A Literature Review of the YouTube Phenomenon and the Teaching and Learning Practices

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Abstract. In the past decade, Internet platforms have undergone a steady and rapid growth. Within this context, their use by young people becomes significative. YouTube is not the exception to this phenomenon, furthermore, it has gained relevance both in quantitative and qualitative terms, that is, in the number of subscribers and visualizations, as well as in the variety of content that it offers. Thus, in order to widen the horizon and understand how young people experience the world, and based on the assumption that platforms are key spaces for this purpose, this work presents a literature review where the most relevant contributions regarding YouTube and its relation to the teaching and learning practices are collected. Finally, based on the vacancies we have identified, we present some considerations that stem from this analysis and offer some possible future lines of investigation.

Keywords: Teaching, Learning, YouTube, Online Audiovisual Content.

1 Introduction

Given the massive popularity of the Internet, the production of knowledge and its modes of circulation and consumption, along with the media in which it is objectified, are showing evidence of transformation [1]. These modes cause tension, not only in the process of production, but also in the modern institutions, which have historically been in charge of (re)producing it. Furthermore, there are many questions and

tensions surrounding formal education[1], in particular, concerning the strategies associated to the production and transmission of knowledge as well as the actors involved in this process. On the other hand, both informal and nonformal[2] education are gaining ground in these processes of production and transmission and becoming acknowledged spaces for this purpose.

In this scenario, digital technologies in general, and platforms in particular, take the center stage. YouTube seems to be playing a leading role in this context, although this role is surely to expire soon. Nonetheless, given its relevance, it is worth exploring how the students from low-income sectors who attend technical schools access, use and perceive it in order to identify its usage and how they build an interaction between the needs arising from extracurricular concerns and those arising from formal education.

YouTube is an exclusive platform intended to produce, store, share, visualize and assess online audiovisual content (AVC) [2, 3]. Basically, "the site takes user-generated content to fill their catalogue, generate user traffic and attract advertisers") [4]. In addition, the AVC is produced by amateurs and professionals alike with various goals that range from "simply" sharing a production to its monetization [5]. However, quoting one of the most representative studies about this platform [6], this "participatory culture" is not free of tensions.

As for the users of the platform, it is interesting to note the intensive use that young people make of it. They consider YouTube a place where they are able to find any type of content [7] and thus, it is also perceived as a search engine to find educational content, preferring it over other services offered by big companies like Google or Bing [7, 8], In this sense, it would seem that a great percentage of young users are considering YouTube as the search engine by default.

Initially, YouTube was a platform intended to provide entertainment resources, however, the passing of time has seen a rise in the production, storage and circulation of audiovisual resources connected to learning and teaching [5]. Likewise, there has been an increase in the frequency in which this platform offers tutorials, recipes, step-by-step videos, repair and maintenance tips, and tricks to improve gaming. As a result, YouTube has become a reference for informal learning.

For young people, YouTube has become one of the most important learning environments and plays a major role in the media consumption —and sometimes,

[1] Formal education is considered to be "the highly institutionalized, chronologically graded and hierarchically structured, spanning lower primary school and the upper reaches of the university" [9].

[2] Informal education is considered "the lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment" and nonformal education is "any organized, systematic, educational activity carried on outside the framework of the formal system to provide selected types of learning to particular subgroups in the population, adults as well as children" [9].

production— of contents. YouTube constitutes the great school of "distance learning" of the new generations [7].

Generally speaking, young people's learning demand can be divided into two categories: a) those related to their every day, nonschool life, that arise from the things that motivate, affect and appeal to them, among others and b) the demand that is born within the system of formal education and from it. The starting point of this study is the assumption that both are subsidiary. Accordingly, we present a literature review where the most relevant contributions concerning YouTube, formal education and learning are collected.

This article is organized in the following sections. The first section constitutes the Introduction. Followed by a second section in which we present a literature review concerning YouTube and its relation to the teaching and learning practices. Finally, based on the vacancies we have identified, we present some considerations that stem from this analysis and offer some possible future lines of investigation.

2 YouTube and learning: an approach from the literature

The bibliography concerning the educational and extracurricular use of YouTube is prolific [10, 11, 12], [8], [13]. For this reason, a first distinction is made between the literature that provides a general description of the use and consumption by young people of the YouTube platform, and those studies that explore a possible connection between YouTube and their learning needs, from the perspective of both formal and informal education.

With reference to the first point, there is a series of investigations from different countries that describe the use and consumption of the platform by young users. In general, the studies suggest that these actors are avid users of the platform. They turn to YouTube to show themselves, share their likes and dislikes, develop socialization experiences, find entertainment and at the same time, learn new things [14, 15, 16], [12], [3].

