Edugramers y edutubers: Do I produce and then teach? Analysis of educational accounts on Instagram and YouTube

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Abstract

Nowadays, Instagram and YouTube are becoming one of the biggest spaces for interrelation between people, specially between younger generations of the population. Nevertheless, there are few investigations based on the influence it can have on education, a reality that has come to stay and that cannot be ignored. With this research, this virtual environment has been addressed, dealing whit its analysis from an educational perspective, and taking as a reference four educational accounts on Instagram and four educational YouTube channels, whose educational quality has been determined through the curricular, pedagogical, didactic, technical, aesthetic, expressive aspects and their accessibility. In addition, the characteristics of these accounts and the edugramers and edutubers that manage them have been determined. When analyzing this reality, a mixed methodology has been used. For this, the methodological instruments that have been used throughout the research are the observation scale and the semi-structured interviews to an edugramer and two edutubers. The results show a great variety of educational accounts of quality in all aspects within the Instagram and YouTube platforms, as well as a series of common characteristics in these social media and a series of peculiarities shared by the educational instagramers and youtubers that manage these cyberspaces.

Keywords: ICTs, edugramers, edutubers, e-learnig, web 2.0 and social media

Introduction

The various changes in the technological and media environment today have meant that important aspects of people's lives, such as communication, have been transformed. If in ancient Greece the Agora was that public place for communication, today social networks have become such a space. This change in the context of communication has affected the different areas of society, and the educational environment on which this research will focus.

The so-called Web 2.0 initiated this new transformation of formal and informal learning, as it was a large social network (Castells, 2003). The main peculiarity of the Web 2.0 is the change in the role of the user who accesses it, who has gone from being a mere consumer of contents to having an active role in their production. This new user is known as a prosumer, that is, a person who consumes and produces content within this cyberspace (González et al., 2013).

Some of the most characteristic examples of prosumers include well-known instagramers and youtubers, who have become microcelebrities on social networks as Aran-Ramspott et al. (2018) claims. These

influencers are specialists in various areas of interest to users. There are some related to fashion, sports or food, whereas edugramers and edutubers are dedicated to education. These educational channels and accounts on Instagram and YouTube are becoming more and more common as they deal with various curricular issues, creating a wide variety of audiovisual productions that are available to anyone, anywhere in the world and are updated regularly.

Through this study, we will delve into a reality that is increasingly presented and seldom studied in today's society, as is the case with edugramers and edutubers. The present research has focused on the analysis of educational accounts on Instagram and YouTube, in order to determine the educational quality and characteristics of these accounts and their administrators from an educommunication perspective.

Instagram and YouTube as educational cyberspaces

The continuous technological advances occurring today, have established new ways of learning (Rodríguez-Illera, 2018) leading to a transformation of the teaching processes and the environment where these processes take place. This new virtual learning environment offered by social networks is an informal context where learning takes place more naturally and where the transmission of contents is structured and carried out daily (Yilmaz, 2018). In this case, learning is achieved for personal pleasure and an informal relationship is established between the teacher and the student, or in other words, between the influencer and his/her follower (Sharma & Raghuvanshi, 2019).

This informal learning has a purpose that is less intentional, occurring more spontaneously, anywhere without following a specific curriculum, based solely on daily practice (Greenhow & Lewin, 2016). Such informal education should complement formal education in order to overcome mutual weaknesses (Cremades & Herrera, 2010). In this sense, authors like Pereira et al. (2019) affirm there is a socially established gap between what students learn in school and what they learn outside school, virtual spaces are often considered only as places of leisure and entertainment, where students are not acquiring any kind of knowledge. Because of this, young people access virtual spaces offered by social networks to develop learning strategies that solve the problems that are arising in formal education. This learning outside the classroom is increasing considerably (García-Aretio, 2019). Therefore, this informal learning environment should be especially considered since it develops a series of competences and capacities in the students, which are included in the formal education curriculum (Izquierdo-Iranzo & Gallardo-Echenique, 2020).

Any user can access this informal learning through the Internet, making it a tool that brings great benefits to society and education, as it is part of the daily routine for many people (Marín-Díaz & Cabero-Almenara, 2019). The main informal educational environment today consists of social networks that offer more attractive learning processes, benefitting those who share information on this platform (Rodrigo-Cano et al., 2019). Infante y Aguaded (2012) mention some characteristics of these social sites include the exchange of extensive knowledge and information, a more collaborative methodology and learning that is more motivating. These same users access these platforms to perform various functions such as the transmission of information, the expression of feelings or interaction with other subjects that interact with it (Roig-Vila & Álvarez, 2019).

According to Moghavvemi et al. (2018), social networks are digital spaces that enable the development of diverse functions. It is through platforms such as Instagram and YouTube where the user can search for specific information, establish relationships with other subjects or resolve any issues. Adittionally, these users also develop some transmedia skills such as: learning by doing something that excites them, learning by imitation, learning while transmitting and receiving knowledge, among others (Ferrés & Piscitelli, 2012). These social networks are widely used by young people to communicate about school matters, learn the theory and practice of a subject and delve deeper into aspects discussed in the classroom (Izquierdo-Iranzo & Gallardo-Echenique, 2020; Pereira et al., 2019).

