach of education in which traditional in person classes are supplemented or supported with technology and learner take advantage both of online and offline resources. Here student take their math instructions into their own hands by learning concepts and combining digital learning tools with traditional class room teaching. In a Mathematics class there are different kinds of students and within the limited class time the teacher may not be able to satisfy the needs and speed of different students. To address these issues, blended mode can be introduced. Blended learning has changed the approach of both teachers and students towards learning where different strategies are used in the classroom. Students who struggle in the class are given attention and time to make their concepts clear and

others are given more challenges. So the approach towards learning is different and it focuses on all students. It is believed that blended or hybrid learning improves computer and technology skills. It increases students' engagement and encourage them to devote more time to study. They have flexibility and independence to learn in their convenient time in their own pace. Sometimes teachers can plan their classes in such a way that they can interact more and give one-to-one instructions and teachers can adopt different strategies according to the learning style of the students.

It is thought that there will be a positive impact of blended learning towards high achieving students' attitude in Mathematics. The student is not totally dependent on classroom teaching but learns by doing and exploring online. So blended learning will support students' critical thinking skills. It helps to improve academic performance as the students get more attention from the teachers. A teacher can manage the class effectively and also can go deeper to a topic to explain and can understands students problems and weakness. Blended learning focuses on E-learning to reduce the dependency on text books.

But yes, the traditional class room teaching is needed and is a must. As Mathematics has its own importance and many students do not favour learning mathematics through blended mode and instead they prefer the traditional learning.

Disadvantages of Online mode learning:

- Too many videos may lead to confusion.
- The importance of schools/colleges may decrease and even there may be decrease in teachers' importance, respect and gradually jobs.
- Discipline is not there in the learning.
- Eye problem may occur.
- Addiction, sometimes good, sometimes bad
- Instead of studying sometime busy in social networking
- Watch inappropriate things sometime.
- Mediocre students gets confused with online and offline mode.
- Those who don't concentrate and understand in class take less interest in studying in online mode.

Conclusion

Mathematics contributes in building an overall strong human being with good character. With Mathematics education child is able to visualize, think logically, analyze problems and situation and has a spatial sense. Today in the modern world of technology and digitalization, the Blended or the Hybrid mode of teaching learning is the new normal. In blended mode the approach towards learning is different and it focuses on all students. Students' have flexibility and independence to learn in their convenient time in their own pace. Students are not only dependent on classroom teaching but learns by doing and exploring online. So blended learning supports students' critical thinking skills. As Mathematics has its own importance, the traditional class room teaching is needed and human teachers can help clarify important concepts or explain problems more effectively that are too difficult than machine or internet.

Reference:

- www.google.com
- Mathematics classes of St. Edmund's College, Shillong.
- Experience of Mathematics students and teachers.