Cell Phone, Classroom and Video Production: MOOC for Audiovisual Teacher Training

Celular, Sala de Aula e Produção de Vídeos: MOOC para Formação Audiovisual de Professores

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Abstract

This article is suitable for the use of intelligent telephones (cellular telephones) as a tool of video production in class. For this reason, it is destined to be discussed as a consolidated video production: it is an empowering tool, in the process of teaching and learning, which reflects the need for teachers regarding audiovisual training to integrate practical pedagogical practice. We will analyze the development of a MOOC (Massive Open On-line Course) that contributes an audiovisual form of conductors, with a focus on the production of videos using cellular telephones. This course, housed in a free on-line course platform, is moderated by presenting basic concepts about film language, video production and video editing, as well as practical activities that can also be applied daily in class. From this point of view, we emphasize that before the idea that a conductor mediates in any activity that involves digital technologies in their classrooms, it is necessary that they are instrumented to apply "tools" and use them critically.

Keywords: Teacher training. Technological education. Audiovisual training.

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Resumo

O presente artigo aponta para as possibilidades de uso dos smartphones (celulares) como ferramenta de produção de vídeos em sala de aula. Para tanto, pretende-se discutir como a produção de vídeos consolida-se enquanto ferramenta potencializadora no processo de ensino e aprendizagem, refletindo, assim, a necessidade de professores quanto a uma formação audiovisual para interagir nessa prática pedagógica. Analisaremos o desenvolvimento de um MOOC (Massive Open On-line Course) que contribui(u) para a formação audiovisual de professores, com foco na produção de vídeos utilizando o celular. Esse curso, hospedado em uma plataforma gratuita de cursos on-line, apresenta em sua ementa conceitos básicos sobre linguagem cinematográfica, produção de roteiro e edição de vídeos, além de atividades práticas que também podem ser utilizadas no dia a dia da sala de aula. Dessa forma, destacamos que, anteriormente à ideia de um professor mediar alguma atividade que envolva as TDICs em suas aulas, é necessário que este se instrumentalize, saiba aplicar "ferramentas" e utilizá-las com criticidade.

Palavras-chave: *Formação de professores. Educação tecnológica. Formação audiovisual.*

Introductory notes

With the advent of smartphone use and portable technologies, it is clear that access to consumption and video production has become easier. Consequently, the use of these devices is also present in the school, where our students attend, known as "digital natives" (PRENSKY, 2001), and favors constant contact with the numerous digital media present today. However, despite all the ease of using digital technologies, teacher mediation for this use to happen critically, healthily and usefully becomes necessary.

According to Belloni (2001, p. 21), digital information and communication technologies (TDICs) are "the result of the fusion of three major technical aspects: information technology, telecommunications and electronic media". Therefore, digital videos produced through the mobile phone are part of this universe.

In this direction, and in the presence of the multiplicity of languages and digital resources available, it is essential that the teacher knows how to master tools that involve audio, video, manipulation and editing of images. Therefore, it is important that there are teacher training courses and programs that can instruct these professionals to be able to, before applying activities that require the use of mobile digital technologies (in this case, here, mobile), make the most of the resources that are every day in the palm of your hand and, with this, not only update your curricula and practices , but also come to know more possibilities that their smartphones can offer and thus use it as a pedagogical tool.

However, in view of the significant number of teachers opposing the offer of teacher training courses, both by the educational institutions themselves and by the states and municipalities, due to the overloaded teaching workload or by claiming investments, it is important that there are alternatives for updating the teaching curriculum that are easily accessible and of quality.

In this sense, Distance Education (Distance Education) can be an important instrument of professional training, because, in addition to being accessible, it allows teachers to seek courses that contemplate the use and integration of digital technologies in their practices.

Among the resources available in Distance Education, MOOCs (Massive Open On-Line Course) are courses that have great potential in order to provide quality training. In recent years, the number of students has grown due to their characteristics: they are short-lived, cover a large audience, the teaching material is available on online platforms and generally do not require prerequisites for its realization. Examples of platforms that offer COURSES MOOCs: Khan Academy, Udemy, EdX, Cousera, Udacity, Veduca.

Thus, this article intends to point to the possibilities of using the cell phone as a tool that can help in the production of videos in the classroom, presenting the theoretical path that guided and subsidized the construction of an educational product - MOOC - used by teachers interested in learning about the use of the cell phone in the production of videos.

