

## Geogebra Program - Visualization And Interactivity Opportunity

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### ABSTRACT

The article discusses the use of GeoGebra software mathematician in education role and his/her main opportunities analysis GeoGebra is a interactive and dynamic mathematician program is, she is geometry, algebra, calculation and statistics combined strong tool The article describes the use of GeoGebra software. to the user mathematician concepts visual in a way show opportunities, issues clear and fast solution to do opportunities, also, mathematician models in creation assistant functions is brought. Program to teachers and to students mathematics study and in teaching visualization, interactive experience and real time in mode analysis to do opportunities presented will reach.

**Keywords:** GeoGebra, abstraction, vector, model, modeling, artificial intelligence

In our country digital the economy active development, all networks and in the fields, most first of all, the state management, education, health storage and village on the farm modern information and communication technologies wide current to grow according to complex measures done is increasing [1]. Today on the day education in the system digital from technologies use modern pedagogy inseparable to the part In particular, mathematics in teaching abstract concepts visualization and interactivity provide important current task is considered. The students active participation provide and their mathematician literacy increase for traditional teaching to the methods additional accordingly new, dynamic tools current to grow necessary.

This regard, **GeoGebra** is a combination of algebra, geometry, and calculus. and statistics in a single, dynamic and free in the package combined strong mathematician software supply become service does. His opportunities mathematician make concepts realistic time in mode manipulation to do, variables change and the results immediately see opportunity gives. So So, GeoGebra students mathematician objects between

dependencies deeper to understand help gives [2].

Mathematician modeling visual programming based on simulation to do. Geogebra and between artificial intelligence preferably sides. GeoGebra mathematics education following in directions effective application opportunity gives:

#### 1. Visualization

Complex algebraic or geometric objects realistic time in mode For example, the function on the chart behavior immediately see to the student the topic deep to understand help gives.

#### 2. Interactivity

Parameters change through students changes immediately according to they will get, this and experiment method through to study supports.

#### 3. STEM integration

Physics, computer science and engineering in sciences calculation and modeling processes simplifies.

#### 4. Remote to education compatibility

GeoGebra Classroom function to the teacher students work online observation, evaluation and discussion to do opportunity gives.

GeoGebra training to the process following positive effects shows. Constructivist approach supports: student knowledge himself/herself "builds". Creativity develops: complex models free create opportunity. Problematic situations solution skills increases. Teacher activity relieves: ready templates, dynamic files and automatic calculations.

Mathematician in modeling following stages will be:

1. The problem to put and analysis to do
2. Mathematician model create
3. On the computer the model build
4. Simulation to do and the results visual analysis to do
5. Model improvement and final conclusion release

GeoGebra is this stages 3–5 of the processes are higher efficiency with to do help gives. Interactive sliders, animation, graphs, algebra window and CAS module math modeling intuitive and demonstrative to look brings.

GeoGebra math modeling process noticeable at the level simplifies. Traditional from modeling different accordingly, in this graphic and algebra one of time in itself interactive works. Artificial intelligence and mathematics and in geometry effective work take goes but then worked examples fuchsia or geometric bodies complete drawing give did not get it. GeoGebra for artificial to the intellect relatively complete and all kinds of drawings in methods drawing give Artificial intellect mathematics in the field still developed no.

However very complicated mathematician systems (e.g. high orderly differential equations or computer graphics demanding GeoGebra functionality for models) limited to be possible. So despite, education system for this program the most effective from tools is one. Through GeoGebra geometry in the field drawings issues

processing complete study possible. Current on the day people for becoming popular going artificial intellect mathematics everyone also active in the areas work can't.

GeoGebra software statistics and probability to the module has that him/her this in the field teaching universal tool for He/ She tells the students variance, standard deviation, different distributions and hypotheses check processes dynamic graphs through to observe opportunity gives . This and statistic principles just memorization instead of them experience through to study conditions creates.

There is research mainly GeoGebra's in geometry achievement learns. Students for comfortable calculation method is happening. The same At the time we were artificial intellect and geogebra with one kind on the list performance our observation possible. Because GeoGebra is still students inside becoming popular already no. In this article I will discuss GeoGebra and artificial intellect in mathematics where application and column sides seeing Let's go out.

This attitude with, this of the article purpose, from GeoGebra of use students analytical skills the impact empirical from learning consists of.

Article next in parts originally GeoGebra's main functional opportunities seeing will be released and artificial intelligence with GeoGebra how column sides there is that seeing Finally, we got results analysis will be done and mathematician GeoGebra in education effective application according to practical recommendations is given.

Conclusion as In other words, GeoGebra mathematics education interactive, visual and effective in the form organization to grow for strong The program is a tool for students mathematician thinking deepens, teachers for and lesson process innovative in a way organization to grow opportunity creates. Therefore GeoGebra digital of

education inseparable to the part around is going on.

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