

Youtube and Preschoolers: A Narrative Review of Literature

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ABSTRACT

This paper reviews the literature regarding preschoolers and YouTube watching. The narrative review examines studies published between 2010 and 2022. The main purpose of the narrative review is to understand the association between YouTube and preschoolers, four themes have been canvassed in this review which are: YouTube and preschoolers, YouTube content, parents and teachers' perception and filtering and selecting YouTube content. Findings from the narrative review unveil the fact that preschoolers spend a lot of time watching YouTube and this is even more prevalent during the outbreak of the global pandemic Covid-19. Literature has indicated that preschoolers are exposed to inappropriate content, parents and teachers are aware of this situation and worry this might affect their children negatively. Undeniably, some YouTube videos bring positive impact to the preschoolers but the videos need to be selected properly to avoid inappropriate content. Literature has consistently revealed that the current filtering systems are insufficient to filter the ill-suited content videos as some negative videos are able to get through the filtering systems and have been viewed by preschoolers. The outcome of this narrative review of literature pertaining to YouTube and preschoolers suggests that filtering and selecting YouTube videos content deserve more research attention. There is a vital need to establish guidelines for parents and teachers to select good quality YouTube videos for preschoolers.

Keywords: YouTube, Preschoolers, Guidelines, Filtering, Parents, Teachers

INTRODUCTION

Nowadays, preschoolers' daily lives are filled with electronic devices and social media. A growing body of research shows that they are surrounded by digital technologies since young age (Plowman et al, 2012; Flewitt et al, 2014). Screen time has dominated the lives for these 'digital natives' as they spend most of their screen time watching YouTube videos (Holloway et al., 2013; Oliemat et al. 2018). However, the research did not mention whether parents or caregivers are aware of the YouTube videos content that preschoolers watched. YouTube has grown to become the second largest social network site falling just behind Facebook and this social network platform is just more than a decade old (Morris & Anderson, 2015; Buzzetto-More, 2015).

Founded in 2005, YouTube is now the most famous digital platform that provide short video sharing service with over a billion users and, over time, video uploads have climbed from

6 hours of video uploaded per minute in 2007 to more than 500 hours of video uploaded to YouTube every minute in 2019 (Joo, 2019). As time goes, YouTube slowly has become the substitution to traditional television program. Majority of the preschoolers access YouTube through their parents' account. Kabali et al. (2015) asserted that parents reported that most preschoolers watched YouTube primarily when using electronic devices. New generation parents usually pacify their children with electronic devices with nearly one in ten parents giving smartphones or tablets to their children while they are undertaking household chores (Rideout et al., 2011).

YouTube has emerged as one of the major platforms for informal learning as there are a variety of choices with just one click away. Videos have the advantage of explaining difficult concepts by using stimulations, graphic diagrams, dynamic illustrations, analogies and simulated situations. The educational quality of the videos will be enhanced if the videos are well designed (Azer et al., 2012).

The Covid-19 pandemic has affected almost all the students in the world since year 2020. Hence, face-to-face learning has shifted from offline to online even for preschoolers. This has caused a growth in the use of educational apps for virtual tutoring, video conference classrooms, and YouTube videos learning. During this season, caregivers observed that most preschoolers are using YouTube to watch videos, with over 78% of preschoolers watching (Mustafa, 2020). This aligns with research in which Smith et al. (2018) reported that 81% of United States parents allowed their children under age 11 to watch YouTube videos. However, the research did not mention whether parents or caregivers are aware of the YouTube videos content that preschoolers watched. With the amount of screen time spent on YouTube, the video content could have both positive and negative consequence to preschoolers if the YouTube videos are not carefully selected. This is because by watching YouTube, preschoolers are exposed to positive and negative behaviour. They are lack of awareness about the good and the bad hence they tend to imitate the behaviours of the characters in YouTube videos.

Thus, it is very essential to investigate the major themes in the current body of published research literature about YouTube and preschoolers, the content of YouTube videos watched by preschoolers, perceptions of parents and teachers, and also the guidelines or filters for selecting educational YouTube videos for preschoolers as there is a limited research in this area and therefore deserve research attention.

