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Review Article

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A systematic literature review on teaching teachers pedagogy through YouTube video technology

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ABSTRACT

Education teachers' pedagogy (ELP) is a fundamental portion and backbone of all classroom teachers, and instructional intervention through YouTube video technology in our contemporary era. This paper articulates a rational literature investigation and analysis of the ELP and YouTube video technology. The findings expose the interference influence of ELP with YouTube video technology, such as YouTube channels for educational purposes. YVCE is an ICT dispersion for determining students' academic performance in the educational course and other subjects in general. The systematic literature review (SLR) discovered findings from a recent study between December 2012 and October 2022. Excellence assessment screening of articles has been done, together with additional removal of repeated papers from the study. 30 articles met the modification and inclusion/elimination measures out of 123 papers. The adapted preferred reporting items for systematic reviews and meta-analyses demonstrate the review of literature accordingly. The researchers observed, completed, and deliberated the implication of the SLR. This has been directed by the upcoming ELP with YouTube video technology.

Keywords: technology, systematic literature review, YouTube video, ICT, education teachers pedagogy

INTRODUCTION

Technology has already entered all steps and moves of human lives. The new educational thoughts have arrived because of the advancement in ICT to brighten the direction of teaching and learning processes in the three educational domains. The gateway to surfing and accessing all social media is the Internet. The 24-hours teacher now is the Internet, and it is the top source of vital information for both lecturers and students. Academics nowadays must keep in step with the desires of the modern generation.

Certainly, there is a very significant and rapid inspiration for internet usage and transmission of technology in the industry of education. The lecture classrooms and theaters in higher institutions nowadays are no longer the only sources of gaining, receiving, and obtaining knowledge and materials, rather, world wide web takes abundant place for accessing and gaining information anywhere you are, and whereby, so many documents and many web-based educational resources are kept and easier to access (Jena & Barman, 2018).

There is much evidence that pushes the system to include technology inside the classrooms for tutors and teachers, such as easier storing of educational resources, effective messages, and manageability and comfortability of teaching substances. Numerous countries have embraced new technologies to enhance the overall learning process (Portz et al., 2019).

Technology is an essential component of everyday life expectancy. From the older generation to the date generation, technology is utilized extremely. Among the excellent technology that has been developed is the technology of the Internet which has supplied us with different skills. From the net, social interaction has been established. YouTube video is part of social networking websites. YouTube users can upload videos or subscribe to their viewers. The technology of YouTube video has given wonderful adjustments and changes to the educational sector. It offers teachers several golden opportunities to improve the quality of learning and teaching processes in the classroom (Michael & Shah, 2020)

The arrival of YouTube in 2005 has modified the potential of using video as a part of educational resources in teaching and learning processes (Pattier, 2021). YouTube video channel is a free web-based service, which gives chance to share, rate, upload, add, view, comment on videos, report, playlists, and subscribe to other educational arenas that can apply Video YouTube technology, to progress the teaching and learning system. Scholars are of the view that, technology usage enhances academic performance (Bae & Baxter, 2018).

The use of YouTube videos as instructional material in the academic cycle nowadays has become widespread, especially over the past two decades and it is one of the applications that have supported geographies and features for teaching and learning (Fidan & Debbag, 2018). YouTube technology is very significant in education and teaching-learning process; essentially, it aids the learners' concentration to learn, and it helps and increases students' understanding and mastering many subjects in school (Almurashi, 2016). YouTube resources aid to keep and sustain the concentration and interest of learners in all subjects taught in the school (Ibe & Abamuche, 2019).

Educators are progressively comprehending and accepting new methodologies of teaching, fastened with digitalization. Video YouTube is an important offshoot of digitalization, which is leading the charge as the most versatile avenue for content communications in the classroom and outside the classroom. It does not only provide numerical entertainment but also offers a great setting for learning (Srinivasacharlu, 2020).

YouTube video is one of the strongest apparatuses for individual learning, enjoyable and amusing globally. YouTube uploading and sharing of videos on its sites improve understanding of infirmities and disabled people (Abdul Aziz et al., 2017).