Videos are among the elements used in these social networks, ant they are also very useful resources in formal training as Quintanilha (2017) shows with his research. This is a resource that offers the user endless opportunities, especially the possibility to pause and rewind as many times as necessary to understand the information conveyed (Izquierdo-Iranzo & Gallardo-Echenique, 2020). In addition to these, the educational video allows users to summarize certain contents, simplify some very complex aspects or expose certain information (Jackman, 2019). The various features offered by social networks such as Instagram and YouTube, provide a great opportunity to develop self-regulated learning that is more attractive to the user and provides them with greater autonomy in the teaching-learning process (Czerkawski, 2016). The most important functions of social networks following Sloep y Berlanga (2011) are: to exchange experiences and knowledge, to cooperate towards common goals or to carry out self-evaluation and co-evaluation of acquired learning.

Social networks become environments for relationships between different users, who establish links that encourage the exchange of information, interests and needs (Da Luz et al., 2017). Thus, from an educational point of view, the many advantages of social networks have been studied by various authors (Gómez-García et al., 2014; Laeeq et al., 2018; Muñoz et al., 2013; Villadiego, 2014), these include: the diversity of resources they offer, the development of digital competence, the centralization of learning, the elimination of spatial-temporal barriers or the promotion of teamwork.

The main characteristic of both Instagram and YouTube is the ease they offer for content dissemination. Their audiovisual format means that any individual can transmit information to any part of the world, reaching both current and potential followers in a public or semi-public way (Suryantari & Priyana, 2018).

On the one hand, YouTube is a platform that allows users to upload audiovisual productions, follow other interesting accounts, watch videos, make comments and create communities where users can follow or be followed (Arguedas & Herrera, 2018). On the other hand, Instagram is mainly visual but offers the possibility to upload videos, images and GIFs in an array of content modes, including stories and posts. It has more than 500 million users as Pilař et al. (2019) claim who upload mainly visual posts to convey brief information about something, including educational content (Hidalgo-Marí & Segarra-Saavedra, 2017) that enables text including comments or captions where opinions can be expressed, which represents the linguistic aspect of the platform Suryantari y Priyana (2018).

Educational Instagramers and Youtubers: a rising model

The continuous progress that society is experiencing means that in certain cases formal education cannot satisfy social demands. For this reason, the productions that edugrammers and edutubers generate in

virtual environments become necessary (Czerkawski, 2016). These two characters that are native to the digital world, lack an established definition in scientific literature. Therefore, following the definition of studigram proposed by Izquierdo-Iranzo y Gallardo-Echenique (2020), they can be defined as users who create different audiovisual productions about education through Instagram and YouTube. Their use in education has many advantages, as corroborated by numerous studies conducted by Guo et al. (2014) and Tan y Pearce (2011), achieving increased interest from students (Cebrián & Solano, 2008).

In audiovisual productions, aesthetics become very important to these creators, not only their personal aesthetics but also that of their surroundings (Da Luz et al., 2017). In the case of youtubers, they have a very homogeneous audiovisual planning structure, whereby they divide the video into three clearly differentiated moments: opening, development of content and closing, where they invite the viewer to follow their channel (Sabich & Steinberg, 2017). Both instagrammers and youtubers follow an evolutionary process from amateur to professional (Aznar-Díaz et al., 2019) which is reflected in the improvement of audiovisual productions in terms of quality. Both require a high degree of professionalism, rigor and experience, which allows them to organize and plan their publications adequately (Garay & Acuña, 2015; May et al., 2019), according to four phases: pre-production, shooting, post-production and broadcasting (León, 2018).

The functions to be performed by an edugramer or an edutuber are very similar to those established for the virtual tutor by Ehuletche y De Stefano (2011) and Llorente (2006), among which we can highlight: the presentation of clear objectives, the creation of safe environments, the use of a correct tone of voice and a connection between the content presented and the reality of the user. From the educommunicative perspective, these creators must develop optimal media competence related to the different dimensions proposed, such as: the language dimension in the development of different linguistic codes, the technological dimension to make proper use of technologies, the dimension involving production and dissemination processes in order to achieve an effective audiovisual production, the dimension of ideology and values, the dimension of interaction and finally the aesthetic dimension that enables the creation and analysis of audiovisual productions from an aesthetic standpoint (Ferrés y Piscitelli, 2012). However, the mere transmission of information will not lead to knowledge, thus the organization and analysis of information is required (Pérez-Rodríguez & Delgado-Ponce, 2012) through the use of Information and Communication Technologies (ICTs) with an educational purpose (Fernández-Cruz & Fernández-Díaz, 2016) and taking into account the social and participatory aspects (Gallego & Murillo, 2018). In addition to these media competences, there are a series of digital competences that edugrammers and edutubers must possess, such as: instrumental, pedagogical, sociocommunicative, cognitive, emotional, organizational and didactic-methodological (Area & Pessoa, 2012; Llorente, 2006; Mortis et al., 2013).

The content generated by these agents is highly diverse and must meet certain conditions: it must relate to the curriculum, follow a vertical flow, be logically sequenced, relate to the user's needs and originate from reliable information sources (Cueva et al., 2006; Vizcaíno-Verdú et al., 2019). Research indicates that some of the subjects that rely on ICTs the most include languages, social sciences and mathematics, information that is consistent with the type of educational content generated on social networks (Santiago et al., 2014). This educational content, within these virtual platforms, is being created at all levels of the educational system including higher education, as confirmed by research of Rodrigo-Cano et al. (2019)

and May et al. (2019) on the use of YouTube and Instagram in Anatomy and Pharmacy courses respectively.