In relation to the second point, that is, tracing the possible connections between YouTube and learning needs, from the perspective of formal or informal education, we have identified four major groups of studies:

a) those concerning YouTube and learning in general;
b) those considering the uses of YouTube and learning needs and interests;
c) those attempting to identify links between the uses of the platform and the needs and interests that stem from formal education and
d) those studies that describe the practices of the creators of educational content in YouTube (called edutubers).

Before going into this analysis, it's worth mentioning that in the course of this research and bibliographical analysis, we have additionally identified a group of studies concerning the didactic uses of the AVC in the classroom; in particular, investigations that examine and discuss the role that the AVC has in formal education

in general and in classrooms in particular things [10], [17, 18, 19, 20, 21, 22, 23]. Even though this bibliography bears no direct connection with the purpose of this study that is describing and analyzing the possible contributions of the AVC to the learning that takes place outside school hours and the school environment, we consider it relevant to measure the YouTube phenomenon and education in general.

As for the four major corpus, we identify a first group of studies that provides generic and quantitative information on the prevalent position of YouTube and learning. First, it is worth mentioning a report from Fundación Telefónica that suggests that eight out of ten young Spanish people turn to video for educational purposes, "a number that constitutes 96% and 94,6% of young adults between the ages of 14 and 19, and 20 and 24 years old respectively" [24]. A more recent study indicates that 97% of YouTube users in Argentina and Mexico consider these videos to be instructive because their content allows them to learn new things or solve problems. 40% of these users list YouTube as a source of inspiration [25]. According to a study carried out in Argentina in August of 2017, 59% of participating adults indicated that YouTube videos had helped them figure out how to do things or how to acquire new skills [26]. A study on education methodology, conducted with people ages 14 to 40 years old in Northamerica [27] suggests that these subjects are changing their preferences regarding their learning methods. In particular, young people between the ages of 14 and 23 claim that online YouTube videos are their preferred learning tool, followed by group activities, learning applications, interactive games and, in last place, textbooks.

The second corpus of literature describes the use of YouTube by young people in relation to their learning needs and interests. In higher education, it is worth mentioning the study of Moghavvemi and others [11], who confirms that entertainment, the search for information and academic learning are the most important motivators when it comes to using this platform. In particular, students consider that the AVC helps them answer questions and solve problems, thus, the resources are identified as a complementary learning tool.

In the secondary level, there is the work of Pires and others [8] that reveals, on one hand, that, in YouTube, young people learn based on a series of practices (learn by doing, problem solving, learning new things and answering questions) and, on the other hand, it identifies metaphors (MOOC, informal learning environment, search engines and tutorial repositories) that are used to describe the representations that young people make in connection to the educational uses and practices of the platform.[3]

Lastly, we identify a recent study conducted with Argentinian students attending the first year of technical school about the relation they have with digital technologies [28]. Regarding the AVC, it is noteworthy that the YouTube platform is heavily used

[3] The research has found five uses of YouTube: radio, tv, social, productive and educational. The study found that the majority of the uses are connected to the teenager's daily routines, in particular, the way in which they acquire the knowledge and develop their skills. In addition, a series of analogies were identified from analyzing certain elements of their discourse.

by students for different purposes, including studying and learning through tutorials about the things that motivate or affect them.

The third group of studies attempts to describe the uses that young people make of the AVC in the YouTube platform and, at the same time, describe its relationship with the needs and interests that arise from formal education. In the context of higher education, Nagumo and others [13] analyze the students' habits, how they use of these contents to complement their formal studies, and suggest four categories (content learning, content review, test preparation and audiovisual resources). Along these lines, Usaini and others [29] observe that YouTube is used for informal learning, as students say they learn a large number of topics not acquired in the process of formal education. More specifically, there is a study conducted with Indian students that examines the use of YouTube for educational purposes [30]. This study shows that the AVC not only helped the students in preparing assignments, presentation and seminars, but it also helped them to achieve a better educational outcome.

Regarding secondary education, Masanet and others [31] suggest that teenagers develop a close relationship with the media, including YouTube, and that they consider themselves to be "digital learners". Therefore, their practices are characterized by a "show, don't tell" logic, based on learning through imitation. Meanwhile, taking a closer look at the motivations that students have regarding the use of YouTube, a study conducted on students attending the 3º and 4º year of ESO in Spain [32] noted that "teenagers acknowledge the extensive didactic use of tutorial videos. Many conceive these recordings as a valuable aid to reinforce the curricular content developed in class, and even use it to pass their courses".

Finally, Bardakci [33] examines high school students' educational use of YouTube. He suggests that performance expectancy and social influence are the significant predictors of behavioral intention to use YouTube. In particular, "behavioral intention is the significant predictor of actual usage. The results suggest that students intend to use YouTube for improving their academic performance".