It is undisputable, the advantages of YouTube videos in supporting knowledge. YouTube usage in education is important in order to adapt to the Internet generation. YouTube use in the educational systems has to come to a trend between lecturers and teachers, even in rural vicinity. The technology of YouTube videos would make the learner more active and interactive because it will be simpler to discover a topic and new vocabulary (Nasution, 2019).

The advancements in ICT have modernized and revolutionized the perception of learning-teaching in forms of methodology, context, and strategies of delivery of teaching. The most significant and remarkable instrument used in education in the 21st century is the technology of YouTube, specifically in language learning (Balbay & Kilis, 2017).

Certainly, insufficient literature reveals the demand for an explanation of the usage of YouTube videos in the college of education. This study was conducted to observe how college students, especially FCE Zaria students are engaged in the use of YouTube videos in their various courses.

Purpose of the Review

The main objective of the review is to graph out the current comprehension of the problem. This systematic review is consolidative and reviewing of the scientific search, which aims to answer the research questions that were formulated by following a systematic and clear process. The research questions were raised through the following procedures of systematic literature review (SLR):

1. What are the previous studies in education teachers' pedagogy (ELP) on YouTube video technology usage for teaching learning process?
2. What are the main findings of the research in ELP on YouTube video technology?

Based on the above research questions, the following are the objectives of the study:

1. To give a preliminary summary of the procedure, to pinpoint key ethics that can be applied to prepare, document, and describe report on SLR, current resources, complement standards, and discourse the data gap.
2. To review articles on the impact of ETP on YouTube video technology.

The above phrase was made based on preferred reporting items for systematic reviews and meta-analyses (PRISMA) model and all questions that were raised in the research. Therefore, the review sequence and the writing pattern are elucidated, as follows.

METHODOLOGY

SLR is a category of literature review that gathers and critically examines several studies, research, or articles through a systematic procedure and technique. The main reason for SLR is to offer a thorough summary of the recent and obtainable literature on the recent relevant research question (De La Cruz et al., 2016). However, SLR is a technique of arrangement and unification of result findings that are suitable and accurate standards to resolve a definite problem (Piper, 2013). It is a procedure of developing an obvious question that utilizes rational and logical particular approaches to classifying, picking, and crucially measuring or calculating important investigations, and assembling and examining the data gotten from the findings for the current review. SLR attempts to categorize, evaluate, classify, and generate realistic support that assembles pre-stipulated suitability measures to remedy and resolve a provided research matter.

A meta-evaluation is an arithmetical review of the data obtainable from numerous sources which seek to investigate or give an answer to the identified problem (Piper, 2013). Li et al. (2020) argue that the use of performance SLR to study the consequences of and progresses in a specific subject is common research as on learning.

Consequently, in the current research, a modified PRISMA statement model is applied for the technical procedure to examine, gather, and produce complete related info in the previous research to offer the state of the research.

Accordingly, the PRISMA data facilitates the researcher to equip and enhance the coverage of the paper assessment (Khan & Qureshi, 2020) and shape on designated aims of the finding of the research. The example underneath shows the inclusive and inclusion literature at each phase.

Figure 1 shows the methodology of our study.

Searching Strategies

A search strategy was created to find relevant articles for this systematic search: teacher pedagogy or YVCE and YouTube video channel in teaching, ICT innovation, and Technology in education. The engine searching area: ScienceDirect or Elsevier, Scopus, Springer Link, and Taylor & Francis online were the five https://www.sciencedirect.com/,

