



(RESEARCH ARTICLE)



SciTok and SciTube: Utilizing educational videos and short-flick experiments as lecture aids in the new normal learning set-up

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Abstract

Since concepts and principles being studied Science and technology are said to be complex for students specially in the times of crisis, the interests of researcher were geared toward investigating the effectiveness of engaging and acquiring concepts being taught in the said learning area as supplemented by educational videos and use of social media platform to spark the interest of learners.

To find light, the researcher used the total enumeration of Grade 5 Set A ODL Learners at NAPICO Elementary School in Pasig City as respondents. Using the experimental descriptive research design, pretest and posttest were administered before and after the exposure to various educational YouTube videos and SciTok Experiments with topics aligned with the lessons in Science 5. One-shot-group testing was utilized and data that came from each student's pretest and post-test scores were subjected to statistical treatment such as mean, standard deviation, and dependent T-Test to determine the differences in the mean scores.

Findings of study showed that the overall mean results for pretest and posttest for which were 3.20 and 8.00 having Fairly Satisfactory and Very Satisfactory verbal interpretation. As seen, the mean of posttest was greater compared to pretest, this implied that there was an increase in the engagement and acquisition of Science 5 concepts after the exposure to YouTube educational videos and SciTok Experiments. Further, the dependent t-test results revealed that the performance in the said learning area after exposure to YouTube educational videos and SciTok Experiments differ significantly since the p-value is less than 0.05. With such results, the null hypothesis is rejected with verbal interpretation of significant.

In conclusion, YouTube educational videos and SciTok Experiments help in improving the engagement and acquisition of concepts and scientific principles. However, continuous effort and emphasis on enhancing their motivation should be given to improve their scientific skills and explore more scientific experiments.

Keywords: Educational video; Learning aid; Supplemental learning material; Scientific experiments

1. Introduction

Students are having a difficult time learning science in the midst of crisis, despite the fact that they find science to be more interesting and relevant to their lives than ever before. According to new research that was presented at the annual conference of the American Educational Research Association, though teachers were able to foster some student cooperation and discussion online; nevertheless, many considered the process challenging, and less authentic for their students. Further, Sparks (2021) even claimed that majority of science educators said that it was difficult to integrate

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investigations and hands-on learning for students on remote platforms, and they deemed the online format to be "not conducive to learning."

As Covid-19 has spread to practically every area of the earth, this has resulted in a significant increase in engagement in areas supplementing remote learning. As a result, videos on YouTube become excellent learning resource for teaching likewise the rise of various social media platform like Tiktok are being utilized to adjust in the new normal learning set-up.

Relatively, the impact that receiving instruction about media online may have has piqued the curiosity of several educational institutions and research centers. It has been shown that many pupils are able to comprehend difficult ideas more completely after seeing an animated film about them. In a similar vein, Fabiani (2021) denoted that the tempo and atmosphere of a particular video may influence the amount of information that can be learned from it as well as how well pupils comprehend the material that they are being instructed on. In addition, several pupils have discovered that watching films and participating in quizzes provides a welcome diversion from the monotonous process of writing papers, which accounts for around eighty percent of their typical homework projects.

In lieu, YouTube and TikTok have gained patronage in providing supplemental aids via remote learning access. Specifically, YouTube allows educators to establish educational channels where they may submit video lectures for their students to watch and the amount of adaptability is absolutely astounding. Thus, TikTok can be utilized to increase student engagement with scientific education and can also help the general public realize how scientific experiments can be entertaining, how it can be done at home, and how it is a part of our everyday life (Hayes, Stott, Lamb, et al., 2020).

Furthermore, learning goals may be accomplished via the use of instructional movies, and the results may include cognitive, social, and emotional consequences in addition to psychomotor ones (Dubovi and Tabak, 2020). Yaacob and Saad (2020) even said that the content of YouTube videos and event Tiktok might help viewers in enhancing their cognitive capacity by getting knowledge, such as learning new information or understanding ideas to solve problems. This could be done via Tiktok and YouTube. In addition, Maziriri, Gapa, and Chuchu (2020) mentioned that the usage of social media platforms also requires users to have social skills. These social skills include the capability to respond to comments made by other users and to provide feedback to the content producer in a manner that is both professional and appropriate.

Despite the widespread belief based on the plethora of research that the aforementioned platforms may be valuable instructional tools, the researcher as being an educator himself is working to devise new approaches that are more conducive to the new teaching-learning environment. As a result of this transaction and the fact that there was a gap in the study, the researcher wishes to participate in this phenomenon. Moreover, as what was observed among learners, there is a struggle to persuade them to sign up for online learning opportunities since in-person collaborative works are different from Zoom breakout rooms and there is a lack of realistic experience since lessons and activities are done online.

