

YouTube Platform in Teaching and Learning Constructions of Geometric Figures

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Abstract

The objective of this research is to investigate the impact of the YouTube platform on the teaching and learning of constructions of geometric figures. The YouTube platform is an online video-sharing environment that has gained widespread popularity due to the versatile and diverse content it offers. In this study, we analyze the use of the senadorhani YouTube channel in the context of teaching geometry and the construction of geometric figures. The study includes the benefits and challenges that the use of this platform brings to the process of teaching and learning the constructions of geometric figures. To carry out this research, a methodology based on the content analysis of the YouTube platform has been chosen. The sample was selected by the students of the “Heronjtë e Lumës”, “Dëshmorët e Vërrinit”, “Zef Lush Marku”, “Samidin Emini” and “Lidhja e Prizrenit” schools. The sample is represented by students of classes VI-IX with a total of 106 students. A range of appropriate methods were used to collect the data for this study. These include student surveys, qualitative interviews, and content analysis on the YouTube platform. The results show that YouTube offers a wide range of geometry learning content, including demonstrations, tutorials, and detailed explanations. This research assesses that the use of YouTube has great potential to improve the teaching and understanding of constructions of geometric figures.

Keywords: constructions, digital platform, geometry, learning, teaching, YouTube

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Introduction

Geometry is an important branch of mathematics that has a major role in developing the understanding of geometric structures and their use in everyday reality. For students and teachers, the way learning materials are delivered and received plays an important role in their ability to understand and use these constructs. In this digitized age, digital platforms have made a significant impact on how learning content is accessed and used. Among these platforms, YouTube is a unique environment that has rich and diverse content distribution on a wide range of topics. It is known that YouTube is a site that contains various videos (Neumann & Herodotou, 2020; Harper, Joo, et al., 2023). YouTube users continue to grow. YouTube offers the latest news on old news as well as many tutorials. However, some uploaders upload inappropriate videos. Therefore, educators should introduce to students that YouTube can be a learning tool, with the awareness that students should be able to choose the most suitable for learning (Gill, Arlitt, Li, & Mahanti, 2007).

The study has considerable relevance in the context of education and information technology. The use of the YouTube platform is a concrete example of the integrity of technology in teaching. This study analyzes how the YouTube channel affects the teaching and learning of geometry by disseminating knowledge in a more accessible and relevant way. The YouTube platform provides an efficient way to share knowledge and learning globally (Ziaulhaq, 2022). This increases students' and teachers' access to important geometry materials and information, improving distance learning opportunities (Harper, James, et al., 2023). Geometry is a field where the visual aspect is of particular importance (Méxas et al., 2015). Using video tutorials, the YouTube platform offers a powerful tool to demonstrate and explain geometric constructions clearly and understandably. Students have different learning styles. Some prefer visual learning, while others prefer auditory or written learning (Chaplot et al., 2020; Ha & Im, 2020). Therefore, the YouTube platform offers different learning opportunities that adapt to the different preferences of students.