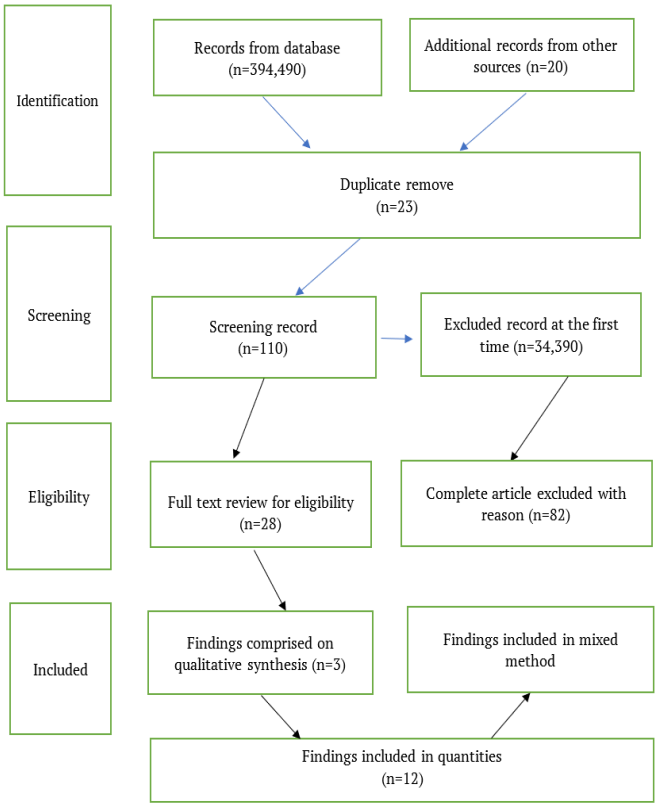

Figure 1. Systematic review of the related literature (Source: Authors' own elaboration)

https://eric.ed.gov/, https://scielo.org/, https://www.scopus.com/sources/, and https://doaj.org/ databases employed in these search techniques.

Additionally, resources like Google Scholar and Web of Science were employed since we believe they are the best databases for educational multidisciplinary research, because they contain bibliographic papers with full-text publishing patterns across a range of fields.

All searches included journals, reviews, and conferences, exclusively available in English and covered the period from databases opened on 1 January 2012, through 18 October 2022.

Selection Standards

The main objective of the research was to map out the current educational pedagogy and strategies of YVCE and technological innovation literature. The exam was thus, limited to the subject areas, which included around 34,500 papers in education and social sciences, humanities, and arts. The exploration was placed from 2012 through 2022. The analysis did not include any papers written before 2012. The investigation focused on all countries in the world. As a result, a total of 34,390 research articles were cut at this point. At this point, 110 records have been extracted.

Assessment Quality

The focus of the study is recent research papers and conference papers. All duplicates were thoroughly confirmed to maintain the review's integrity. To ensure the quality and importance of the educational content included in the analytic technique, the abstracts of the publications were rigorously verified for evaluation and purification. At a later stage, all of the inquiry pieces were thoroughly evaluated. The next rejection action was to control documents that were solely published in English. 12 of them were in foreign languages, and those have been taken out of the study.

Additionally, 55 papers were refined and eliminated. 21 more articles were also taken out of the study, when duplicate records were filtered. In total, there are 27 papers.

Extraction of Data

The findings are strictly only available in English and have only been presented at conferences, in journal articles, and review papers between 2012 and 2022. During the review, a total of 110 papers were discovered. These publications were investigated to determine the study's goals. The following, among other things, are some of the terms associated with YouTube in teaching/pedagogy, Video in teaching and learning, and other technology interventions, as utilized in the earlier findings:

1. The usage of YouTube video is improving and progressing students' educational and academic competency, through the use of the YouTube application in the subject areas (Agusdianita et al., 2021).
2. Using YouTube videos increases students' awareness. Most of the time, the relationships between students and their peers in online learning, help students become more conscious of how they are doing academically (Burgess & Green, 2018; Keryova, 2020).
3. YouTube video technology improves students' competency and fluency.
4. Using YouTube video technology increases students' proficiency and knowledge in their fields (Diliyanti et al., 2020).
5. The scientific analysis proves that the learners now have a better comprehension of their courses by watching their courses on YouTube video technology.

The text was then condensed by the writers into a table to guide the review. The writers then rejected the papers that met the requirements; 28 papers were discovered and had an in-depth review. Below is a review of the findings and discussion of the results. A summary of the studies that were reviewed is shown in **Table 1**.