Materials and methods

Based on the state of the art, the main objective of this research is to analyze various educational accounts on Instagram and YouTube to determine their educational quality. Likewise, the research analyzes the main characteristics of these accounts, their planning and design strategies, as well as the peculiarities of the edugramers and edutubers who manage them. The sample selected for this study consists of four Instagram educational accounts (@nodnol_english, @math2me, @juegosef and @francaisavecpierre) and four YouTube channels (La cuna de Halicarnaso, Lasmatematicas.es, Date un Voltio and La Eduteca). In order to select the sample, a series of criteria were taken into account, differentiating on the one hand the criteria for the quantitative sample and on the other hand the qualitative one. In the case of the quantitative sample, to ensure its variability, the number of followers/subscribers of the channel and its educational theme were considered. In the case of Instagram, the account was analyzed in general terms and in the case of YouTube channels, five videos were selected from each channel according to the following criteria: the first and last video of the channel, the video with the highest number of views and two videos published between the first and last year of the account's existence. As for the qualitative sample, one edugramer and two edutubers were selected, providing variability to the sample by means of criteria such as the influencer's gender, the number of followers/subscribers and the subject matter published in the account or channel. The methodology used was mixed, utilizing qualitative and quantitative techniques in order to provide the most accurate assessment possible of the phenomenon under investigation (Hernández-Sampieri et al., 2014). Within this methodology, a Concurrent Triangulation Design (CTD) enabling a cross validation of the quantitative and qualitative data obtained, thereby reducing emerging weaknesses to a minimum and providing rigor, authenticity and validity (Rodríguez & Valldeoriola, 2009).

In order to obtain both quantitative and qualitative data, two evaluation instruments were designed to analyze the previously defined sample. The first instrument, designed to obtain quantitative data, was the observation scale (Table S1). Following an observation scale already developed by Romero-Tena et al. (2017) and taking into account contributions of Cabero y Duarte (1999) to analyse and evaluate multimedia platforms, an observation scale of 42 Likert-type items was developed with values from 1 to 4 which are associated to a rating, in this case: poor, fair, good and excellent respectively, considering the educational quality account or channel when its average score is between 3 and 4 (Table 1). A decision was made to opt for a scale with an even number of items, in order to avoid a tendency towards the average value. The items of this scale are distributed around five aspects: curricular; technical, aesthetic and expressive; pedagogical; didactic and accessibility. Furthermore, it includes a section for comments where a written assessment of the advantages, disadvantages and main characteristics of the account or channel under evaluation could be included. Around these five aspects, a series of items related to the objectives and contents of the channel, the quality of image and sound or the rigor and veracity of the information conveyed in the audiovisual productions were evaluated. It should be noted that for

Instagram, a single observation scale was performed for the entire account, while for YouTube, a scale was applied to each of the selected videos.

Table 1: Observation scale for the evaluation of educational accounts and channels

ANALYSIS ACCOUNTS AND EDUCATIONAL CHANNELS			
Account/Channel			
Link			
Length		**Date**	
CURRICULAR ASPECTS			**Rating** 4: Excellent; 3: Good; 2: Fair; 1 Poor
1. The image(s)/video specifies the objectives pursued			
2. Indicates the contents that are covered			
3. It is effective in achieving the objectives			
4. It covers contents of the educational curriculum			
5. It is academically relevant with respect to the objectives			
6. Students can use the audiovisual content for self-learning			
TECHNICAL, AESTHETIC AND EXPRESSIVE ASPECTS			**Rating** 4: Excellent; 3: Good; 2: Fair; 1 Poor
1. The image quality is completely satisfactory			
2. The audio quality is totally correct			
3. Animations, effects or graphics promote understanding			
4. Auditory and visual elements are well synchronized			
5. The narrative approach is correct for the achievement of the objectives			
6. The structure and pace are appropriate to achieve the goals			
7. Transitions in audiovisual productions are appropriate			
8. The size and length of text in the video is correct			
PEDAGOGICAL ASPECTS			**Rating** 4: Excellent; 3: Good; 2: Fair; 1 Poor
1. The audiovisual content is interesting and attractive			
2. The contents are presented in an original way			
3. It is compatible with the teaching methodology intended			
4. The information provided is correct			
5. The information given is clear and specific			
6. The vocabulary used is adapted to that of the viewer			
7. The contents presented are updated			

8. The concepts discussed are repeated throughout the video or publications	
9. The language used is not offensive or discriminatory	
10. The structure and sequencing in the presentation of the content is correct	

DIDACTIC ASPECTS	**Rating** 4: Excellent; 3: Good; 2: Fair; 1 Poor
1. It presents conceptual knowledge and procedural knowledge	
2. Relates concepts to procedures	
3. The content is presented in ascending order of difficulty	
4. The content is related to the reality of the student/user	
5. Relate the contents of the video/image with other subjects	
6. Includes activities and exercises for the user to develop	
7. Various levels of difficulty are offered in the channel or account	
8. Various productions are presented about a concept	
9. The presentation strategies are innovative	
10. It offers advice and study techniques on the subject	
11. Examples are provided	
12. Support materials are provided	
ACCESSIBILITY	**Rating** 4: Excellent; 3: Good; 2: Fair; 1 Poor
1. The reproduction of the contents does not require additional software	
2. Subtitles are provided for easy understanding	
3. The audiovisual proposal is designed to make it accessible to students with partial visual impairment	
4. The audiovisual approach enables accessibility to students with cognitive disabilities	
5. The advertising present is not detrimental to the viewing	
6. Feedback is provided to the viewer	
OBSERVATIONS	**Comments**
1. Efficiency, advantages compared to other productions/accounts	
2. Problems or issues	
3. Outstanding features	