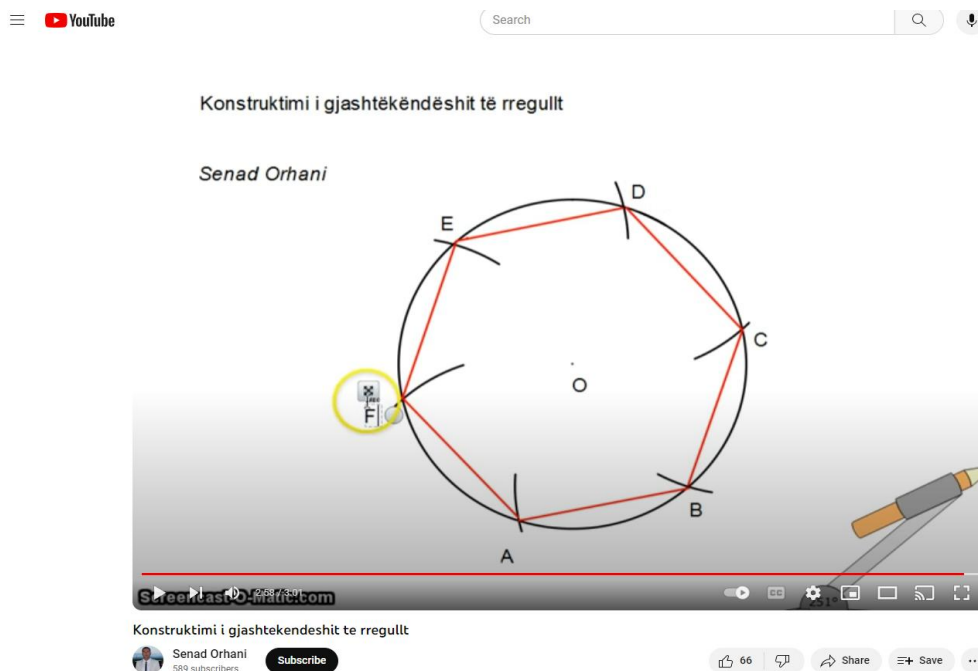


Figure 1. Construction of the regular hexagon on the senadorhani YouTube channel

Mathematics is one of those subjects in which teaching requires illustrations of abstract theoretical concepts and relationships with inappropriate examples to help students better understand the connections and enable them to understand the problems presented. Dynamic mathematical programs are educational tools that enable the visualization of mathematical entities in the form of dynamic models. Direct interactive manipulations with models provide opportunities for a heuristic approach to knowledge acquisition, while the learning of theoretical data is directly related to their practical application in the corresponding dynamic model (Velichová, 2020).

YouTube is an online video distribution and social media platform headquartered in San Bruno, California, United States. Accessible worldwide, it was launched on February 14, 2005, by Steve Chen, Chad Hurley, and Jawed Kareem. YouTube has had unprecedented social impact, influencing popular culture, and internet trends, and creating multimillionaire celebrities (Alex, 2022). The objective of this research is to investigate the impact of the YouTube platform on the teaching and learning of constructions of geometric figures. By analyzing the content provided by YouTube and evaluating how it is used in the learning process.

Methodology

Design of Study

To carry out this research, a methodology based on the content analysis of the YouTube platform has been chosen. This position defines the goals of the research, the procedures used to collect and analyze the data, and the methods to reach reliable conclusions. This methodology provides a structured and consistent way to analyze content on the YouTube platform and to reach consistent conclusions about its impact on teaching geometric constructions. The use of clear criteria and detailed content analysis ensures an accurate and appropriate value of the impact of the platform in this context.

Identification the Resources

Initially, we identified and selected a channel on the YouTube platform that offers content related to the construction of geometric figures. The selection was made based on the evaluation of the reputation of the senadorhani channel and the content of constructions of geometric figures with a channel visibility of 354 501, with 589 subscribers and 37 videos.

Content analysis

After identifying the sources, we focused on the analysis of the content provided. This included reviewing video tutorials and demonstrations dealing with the construction of geometric figures. Criteria for analysis included quality of explanation and level of difficulty.

Limitations of the Methodology

This methodology has a series of limitations which include the limitations of the resources used and the subjectivity of the quality assessments. Also, the duration of the research and the availability of materials on the platform have been factors that have influenced the implementation of this methodology. Also, the selected sample had limitations in terms of their number and selection.

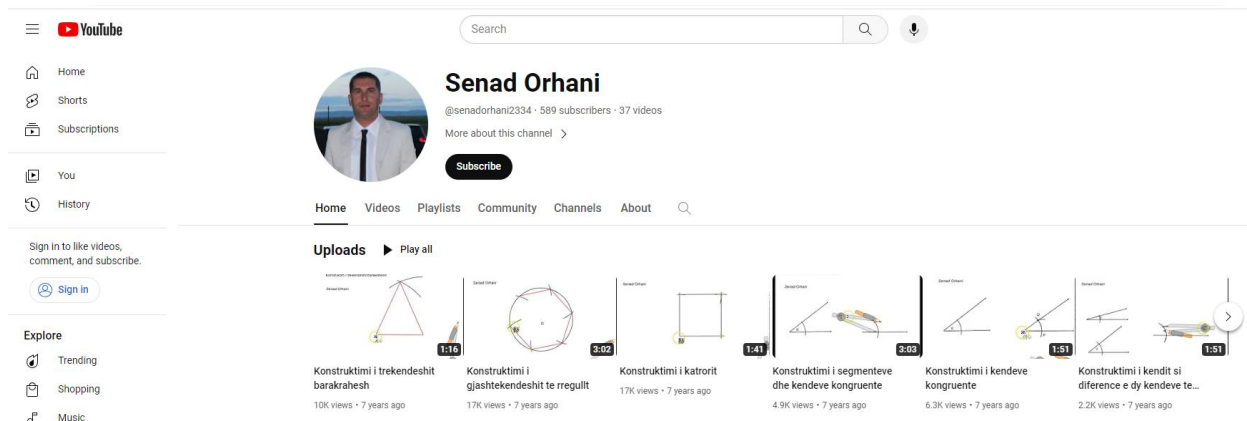


Figure 2. The senator's channel on YouTube

Validity and Reliability of the Study

To ensure the validity and reliability of the research, we have taken care to apply a defined and carefully documented methodology. Also, we used clear and previously defined criteria for evaluations and analyses. This chapter aims to provide a detailed description of the methodology used in this research and to provide a stable basis for the analysis and evaluation of the results revealed in this scientific paper.