Methodology

The search was conducted in several online bibliographic databases to examine research relevant to YouTube and preschoolers. For the articles retrieved during the database search, both titles and abstracts keywords were searched.

The included articles in this narrative review were articles published between 2010 to 2022. This is because from the year 2010, more preschoolers have shifted from watching television program to watching YouTube videos. As a result of that, there are more researches focusing on YouTube and preschoolers from the year 2010 to year 2022. In addition, relevant bibliographies were also reviewed and data were extracted from the articles related YouTube and preschoolers, YouTube content, parents and teachers' perception and filtering and selecting YouTube content. As YouTube launched a new design in 2010 with the intention to improve

user interface and lengthening viewers time spent onsite, YouTube has certainly grown into the biggest online video platform worldwide.

Specifically, the articles chosen in this narrative review is related to YouTube videos and the focus groups are preschoolers of age 6 years old and younger, and teachers or parents related to preschoolers. This age group is being selected in this review is because YouTube videos are popular with children in this age group and it is one of the first sites they are exposed to (Holloway et al., 2013). Though studies with wider range that provide data on effect of YouTube to preschoolers or parents and teachers' perception are eligible, the articles based on these studies are excluded because the YouTube effects mentioned are not clearly defined and the focus groups do not include the preschooler

Findings

The results of the narrative review were presented and discussed according to themes. The themes are YouTube and preschoolers, YouTube content, parents and teachers' perceptions, filtering and selecting YouTube videos.

YouTube and Preschoolers

According to a recent study, YouTube has become omnipresent among preschoolers in their lives; it has become the prime site that most preschoolers are exposed to. The under 8 year-old spend 65% of their time watching YouTube videos (Holloway et. al 2013, Tahir et al, 2019). Sapsağlam (2018) further supported that the most well-known social media application among the three and four-year-old children is YouTube. According to studies, about 96.7% of preschoolers wanted to use YouTube because they could watch various favorite movie and cartoon videos and it is very easy for them to access the application. Most of the parents are aware of the preschoolers activities since 93.3% of them use their parents' smartphones to play YouTube videos and of course with parental supervision (Sahriana, 2018).

Based on the Internet in 2017, YouTube is the most popular social media application in the United States. New York Magazine published an article in November 2018, that reported 81 % of parents allow the preschoolers to watch YouTube. Jindal and Kanozia (2019) stated that majority of parents like to use YouTube channels as a tool of infotainment for the preschoolers. As per survey results, most of the parents use YouTube to keep the preschoolers occupied so that they are engaged by watching YouTube and will not disturb their parents. Data revealed that 60% of parents use YouTube channels daily, 22% use it at least 2-3 times a week, and 18% use it once a week, it is a medium of infotainment for parents to the preschoolers. Utilizing YouTube has also shaped and evolved parenting practices because it is a cheap and easily available tool for parents to be utilized for preschoolers learning (Hollowa et al., 2013; Shariff et al., 2018).

Preschoolers are very vulnerable to information exposed to them via YouTube as they are unable to differentiate the value of content in the videos. Therefore, parents and caregivers need to be educated on the selection of YouTube so that appropriate content suitable for the age of the preschoolers is selected and given. According to Redesky et al.(2014), there are many ideas for parent-children activity and modeling teaching strategies available in YouTube that promote learning through joint engagement. Additionally, if parents or caregivers are there

to explain and facilitate preschoolers' learning while watching YouTube videos, the learning process will be more effective. Undeniably, YouTube is also one of the social media sources, which has gained popularity over the past few years that has also been utilized in classroom scenarios as an effective educational tool (Eick & King, 2012; Shieh et al., 2016; Riley, 2017). This is significantly true in the case of preschoolers, if used effectively, videos with unique delivery mechanism can be favorable to their learning (Zhang et al., 2011; Tan & Pearce, 2011).

