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Short Paper

Influence of YouTube as a Supplementary Learning Tool in Higher Education

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Abstract

Purpose—This study aims to evaluate YouTube's influence as an educational resource in higher education and examine its benefits and drawbacks for students.

Method – To evaluate YouTube's impact as a learning tool, a descriptive research design was utilized to systematically and accurately gather information. A developed and validated survey questionnaire was used in a probability sampling for this study.

Results—YouTube's platform gained an overall average score of 4.07, suggesting that it is considered a highly effective learning resource. It is also perceived as a beneficial tool in learning, as it gained a high average score of 4.58 for its advantages over traditional textbooks and magazines.

Conclusion—YouTube proves to be an exceptionally effective supplementary learning tool used in higher education. It proves invaluable assistance during urgent academic challenges and facilitates a deeper understanding of complex topics in just a few clicks.

Recommendations—Despite the diversity in learning styles, optimizing the use of a learning tool requires adapting and varying learning routines and approaches. It is highly recommended to incorporate digital platforms such as YouTube to enhance student performance. University Professors, particularly in computer science courses, should design programs that encourage students to explore and effectively utilize these digital resources, leveraging them to their advantage throughout their academic journey.

Research Implications—This study aims to advocate for the integration of digital platforms to enhance learning outcomes.

Practical Implications—This study shows that the integration of digital platforms that are normally used by the current generation can enhance their education and academic strategies.

Social Implications—This research demonstrates that YouTube offers more than just entertainment; it can also significantly enhance the educational experience. It provides a valuable tool for both professors and students to create more interactive and engaging classes, maximizing the platform's benefits for academic advancement.

Keywords—YouTube, interactive learning, visual learning, academic advancement, innovative learning, EdTech, online platforms

INTRODUCTION

Technology exerts a profound influence on our daily lives. We are currently witnessing an era characterized by technological advancements and a digital revolution, where numerous personal and professional activities are conducted online. Virtually, every facet of modern life is shaped by technology, including productivity, social interaction, access to basic human needs such as food and healthcare, as well as the safety and efficiency of transportation, especially when the pandemic happened which made things more technologically inclined to cater the changing needs of our society and education (McDiarmid & Zhao, 2023).

Learning modalities since the Covid-19 pandemic have largely shifted online (Meinawati et al. 2020) due to the face-to-face activity restrictions. Because of this, online classes have become popular. With online education, students can learn at their own pace and from anywhere. Online videos became educational resources because students can access them repeatedly, anytime, anywhere. In a study by Listiani et al. (2021), YouTube is an online video platform that impacts students' skills, such as listening, vocabulary acquisition, learning outcomes, and self-improvement. Syafiq et al. (2021) showed that YouTube significantly improved students' skills, particularly speaking.

Educational institutions are increasingly integrating these technological innovations, utilizing collective resources and processes to enhance the quality of education for students. The integration of social media into higher education is widely acknowledged as a mechanism for fostering closer ties between institutions and students. Social media platforms provide Substantial opportunities to enhance educational methodologies and improve learning outcomes (Knysh, Budanova, Vakulenko, Syrotina, & Popychenko, 2023). Digital technologies like YouTube have transformed education by accommodating diverse

learning styles and enhancing accessibility and engagement. This inclusive environment reaches a broader audience and resonates more deeply with students of varying needs and abilities, thereby enhancing learning experiences (Abdullah, Sastraatmadja, Lestari, Saputra, & Al Haddar, 2023). The study determines whether YouTube can be an effective supplementary learning tool for college students, evaluating its potential as a viable educational resource beyond entertainment.

LITERATURE REVIEW

YouTube's Educational Content

In this era of rapid technological advancement and pervasive influence of social media, YouTube has evolved beyond its original purpose as an entertainment platform, becoming a powerful educational tool when used effectively. One of the platform's benefits lies in its flexibility, offering students the opportunity to access different educational content that can be viewed and reviewed at their own pace. This feature is particularly advantageous for complex subjects in higher education, allowing students to revisit material as often as possible to fully understand their topic. Moreover, integrating YouTube videos into educational settings provides visually engaging information that caters to learners with different learning styles. For educators, YouTube presents an efficient and practical resource for creating and distributing supplementary educational content. Professors can utilize the platform to develop instructional videos that complement classroom teaching, reinforcing key concepts and offering additional perspectives. By doing so, they can engage students through a medium that is already familiar and enjoyable to them, blending the lines between entertainment and education (Lu, 2023). Mohamed et al. (2022) highlighted that students use YouTube not only for entertainment, information, and social interaction, but also increasingly for academic learning.