Participants

To conduct this research, a careful process was carried out to identify and select suitable participants. The population of the study includes students of lower secondary level schools interested in learning the constructions of geometric figures through the senadorhani channel of the YouTube platform. For the identification of suitable students, certain criteria were used that include their experience in using YouTube during the learning process in the construction of geometric figures. In addition, a strict procedure was followed to ensure diversity and diverse representation in the studied sample. The sample was selected by the students of the “Heronjtë e Lumës”, “Dëshmorët e Vërrinit”, “Zef Lush Marku”, “Samidin Emini” and “Lidhja e Prizrenit”. The sample is represented by students of classes VI-IX with a total of 106 students.

Research Questions

1. What impact does the use of the YouTube platform have on learning the constructions of geometric figures?
2. How are students' understanding and ability to use geometric constructions affected by using the YouTube platform?
3. What are the benefits and challenges of using YouTube for teaching geometry compared to traditional teaching methods?
4. What are the main characteristics of the content provided on YouTube that make it suitable for teaching geometric constructions?

Hypothesis

H1: The use of the YouTube platform in the learning process will positively affect the quality and effectiveness of students in geometric constructions.

H2: Students who use the YouTube platform to learn geometry will show an improved level of understanding and ability to use geometric constructions compared to those who use other learning methods.

H3: Using the YouTube platform will provide a wide range of teaching materials and detailed demonstrations of geometric constructions.

H4: The quality of the content provided on YouTube, including the explanation, will affect the improvement of students' understanding of geometric constructions.

H5: Teachers and students with greater experience in using technology will benefit more from using the YouTube platform in teaching.

Data Collection and Analysis

A range of appropriate methods were used to collect the data for this study. These include student surveys, qualitative interviews, and content analysis on the YouTube platform. Students were asked through surveys and interviews about their experience and perceptions regarding the use of the YouTube platform for the construction of geometric figures. The interviews were conducted in a suitable and calm environment, ensuring a free atmosphere for the sharing of experiences.

The collected data is carefully analyzed to identify relevant trends and relationships. Statistical analyses were used to compile the results of the surveys and to identify possible correlations between different variables. For the qualitative analyses from the interviews, an interpretive approach was used to identify the main themes and perspectives of the students. For the analysis of the content on YouTube, an evaluation protocol was used that included certain criteria for evaluating the quality of the content. The content is evaluated in terms of accuracy, quality of presentation, and level of detailed explanation.

Results

This chapter includes the analysis and presentation of the results obtained from the research regarding the use of the YouTube platform in teaching and learning the constructions of geometric figures. The results are based on the responses of the study subjects, including the students. In the following, we will examine the results in detail to identify the impact of the YouTube platform and to assess to what extent it has contributed to the understanding and ability to create and analyze geometric figures (Table 1).

Table 1. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	M	58	54.7	54.7	54.7
	F	48	45.3	45.3	100.0
	Total	106	100.0	100.0	

In this study, the gender of the participants was examined to understand how the influence of the YouTube platform on the teaching and learning of constructions of geometric figures differs between males and females. Of the total of 106 participants, 54.7% are male and 45.3% are female. This division into different percentages of participants by gender provides a basis for analyzing how preferences and benefits from the use of the YouTube platform may differ in the context of gender, leading to more detailed conclusions regarding the effectiveness and trends of this use. platform in learning geometry. This segment of the analysis focuses on the distribution of

participants by school class, providing a detailed look at their distribution in specific categories (Table 2).

Table 2. Distribution of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VI	4	3.8	3.8	3.8
	VII	35	33.0	33.0	36.8
	VIII	42	39.6	39.6	76.4
	IX	25	23.6	23.6	100.0
	Total	106	100.0	100.0	

In total, the study includes 106 participants, and the results show that the majority of participants are from class VI with 3.8%, with 33.0% from class VII and 39.6% from class VIII, while the percentage of participants from class IX is 23.6%. This aspect of the analysis helps to understand the level of involvement of students from a range of lower secondary school classes in research on the use of the YouTube platform in teaching and learning the construction of geometric figures. The results of the descriptive statistics for this study provide a detailed look at the use and evaluation of the "senadorhane" channel on the YouTube platform about the teaching and learning of geometric constructions (Table 3).