The last corpus of literature focuses on the practices of the educational content creators in YouTube (edutubers). These practices, along with their production and demand, have increased significatively, and fit within the frame of informal education, a concept described in other studies. In this case, we include this fourth corpus because we understand that students of different levels might resort to this content looking for "quality" AVC and find some of the learning methods mentioned earlier. First, we will identify a group of studies that investigates the producers of educational content and focuses on tutorial videos. Then, we will present a second group of studies whose main purpose is to examine edutubers and their channels.

Regarding the first group, the book "YouTubers and other Species" by Berzosa [34] examines the world of content creators addressing issues like the application of YouTube to formal and informal education through tutorial videos. Other authors describe edutubers as scientific [35].

In addition, Romero-Tena, Ríos-Vázquez and Román-Graván [36] discuss the practices of YouTubers, as well as Aguilar [37], who defines edutubers as:

“a type of YouTuber who makes videos to share knowledge of the disciplines found in the curriculum of the institutions of formal education, as well as that knowledge whose purpose is to provide orientation or solve a problem” [37].

Based on our research, we observe that the studies about this topic are unilateral and incipient.

The second group of studies focuses on the practices of edutubers. In fact, there are studies that analyze two of the most popular Spanish-speaking edutubers: the teachers David Calle and Julio Alberto Ríos Gallego [38, 39, 40]. Their educational practices are systematized based on interviews and the analysis of their videos. Particularly noteworthy is their style of discourse and performance in front of the camera, they foster values of accessibility, familiarity, conciseness and understanding. To this end, they employ a combination of traditional resources (for instance, a board) and digital resources (infographies or animation). As for the edutubers’ communicative and pedagogical skills, we can mention vocalization, plain language, the use of questions to guide the content, the use of examples and analogies, the use of audiovisual resources, dynamism and humor. However, not necessarily all edutubers make use of these resources, in other words, different styles can be identified.

Beyond these groups of studies, there is an emerging field of study in connection to the needs that arise from formal education and that are “solved” searching and using YouTube’s AVC. An example of this is the study of Gil-Quintana and others [41]; they examine Mathematics learning and the contents of the platform. This research was based on a survey conducted to 4.845 Italian teenagers, and it includes an analysis of the Italian edutuber Elia Bombardelli’s videos, their content and his YouTube channel.

On the whole, based on this analysis, there are three matters to be considered. The first one is the significant role that YouTube plays as a learning source and a learning environment. While this is true for users from a wide range of age groups, in the case of young users, it becomes a fundamental role.

The second matter is that these actors acknowledge that, in this environment, they learn differently and are also exposed to an array of different topics, allowing them to answer questions and solve problems that originate in the spaces of formal education and that also stem from it. These contributions have been extremely valuable as they allow us, on one hand, to measure the importance of YouTube in connection to informal education, and on the other hand, to understand the students’ representations, seen as a space for the resolution of school difficulties.

Finally, the third matter is about the relationship between the actors in formal education, in particular, active teachers, whose purpose is to colonize informal learning spaces (such as YouTube) by developing their own audiovisual content. These actors, generally called edutubers, have gained significance as a result of their productions’ high demand and mainly because of the dialogue they engage in with young people through their comments.

3 Final considerations

In this paper, we present a literature review of the YouTube phenomenon, and the teaching and learning practices. In particular, from our research, we have identified four corpus of knowledge related to this topic. It is important to highlight the consolidation of this platform of audiovisual content as a hegemonic space for entertainment and informal learning.

Based on this review, we have identified at least two possible lines of investigation that need more exploration. The first one consists of analyzing the learning needs that originate —to express it in simple terms— in formal education and are then "redirected" by young people's motivations towards the search and visualization of the AVC in Youtube. In order to widen the horizon, especially considering the disparity between the teaching practices and the learning practices, this redirection might bring these practices closer, considering that their interaction is only partial at the moment.

The second line of investigation, in a first attempt to address this phenomenon, is a description of the practices of edutubers (albeit we recognize the existence of some preliminary studies on this topic); this research might prove helpful to outline pedagogies that compensate for what young people seem to need. Moreover, we consider that young people's comments about the AVC of edutubers is vital and rich in content because it would enable us to record the elements that they seem to be lacking in formal education and that, in turn, redirects them to the platform. At the same time, it would enable a better understanding of the teaching practices that they value: the use of examples and explanations, among others, found in the AVC in general, and in connection to the edutubers in particular.

In conclusion, we consider that the study of the YouTube platform and its relation with the teaching and learning practices is a type of "thermometer" that will allow us to understand at first hand some of the factors undergoing tension in the educational system and that are also affecting young people's trajectories.

All in all, we consider that this research might provide the knowledge to build bridges connecting the inside and outside of the classroom in a dialogue to improve those educational trajectories.

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