YouTube has been integrated in many lessons in classroom to enhance teaching and learning environment (Bennett, 2018). There are many functions to assist teacher in teaching such as instructional videos for the lesson, introducing new knowledge or summarizing the lesson. YouTube has also played a role in fulfilling the characteristic of next generation learning style by cohering to their multiple intelligence (Liu, 2010; Gilakjani, 2012). YouTube also has been used as attention grabber in the classroom (Jones and Cuthrell, 2011; Buzzetto-More, 2014). This shows that YouTube videos act as one of the teaching aids for teaching in classroom that facilitate the teaching and learning process. Preschoolers are more attracted to the videos compare to traditional chalk and talk or static pictures. According to research on educational video usage, videos appeal to visual learners, which supports the Cognitive Theory of Multimedia Learning (Eick & King, 2012). This theory conveys human auditory and visual channels play a vital role in processing information and creating memory, active learning is more successful when both auditory and visual channels are stimulated at the same time. This is often referred to as the dual channel assumption. All in all an effective educational video manages cognitive load, maximizes engagement with the video and promotes active learning. It also helps in development of various intelligences of the viewers.

YouTube content

YouTube offers a variety of content for children, from nursery rhymes, to cartoons, educational videos, unboxing videos and more. Lauricella et al. (2017) reported educational videos were watched most often (64%), followed by animal videos (46%), how to do it videos (38%) and unboxing videos (34%). In a case study, Bonande et al. (2015) found that preschoolers also enjoy watching other children's YouTube channels that are related to their interest areas. However, the study on discovering unsuitable content on video streaming platform found that there are significant percentage of inappropriate videos viewed by preschoolers. Extensive inappropriate content in YouTube, which consist of sex, alcohol, drugs and abusive behavior, has also been reported (Tahir et al., 2019). It has raised concerns about the consent of regulation in several countries when preschoolers watch YouTube regularly they are prone to inappropriate content, privacy issue, advertising, and crimes in the digital world (Araujo et al., 2017). Hence, it is alarming that preschoolers might access to unsuitable content videos as they have easy access to YouTube (Holloway et al., 2013).

Buzzi (2011) stated that thirty-six parents declared that their children have accessed unsuitable content. The study discussed the popular classic cartoon 'Snow White and Seven Dwarfs' that has been categorized under the comedy category in YouTube was actually dubbed with porn-audio content. By typing the keyword 'Snow White and Seven Dwarfs', the video can be watched with just one click. The study also revealed that current mechanisms for signaling inappropriate content in YouTube is not workable since the analyzed inappropriate video was still available in YouTube but has been retagged with different keywords. The research also discovered that 47% of the responders has accidentally accessed the inappropriate videos in YouTube.

Child psychology experts employed that exposure to inappropriate content, such as violence, most probably, affect the preschoolers negatively by making them assume that behave violently is an acceptable behavior. Critically, their study found that some of these videos having millions of views, which means there are preschoolers that already watched a significant percentage of inappropriate videos currently. Bandura's (1977) behaviourist theory suggests that aggressive behaviours are learned through a process called behaviour modelling, preschoolers are likely to behave violently if they are expose to videos with violent content. Besides, another factor to be concerned is preschoolers' psychology wellbeing. Most of them see the characters in the videos as idol with a perfect characteristic, however when these characters behave inappropriately, it can cause frustration, disappointment and anxiety to the preschoolers (Ottoni et al., 2018).

According to a new analysis of Momo Challenge videos, they require players to commit self-harming acts and eventually commit suicide. According to this analysis, suicidal videos have an average reach of 524,671 views and 3,242 comments. More than 11 million people watch the most popular suicidal video. These are superlative interaction rates even by YouTube standards. (Lewis et al, 2011). The result shows alarming rates of preschoolers being exposed to suicidal videos. However, YouTube took half a year before discovering the Momo challenge that encourage destructive behavior and take measures to overcome this problem. Suicidal game is extremely harmful and need fast action to prevent it to become viral. YouTubers outplay the YouTube algorithms by cheating it using paraphrasing keywords. In Jonathan Galindo Challenge videos, they managed to avoid the restriction by rewording the suicide games. Although there is a speech recognition in YouTube system, it cannot automatically demonetize the videos (Kobilke et al., 2021).