Table 3. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Have you used the senadorhane YouTube channel to learn about the construction of geometric figures:	106	1	2	1.87	.340
Have you noticed any positive changes in your understanding of geometric constructions after using the YouTube platform:	106	1	2	1.74	.443
Watching the Senadorhane channel on YouTube has the effect of constructing geometric figures more easily:	106	3	5	4.31	.505
How often do you watch the senadorhane YouTube channel to learn about school topics, including the construction of geometric figures:	106	1	5	3.24	1.029

Have you used the YouTube platform to learn any other school subject before:	106	1	2	1.81	.393
Did you find the visual way of learning offered by the senadorhani channel for YouTube videos suitable and effective for understanding geometric constructions:	106	1	5	3.58	1.003
Valid N (listwise)	106				

The participants were asked about their experience in using this channel, the assessment of changes in the understanding of geometric constructions, the effect of the channel in facilitating these constructions, the frequency of viewing the channel for learning school subjects, the use of the YouTube platform for learning subjects of other schools, and the suitability of visual learning from this channel for the understanding of geometric constructions. The use of the "senadorhani" YouTube channel in teaching and learning geometric constructions has a mean of 1.87, indicating a high level of use of this channel to learn about geometric constructions. Observation of positive changes in the understanding of geometric constructions after using the YouTube platform, has an average of 1.74, which indicates that the participants have noticed a positive change in their understanding of geometric constructions after using the YouTube platform. The effect of the "senadorhani" channel in facilitating geometric constructions has an average of 4.31, indicating a high rating for the ability of this channel to facilitate the process of geometric constructions. The viewing frequency of the "senadorhani" YouTube channel for teaching and learning school subjects has a mean of 3.24, indicating that participants often watch this channel to learn about school subjects, including geometric constructions.

The use of the YouTube platform for teaching and learning other school subjects has a mean of 1.81, indicating a high use of the YouTube platform for teaching other school subjects. The suitability and effectiveness of the visual learning from the "senadorhani" channel on YouTube for the understanding of geometric constructions has an average of 3.58, which indicates that most of the participants have positively evaluated the visual way of learning from this channel for the understanding of geometric constructions. These results are summarized in Figure 2 where the participants show a positive liking and appreciation towards the use of the YouTube platform and the "senadorhani" channel to improve their knowledge in the field of geometric constructions. High averages indicate a clear preference and continued benefit from this online resource.

From the answers you received, it seems that the students preferred different materials to learn about the constructions of geometric figures. This information shows a high preference for books, followed by video tutorials on YouTube. On the other hand, personal tutors and online learning platforms are less frequently selected. This may reflect a preference for more traditional and interactive resources for learning about geometric constructions (Figure 3).

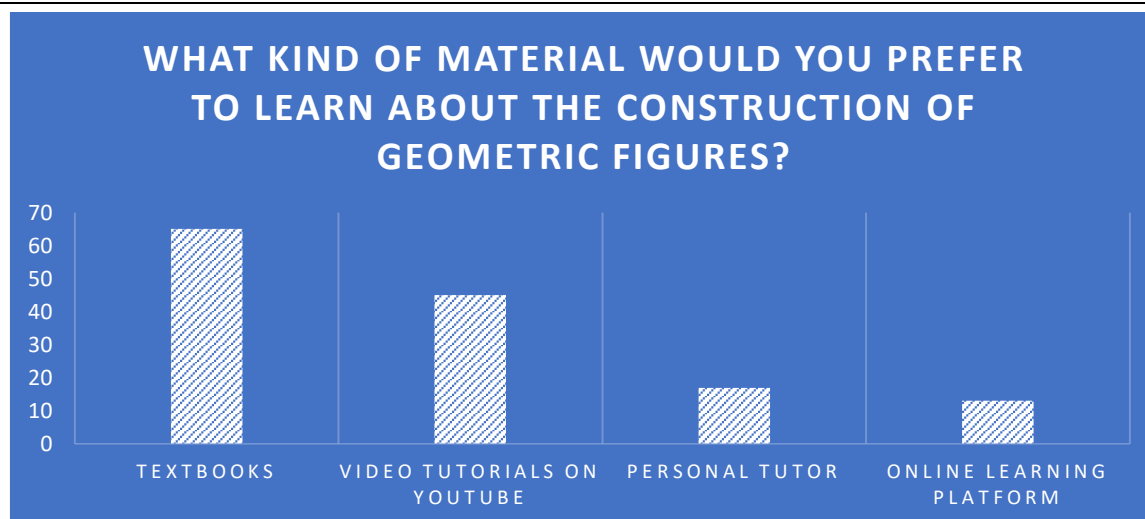


Figure 2. What kind of material would you prefer to learn about the construction of geometric figures?

