

# Using technology

Education



Using Technology-GeoBra Using Technology-GeoBra Teaching mathematics requires teachers to connect to various related topics to enhance content understanding. Topics that require connections include calculus, algebra, and geometry. Markus Hohenwater, having realised the necessity of incorporating related mathematics concepts, developed the GeoGebra Software as dynamic mathematics software that can be used to achieve the connection (Akkaya, Tatar & Kagizmanli, 2011). Regardless of challenges facing its users, I can use the GeoGebra Software in several ways to enhance my classroom instruction.

First, when dealing with problems involving quadrilaterals, I will create an applet showing the processes of constructing a quadrilateral on an area equal to a given quadrilateral. Secondly, I will use the GeoGebra Software when introducing the concept of function. Here, I will include a GeoGebra applet to identify changing and unchanging quantities in addition to determining the relationship between two varying quantities. Third, I will use the software in investigating the coordinates of points. I will use GeoGebra's point tool to locate various points, interpret the coordinates and make generalizations.

One of the challenges facing users of the GeoGebra Software is complexity. Learners have difficulties using the program to achieve effective learning of mathematics. Overcoming this challenge involve teaching students basic mathematics of the topic before teaching them how to use the software. Secondly, using GeoGebra Software is sometimes time-consuming because I will need to train learners on how to use it after teaching them the fundamental concepts of the topic. To overcome this problem, teachers should encourage constant practice among learners. The third challenge

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constitutes the possibility of developing negative attitudes towards the software by students. This challenge can be overcome by demonstrating the necessity and effective use of the software in achieving the objectives of learning mathematics.

The GeoGebra software is critical in learning mathematics. The Software helps in linking the topics of calculus, algebra, and geometry to enhance understanding by learners. The challenges facing users of the software include complexity, time constraints, and negative attitudes by learners. Teachers should strive to overcome these challenges in order to enhance the applicability of GeoGebra in teaching/learning mathematics.

#### References

Akkaya, A., Tatar, E., & Kagizmanli, T (2011). Using dynamic software in teaching of the symmetry in analytic geometry: The case of Geogebra. *Procedia Social and Behavioral Sciences*, 15, 2540-2544.