Thus, following the stride of Department of Education in light of crisis as based on DepEd Order no. 32, s. 2020 or Guidelines on the Engagement of Services of Learning Support Aides to Reinforce the Implementation of the Basic Education Learning Continuity Plan in Time of Covid-19 Pandemic and the Sulong Edukalidad Movement, the researcher hoped to give promising and sustainable support on the educational use of YouTube in the advent of new normal. It is essential to get a more in-depth understanding of the unique experiences and thoughts of students who are finding their way when it comes to employing social networking sites in the process of acquiring new ideas and concepts. Whereas, following the findings of Tirana (2022) who claimed that as free and relevant means of learning is concern, it can further support self-paced learning and may also address the breadth of learning needs during the pandemic by supporting continuity of competency development and making each students life-long learners. Likewise, it is safe to say that despite the crises, wonderful learning experiences may be delivered and realized via the expansion of digital media and technology-laden education as a response to the expanding requirements of learners in remote learning delivery.

2. Methodology

The purpose of this research was to determine the extent to which Science 5 concepts are being taught engagingly and comprehensively as supplemented by YouTube educational videos and SciTok Experiments is effective among Grade 5 Set A ODL Learners at NAPICO Elementary School in Pasig City.

The researcher used an experimental descriptive study approach, and the parameters were based on results from a pre-test and a post-test administered to a total enumeration of 25 Grade 5 Set A ODL Learners from the aforementioned location.

The pretest was done before the participants were exposed to the YouTube educational videos and SciTok Experiments, and posttest was done thereafter. Since of the potential for health hazards, the pre-test and post-test were both given through face-to-face classes with the assistance of the teacher-researcher. Aspects of learning abilities pertinent to Science 5 Quarter 3 were covered in the examinations. Therefore, the results of the pre-test and the post-test were used to identify and measure the significance of using YouTube educational videos and SciTok Experiments as supplemental learning resources in improving scientific skills and engaging scientific experiments in the new learning set-up. Also, results from this study will be utilized to recommend further improvement to sustain learning following the Most Essential Learning Competency and the goal of the department for continuous and relevant learning experiences.

To gather necessary data, one- shot group testing was used. The researchers gathered data from pretest, and posttest results using the following range:

Table 1 Level of Understanding Scientific Concepts

No. of Test Items	Verbal Interpretation
9.00 – 10.00	Outstanding
7.00 – 8.00	Very Satisfactory
5.00 – 6.00	Satisfactory
3.00 - 4.00	Fairly Satisfactory
0.00 -2.99	Needs Improvement

To solve the problems posed in the study, the researchers made use of mean, standard deviation and t- test as statistical tools. The gathered data was tallied and processed using the MS Excel 365. Data was gathered analyzed, tabulated, and interpreted for the next plan of action in this endeavor.

3. Results and Discussion

This part discussed the analysis, interpretation, and implications of the statistical results on the stated problems of the study.

Table 2 Level of Understanding Scientific Concepts as Revealed by the Pretest and Posttest Results

Test	Learning Acquisition		
	Mean	Standard Deviation	VI
Pretest	3.20	0.83	FS
Posttest	8.00	0.96	VS

The total mean scores for the pretest and posttest for the level of understanding scientific concepts were 3.20 and 8.00, respectively, with Fairly Satisfactory and Very Satisfactory verbal interpretations, as shown in Table 2. This suggested that there was an improvement in the performance of respondents both before to and after they were exposed to educational videos on YouTube and SciTok Experiments. In addition, it is possible to propose that the lessons in Science 5 might be made more interesting by supplementing them with lectures that are aesthetically appealing, technologically driven, and with diverse lectures in science taught in a concise but thorough manner. In addition, since educational materials are now accessible online, students who are required to study off-campus as a result of changing educational norms have the ability to access and use these resources whenever it is most convenient for them.

In line with this was a comment made by Li and Peng (2019), in which they said that the availability of free, high-quality, and instructive films on the internet via websites such as YouTube is a handy addition to the educational settings that are now in place. The significance of online videos as a teaching and learning tool has been widely recognized, both by

teachers and by students as well as by their parents. YouTube videos may easily be incorporated into a diverse variety of educational systems, especially online education, which has become the standard in recent years. This is perhaps the feature of YouTube that offers the greatest number of benefits. An emerging trend in the field of education, video-assisted learning provides students with an interesting method to study and comprehend difficult topics and subjects.

In addition, according to a piece of writing that was produced by Tutt (2021), each and every one of her students was able to correctly answer the problem presented using SciTok. She was told by one of the students that the assignment was easy to complete since the challenge was concentrated on something that the youngsters loved. Rather of just validating their end answers, it was advantageous for them since they were able to hear and witness the processes as they addressed the issue. This allowed them to better understand how they arrived at their solutions. Additionally, they take pleasure in carrying out the procedures since they independently found the solution.

Table 3 Significant Difference on the Level of Understanding Scientific Concepts as Revealed by the Pretest and Posttest Results

Test	Learning Acquisition		df	p- value	HO	VI
	Mean	SD				
Pretest	3.20	0.73	9	0.00	R	S
Posttest	8.00	1.26				

The dependent t-test findings in Table 3 show that the amount of learning acquisition of respondents following exposure to YouTube instructional videos and SciTok Experiments varies substantially since the p-value is less than 0.05. The null hypothesis is rejected with a verbal interpretation of significant when such data are obtained.