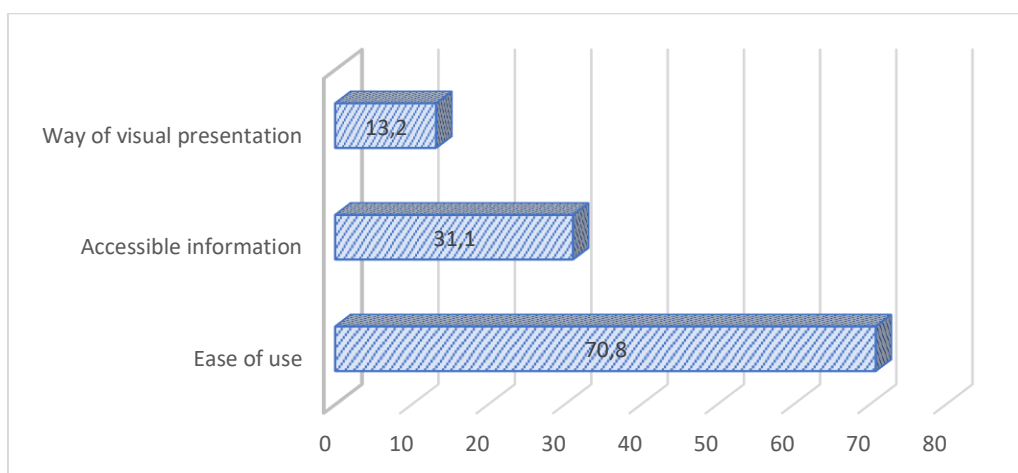


Figure 3. What are the reasons why you prefer to learn through the YouTube platform

Based on the responses of the participants, some of the reasons why they prefer to learn through the YouTube platform are Ease of use with 70.8% of the participants rating the platform for its ease of use, making it a suitable choice for learning the construction of geometric figures. Accessible information 31.1% of participants define the platform as an easily accessible source of information that helps in learning geometric constructions. The way of visual presentation with 13.2% of participants prefer the platform for the way of visual presentation of information, making it easy to understand geometric constructions through visual elements. These reasons indicate that participants appreciate the facilitation and accessibility features of the YouTube platform to gain knowledge about geometric constructions (Figure 4).

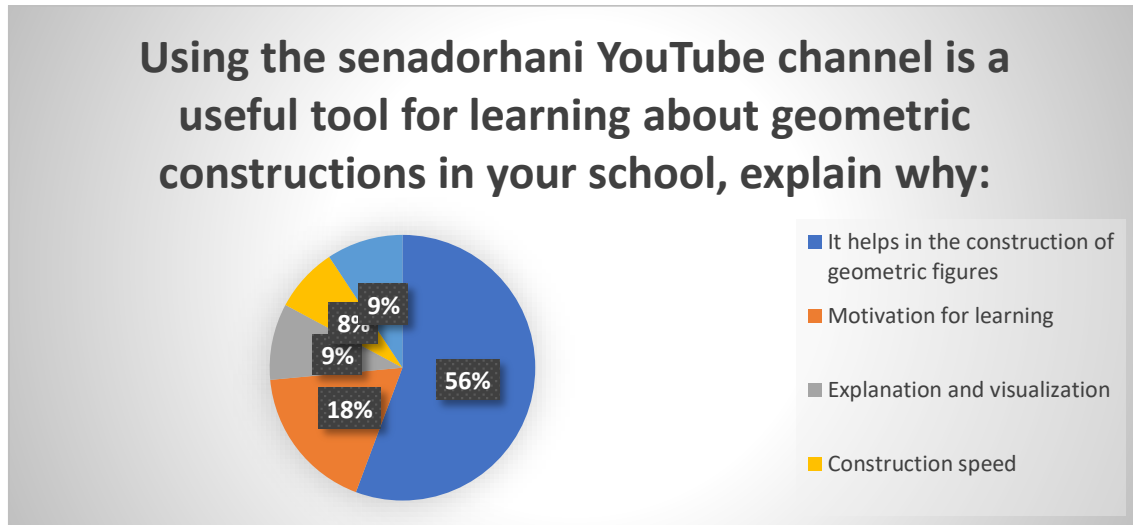


Figure 4. Using the senadorhani YouTube channel is a useful tool for learning about geometric constructions in your school, explain why:

Based on the results of the surveys, the participants have identified several advantages of using the YouTube platform for learning the constructions of geometric figures. Here are the main benefits identified, reflecting the percentages of those who expressed these benefits: Helps to construct geometric figures with 74.3% of participants seeing the platform as a useful tool in improving their skills to construct geometric figures. Motivation to learn 23.8% of participants see the platform as a source of motivation to learn more about the construction of geometric figures. Explanation and visualization 12.4% of the participants evaluate the explanation and visualization provided on the platform as an advantage for the understanding of geometric constructions. Construction speed with 10.5% of participants rating the platform for helping them be faster in constructing geometric figures.

Table 4. Correlations

		Watching the Senadorhani channel on YouTube has the effect of constructing geometric figures more easily:	How often do you watch the senadorhani YouTube channel to learn about school topics, including the construction of geometric figures:
Watching the Senadorhani channel on YouTube has the effect of constructing geometric figures more easily:	Pearson Correlation	1	.224*
	Sig. (2-tailed)		.021
	N	106	106
How often do you watch the senadorhani YouTube channel to learn about school topics, including the construction of geometric figures:	Pearson Correlation	.224*	1
	Sig. (2-tailed)	.021	
	N	106	106

*. Correlation is significant at the 0.05 level (2-tailed).

A helpful tool for the teacher with 12.4% of the participants see the platform as a helpful tool for teachers, helping them to teach the construction of geometric figures more effectively. This explanation of the identified benefits shows that survey participants see value in using the YouTube platform to learn and practice geometric constructions (Table 4).

Statistically significant positive correlation between the influence of the "senadorhani" channel in facilitating geometric constructions and the frequency of viewing this channel for learning school subjects. The p-value is 0.021, which is less than the usual cut-off level of 0.05, indicating that the relationship between these two variables is statistically significant. This positive correlation shows that the more often a student watches the "senadorhani" channel to learn about school topics, the more positive the influence of this channel on facilitating geometric constructions. In this case, participants who see the channel more often have a more positive experience using this resource.

Table 5. Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.426	.326		4.381	.000
	Did you find the visual way of learning offered by the senadorhani channel for YouTube videos suitable and effective for understanding geometric constructions:	.505	.087	.492	5.771	.000

a. Dependent Variable: How often do you watch the senator's YouTube channel to learn about school topics, including the construction of geometric figures:

In this model, the answer to the question "Did you find the visual way of teaching offered by the "senadorhani" channel in YouTube videos to be suitable and effective for the understanding of geometric constructions" has a statistically significant positive influence on the increase in the frequency of viewing the channel for learning school subjects, showing that participants who value the visual way of learning highly tend to watch the channel more often to learn about school subjects, including geometric constructions (Table 5). The survey participants in the open question about what thoughts and recommendations they have about the senadorhani YouTube channel in learning the construction of geometric figures have shown a high commitment and a positive evaluation towards the "senadorhani" YouTube channel in the context of learning constructions of geometric figures. They define this resource as an effective tool to expand their knowledge of mathematics and improve their skills in the construction of geometric figures. Ease of use and accessibility of information on this platform have emerged as the main advantages that make students feel comfortable and motivated in the learning process. Students say that the explanations and visualizations provided by the channel help them in their deep understanding of geometric constructions. The recommendations for more videos and constructions show the need for a rich

and continuous content offer, while the positive responses confirm that the channel has a positive impact on improving school results and understanding of the mathematics subject. These response expressions show that the YouTube platform and the "senadorhani" channel are effective learning resources that help develop students' geometric skills.

Discussions

The results of this study are consistent with many of the previous studies in the field of technology use in education. Most of the respondents showed positive content towards the use of the YouTube platform for teaching geometric constructions (Zhou et al., 2020), explaining that this medium offers a suitable and attractive way of learning. The results from the participants proved that the video tutorials provided an engaging and effective way of learning, providing clear demonstrations and detailed explanations. Through data analysis, it has been evidenced that the use of the senadorhani channel on the YouTube platform has a positive impact on the students' understanding and ability to construct and analyze geometric figures. Students have shown a significant improvement in their geometric skills through this teaching method. At the same time, teachers have identified the value of the YouTube platform in improving the quality of learning and in facilitating their teaching tasks (Arndt & Woore, 2018). In analyzing the content on YouTube, it is evident that there is a wide range of material available. However, there are also potential challenges related to the quality of some of them and the technical difficulties that teachers may encounter in using this platform (Wang & Chen, 2020).