DISCUSSION OF THE RESULTS

Out of the 27 studies examined, seven studied university students, four studied kids in elementary or primary schools, and 17 studied secondary, high, or college students. This evidence demonstrates that there is little study being done at the colleges of education and faculties of education in universities, and educational areas, especially on undergraduate and NCE. In addition, only four out of the 27 researchers, who conducted the research, employed YouTube technology in the real educational domain. To teach and study the usefulness of YouTube technology at all levels of education, the researchers mentioned additional pertinent ICT-related pedagogies, as well as information and communication technology (Habes et al., 2019).

Table 1. A summary of the studies that were reviewed

Author	Title	Country	Research objectives	M	P	Findings	Limitation
Abdul Aziz et al. (2017)	Investigating Arab DHH usage of YouTube videos using latent variables in an acceptance technology model	Saudi Arabia	To see relationship between deaf to YouTube & by applying theory of TAM to determine merit of YouTube to deaf students	QN	90	YouTube videos help deaf with caption & translation on screen & there is a need to take a careful step in using it as a media for teaching deaf people.	It was limited to selected individual & restricted to TAM variable, which was criticized by many researchers, this research lose focus in terms of methodology & analysis since it applied TAM theory then there is need to use PLS-SEM for data analysis.
Agusdianita et al. (2021)	Utilization of YouTube application in lectures to improve pedagogic competency of PGSD UNIB students in the period of a COVID-19 pandemic	Indonesia	To improve student's competency in environmental courses	QL	1	YouTube improves student's pedagogical competency	It was too mushroom; it was conducted in isolated schools & in areas that do not know YouTube.
Albahiri and Alhaj (2020)	Role of the visual element in spoken English discourse: Implications for YouTube technology in EFL classrooms	Saudi Arabia	Enhancing speaking ability of students through YouTube	QN	48	Using YouTube enhances students' fluency & awareness of spoken English & pronunciation	Limited to one school & third students' classes & study did not talk about methodology that should be applied when using YouTube to students.
Albantani and Madkur (2017)	*Musyahadat al fidyu*: YouTube-based teaching and learning of Arabic as a foreign language (AFL)	Indonesia	Usage of YouTube videos in teaching Arabic language	C	0	Using YouTube in classroom develops students' fluency	It is too narrow, its scope is in secondary school, & correction between outcome & it's not scientific research.
Almobarraz (2018)	Utilization of YouTube as an information resource to support university courses	Saudi Arabia	Attitude of undergraduates towards YouTube as an educational resource	QN	103	Using YouTube in teaching & learning process & its influence on students' engagement	The sample size was too small compared to nature of school & it was conducted during students' holidays. Nature of topic needs to be applied to experimental design.
Almurashi (2016)	The effective use of YouTube videos for teaching the English language in classroom as supplementary materials	S/Araibia	Using modern technology to learn English	M	53	Using YouTube in classroom can improve students' performance.	It limited itself to one angle & a single department & a limited school. Population of studies is too small.
Balbay and Kilis (2017)	Students' perceptions of the use of a YouTube channel specifically designed for an academic speaking skills course	Turkey	Students' perception toward using YouTube & experience on YouTube	QN	70	Students are benefiting from use of YouTube videos as supplementary materials	It is limited to a single subject & new students in first year.
Bhatia (2018)	Interdiscursive performance in digital professions: The case of YouTube tutorials	Japan	Investigating inter-discursive structure of tutorials on YouTube	C	46	Need for reconstructing nature of YouTube for Japanese institution	It was limited to object, not individual, it looks on uploaded YouTube on site without applying a single statistical data analysis.
Bohloko et al. (2019)	Assessing the effectiveness of using YouTube videos in teaching the chemistry of group I and VII elements in a high school in Lesotho	Lesotho	Investigation of open source YouTube video loch on chemistry subject	E	109	Performance of students doubles as a result of using YouTube. YouTube can replace traditional methods of teaching. Teachers should train to integrate technology.	It is limited to one school, & one subject & population is too scanty. It was applied with any technique of teaching chemistry as a sample. It limits scope of research.
Cayari (2018)	Connecting music education and virtual performance practices from YouTube	USA	To see workability of YouTube on music performance	C	0	YouTube improves students' performance in music classes	It is not scientific in nature & researcher does not have a good direction for research, he could not explain issue clearly.