The results revealed that YouTube instructional videos and SciTok Experiments aided in the comprehension of scientific ideas. This may be derived from the fact that YouTube instructional videos and SciTok Experiments are beneficial and interesting for instructors as well as students. Students are more interested and more likely to concentrate while seeing videos than to reading lectures and just seeing and listening to their teacher on screen.

In relation to this, Learn from Blogs (2022) stated that as students process information, explanation of some of the topics may be difficult. However, if learners use YouTube as a library to assist them, they are given access to its wide array of educational videos, which can help them better understand the material. As a consequence of this, the aforementioned films serve as visual learning aids in the process of acquiring and retaining information, as well as the development of certain talents, since demonstrating something to pupils is the most effective approach of communicating with them.

Also, Lane (2022) suggested that Tiktok is effective in examining the problems that arise from doing an experiment. As a consequence of this, the students they do not only do experiments themselves, but they came to an agreement on how to conduct the inquiry in a different manner in order to acquire legitimate findings. Students found further evidence to corroborate the assertion, and likewise use their critical and analytical observation and reasoning on specified scientific concepts.

4. Conclusion

According to the results of this research, the posttest had a higher mean score than the pretest. Likewise, from the data acquired, there was a significant difference between the pretest and the posttest, and improvement was observed before and after exposure to YouTube educational videos and SciTok Experiments. Given the greater mean score of the posttest compared to the pretest, it is reasonable to conclude that these platforms are useful educational aids. However, ongoing effort and attention on improving their motivation and comprehension should be made in order to increase their scientific abilities and to engage more in scientific investigations.

Furthermore, data gained stressed that using YouTube and Tiktok for seeking, getting, and synthesizing information has been linked to the development of learning concepts in Science 5. It was also revealed that, although studying remotely owing to the pandemic, students are outstanding at exploring and utilizing relevant online resources collected from YouTube, Tiktok, and other online platforms to better their own knowledge and comprehension. Using the power of technology, they are able to search appropriate and available learning sources that are user friendly, relevant,

appealing, and appropriate to their level of understanding in order to not only meet their own learning requirements, but also to achieve academic inclusion and success in the target competency setting.

Compliance with ethical standards

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Statement of informed consent

Participants know the purpose, benefits, and risks behind the study before they agree or decline to join. Hence, to protect their privacy, information about them is hidden.

References

- [1] Dubovi, I., & Tabak, I. (2020). An empirical analysis of knowledge co-construction in YouTube comments. *Computers & Education*, 103939.
- [2] Fabiani, A. (2021). Video education: do YouTube and TikTok have more educational values than regular classes? Retrieved from <https://screenshot-media.com/technology/apps/video-education-future/>
- [3] Hayes, Clare, Stott, Katherine, Lamb, Katie J. et al. (2020). Making Every Second Count: Utilizing TikTok and Systems Thinking to Facilitate Scientific Public Engagement and Contextualization of Chemistry at Home. *Journal Of Chemical Education*. ISSN 0021-9584
- [4] Lane, A. (2022). How to Use TikTok in the Science Classroom. Retrieved from <https://theeducatorsroom.com/using-tiktok-in-the-science-classroom/>
- [5] Li, L. and Peng, W. (2019). Transitioning through social media: International students' SNS use, perceived social support, and acculturative stress. *Comput. Hum. Behav.*, 98, 69–79.
- [6] Learn from Blogs (2022). Why YouTube is important? Retrieved from <https://learnfromblogs.com/why-youtube-is-important-for-teachers-and-students>
- [7] Maziriri, E. T., Gapa, P., Chuchu, T. (2020). Student Perceptions Towards the use of YouTube as An Educational Tool for Learning and Tutorials. *International Journal of Instruction*, 13 (2), 119–138. doi: <http://doi.org/10.29333/iji.2020.1329a>
- [8] Sparks, S. (2021). Science Teaching and Learning Found to Fall Off in Pandemic. Retrieved from <https://www.edweek.org/teaching-learning/science-teaching-and-learning-found-to-fall-off-in-pandemic/2021/04>
- [9] Tirana, E. (2022). PROJECT CONECT (create open-source networks to empower classes using technology): An overview of guroasi's perspective in safeguarding continuous learning thru free and digitalized learning resources. *World Journal of Advanced Research and Reviews*, 2022, 16(02), 478–485. <https://doi.org/10.30574/wjarr.2022.16.2.1174>
- [10] Tutt, P. (2021). From Headache to Helpful—Teachers on Using TikTok in the Classroom. Retrieved from <https://www.edutopia.org/article/headache-helpful-teachers-using-tiktok-classroom>
- [11] Yaacob, Z. and Md Saad, N. H. (2020). Acceptance of YouTube as a Learning Platform during the Covid-19 Pandemic: The Moderating Effect of Subscription Status. *TEM Journal*, 9 (4), 1732–1739. doi: <http://doi.org/10.18421/tem94-54>