YouTube content that does not promote active activities may lead to preschoolers' sedentary lifestyle, they tend to be a couch potato by sitting and watching the YouTube videos without moving around. Spending too much time watching YouTube among preschoolers is also positively related with delayed basic motor skill development (Lin et al, 2015). The sedentary lifestyle may lead to offensive behaviour and lack of attention, as well as reduced verbal ability, and time spent reading (Neumann, 2015).

On the other hand, Alimemaj (2010) found that the poor sound quality, pronunciation, and different street slangs featured in certain YouTube videos might, instead, make it difficult for preschoolers to understand both the content of the video and affecting the learning process. They tend to disengage from watching the YouTube videos when they are not able to understand it, this will then leads to lost interest of learning.

Although many studies have shown that watching YouTube, without proper guidance, bring negative effects, however, there are some studies that reveal that watching YouTube could be beneficial. This is mainly related to selecting the suitable YouTube videos content that be in line with their interest for the preschoolers. Bright (2019) suggested that animated nursery rhymes in YouTube channel inherent moral values of kindness, creativity, obedience, determination, collective responsibility, preservation of nature for the benefits of mankind, humility. Moreover, learning in the selected reworked nursery rhymes aids children's development and stimulates them to become better individuals.

Watching YouTube videos that stimulates language development through, for example, clear labelling and encouraging repetitions and interactions with on-screen characters can foster positive learning outcomes (Moussiades et al., 2019). YouTube videos also can promote social

interaction among preschoolers (Lim, 2012), develop their literacy skills (Amendum et al, 2011), improve cognitive abilities, and help develop their knowledge. It can also change their approach and increase their academic achievement, which is practical for inside and outside of classroom learning (Alimemaj, 2010; Clifton and Mann, 2011).

In summary, literature has indicated that preschoolers are exposed to inappropriate content, parents and teachers are aware of this situation and worry this might affects their children negatively. The narrative review on YouTube content also found that YouTube videos bring positive impact to the preschoolers but the videos need to be selected properly to avoid inappropriate content. Literature also consistently displays the evidence that the current filtering systems are insufficient to filter the ill-suited content videos as some negative videos are able to get through the filtering systems and have been viewed by preschoolers. Kobilke et al. (2021) in his study found that there is no ideal solution to detect specific harmful features in videos. It is recommended that parents always accompany their children to watch YouTube. That way parents can understand more about the content of videos that their children watching. If parents discovered their children are being exposed to inappropriate content, they are advised to be calm and instead accompany their children by discussing the situation openly and providing proper guidance to them based on the content. Digital technology stipulates many learning opportunities for preschoolers. In order to maximize the learning opportunities, parents and teachers play an important role in developing the understanding via interaction with children (Davidson et al., 2017).

Parents and teachers' perceptions

A study conducted in the United Kingdom, found that parents were more concerned about children's access to online content than about television or gaming content (Ofcom, 2017). It has been reported that half of the parents of 3-4 and 5-7 years old children were aware of YouTube's restricted mode to filter inappropriate content. A study by Bibi et al. (2018) shows that parents and teachers indicated that for the purpose of early childhood learning, most of them positively accepted YouTube videos for their children. Indeed, majority of the comments in YouTube reflected a positive sentiment for the acceptance of YouTube videos for early childhood learning purposes. However, some of the parents are concern about the negative features that may negatively affect children's social, physical and cognitive development and reduce time for more traditional non-digital activities (Ofcom, 2014).