According to Greeves and Oz (2024), while YouTube is increasingly being utilized as an educational resource globally, it differs significantly from traditional learning tools in that it lacks standardization for educational purposes. This absence of a unified framework raises concerns among educators. Consequently, users are responsible for navigating the platform and discerning which content is educationally appropriate, making the process of selecting quality resources both challenging and subjective. Despite this, the platform is still very useful as an educational tool in higher education. Educators and students should familiarize themselves with finding relevant educational content on the platform to gain its advantageous aspects.

The educational content found on YouTube is entertaining, according to Pratama et al. (2020). This finding aligns with Frdlingcr and Owens' (2009) study, where students found the YouTube learning experience engaging. Additionally, Almurashi (2016) backs this perspective, reporting that in his interviews with language students, most expressed

happiness and satisfaction while watching YouTube videos, appreciating the platform's audio-visual elements.

YouTube as a Learning Tool for Learning Different Courses

In the study of Nita et al. (2024), YouTube was tagged as a learning tool that helps increase student interest and motivation in Programming Algorithms. The study also shows that YouTube makes learning more engaging, effective, and efficient, and allows students to freely express creative ideas. One of the key advantages of YouTube as a learning medium is its popularity, accessibility, and free use, along with a wide range of videos that inspire users. In terms of content delivery, YouTube allows instructors to present material in a more captivating and direct manner.

According to Primasari et al. (2024), they found that using YouTube in English for Specific Purposes (ESP) classes significantly enhances their speaking skills. Students found YouTube a valuable resource for improving pronunciation, vocabulary, and overall fluency. They appreciated the platform's accessibility, affordability, and diverse content, which allowed for self-paced learning and exposure to authentic English. Similarly, Alzoubi et al. (2023) investigated the use of YouTube as a learning tool for medical students in Pathology. The study found that YouTube can effectively aid in understanding, memorization, and recall of information, ultimately contributing to higher academic scores.

Rigdel and Rai (2023), on the other hand, conducted a study with eighth-grade students. In their study, one group of students (the experimental group) learned Geography with the help of YouTube videos, while another group (the control group) followed traditional teaching methods. Both groups were given tests before and after the study period to assess their Geography knowledge. The results showed that the students who learned with YouTube videos significantly outperformed those who learned through traditional methods. Additionally, the study of Asnawi Muslem et al. (2022) found that incorporating YouTube teaching materials alongside peer support significantly enhanced students' performance in learning the ELTC. This finding is consistent with previous research, including studies by Almurashi (2016), Hussin et al. (2020), and Watkins & Wilkins (2011), which reported similar results.

Technology in Higher Education

Technology has significantly advanced learning in higher education, with innovations in educational technology greatly boosting the academic performance of both educators and students. The hybrid school set up, which combines online learning through digital platforms with traditional face-to-face classes, has become a widely adopted and effective approach. These innovative educational technologies not only improve the quality of education but also promote competitiveness between educational institutions.

By using these advanced technologies, schools can create better learning environments that cater to the needs of today's students. It can also help institutions attract and retain top students while consistently improving learning outcomes. In a fast-changing world, staying up-to-date with the latest educational technologies is the key for schools to stand out and maintain high academic standards (Knysh, Budanova, Vakulenko, Syrotina, & Popychenko, 2023).

According to a study done by Filipino researchers Abulon et al. (2023), investing in educational technology advancement should be considered by the government to be able to provide equal opportunities among students to use innovative educational tools. By creating well-designed laws that not only aim to make the Philippines ICT-ready but also focus on a coordinated and systematic way, it will make the goal of implementing technology in the education system achievable. Once an ICT infrastructure is established, it will be easier to implement educational technology (EdTech) strategically, allowing EdTech to reach its potential in improving the educational system. Integrating technology in a developing country like the Philippines is a significant challenge. While technology has the potential to enhance the quality of education and improve educational governance, its successful integration, adoption, and utilization depend on numerous factors. The education system in the Philippines already faces persistent issues, and incorporating technology might seem to add to these challenges. However, it is important to remember that technology is designed to solve problems and improve lives, including in education, which is why successful planning and acquiring necessary conditions can lead to the successful implementation of EdTech, leading to an enhanced educational system.

Today's higher education students are less interested in traditional learning methods and tools, as their focus has shifted with the rise of digital technology and its use in daily life. They are much more career-oriented and aim to finish their degree. The COVID-19 pandemic accelerated the digital transformation of universities, leading to an increased need to address the evolving expectations of students and future employers. Consequently, colleges and universities should reevaluate their strategies and educational approach by adopting blended learning and expanding their digital offerings to be efficient and relevant (Eskinat & Teker, 2024).