Table 1 (Continued). A summary of the studies that were reviewed

Author	Title	Country	Research objectives	M	P	Findings	Limitation
D'Aquila et al. (2019)	Are instructor generated YouTube videos effective in accounting classes? A study of students' performance, engagement, motivation, and perception		Whether YouTube instructors improve students' performance in accounting classes	QL	246	Evidence reveals using YouTube video improves students' performance. However, students like YouTube videos but they do not want it to replace traditional teaching.	Limited to a particular level & subject, it did not consider students' performance & analysis of data is not quite clear. It needs to be conducted on a larger scale.
DeWitt et al. (2013)	The potential of YouTube for teaching and learning in the performing arts	Malaysia	Objective of study is to explore merit of YouTube as teaching material on art & performing art & to stimulate students' interest	QN	20	YouTube can be used in teaching art & performing art	It was limited to lectures without involving students. Need for large research should be done & respondents should be a student.
Dubovi and Tabak (2020)	An empirical analysis of knowledge co-construction in YouTube comments	Israel	Examine YouTube embedded comments & mitigated limitation of comments	QN	1530	YouTube video can serve as a forum for collaboration & interaction of students through their comments & it can be used as a suggestion & relaxed space for science discussion.	It is talking about informal interaction of students' comments on YouTube, which did not talk about measuring actual learning, which is paramount & is needed in teaching cycle. However, it is limited to one subject.
Farag et al. (2020)	Use of YouTube as a resource for surgical education–clarity or confusion	Australia	Examine quality video on YouTube for surgical	C	0	Lack of compressive materials on YouTube that can be used for surgery & there is a need for experience surgeons to upload videos.	It is conceptual, not empirical & there is a need for conducting same research in teaching & learning process in Africa.
Fidan and Debbag (2018)	The usage of video blog (vlog) in the "school experience" course: The pre-service teachers' opinions	Turkey	Using Vlog in university courses for effecting learning-teaching	QL	14	Pre-service teachers felt shy to upload a short video on YouTube video technology.	Limited to pre-service teacher & it did not talk on side of students.
Fleck et al. (2014)	YouTube in the classroom: Helpful tips and student perceptions	USA	Students' perception of use of YouTube in classroom	QL	85	Students' perceptions of YouTube video are positive.	Limited to one subject & it applied SPSS for data analysis, it needs to use PLS-SEM owing to research applied theory.
Gunada and Wayan (2017)	Using YouTube video: An IT-based media to improve students' speaking skills	Australia	Using YouTube IT-based to improve students' speaking	C	0	Using YouTube in teaching process enhance & improve students speaking skills using YouTube.	No data has been analyzed & it is limited to an area that is not scientific, nature of topic needs to apply experiment research.
Habes et al. (2019)	The relation between social media and student's academic performance in Jordan: YouTube perspective	Jordan	Perception of students on social media & their academic performance	QN	360	Students can manage YouTube & importance of bookmark on YouTube	Limitation of it is limited to a single feature of YouTube & neglects other features that are important.
Hariyono (2020)	Teaching vocabulary to young learners using video on YouTube at English course	Indonesia	Focusing on how pupils are engaged in learning vocabulary on YouTube	QL	7	Pupils become happy when usage of YouTube videos motivated them & classroom is lively & amusing.	It took respondents that have no experience & focused on one subject, population was so mega, & variables are too big for respondent & no correction to topic & finding.
Iftikhar et al. (2019)	Impact of YouTube tutorials in skill development among university students of Lahore	Pakistan	Learning skill development through tutorials on YouTube & impact of tutorials on YouTube site	QN	400	Tutorials on YouTube helps students with their academic performance	Limited to one feature of YouTube & it did not talk about process of classroom tutorials & methodology of applying YouTube as instructional material. It does not have a theory & it needs theory, way topic is structured.