Note: Prepared by the authors on the basis of Romero-Tena et al. (2017) and Cabero and Duarte (1999)

The second instrument developed for this study consisted of a semi-structured interview script to obtain a series of qualitative data through the contributions provided by some of the edugramers and edutubers analyzed. This type of interview was selected because the topic is very open and it enables changes to the script in order to raise questions that may arise during the conversation (Hernández-Sampieri et al., 2014). A preliminary approach was carried out with the participants before conducting the interviews, which included questions about knowledge, opinions or background on the subject of educational instagrammers and youtubers. This approach was validated by a communication expert.

Analysis and results

Through a content analysis of the accounts by means of the observation scale and after the transcription and categorization of the interviews carried out, the aims set out in the methodological section of the study were achieved. Figure 1 shows how the educational quality of the Instagram accounts is quite outstanding in each of the aspects, obtaining values above 3 in 100% of the accounts analyzed. As shown in the graph, the accounts show the highest quality in the curricular and pedagogical aspects, which suggests that they reflect the objectives set out in their publications, as well as the contents covered, all of which are closely related to the educational curriculum. Furthermore, this analysis reflects that the content published in the accounts is attractive to the viewer, following an original presentation of clear and accurate information, by means of a simple, adapted and non-discriminatory vocabulary.

The average value of the didactic aspect closely follows the aspects mentioned, indicating that these educational accounts display their declarative and procedural knowledge relating, in most cases, the content to the reality closest to the viewer, providing examples and offering different levels of difficulty for the information presented. However, the audiovisual productions analyzed establish, in some cases, a very limited relationship with other subjects of the curriculum. In terms of accessibility and technical, aesthetic and expressive aspects; they are the ones that score lowest on the observation scale, reflecting that elements such as image and sound quality or the size and duration of texts can be improved, as well as user interaction.

Figure 1: Evaluation of Instagram accounts

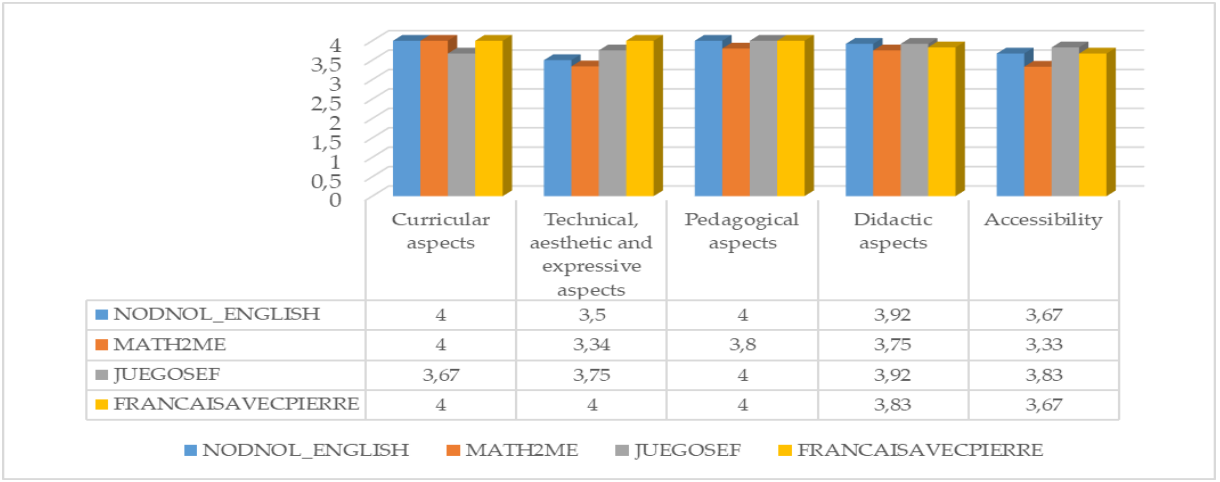
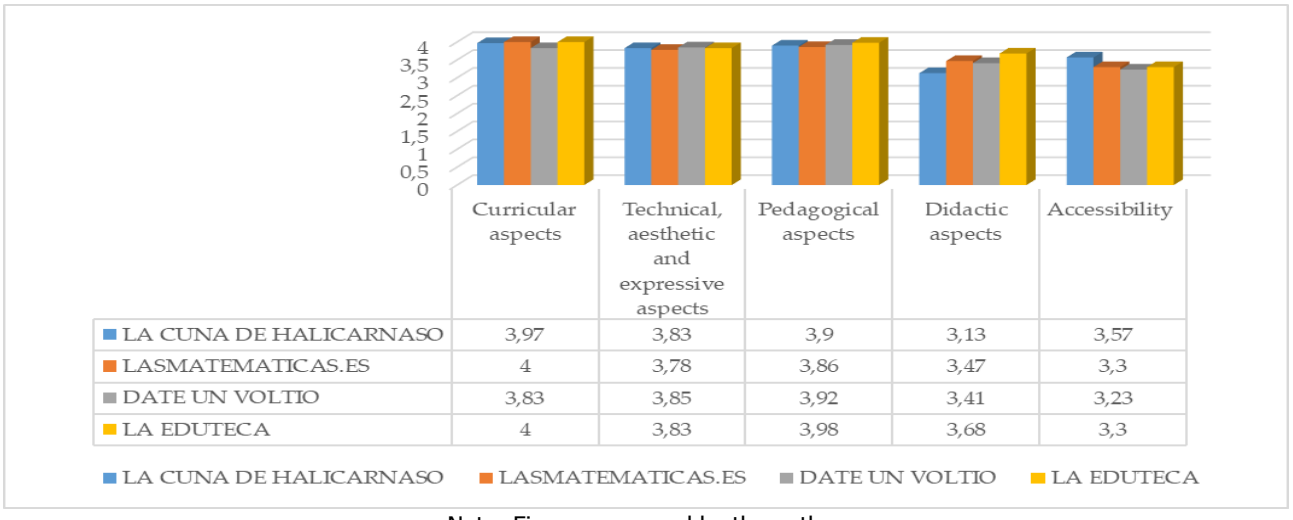