METHODOLOGY

To evaluate the effectiveness of YouTube as an alternative learning tool, a mixed-methods research design was utilized. This approach allowed the study to systematically and accurately gather information about the specific phenomenon, situation, or population (McCombes, 2023). By using this design, the researcher was able to assess the influence of YouTube as a supplementary learning tool that is being combined with a traditional learning method.

Research Locale, Population, Sample Size Determination, Sampling Design, and Sample

The locale for this study is the University of Makati. The respondents are 3rd-year students taking up BS in Information Technology (Information and network security track). A purposive sampling was deemed a suitable approach for this study. A total of 60 students participated in this study.

Research Instrument and Validation

The questionnaires were validated by 3 faculty members in Information Technology and 2 faculty members in Education. The questionnaire is in Likert-scale format.

Data Collection Procedure

The questionnaires were given to the students via Google Forms.

Data Analysis

The collected data were analyzed using descriptive statistics, including frequency counts, standard deviations, means, and percentages. This analysis aimed to assess the impact of YouTube as a supplementary learning tool on higher education students. By applying these statistical measures, the study evaluated how YouTube influenced students' learning experiences and outcomes. A scale was used to describe the gathered data.

RESULTS

Table 1 shows a comprehensive overview of the research findings on the influence of YouTube as a supplementary learning tool for college students, highlighting its impact on their learning experience. The findings in Table 2 reveal that the highest average mean score was 4.96 (SD=1.54), categorized as "Very High" for item 4, "I prefer to use YouTube when I encounter difficulties in programming and don't know how to proceed". Conversely, the lowest average mean score was 1.88 (SD=0.19), categorized as "Low "for item 5, "I prefer NOT to use YouTube when I need a tutorial on how to do certain things on computer programming". The overall weighted average mean was 4.07, which interprets as "High". These suggest that YouTube is perceived as a highly effective supplementary learning tool for college students. Table 2 provides a detailed analysis of the findings related to the use of YouTube as a learning tool for college students.

Table 1. Influence of YouTube as a supplementary learning tool

Statement	M	SD	Interpretation
1. I prepare to use YouTube when I want to learn something new about computer programming	4.6	1.58	Very High
2. I prepare to use YouTube when there is a subject in programming that I need further explanation about its complex concepts	4.8	1.82	Very High
3. I prepare to use YouTube to learn about the current events happening in the IT world	4.26	1.33	Very High
4. I prepare to use YouTube when I am stuck on a problem in programming and don't know how to proceed	4.96	1.54	Very High
5. I prepare NOT to use YouTube when I need a tutorial on how to do certain things in computer programming	1.88	0.19	Low
6. I prepare to use YouTube when I seek further information about programming codes	4.58	1.48	Very High
7. I prepare to use YouTube when I need to solve computer-related problems that are not beyond my capabilities	4.72	1.6	Very High
8. I prepare NOT to use YouTube when I desire professional advice/tips on programming concepts	2.04	0.13	Low
9. I prepare to use YouTube when I need to find some answers to my questions	4.34	1.16	Very High
10. I prepare to use YouTube when I need ideas for some things that I don't know how to do in coding	4.62	1.53	Very High
Weighted Mean	**4.07**		**High**

Note: M=Mean, SD = Standard Deviation

Table 2. YouTube as a learning tool

Statement	M	SD	Interpretation
1. YouTube is a more beneficial learning tool when compared to textbooks and magazines	4.58	1.13	Very High
2. YouTube is a more reliable learning tool than instructional visual aids	4.3	1.11	Very High
3. YouTube is more suitable for learning than online class sessions	4.12	0.96	High
4. YouTube has a greater variety of information than school libraries	4.14	1.18	High
5. YouTube has greater news coverage than news channels and radio shows	4.02	1.04	High
6. YouTube is more accessible for information gathering than written text and documents	4.34	1.15	Very High
7. YouTube has faster news and information reports than newspapers and letters	4.18	1.14	High
Weighted Mean	**4.24**		**Very High**

Note: M=Mean, SD = Standard Deviation

The findings in Table 2 indicate that the highest average mean score was 4.58 (SD=1.13), interpreted as "Very High", for item 1, "YouTube is a more beneficial learning tool than textbooks and magazines". The lowest average mean score was 4.02(SD=1.04), interpreted as "High" for item 2, "YouTube has greater coverage than news channels and radio shows". The overall weighted average mean was 4.24, interpreted as "Very High". These results suggest that YouTube is highly effective as a supplementary learning tool for college students, supporting its role as an alternative educational resource.