Table 1 (Continued). A summary of the studies that were reviewed

Author	Title	Country	Research objectives	M	P	Findings	Limitation
Jackman (2019)	YouTube usage in the university classroom: An argument for its pedagogical benefits	Spain	YouTube as a summarizing course in psychology	E	**75**	YouTube for clarification of difficult concept	Finding of it is not clear, but they also know how YouTube can be used to facilitate learning.
Jaffar (2012)	YouTube: An emerging tool in anatomy education	UAE	Investigate students' perceptions of YouTube for learning anatomy & identify resources on YouTube for teaching anatomy	QN	91	Finding of it showed students use online data for their academic purpose & that YouTube videos are considered effective tools for teaching anatomy & YouTube supporting independent learning.	It is limited to a single subject & population of it is too mega, it needs to apply a mixed method using interview & experimental techniques.
Jung and Lee (2015)	YouTube acceptance by university educators and students: A cross-cultural perspective	Japan	Comparing & predicting factors influencing YouTube acceptance to university students	QN	569	YouTube makes students happy, & it can be used as a teaching tool in school.	Personal gender, personality, & age were not considered in it. Limited in one cultural length of people.
Kabooha and Elyas (2018)	The effects of YouTube in multimedia instruction for vocabulary learning: Perceptions of EFL students and teachers	Saudi Arabia	To improve vocabulary & comprehension & retention of English in a particular university by using YouTube video	E	100	Findings displayed that YouTube plays a vital role in student's acquisition of vocabulary & achievement.	It was limited to an only foreign language that is, English & limited to one single-sex (female) & also limited to intermediate class.
Lim et al. (2018)	Exploring the use of entertainment-education YouTube videos focused on infection prevention and control	USA	Availability of YouTube videos on health	C	40	Need for uploading videos on YouTube on health hygiene	It is not on education & it focuses on hygiene, no scientific research has been applied & it was conducted in Europe.
Moghavvemi et al. (2017)	Facebook and YouTube addiction: The usage pattern of Malaysian students	Malaysia	Effect of social media addiction YouTube & Facebook, their effect on student's academic lives	QN	239	Result creates awareness among lecturers & academic institutions to use YouTube as a supplementary & a complementary tool for instruction. Students use it for entertainment & to maintain a relationship in their academic.	Limited to two races, Chines & Malays, without considering other students & it is limited to addition without looking at impact of YouTube on academic performance.
Moghavvemi et al. (2018)	Social media as a complementary learning tool for teaching and learning: The case of YouTube	Malaysia	Analyzing students' perceptions of YouTube videos for learning materials	MI	351	Entertainment YouTube video give student improvement in their academic performance.	It is limited to students without involving teachers & it is in one variable & not education cycle.
Monkhouse and Forbes (2015)	The use of YouTube to improve students' acuity and analytic skills in the discussion of issues in music performance	Australia	Evaluating students' music performances on YouTube	C	0	YouTube improves students' performance in music & there are a lot of materials on music on YouTube.	Limited to one aspect & it was not collected data by nature of topic it needs to be empirical paper using mixed method, population should be wider.
Olasina (2017)	An evaluation of educational values of YouTube videos for academic writing	South Africa	Assessing impact of YouTube on academic writing performance	QN	40	Potentiality of YouTube to improve skill of writing & be applied in instruction.	Narrowed in one angle & skill, process of study is insufficient for current situation.
Ozsaban et al. (2021)	YouTube videos as an educational resource for ventrolateral injection: A content, reliability and quality analysis	Turkey	Using YouTube to learn injection in medical school & to evaluate reliability & content quality of using YouTube on ventrolateral injection	QN	26	Findings of it show negative results owing to 76% of respondents failed, & finally, statements of result showed danger of using YouTube to learn injection.	It was limited to injection, not in teaching cycle & research was not in Africa & population of it is too small. However, danger of rise shows it is a great threat to use YouTube for learning.