Majority of caregivers strongly agree that media can expand preschoolers' knowledge. Parents reported that preschoolers acquired new vocabulary, such as body parts, numbers, colours, and alphabets, through YouTube Kids Channels. Forty-eight parents (96% of the sample) believe that YouTube Kids Channels had a good impact on enriching vocabulary for the preschoolers. (Sharkins et al., 2016; Imaniah et al., 2020). Thirty-six parents (one third of the sample) declared that the preschoolers have accessed inappropriate content in YouTube. Only 1/3 of parents checked the video categories and keywords. However, this measure does not effectively guarantee safe content (Imaniah et al., 2020). Nearly two third of parents know that it is possible to signal questionable content, but do not know how to do so (Buzzi, 2012). The research revealed that 75% of parents worry that the preschoolers might access inappropriate content on YouTube. To keep the preschoolers safe from unwanted content, parents use strategies, such as signing into YouTube Kids App, subscribing to YouTube Kids Channels, and keeping a check on the preschoolers browsing content when they watch YouTube videos. About 67% of parents watch YouTube Rhymes Videos with the preschoolers

to ensure safe viewing experience (Jindal & Kanozia, 2019). 86% (43) of parents believed YouTube Kids Channels would harm their children. Whereas, 14% (7) of parents believe that there is no adverse effect using YouTube Kids Channels. Parents believed that if they accompanied the preschoolers when they watched YouTube Kids Channels, they would learn more from YouTube, such as expanding their English vocabularies. Parents also accompany the preschoolers when they watch YouTube to ensure that they watch videos that is suitable for their age (Imaniah et al., 2020).

The fundamental importance of researching YouTube-based children's media channels is gaining a grasp of the benefits and drawbacks that directly or indirectly affect preschoolers' mental and physical development. As a result, parents must provide enough guidance to the preschoolers in order for them to use such media to meet their entertainment or social learning needs (Imaniah et al., 2020). More than one-half of the parent sample (51%) declared they monitor the preschoolers while watching YouTube channels. A substantial majority (94%), of the participants agreed that there should be a clear icon showing minimum age for the video (Bennett et al., 2012). Parents who perceive media as positive influence for the preschoolers often behave openly by applying supervision, co-use and active mediation when their kids using YouTube. Whereas, parents who are concerned about negative effects more frequently supervise, restrict and use technical restrictions on the preschoolers' media behavior (Nikken & Schols, 2015).

The study by Ali et al., (2022) revealed that before pandemic, preschooler teachers used YouTube in the classroom for circle time every morning for 30 minutes. They also used it as additional teaching materials for instance the songs in YouTube were used to incorporate with the lessons they taught. 9 out of 10 teachers in the study concluded that videos attained from YouTube consolidate their teaching content and were effective as classroom resources. The YouTube videos that have been 'filtered' by teachers are recommended to the parents of preschoolers in order to assist the preschoolers for revision and fun learning at home. Teachers asserted YouTube is the best options for preschoolers to learn about subject matters as it encourages better understanding of the contents. Besides, teacher also use YouTube to improvise teacher-made songs by adapting songs in YouTube to suit their teaching contents. This is able to facilitate preschoolers in memorizing the learning content.

When the COVID19 pandemic struck, the country was facing nationwide lockdown. Face to face teaching and learning processes were forced to stop. Hence, online learning has become the substitution for preschoolers to continue learning. Teachers began to teach virtually as that was the only option for them. During that time, teachers were providing YouTube storybook readings and educational videos to support out-of-school instruction (Li & Lalani, 2020). YouTube storybook reading enables preschoolers to do their reading flexibly, they are able to pause and play the story according to their own speed. More importantly, these educational videos that consist of visual and audio features provide a clear picture for preschoolers to understand new concepts and gaining new knowledge.

A study by Hsieh et al., (2013) has revealed that comparing to conventional printed pages preschoolers memorized, it is easier for them to remember and retain the words for a longer period of time by using multimedia annotation. By playing YouTube in the classroom teachers are able to relate 'real-life' nature to preschoolers for better understanding (Clifton and Mann, 2011; Mahmud et al. , 2015).

Parents are more worry about preschoolers being exposed to inappropriate content while teachers have more positive perceptions towards YouTube for preschoolers. This is because teachers are conscious about their lesson objective and select YouTube videos according to the purpose of learning while parents are lacking in guidelines to select educational YouTube videos and this has led to their anxiety. As study revealed that sometimes the non-child friendly content or 'adult-only content' can appear on YouTube if the right content is not selected by the parents or teachers for the preschoolers (Alimemaj, 2010). Hence, a more effective filtering mechanism needs to be devised (Tahir et al., 2019). Further action should be taken to protect the preschoolers from possible risks of being exposed to inappropriate content and advertising on YouTube.