The conclusions reached through the research carried out on the use of the YouTube platform in teaching and learning the constructions of geometric figures will address the conclusions of each hypothesis and analyze their implications in the context of the integration of video presentations in the constructions of geometric figures. The results of the study showed a perceived increase in the understanding of geometric constructions in students who used the YouTube platform to learn. The students appreciated that the video tutorials helped them better understand the procedures and techniques to realize geometric constructions. This conclusion is consistent with existing knowledge showing that visual geometry learning is favored by many students. The study shows that the use of the YouTube platform results in a significant benefit for students. The video tutorials used on the platform have provided an attractive visual tool for understanding geometric constructions (Fadhil Abbas & Ali Qassim, 2020). Students assessed that this method was more effective in understanding and retaining information.

This result suggests that the use of technology in teaching geometry has the potential to make teaching more engaging and effective. The results showed that the use of the YouTube platform presents challenges related to the availability of equipment and technical possibilities. A part of the students reported that they encountered problems regarding the Internet connection and the availability of devices to watch the video tutorials. This suggests that the use of technology is not without challenges and that policies should be in place to address these challenges (Megahati S & Azhar, 2022). The results show that the use of the YouTube platform in conjunction with other geometry teaching methods has the potential to improve student performance. Students who benefited from the use of this technology had a better understanding of geometric constructions and showed better performance in their assignments. This conclusion suggests that an appropriate use of technology can accelerate and enhance learning.

Based on the student's answers to the surveys, we can draw some conclusions and assessments about the research questions: YouTube platform on the learning of geometric constructions, where most of the participants state that the use of the YouTube platform has a positive impact on the learning of the constructions of geometric figures. Most claim that the "senadorhani" channel provides useful explanations and visualizations, helping to facilitate the

understanding and application of geometric constructions. Impact on the understanding and ability to use geometric constructions, students express that the use of the YouTube platform increases the understanding of the subject and the ability to use geometric constructions. Visual explanations and presentation of information enable a deeper understanding of learning materials and improvement of practical skills (Kim & Kim, 2021); (Lee et al., 2017). Benefits and challenges compared to traditional methods, students mention benefits such as ease of use, accessibility of information, and student motivation. However, some students mention the need to improve the exposure time in the lesson and the technical challenges that may arise. In general, the majority of participants positively evaluate the use of YouTube for teaching geometry. However, regarding the main features of YouTube content, students appreciate the detailed explanations and visualizations provided on YouTube (Iftikhar et al., 2019). They claim that the way of visual presentation and the ease of use make this platform suitable for teaching the construction of geometric figures.

Based on the results of the student's responses to the surveys, we can give a general assessment of the research hypotheses:

H1: The use of the YouTube platform in the learning process will positively affect the quality and effectiveness of students in geometric constructions. The study by Yaniawati et. al. (2023) emphasized that learning the concept of geometry requires didactic and pedagogical resources that facilitate representation and visualization. These resources should also encourage reasoning. However, the mathematics textbooks used in the classroom are not sufficiently facilitated. However, the study by (Orhani, 2021) shows that the information can be used to support other teachers who are not yet integrating technology into the learning process. However, it is important to note that technology is only a teaching tool. No form of technology in mathematics can ever replace a highly effective teacher (Orhani, 2021). Also, the results of our study generally support this hypothesis, showing that students positively evaluate the impact of using the YouTube platform on their understanding and ability to use geometric constructions.

H2: Students who use the YouTube platform to learn geometry will show an improved level of understanding and ability to use geometric constructions compared to those who use other learning methods. The study by (Bülbül & Güler, 2023) was conducted with six teacher candidates who were enrolled in a semester-long course entitled "Teaching Computer-Assisted Mathematics" that included a focus on GSHM. To identify the impact of DGS on their GHoM, clinical interviews were conducted with participants before and after the course where they were asked questions about each habit. Preliminary interviews showed that, before the intervention, pre-service teachers mainly used the software in the context of habits of exploration and reflection and visualization of geometric shapes to find the solution to a given problem. On the other hand, post-intervention interviews revealed that DGS supported habits of investigating invariants, reasoning with relationships considering specific cases, and generalizing geometric ideas. This paper discusses how DGS supported each custom (Bülbül & Güler, 2023). Also, from the results of our research, we conclude that students who use the YouTube platform have an improved level of understanding and ability to use geometric constructions compared to those who use other learning methods.