The following figures show the advantages and disadvantages of YouTube as a learning tool for higher education.

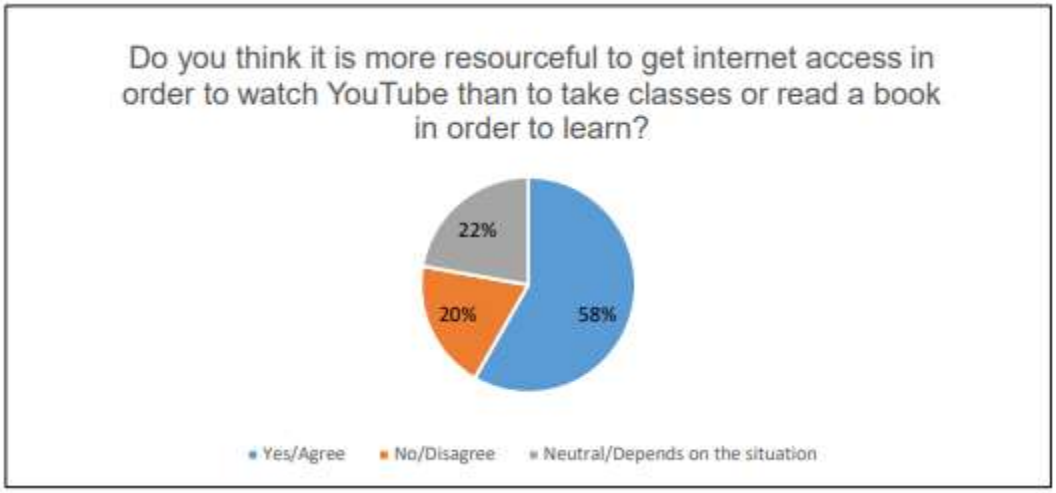

Figure 1. Internet access on YouTube

Based on the data, 58% of the students agreed that it is more resourceful to get internet access to watch YouTube than to take classes or read a book in order to learn. While 20% disagreed. This implies that the majority of the students preferred browsing YouTube over reading a book or taking classes to learn because of its internet accessibility.

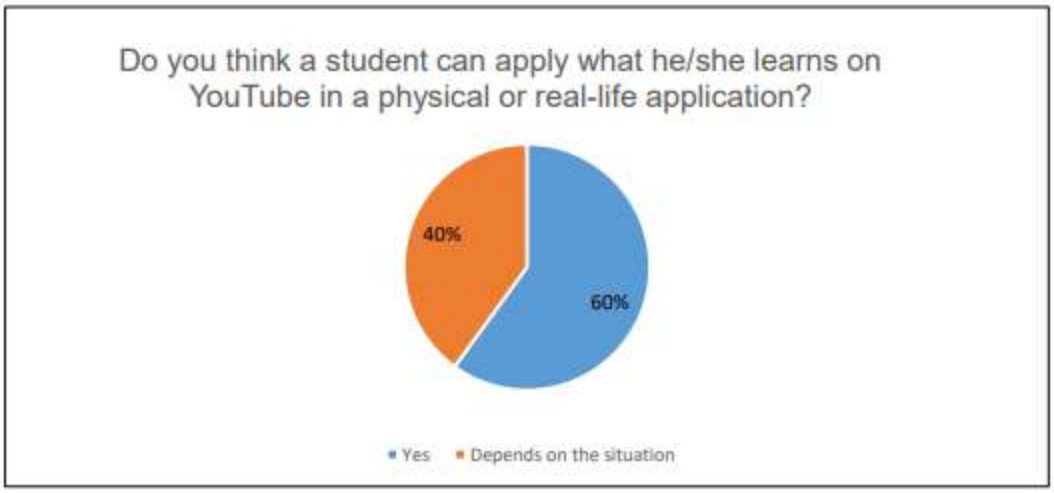

Figure 2. YouTube learning real-life application

Figure 2 shows that the majority of the college students (60%) think that they can apply whatever they learned from YouTube in real-life events or situations. While 40% believe that it depends on the situation.