1. Contextualizing: natives and digital immigrants

Digital technologies have entered our daily lives and brought transformations in the knowledge society. Consequently, the school "receives" new students who are already part of this transformation. PRENSKY (2001) calls these new students, born from the 1990s, as "digital natives", because they grew up inserted by digital technologies, in the midst of computers, internet connection, video games, social networks, mobile phones. They are used to sending instant messages while downloading songs, editing an image and read text on some social network.

Prensky (2001, p. 01) also states that "our students have changed radically. [...] are not the same for which our educational system was created" and, therefore, no longer fit a static methodology, with image, slate and text.

In this sense, if students are considered "digital natives", those who were not born in the digital world and who had late access to digital technologies can be called "digital immigrants".

In the author's words:

> It is important to make this distinction: as Digital Immigrants learn – like all immigrants, some more than others – to adapt to the environment, they always maintain, to some degree, their "accent", that is, their foot in the past. The "digital immigrant accent" can be perceived in several ways, such as internet access to information, or reading a manual for a program rather than assuming that the program will teach us how to use it. (PRENSKY, 2001, p. 02)

It is interesting to realize that, according to Prensky's definition, in general, we can discern who are, within the school, the natives and digital immigrants. Unfortunately, the school still finds it difficult to adapt to the new needs of digital natives, precisely because it spoke a language sometimes "outdated" and, consequently, teach an audience that is already speaking a completely new language.

However, it is important to highlight that this "opposition" between digital natives and digital immigrants was important, at first, for reflections to take place about behavioral, cultural and even cognitive differences between generations.

However, in rethinking this division, Prensky proposes the concept of "digital wisdom", which allows there to be a "escalation gradation" between natives and digital immigrants and considers that "the age difference and differences between natives and immigrants will certainly be less relevant in the future" (PRENSKY, 2010).

In this sense, there are many changes that the school will have to understand (and not overcome) and absorb (and not resist), and face as challenges that emerge in this new digital age.

One of these challenges will be the readjustment (curriculum, evaluation, physical space, etc.) to receive students who are totally different from other generations, because they belong to "a world where information and communication are available to almost all people and can be used actively." (VEEN; VRAKKING, 2009, p. 29). In this way, the school will need to transform "its model (and its praxis) of communication, that is, that makes possible the transit of a linear model - which unidirectionally chains degrees, ages and knowledge packages - to another decentered and plural [...]" (MARTÍN-BARBERO; REY, 2004, p. 62), because, according to the author, today's students

> [...] inhabit the virtual. Cognitive sciences show that the use of the internet, reading or writing messages with your thumb, consulting Wikipedia or Facebook do not activate the same neurons or the same cortical zones as the use of the book, blackboard or notebook. These children can manipulate multiple information at the same time. They do not know, do not synthesize or synthesize in the same way as we, their ancestors. (SERRES, 2013, p. 27)

Therefore, it is necessary to rethink the real role of the school in the age of information and communication. Today, it is no longer the only place where one learns and therefore needs to be a space for the reinvention of knowledge, open, democratic and inclusive. A space for critical reflection on life, the world and society.

Consequently, another challenge comes to light: the teacher also needs to reinvent his role within the school, even if he is in the phase of digital training, facing his role as a facilitator of learning, allowing the digital native student to be autonomous, because , "so that education is able to meet the demands of tomorrow, teachers will have to consider their task of educating youth in a new way , contributing significantly to society." (VEEN; VRAKKING, 2009, 99).

1.1. Digital literacy and audiovisual teacher training

Working with digital natives in school increasingly requires teachers to be constantly updated, as teachers who challenge themselves to learn and understand the distance between their initial education in relation to the current context of their students, allow new knowledge to be built.

One of the main current demands, because of the advance of TDICs, is to know how to use the digital resources available assertively. Exchanging messages via e-mail, SMS or specific social networks, searching for relevant information on internet sites, downloading videos, music or images, are some of the skills that allow the individual to have the ability to respond adequately to the demands of society in relation to the use of technological resources. These skills represent what we call digital literacy.

As the concept of digital literacy has become comprehensive, it was decided to conceptualize it according to the studies of Freitas (2010), which brings digital literacy to the context of initial and continuing teacher education.