Figure 2 shows similar results for YouTube channels and Instagram accounts. The curricular and pedagogical aspects obtain either the maximum score, or a value very close to it, which reaffirms the fact that the objectives, contents and information transmitted throughout the publications are clearly specified and presented in an original way and with a correct sequencing.

The technical, aesthetic and expressive aspects reach scores very close to the maximum possible, which reflects that the contents presented have an almost perfect quality of image and sound, which is accompanied by a narrative structure and a suitable rhythm for the viewer, all accompanied by a good synchronization and variety of effects and animations. Regarding the didactic aspects and the accessibility of these channels, they obtain the lowest values in the observation scale, which shows that the relationship of the video content with other subjects or with the students' reality is insufficient in certain cases. All this, added to the absence of subtitles in some productions of greater complexity, is an aspect that hinders understanding.

Figure 2: Evaluation of YouTube channels



Note: Figures prepared by the authors

Through semi-structured interviews and the transcription and analysis of interview data, a series of characteristics of these accounts or channels and the creators, i.e. the edugramers and edutubers who manage them, were collected.

The results show that these individuals began with the production of audiovisual material to provide their classes with a new vision "(...) I was interested in giving a twist to my way of teaching and so I thought it would be good to create an Instagram account to support the students (…)".

This process of creating an account or a publication is somewhat complex and requires planning to ensure quality "(…) the creation of a video involves, first, the development of the script, then the search for resources about the video, recording, editing, and finally publication, which in my case would include not only publishing it, but also sharing it on social networks, and waiting for comments, so I have a little bit of extra work, it' s not a simple publication and that's it".

All this confers educational quality to an account, which must possess a series of characteristics that the scale of observation includes and which are reaffirmed by the eudgramers and edutubers, including its

educational purpose "(…) content that responds to an educational topic that is part of the student's curriculum, that is, an educational channel must provide an answer to a student's question or concern, which may be about a topic or about the procedure to solve an equation", the rigor of content "rigor, rigor is fundamental, as it is with your work (...) The contents (...), things can be expressed in one way or another, but they must be correct, rigor is fundamental" and the use of a language that is appropriate and related to the viewer's reality "You can learn a language through cooking (...) what I do now involves making videos from another point of view, that is, for example, I want to teach cooking vocabulary, in my last video I recorded a cooking recipe and explained the vocabulary and other words that can be used when cooking". All this is accompanied by technical issues "(...) we must take care of the sound, to avoid noise, the image should be seen as best as possible (...)".

The fundamental basis of these accounts are the educational instagrammers and youtubers that run them, who bring together a series of peculiarities such as feedback and interaction with their followers, recreating a role in this environment "I'm not the one on YouTube, it's a character that you create and that must also be attributed to all the youtubers, when someone sees a youtuber, they are seeing a character that is playing a role (…) you have to know that you are addressing a broad, open audience that doesn't know you, you have to have an active way of acting (…)". A character that is approachable and with a familiar attitude "(...) having an affable personality, a friendly attitude, being nice to people, all these personal characteristics are becoming more and more important, even though what you do is teach mathematics, it's like the typical teacher who goes to class, who is a friend to his or her students, who gets along well (...)", who teaches with the content and manner in which he or she transmits it "as far as aesthetics are concerned, I think it is fundamental that one maintains aesthetic not only in your outfit and so on (...). I think it is also important that we take care of the aesthetics that appear around us, of our channel in the background". But above all, the interviewees all agree on the importance of the edugramer or edutuber having a solid training in the subject being taught through his account or channel "(...) if the account is educational and you are going to publish a specific content, in my case English, I think you have to be an English teacher and not just an English teacher, but you have to train, research and know for sure that what you are publishing is correct".

