

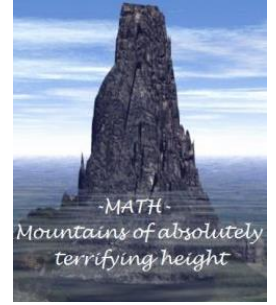


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**MATH**  
***Mountains of Absolutely Terrifying Height***  
**2017-1-DE03-KA201-035644**  
**VG-IN-NW-17-24-035644**



## **CREATING A DIDACTIC CONCEPT**

Taking as reference our frame by which regulates the curriculum of Adana Fine Arts High School (Decree 92/2017, 17/07/2017), and carrying out an analysis of it, we can see how are established some minimum methodological guidelines to carry out the development of basic skills by our students in mathematical skills.

As stated in the curriculum of the Ministry of National Education; The rapid change in science and technology, the changing needs of the individual and society, the innovations and developments in learning theories and approaches are also expected from the individuals who are directly affected.

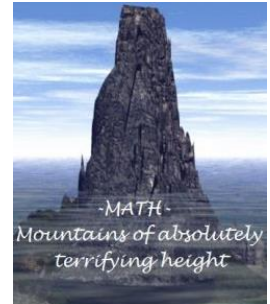
Social change and development are gaining momentum. We live in an age where technology affects every moment of life. For this reason, we use methods that will improve mathematical value, mathematical thinking, mathematical modeling and problem solving skills for our students.

with these methods, our students;

1. will be able to develop problem-solving skills by looking at problems from different perspectives,
2. Mathematical thinking and application skills will be able to gain,
3. Will be able to use mathematics correctly, effectively and conveniently,
4. Will give value to mathematics and mathematics education,
5. Will be able to develop different solutions to solve the problems they face in their lives.



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Affecting the learning of the student; class size, class cognitive level etc. many factors that can not be counted here. For this reason, we pay attention to the following points in the implementation of mathematics education.

1. Learning areas in mathematics, sub-learning areas and the order of subjects
2. supporting learning with technology
3. Preparation of teaching materials
4. Examples of mathematics used in daily life

### Methods And Techniques

| Principles of Mathematics Teaching   | Stages in Mathematics Teaching  | Factors Affecting Method Selection in Mathematics Teaching  | Strategies and Approaches in Mathematics Teaching   |
|--|---|---|---|
| <ul style="list-style-type: none"><li>• Concrete Experiences in the Learning-Teaching Process</li><li>• Meaningful Learning</li><li>• Communicating with Mathematical Information</li><li>• Attribution</li><li>• Student Motivation</li><li>• Using Technology Effectively</li><li>• Cooperative Learning</li><li>• Arrangement of the Process according to Teaching Stages</li></ul> | <ul style="list-style-type: none"><li>• Introduction / Wake Up</li><li>• Investigation and Research</li><li>• Explanation</li><li>• Progress</li><li>• Evaluation</li></ul> | <ul style="list-style-type: none"><li>• Objectives</li><li>• Feature</li><li>• The size of the student group</li><li>• Time and Physical Environment</li><li>• Cost</li></ul> | <ul style="list-style-type: none"><li>• Teaching by invention</li><li>• Teaching through presentation</li><li>• Research and Teaching</li><li>• Full Learning</li><li>• Cooperative Learning</li><li>• Project Based Learning</li><li>• Internet Based Learning</li><li>• Inductive-deductive</li></ul> |

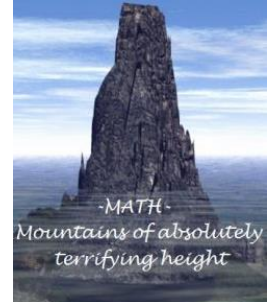


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## **Mathematical competence and basic competences in science and technology.**

Keeping Up With course knowledge and pedagogical developments will still be important, but teachers will also support students ' learning through the use of digital learning tools and technology.

Advances in technology necessitate the use of Information Technologies. Developments in technology, necessitated the use of information technologies in the mathematics education process, as in many areas. The computer is one of the most important technologies students can utilize in education. Students are given project and performance assignments. In these assignments, students are asked to give presentations on the given mathematics topics. This enables them to use presentation programs and Web 2.0 tools and encourages students to research using the Internet.

Interactive smart board is in every classroom in our school. Math lessons are processed with ready-made programs that are used on these smart boards. So, technology is used in classrooms. All information related to the subject is accessed by using the internet connection on smart cards when needed. Smart Board use in mathematics courses saves time for teachers and students. In particular, ready-made shapes for geometry-related issues provide visual support and students better understand the solution to the problem. Also, geo-gebra program is used in geometry education. In the textbooks there are examples of application related to this program.

STEM education has emerged in recent years as an approach that attracts the attention of educators in our country as well as in the whole world. As the 21st century is the age of information and technology, the business world is faced with

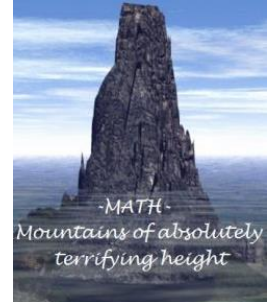


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brand new and unconventional career needs and definitions. Today, individuals are expected to be equipped especially in the fields of science, technology, engineering and mathematics. Therefore, many educational institutions, particularly the Ministry of National Education, have focused on the STEM education-teaching approach. The basic philosophy of STEM education is to realize the disciplines of Science-Science, Technology, Engineering and Mathematics in a context that is related to education and training.