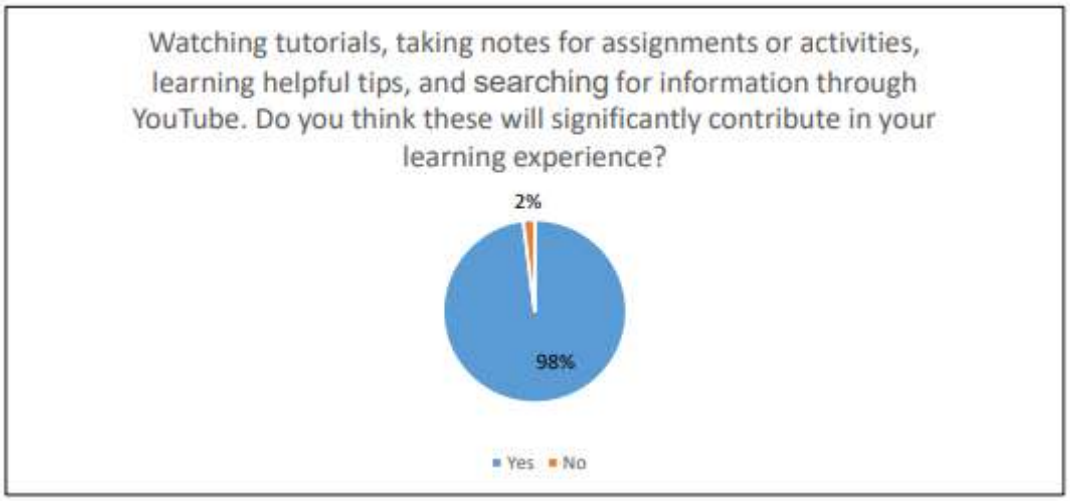

Figure 3. YouTube as a learning experience

Figure 3 reveals that 98% of respondents agreed that incorporating various learning methods, such as watching tutorial videos, taking notes, learning helpful tips, and searching for information on YouTube, significantly enhanced their learning experience. Meanwhile, 2% of respondents disagreed, noting that they do not take notes. These findings underscore YouTube's substantial contribution to the learning experience of college students.

DISCUSSION

The study shows that YouTube is highly valued as a learning tool by higher education students, as it received the highest average score for its effectiveness in helping with programming difficulties, while receiving a lower score for its usefulness in some tutorial contexts. Furthermore, Table 3 supports YouTube's role as a valuable educational resource. It is considered more beneficial than traditional textbooks and magazines and is recognized for its extensive coverage compared to news channels. The overall data shows that YouTube can certainly be used as a supplementary learning tool for college students.

Findings from figures 1 to 3 illustrate the practical benefits and limitations of using YouTube for learning. Many students prefer YouTube over traditional methods due to its accessibility on the internet. Most students also believe that knowledge gained from the platform can be applied to real-life situations, although 40% of students believe that they can only apply what they have learned on the platform in some various situations and not in daily life. Additionally, a vast majority of students of 98%, believed that incorporating various learning methods from YouTube greatly enhances their educational experience. Overall, these findings highlight YouTube's substantial contribution to higher education students' learning experience.

It is evident in the results that the YouTube platform has helped students in their learning activities. YouTube is a powerful learning tool for several reasons. First is because it can be accessed for free. Second is the plethora of topics that can be searched, learning topics are diverse. The online platform provides visual, auditory, and interactive modalities of learning.

CONCLUSIONS AND RECOMMENDATIONS

YouTube has proven to be an extremely useful supplementary learning resource in higher education. It provides critical support when dealing with urgent academic challenges and allows for a more in-depth comprehension of challenging subjects with remarkable ease. YouTube has the potential to significantly improve teaching and learning experiences by providing a luxury of easily accessible information and instructional content. Professors can use it to create more engaging and interactive lessons, and students can use it to gain new insights and improve their knowledge more effectively. The platform's vast collection of free resources makes it an invaluable tool for improving educational outcomes and developing critical learning skills.

Despite the diversity in learning styles, optimizing the use of a learning tool requires adapting and varying learning routines and approaches. It is highly recommended to incorporate digital platforms such as YouTube to enhance student performance. University Professors, particularly in computer science courses, should

design programs that encourage students to explore and effectively utilize these digital resources, leveraging them to their advantage throughout their academic journey.

IMPLICATIONS

This study advocates for integrating digital platforms to improve learning outcomes. It highlights that platform like YouTube, commonly used by today's generation, can enhance education and academic strategies. The research demonstrates that YouTube not only serves as an entertainment source but also significantly enriches the educational experience, offering valuable tools for professors and students to create more interactive and engaging classes, thereby maximizing academic advancement.

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DECLARATIONS

Conflict of Interest

I hereby certify that there is no conflict of interest in this study and that this work is the result of my intellectual efforts to the best of my knowledge.

Informed Consent

I have reviewed and understood the guidelines provided for this journal publication. I acknowledge that my participation is voluntary and that I am fully informed about all its rules and regulations.

Ethics Approval

I affirm my adherence to establishing ethical standards and certify that ethical considerations were taken into account during the completion of this study.

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