Table 1 (Continued). A summary of the studies that were reviewed

Author	Title	Country	Research objectives	M	P	Findings	Limitation
Pasha et al. (2021)	YouTube usage motivation among students: Uses and gratification analysis	Pakistan	Examine YouTube video motivation among teenagers IG	QN	105	YouTube gives opportunity to express their views & it gives motivation means to build carrier.	Limited to one department, it was conducted during COVID-19 with no movement & scope was too small compared to nature of country & university. It needs to expand in a large community & on a different continent.
Pattier (2021)	Science on YouTube: Successful edutubers	Spain	Possibility of applying YouTube in teaching sciences	E	41	YouTube videos have a significant role on students' performance.	Limited to selected YouTube channels, one university, & one subject.
Rahmatika et al. (2021)	The effectiveness of YouTube as an online learning media	Indonesia	Can YouTube video serve as a medium for teaching & learning process during COVID-19?	QL	10	YouTube can be used by teacher. YouTube can be used as a learning media at home.	It was limited to students & it was conducted during COVID-19 and it did not talk about way that it can be used in learning process. Respondent is too scanty.
Riswandi (2020)	Use of YouTube-based videos to improve students' speaking skills	India	Merits of YouTube video	C	0	Using YouTube in classroom can bring an effective learning process.	It does not have a focus & no scientific approach has been applied to research. There is need to have research on same title as applying scientific procedure.
Srinivasacharlu (2020)	Using YouTube in colleges of education	India	Exploring merit of YouTube in colleges	C	0	YouTube can play an important role in students' academics.	From all angles, it is not scientific, it lacked direction & no correction to topic.
Thelwall (2018)	Social media analytics for YouTube comments: Potentials and limitations	UK	Critical & systematic investigation to get insights on topics in YouTube	QN	31	It's possible to get music sub-topic on YouTube channels.	Limited to a single subject that is popular & scope is too narrow, method of it should be mixed by nature of topic.

Note. M: Method; P: Population; C: Conceptual; QN: Quantitative; QL: Qualitative; MI: Mixed; & E: Experimental

Other authors from the review employed YouTube technology in English language. The students have been greatly helped by YouTube and other internet resources, to increase their language proficiency, particularly in English language (Diliyanti et al., 2020).

The results show that there are many different ways to use YouTube technology nowadays, including interactive whiteboards (Ayub et al., 2012). Majority of the publications discussing the use of YouTube technology and pedagogy technology, have not fully talked about the usage of YouTube in education or micro-teaching subjects in education. The functions of YouTube technology in the teaching-learning process, instruction, and comprehension, modify how students learn, and promote an increase in student discoveries and understanding (Yong et al., 2019).

Additionally, it gives students access to a wide range of uncommon solution sets, even in Mathematics education, and allows them to experiment and build their awareness and understanding without the teacher's intervention. YouTube technology resolutions, graphics, or pictures help students acquire knowledge and change their mindsets about challenges in a subject that is typically viewed as difficult.

Table 2 shows the research on the use of YouTube technology in the teaching-learning process It is crucial to reevaluate how teachers affect students' academics through the use of YouTube technological competence and fluency (Albahiri & Alhaj, 2020). Incorporate pedagogical theories into learning with YouTube video features and designs and investigate digital awareness and students' interaction (Habes et al., 2019). As a result, the development and usage of the YouTube technology platform to ease students' understanding (Ibe & Abamuche, 2019), and feedback from the usage of YouTube technology to boost students' and instructors' confidence, offer encouragement, and motivation and give chance for presenting opportunities for reviewing, planning and implementation of the current curriculum subjects (Asif et al., 2017).

For students, receiving instructions via YouTube video technology would undoubtedly increase their best performance and motivation (Pasha et al., 2021).

On YouTube, Kabooha and Elyas (2018) suggested on YouTube platforms, summative evaluation of pre-service instructors might improve the culture of students' understanding. Moreover, with YouTube video technology, teachers can get tangible materials that can be applied in their teaching for the students to get a good understanding, which is beneficial and gorgeous for teachers, as the platform for facilitating learning (Nofrika, 2019).

The key major determinants of the educational benefits of integrating technology include instructors' roles and motivational beliefs, and the ability of the teacher for manipulating YouTube technology would enhance students' interest in learning (Abdul Aziz et al., 2021).