Discussion and conclusion

Edugramers and edutubers have become a widespread phenomenon in the networked society in which we find ourselves and the variety of accounts and quality educational channels on Instagram and YouTube is quite wide, with content from all areas of the curriculum. This is a type of informal education used by these edugramers and edutubers as a complement to the formal education they provide in their respective schools (Cremades & Herrera, 2010), with which they transform their classroom dynamics, fostering the teaching-learning process and allowing a greater amount of time in the classroom for more active learning. The quality of the publications is quite high regardless of the social network on which they are published, but a number of similarities and differences can be found in the productions created on both social networks. The two environments include a series of aspects that are expressly considered in the curriculum (Izquierdo-Iranzo & Gallardo-Echenique, 2020) and offer numerous advantages in the teaching-learning process (Tan & Pearce, 2011) providing attractive content for the viewer, which favors

their interest (Cebrián & Solano, 2008). In terms of the most noticeable differences between the two platforms, it was found that the technical and aesthetic quality, so important in audiovisual productions (Da Luz et al., 2017), is usually of higher quality on YouTube, where the videos feature a range of effects, graphics and animations that make the information they convey much more visual and engaging. Despite this, Instagram enables de edugramer to offer more tips to the viewer and propose activities due to the features offered by the platform. However, both social networks offer functionalities that enable a greater interaction between creator and follower, through the use of chat, video comments or direct messages. The accounts and educational channels analyzed have a series of characteristics such as their educational purpose, the rigor, the professionalism and the planning carried out to produce their publications, aspects that coincide with those cited by authors such as Garay and Acuña (2015) and May et al. (2019). The publication of content by educational instagramers and youtubers goes through a series of phases from the preparation of the script to the recording and dissemination of the video (León, 2018), phases that the creators deem very important, especially the final process, that is, the dissemination and promotion of the video through their various social media profiles. Edugramers and edutubers are the main gear of the whole process and they combine a series of very similar characteristics, such as the recreation of a role through a character with a very approachable attitude and a friendly personality, who addresses the viewer through a carefully chosen language, adapted to the user and preserving both his own aesthetics and the space where all his audiovisual productions are developed, thus enabling a virtual learning process and allowing personal contact. And finally, what gives educational quality to an account or channel and provides a great rigor and reliability to its contents is the technical, didactic and pedagogical training of the creator, ie the instagramer and educational youtuber.

Through this study, the bases of a phenomenon that is becoming more and more present are established, namely that of the edugramers and edutubers, compiling the main characteristics of these subjects, as well as those of their accounts or educational channels. Therefore, we invite you to explore more specific aspects of these individuals through a more in-depth and conclusive study.

Bibliographical References

Aran-Ramspott, S., Fedele, M., & Tarragó, A. (2018). YouTubers' social functions and their influence on pre-adolescence. [Funciones sociales de los youtubers y su influencia en la preadolescencia]. *Comunicar*, *26* (57), 71-80. https://doi.org/10.3916/c57-2018-07

Area, M., & Pessoa, M. (2012). From Solid to Liquid: New Literacies to the Cultural Changes of Web 2.0. [De lo sólido a lo líquido: las nuevas alfabetizaciones ante los cambios culturales de la Web 2.0]. *Comunicar*, *19* (38), 13-20. https://doi.org/10.3916/c38-2012-02-01

Arguedas, C., & Herrera, E. (2018). Un canal en YouTube como herramienta de apoyo a un curso de física en educación a distancia. *Revista Ensayos Pedagógicos*, *13* (1), 107-130. http://dx.doi.org/10.15359/rep.13-1.5

Aznar-Díaz, I., Trujillo-Torres, J., Romero-Rodríguez, J., & Campos-Soto, M. (2019). Generación Niños YouTubers: análisis de los canales YouTube de los nuevos fenómenos infantiles. *Pixel-Bit, Revista De Medios Y Educación*, 56, 113-128. https://doi.org/10.12795/pixelbit.2019.i56.06

Cabero, J. & Duarte, A.M. (1999). Evaluación de medios y materiales de enseñanza en soporte multimedia. *Pixel-Bit. Revista de Medios y Educación,* 13, 23-45. https://bit.ly/2zybV3B

Castells, M. (2003). La interacció entre les tecnologies de la informació i la comunicació i la societat xarxa: un procés de canvi històric. *Coneixement i Societat*, 1, 8-21. https://bit.ly/3cPy4Zq

Cebrián, M., & Solano, N. (2008). Evaluación de material videográfico de apoyo al aula de primaria. *Pixel-Bit. Revista de Medios y Educación*, 33, 43-58. https://bit.ly/2VFOazh

Cremades, R., & Herrera, L. (2010). Estudio comparativo de la educación formal e informal en el conocimiento musical de los estudiantes de enseñanza profesional de música. *Publicaciones*, *40*, 73-87. https://bit.ly/3bS6VFi

Cueva, E., Fernández, M. S., &. Muñoz, D. (2006). La modalidad e-learning: elementos de un nuevo enfoque de enseñanza. *Tendencias Pedagógicas*, 11, 191 - 206 https://bit.ly/2VF6pow

Czerkawski, B. (2016). Blending Formal and Informal Learning Networks for Online Learning. *The International Review Of Research In Open And Distributed Learning*, *17* (3), 138-156. https://doi.org/10.19173/irrodl.v17i3.2344

Da Luz, A. F., Ramos, R.V., & Lima, R. F. (2017). O instagramer e seu discurso multissemiótico na rede social digital instagram. *Diálogo das Letras*, *6* (2), 139-158. https://bit.ly/2yMq38O

Ehuletche, A., & De Stefano, A. (2011). Evaluación de las competencias para la formación tutores de e-learning. *RIED. Revista Iberoamericana De Educación A Distancia*, *14* (1), 75-86. https://doi.org/10.5944/ried.1.14.801

Fernández-Cruz, F., & Fernández-Díaz, M. (2016). Generation Z's Teachers and their Digital Skills. [Los docentes de la Generación Z y sus competencias digitales]. *Comunicar*, *24* (46), 97-105. https://doi.org/10.3916/c46-2016-10