For Turkey, made in the international PISA exam in mathematics, particularly in problem solving part, the results are not at the desired level. As in the rest of the world, mathematics education researchers state that mathematical modeling problems should be used more frequently in the classroom in order to solve this problem. This is why we are working to educate students as individuals who can produce solutions to real-life problems and have the equipment required by the age of technology.

Mathematics has an important place in STEM approach and applied mathematics knowledge becomes more valuable. The task of teaching and understanding the subjects, concepts and formulas that are independent of the context we see in the traditional teaching approach is largely unsustainable. It is a common view among educators that the mathematics subjects and concepts related to context are more permanent and meaningful with the necessity of the teacher and the application areas. As a part of mathematics education, we aim to increase the interest of students in these subjects by giving seminars about STEM and coding.

We also carry out projects on mathematics and other topics at the e twinning platform with our students. With the project method, we think that teacher is an effective way to solve problems in different disciplines. In the project method, students are expected to learn the subjects as a whole. The learner is centered and learners are active participates in events. It enables students to develop creative

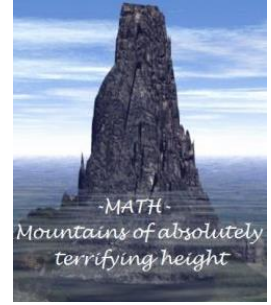


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and critical thinking skills. Students are divided into groups during the project work and do group work.

In order to create the necessary environments for students to participate effectively in the teaching process and to learn by living in the school or classroom environment, we teachers have great responsibilities and we are aware of this.

As our school is a vocational high school providing education in music and painting, students are focused on learning art and learning math is not a priority for them. Our students are prejudiced against the mathematics lesson because they have shortcomings in the information they have learned from the past years.

There are the following drawbacks:

- teaching is usually teacher-oriented.
- students listen to the lesson, ask questions, but do not complete the necessary repetitions, so learning is not completed.
- Students often focus on crossing to a higher class, not learning.
- most of our students are disadvantaged in terms of social, geographic, material etc , this situation has negative effects on learning.
- students usually focus on vocational education.
- Some of the students started to fear mathematics in primary school ages, so they don't like mathematics.

Despite all these efforts, our students' fear of mathematics continues and their academic achievement is well below the desired level. Moreover, most of our students limit technology and the Internet to social media use. We will continue to work to correct this situation.

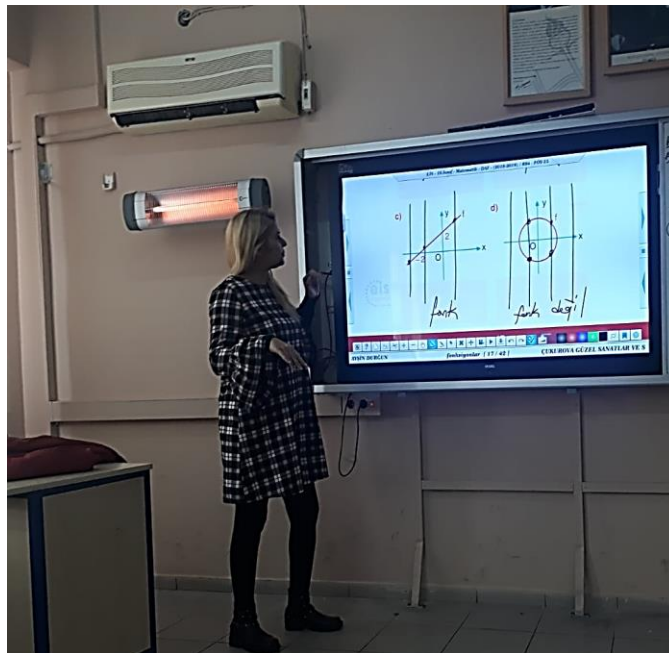
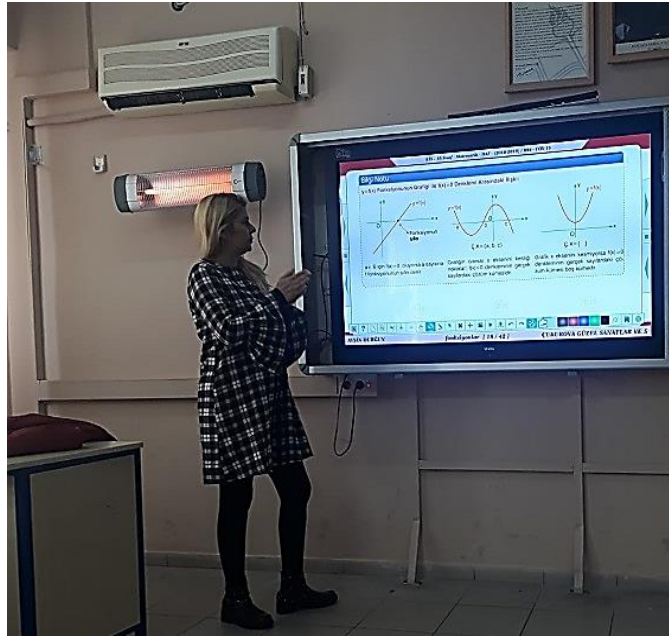
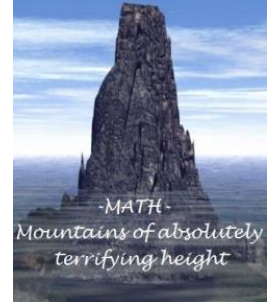


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