Filtering and Selecting YouTube

Study has found that carefully selected YouTube videos enable the preschoolers to have better and deeper understanding with subject matter, and retain the knowledge they have learned longer (Duvenger & Steffes, 2012; Buzzetto-More, 2014). YouTube has stimulated vast area of information to the preschoolers, encouraged critical thinking, cultivated active and flexible learning environments (Roodt & Peier, 2013), enhanced analytical discourse and diverse approaches to reasoning, and given students memory cues to aid conceptualization and boost the preschoolers' depth of understanding (Eick et al., 2012).

However, the present filtering features in YouTube are insufficient to filter the inappropriate contents. Evidence of insufficiency is shown in the discussion. YouTube's 'safety mode' provides for automatic screening of content flagged as unsuitable at the browser level, however it is not completely accurate to identify the unsuitable contents. The safety option is only successful at removing problematic content from the playlist as well as from suggested videos (Buzzi, 2012). In other words, if the inappropriate video is not marked as containing inappropriate keywords, then it will not be filtered. As YouTube has become part of the preschoolers' life, sometimes parents cannot be with them all the time when watching YouTube. It is highly recommended that YouTube come out with more effective child-proof systems. Although YouTube Kids claims to provide a safer online experience for children by allowing parents to handpick videos, channels, and even channel collections for their children to enjoy, the authorised videos still feature disturbing faces or chilling instructions. Therefore, there is a vital need to make necessitating adjustments to overcome this situation. Automatic video classification has received a lot of scientific attention. Models based on community-generated information such as user comments, ratings, and "favourite" declarations performed substantially better and effectively than those based solely on content-related information such as tags and genres in YouTube (Eickhoff, 2013).

Kobilke et al. (2021) suggest that more research focusing on discovering alternative solutions should be taken such as guidelines for content creators of online video-sharing platforms on the criteria required to produce better quality child friendly videos. In 2014, Suicide Prevention Resource Centre has proposed a guideline for social media environments by combining the literature on Werther and Papageno effects with the guidelines. The guidelines provide some analytical schemes to assess the quality of social media by identifying harmful elements such as suicidal ideation. However, the schemes consist a lot of limitation in identifying content characteristics that are under suspicion of causing negative or positive effects.

Similarly, Tahir et al. (2019) developed a deep learning design that can identify inappropriate videos and report them. This deep learning model has a flexible system that could be applied to different types of videos or cartoons in order to detect unsuitable content within them. However, the system needs knowledge about media and training to operate it as it screens through scene and audio segmentation. Along the same vein, Neumann et al. (2019) developed a rubric to evaluate the quality of educational videos by using the score checklist. Each of the criteria was developed based on theories and past research so that it can effectively evaluate the suitable videos for the preschoolers' learning.

The filtering and guidelines in the review is limited for parents and teachers to select educational videos for children. It is necessary to develop and promote realistic, evidence-based guidelines for parents and caregivers addressing the preschoolers use of digital technology and the internet (Holloway et al., 2013). Information literacy and the evaluation of YouTube video material to discover the attributes of good educational video clips could be the focus of future research. (Snelson, 2011). These elements should be addressed when recommending suitable YouTube video guidelines since children pursuing these types of digital behaviours, as modelled by parents, may offer potential possibilities for positive learning encounters (Lauricella et al., 2015).