Ferrés, J., & Piscitelli, A. (2012). Media Competence. Articulated Proposal of Dimensions and Indicators [La competencia mediática: propuesta articulada de dimensiones e indicadores]. Comunicar, *19* (38), 75-82. http://dx.doi.org/10.3916/C38-2012-02-08

Gallego, C., & Murillo, P. (2018). La práctica docente mediada con tecnologías. YouTube como herramienta de aprendizaje en educación superior. *Foro Educacional*, 31, 11-29. https://bit.ly/3d8pp4J

Garay, L., & Acuña, L. (2015). Facebook y Youtube: tecnologías del aprendizaje y el conocimiento para el fortalecimiento de la competencia comunicativa en la clase de lengua castellana. *Nodos Y Nudos*, *4* (39), 39-44. https://doi.org/10.17227/01224328.4353

García-Aretio, L. (2019). Necesidad de una educación digital en un mundo digital. *RIED. Revista Iberoamericana de Educación a Distancia, 22* (2), 9-22. http://dx.doi.org/10.5944/ried.22.2.23911

Gómez-García, M., Ruiz-Palmero, J., & Sánchez-Rodríguez, J. (2014). Aprendizaje social en red. Las redes digitales en la formación universitaria. *EDMETIC. Revista De Educación Mediática Y TIC*, *4* (2), 71-87. https://doi.org/10.21071/edmetic.v4i2.3963

Gónzalez, K., Rincón, D. A., & Contreras, L. E. (2013). Caracterización y ejemplificación del docente-prosumidor desde la web 2.0 en educación superior. *Revista virtual Universidad Católica del Norte*, 40, 53-67. https://bit.ly/2zxkWtK

Greenhow, C. & Lewin, C. (2016). Social media and education: reconceptualizing the boundaries of formal and informal learning. *Learning, Media and Technology, 41* (1), 6-30. https://doi.org/10.1080/17439884.2015.1064954

Guo, P. J., Kim, J., & Rubin, R. (2014). *How Video Production Affects Student Engagement: An Empirical Study of MOOC Videos*. [Conference]. Proceedings of the first ACM conference on Learning, Atlanta, Georgia, USA. https://doi.org/10.1145/2556325.2566239

Hernández-Sampieri, R., Fernández-Collado, C., & Baptista-Lucio, M.P. (2014). *Metodología de la investigación* (6ª edición). McGraw-Hill.

Hidalgo-Marí, T., & Segarra-Saavedra, J. (2017). El fenómeno youtuber y su expansión transmedia. Análisis del empoderamiento juvenil en redes sociales. *Fonseca, Journal Of Communication*, 15, 43-56. https://doi.org/10.14201/fjc2017154356

Infante, A., & Aguaded, J.I. (2012). Las redes sociales como herramientas educativas. In Y. Sandoval, A. Arenas, E. López, J. Cabero & J. Aguaded, *Las tecnologías de la información en contextos educativos: nuevos escenarios de aprendizaje* (pp. 163-176). Universidad Santiago de Cali. https://bit.ly/2YoEavV

Izquierdo-Iranzo, P., & Gallardo-Echenique, E. (2020). Studygrammers: Learning influencers. [Estudigramers: Influencers del aprendizaje]. *Comunicar*, *28* (62), 115-125. https://doi.org/10.3916/c62-2020-10

Jackman, W. (2019). YouTube Usage in the University Classroom: An Argument for its Pedagogical Benefits. *International Journal Of Emerging Technologies In Learning (Ijet)*, *14* (09), 157-166. https://doi.org/10.3991/ijet.v14i09.10475

Laeeq, K., Ali Memo, Z. & Memon, J. (2018). The SNS-based e-learning model to provide Smart solution for e-learning *Journal of Educational Research and Innovation (IJERI)*, 10, 141-152. https://bit.ly/2KxvXgZ

León, L. (2018). Niños YouTubers y el proceso de creación de vídeos: evidencia de competencias transmedia en acción. *Comunicación Y Sociedad*, 33, 115-137. https://doi.org/10.32870/cys.v0i33.7080

Llorente, M. C. (2006). El tutor en E-learning: aspectos a tener en cuenta. *Edutec. Revista Electrónica de Tecnología Educativa*, 20, 1-16 https://bit.ly/2Sl7tvJ

Marín-Díaz, V., & Cabero-Almenara, J. (2019). Las redes sociales en educación: desde la innovación a la investigación educativa. *RIED. Revista Iberoamericana de Educación a Distancia, 22* (2), 25-33. http://dx.doi.org/10.5944/ried.22.2.24248

May, N., Scholz, M., Myers, M., Rae, S., Elmansouri, A., Hall, S., & Border, S. (2019). Reviewing the Role of Instagram in Education: Can a Photo Sharing Application Deliver Benefits to Medical and Dental Anatomy Education?. *Medical Science Educator*, *29* (4), 1117-1128. https://doi.org/10.1007/s40670-019-00767-5

Moghavvemi, S., Sulaiman, A., Jaafar, N., & Kasem, N. (2018). Social media as a complementary learning tool for teaching and learning: The case of youtube. *The International Journal Of Management Education*, *16* (1), 37-42. https://doi.org/10.1016/j.ijme.2017.12.001