H3: Using the YouTube platform will provide a wide range of teaching materials and detailed demonstrations of geometric constructions. Our findings are consistent with Liu's (2013) research findings, which state that students reason about geometric figures, such as simple shapes, by identifying, naming, and comparing them according to their appearance. Perception is visual only and mainly through visual considerations of the concept as a whole, without clearly considering the features of its components (Liu & Liu, 2013). Also, from our results it is observed that the students appreciate that the YouTube platform offers a wide range of teaching materials and detailed demonstrations of geometric constructions, thus supporting this hypothesis.

H4: The quality of the content provided on YouTube, including the explanation, will affect the improvement of students' understanding of geometric constructions. The study of Jablonski and Ludwig (2023) emphasizes that with current developments in the use of digital tools for education in general, the topic has gained importance in geometry as well. Most of the articles we placed in the Digital Tools category describe the use of dynamic geometry systems (DGS) or dynamic geometry environments (DGE) in various research contexts. In addition, current research includes digital tools in terms of the geometry of space and geometry in the environment (Jablonski & Ludwig, 2023). Also, the results of our research show that the quality of the content provided on YouTube, including detailed explanations and demonstrations, has a positive impact on improving students' understanding of geometric constructions.

H5: Teachers and students with greater experience in using technology will benefit more from using the YouTube platform in teaching. According to the research of Asmarati and Retnowati (2009) learning using videos available on YouTube is influenced by their knowledge about using YouTube. Students who rarely use YouTube had difficulty searching for videos. However, once they can find relevant videos, they can use them as resources to improve their reasoning skills. Consequently, the development of learning resources in the form of videos is ultimately necessary because there are many distractions when accessing YouTube videos (Almobarraz, 2018). Also, the students' answers suggest that the benefits of using the YouTube platform appear regardless of the students' previous experience in using the technology. This may lead to an approach that supports this hypothesis.

Based on the results of this study, some recommendations and practical implications are necessary to improve the use of the YouTube platform in teaching the construction of geometric figures. These include the need for training and technical support for teachers, as well as the development of YouTube content selection criteria. This study aimed to analyze the impact of the use of the YouTube platform on the teaching and learning of constructions of geometric figures in lower secondary schools. The results of the research show that the use of this platform has a positive impact on improving students' understanding and ability to construct and analyze geometric figures. In conclusion, the results of the research show that the use of the YouTube platform, especially the "senadorhani" channel, has a positive and valuable impact on the learning process of constructing geometric figures. Students, through their responses, highly appreciate the quality of content and the way of explanation provided on this platform, making it an effective learning tool. Students' understanding of geometric constructions and their ability to use them show a steady improvement through the use of the YouTube platform. These findings help to confirm the advantages of using technology in the field of mathematics learning, making it more effective and attractive for students. The wide range of teaching materials and detailed demonstrations of geometric constructions offered on YouTube are seen as a positive aspect by students. This helps determine the importance of rich and engaging content on the platform used. Finally, this research confirmed that the use of the YouTube platform has an important role in improving the learning and understanding of constructions of geometric figures. The results show a positive trend and suggest that this form of teaching can have long-term benefits in the development of students' geometric skills.

Conclusion

Using the video tutorials of the senadorhani channel on the YouTube platform provides a powerful tool to explain and demonstrate geometric constructions clearly and understandably. This channel provided an engaging and effective way of learning that had the potential to improve student engagement and interest in geometry. With these conclusions and recommendations, it is hoped that this study will help improve the process of teaching and learning geometry at the lower

secondary level. Using technology as an effective tool to enhance learning has the potential to increase students' skills and knowledge in this area. Based on the results of this study, there are some implications and recommendations for teaching practices and educational policies: The use of the YouTube platform should be incorporated and improved in the teaching strategies of lower secondary schools, providing a powerful tool to improve the teaching of geometry. It is important to evaluate and select high-quality video tutorials that provide accurate and understandable knowledge to students. Teachers should be trained and encouraged to use this platform in their teaching, integrating the materials found on YouTube into their lesson planning. Further research could focus on a deeper understanding of the impact of technology use in teaching other subjects.

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