DISCUSSION

This narrative review aimed to understand the association between YouTube videos and preschoolers. The findings indicated that watching YouTube is very popular among preschoolers, during the pandemic as they spend more time watching YouTube videos compared to pre-pandemic (Mustafa, 2020). According to Lauricella et al. (2017) most of the videos watched were educational videos and children channels. However, the researchers discovered that preschoolers are exposed to inappropriate content while watching YouTube videos (Holloway et al., 2013; Araujo et al., 2017; Tahir et al., 2019). Inappropriate YouTube content has been discussed and the data shows that many studies discover that the preschoolers have been watching unsuitable videos that contain alcohol, drug, sex and aggressive behaviour (Tahir et al., 2019). The exposure to these contents affect preschoolers' behavior, lifestyle and language. They tend to behave inappropriately by imitating what they watched in the YouTube videos without realizing the behaviours are unacceptable. Lin et al. (2015) stated that preschoolers may also follow the unhealthy lifestyle in YouTube videos such as eating junk food and not keen in exercising. The language used in YouTube videos also may influence the way preschoolers speak in daily life.

On the other hand, there are studies that demonstrated watching YouTube brings positive impact to the preschoolers. YouTube videos that promote positive values, enhance creative thinking, encourage children development and responsibility brings good impact in their behaviour (Amendum et al, 2011; Moussiades et al., 2019). Additionally, Lim (2012) proposed that preschoolers also portray positive social interaction with their peers by learning it from the YouTube videos. The results showed that watching YouTube videos can bring positive and negatives impacts to preschoolers. To ensure that YouTube videos are safe to be watched and able to bring benefits to preschoolers, the key is to select the YouTube videos carefully before playing it to the preschoolers.

The result of the studies revealed that parents are aware that the preschoolers spending a lot of time watching YouTube and they tend to utilize YouTube to babysit the preschoolers (Rideout et al., 2011). This indicate that parents positively accept the preschoolers spending time watching YouTube videos. However, most of the studies showed that parents are not confident with the filtering system in YouTube, hence some of them try to monitor the content of YouTube videos watched by the preschooler by co-viewing with them (Imaniah et al., 2020). Besides, studies showed teachers are using YouTube videos in the classroom as a teaching aid for their lessons as it is an effective tool to assist the teaching and learning process. Li & Lalani (2020) asserted that during the pandemic, teacher rely more on YouTube in conveying their lesson as to suit the online learning style. Compare to parents, teachers are more confident in using YouTube videos to educate the preschoolers as they select the educational videos according to their teaching objectives while parents have no reference or guidelines to select educational videos for preschoolers. Hence, a clear guideline has to be designed for parents to select the educational YouTube videos for preschoolers.

All the studies showed that filtering the YouTube videos is important to ensure the videos are safe for the preschoolers for learning purposes (Duvenger & Steffes, 2012; Buzzetto-More, 2014). However, Buzzi (2012) revealed that current filtering system in YouTube is inadequate to filter the videos with negative elements. Only 2 studies which are Tahir et al. (2019) and Neumann et al. (2019) suggested guidelines and evaluation rubrics for parents and teachers to evaluate the YouTube videos. The results indicate that the filtering and guidelines available are very limited to assist parents and teachers in selecting educational videos for the preschoolers.

From the themes synthesized in this study, the consistent similarities between the themes appears in the narrative review is a lacking in guidance for parents and teachers to select educational YouTube videos for preschoolers. Therefore, future research should commit towards evaluation of YouTube videos content, as more research are needed to identify the qualities of good educational YouTube videos. Future efforts on developing instrument for YouTube video analysis are also needed in order to provide a useful tool for parents and teacher to select suitable educational YouTube videos for the preschoolers.

CONCLUSION

There is considerable evidence that YouTube is widely watched by the preschoolers before and after pandemic. Although there is some research stating that YouTube videos bring positive effects to the preschoolers, the data broadly support that most of the YouTube videos they watched bring negative effects. Automatic filtering has loopholes that can fool viewers by faking keywords in YouTube videos tagging. There is weak evidence saying that guidelines or YouTube filters can effectively filter educational YouTube videos. Parents and teachers are concerned about preschoolers being exposed to negative content of the YouTube videos they watched. Given parental and expert concerns, further action should be taken to protect the preschoolers from the possible risks of being exposed to inappropriate content and advertisement on YouTube. Hence, it is crucial to establish guidelines to assist parents and teachers in selecting educational YouTube videos for the preschoolers.

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