Mortis, S., Valdés, A., Angulo, J., García, R., & Cuevas, O. (2013). Competencias digitales en docentes de educación secundaria en México. *Perspectiva Educacional*, *52* (2), 135-153. https://doi.org/10.4151/07189729-vol.52-iss.2-art.174

Muñoz, M. Del M., Fragueiro, M. S., & Ayuso, M. J. (2013). La importancia de las redes sociales en el ámbito educativo. *Escuela Abierta*, 16, 91-104. https://bit.ly/3eLAR7M

Pereira, S., Fillol, J., & Moura, P. (2019). Young people learning from digital media outside of school: The informal meets the formal. [El aprendizaje de los jóvenes con medios digitales fuera de la escuela: De lo informal a lo formal]. *Comunicar, 27* (58), 41-50. https://doi.org/10.3916/C58-2019-04

Pérez-Rodríguez, M.A. & Delgado-Ponce, A. (2012). From Digital and Audiovisual Competence to Media Competence: Dimensions and indicators. [De la competencia digital y audiovisual a la competencia mediática: dimensiones e indicadores]. *Comunicar*, *20* (39), 25-34. https://doi.org/10.3916/c39-2012-02-02

Pilař L., Moulis P., Pitrová J., Bouda P., Gresham G., Balcarová T., & Rojík S. (2019). Education and Business as a key topics at the Instagram posts in the area of Gamification. *Journal on Efficiency and Responsibility in Education and Science*, *12* (1), 26-33. https://doi.org/10.7160/eriesj.2019.120103

Quintanilha, L. (2017). Inovação pedagógica universitária mediada pelo Facebook e YouTube: uma experiência de ensino-aprendizagem direcionado à geração-Z. *Educar Em Revista*, 65, 249-263. https://doi.org/10.1590/0104-4060.50027

Rodrigo-Cano, D., Aguaded Gómez, I., & García Moro, F. (2019). Metodologías colaborativas en la Web 2.0. El reto educativo de la Universidad. *REDU. Revista De Docencia Universitaria*, *17* (1), 229-244. https://doi.org/10.4995/redu.2019.10829

Rodríguez, D., & Valldeoriola, J. (2009). *Metodología de la investigación*. Universitat Oberta de Catalunya.

Rodríguez-Illera, J. (2018). Educación informal, vida cotidiana y aprendizaje tácito. *Teoría De La Educación. Revista Interuniversitaria*, *30* (1), 259-272. https://doi.org/10.14201/teoredu301259272

Roig-Vila, R., & Álvarez, J. F. (2019). Repercusión en Twitter de las metodologías activas ABP, Flipped Classroom y Gamificación. *RIED. Revista Iberoamericana de Educación a Distancia, 22* (2), 79-96. http://dx.doi.org/10.5944/ried.22.2.23272

Romero-Tena, R., Ríos-Vázquez, A., & Román-Graván, P. (2017). YouTube: evaluación de un catálogo social de vídeos didácticos de matemáticas de calidad. *Revista de Investigación Social*, 18, 515-539. https://bit.ly/359ofD9

Sabich, M., & Steinberg, L. (2017). Discursividad youtuber: afecto, narrativas y estrategias de socialización en comunidades de Internet. *Revista Mediterránea De Comunicación*, *8* (2), 171-188. https://doi.org/10.14198/medcom2017.8.2.12

Santiago, R.; Navaridas, F. & Repáraz, R. (2014). La escuela 2.0: La percepción del docente entorno a su eficiencia en los centros educativos de La Rioja. *Educación XX1, 17* (1), 243-270. https://doi.org/10.5944/educxx1.17.1.10713

Sharma, A., & Raghuvanshi, D. (2019). Informal learning: an innovation towards sustainable development in education. *Humanities & Social Sciences Reviews*, *7* (4), 303-308. https://doi.org/10.18510/hssr.2019.7439

Sloep, P., & Berlanga, A. (2011). Learning networks, networked learning. [Redes de aprendizaje, aprendizaje en red]. *Comunicar*, *19* (37), 55-64. http://dx.doi.org/10.3916/C37-2011-02-05

Suryantari, H., & Priyana, J. (2018). Exploring Ways of Using Facebook and Instagram in Teaching English. *Advances in Social Science, Education and Humanities Research*, *165*, 298-301. https://doi.org/10.2991/iccsr-18.2018.66

Tan, E., & Pearce, N. (2011). Open education videos in the classroom: exploring the opportunities and barriers to the use of YouTube in teaching introductory sociology. *Research In Learning Technology*, *19*, 125-133. https://bit.ly/2xlMscS

Villadiego, M. R. (2014). Redes sociales y Apps en el aula 2.0. Innovando en las prácticas docentes. *Aularia: Revista Digital de Comunicación*, 3 (*2)*, 23-26. https://bit.ly/2W2d0bg

Vizcaíno-Verdú, A., Contreras-Pulido, P., & Guzmán-Franco, M. D. (2019). Reading and informal learning trends on YouTube: The booktuber. [Lectura y aprendizaje informal en YouTube: El booktuber]. *Comunicar, 27* (59), 95-104. https://doi.org/10.3916/C59-2019-09

Yılmaz, O. (2018). Analysis of Alienation in Informal Education: Media Skepticism and Spiral of Silence in the Network Society. *International Journal Of Higher Education*, *7* (4), 110-122. https://doi.org/10.5430/ijhe.v7n4p110