Table 2. Research on the use of YouTube technology in the teaching-learning process

Instrument of YouTube Technology		Results
Alhamami (2013)	Observation of YouTube language learning videos	YouTube Video technology project is developed & carried out in languages it aims to boost instructors' self-confidence & making a reasonable evaluation.
Alkathiri (2019)	Students' perspectives towards using YouTube in improving EFL learners' motivation to speak	Methodology & students' perspective toward YouTube as a component of learning skills have to be improved.
Almobarraz (2018)	Utilization of YouTube as an information resource to support university courses	It conducted in Saudi Arabia shows how students can use YouTube to ease some concepts that are difficult to understand, & there is a necessity to analyze Saudi Arabian instructors' results on students' understanding through YouTube usage.
Bardakci (2019)	Exploring high school students' educational use of YouTube	There is a need to incorporate real pedagogical rudiments into new innovational design in teaching.
DeWitt et al. (2013)	The potential of YouTube for teaching and learning in the performing arts	Students should independently make research on YouTube based learning on what they have learned in class.
Fleck et al. (2014)	YouTube in the classroom: Helpful tips and student perceptions	It focuses on YouTube usage in classroom, & students' perception. It is nice indeed.
Gaudin and Chaliès (2015)	Video viewing in teacher education and professional development: A literature review	Use of YouTube videos to train students is currently attempting to become standard practice in educational institutions, especially in education of teachers.
Gormley and McDermott (2010)	How social bookmarking can help the 21st century teacher	It was strictly on YouTube bookmarking & did not look at student's roles & other features of YouTube technology.
Jaffar (2012)	YouTube: An emerging tool in anatomy education	Anatomy education encouragement.
Klobas et al. (2018)	Compulsive YouTube usage: A comparison of use motivation and personality effects	YouTube plays a vital role in students' personalities & motivational ego to achieve academic purpose.
Riswandi (2016)	Use of YouTube-based videos to improve students' speaking skills	An excellent presentation on YouTube video technology used to improve students' speaking skills has been done on paper.

Additionally, teachers must acquire and utilize various current digital tools at their institution to guide students in learning. As a result, the development of YouTube technology has a moderating effect on the teaching-learning process across all courses. Enhancing interactive learning, surveys, inquiries, cooperation, and independent student learning are all examples of effective YouTube technology utilization (Gaudin & Chaliès, 2015).

Limitations

Numerous countries are represented in the nominated investigations. As a result, there are fewer research studies in the field of education and the majority are in the health sector and universities, few were conducted in a particular subject not in education in general, than there are in language subjects. The gap is in the field of education, region, geographical location, country, and colleges (Federal Colleges of Education in Nigeria). No single research has been conducted in Federal Colleges of Education in Nigeria on the usage of YouTube as means of teaching and learning cycles (Abubakar & Balarabe, 2021).

Nevertheless, it is only one study conducted in the college of education in India, and the research is conceptual, not empirical. Several experiments were conducted using one or more frameworks, while other studies used the same circumstances, but different learning philosophies (Lim et al., 2018).

Recommendations

According to the present systematic review, YouTube in the teaching and learning process, usage of YouTube for instructional materials, and YouTube video technology in pedagogy are the main focus of research studies in the fields of education, with an emphasis on colleges, and universities using technological intervention and manipulatives. As a result, it is crucial to pay close attention to other study areas, such as using YouTube as an instrument for teaching Mathematics, fluency/competency in languages and more specifically using YouTube to teach Arabic language and the Holy Qur'an in Tsangaya Islamic School and even Modern Islamic School.

CONCLUSION

The TYTVC was evaluated in this review. The complete scenario in the literature review was demonstrated using a modified PRISMA framework (data extraction, quality assessment, selection criteria, and search strategies), and 39 out of 320 papers met the requirements. Only English-language publications, reviews, and conference papers from previous studies were allowed for data extraction. Results of the conversation regarding the subject matter and the YouTube video technology in an educational setting revealed a successful conclusion. The reviewed articles' summaries provided evidence to support the conclusions of the methodological assessment. Thus, the review's goals, certain restrictions, and potential next steps were explored. Additionally, majority of writers concentrate on institutions and health centers.

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