For the author, digital literacy is the

> set of skills necessary for an individual to understand and use information in a critical and strategic way, in multiple formats, coming from various sources and presented through the internet computer, being able to achieve its objectives, often shared socially and culturally. (FREITAS, 2010, p. 339)

Therefore, being "digitally literate" is, in general, knowing digital technologies and knowing how to use them critically to achieve specific objectives.

In this sense, it is understood that, when they have contact with digital literacy practices, teachers have the possibility to look critically at what digital technology offers. Moreover, when these teachers know the various genres and languages used by students, the chances of integrating them into their classes creatively are greater and more assertive, because "the teacher is an inherent and necessary part of this whole process, in his irreplaceable place of mediator and problematizer of knowledge, [...] who also learns from the student" (FREITAS, 2010, p. 348).

Therefore, it is clear the need for initial and continuing training programs focused on the digital literacy of teachers. Although most teachers may already be "connected" and in contact with the digital world, using technological resources either for personal or even professional purposes, constant updating and self-assessment about the use of digital technologies is essential.

In addition, resistance to changes in the school environment can be minimized when teachers feel safe to use digital resources in their classes. It is also possible for teachers to become more open to learning from their own students about using some resource, such as mobile apps, programs, and specific websites on a particular subject, etc.

1.2. Audiovisual teacher training

It is understood by audiovisual training of teachers, initial, continuing training projects, free courses, extension, face-to-face or distance, focused on the analysis and understanding of cinematographic language, contemplating both theory and practice, so that the individual can, in addition to consuming audiovisual, produce, share, create content with resources currently available, whether professional cameras or simply mobile devices. Like this:

Incorporating the cinematographic language in teacher education is to produce meetings that enable these processes, in an attempt to denaturalize constructions that become familiar and, therefore, difficult to be problematized so that others can be learned or (re)learned. (OLIVEIRA, 2017, P.101)

Once teachers know how to use the computer critically and consistently, the mobile phone, in short, the digital resources currently available, consequently, will be able to acquire new skills to be able to apply them in their day to day and also in the classroom.

By producing videos, for example, other knowledge can be gained, ranging from dealing with equipment such as cameras, cell phones, tripods, light, microphones, to collectively producing a script through an online text editor, manipulating video recording and editing applications, as well as basic knowledge about cinematic language.

Thus, a coherent and quality audiovisual training is one that allows teachers to be able to film, edit in computer programs or applications, insert texts and simple transitions, export and upload on YouTube, for

example. In addition, the audiovisual training process helps in understanding the process of manipulation and construction of images, their rhythms, forms, and their multiple languages.

In view of the need for training focused on video production to change from the scarce scenario and become more frequently opportunistic and in accordance with the demands that the digital world demands, one of the ways to reaffirm or even introduce this type of training, would be through online courses, because these have the potential to democratize and make knowledge more accessible, since distance learning and online has the ability to be anywhere and anytime.

2. Video production as a potential teaching and learning tool

According to a survey conducted in 2017 by the Regional Center for The Development of the Information Society (Cetic.br), consuming online videos has become more frequent in Brazil. Growth increased from 49% to 71% between 2012 and 2017. YouTube ranks second among the most accessed sites in Brazil and worldwide, according to data from Alexa (consulted in September 2019). Also, according to this research, it is possible to identify that the act of sharing videos (73% of internet users) overcomes the creation and posting of videos (37%).

The growth and popularization of this tool allow more people to have not only access, but also produce their own content. In this sense, the school should also be inserted in this process, since this resource has become increasingly accessible and has the potential to boost and enrich classes.

Thus, it is important that the incentive to use video as a teaching tool is increasing, because, in addition to being part of the context of digital native students, it allows the school to overcome the "miscompace […] in relation to media advances" (PAZZINI; VIEIRA, 2013, p. 02)

However, it is worth mentioning that the video:

> […] attracts students, but does not substantially change the pedagogical relationship. It brings the classroom closer to everyday life, the learning and communication languages of urban society, but also introduces new issues in the educational process (MORAN, 1995, p. 01)

Therefore, there will be countless challenges to be overcome, both by teachers and students, starting with the culture that video is not only a tool for entertainment, but of information and communication. According to Moran (1995), one of the ways to work on the production of videos in the classroom can be through "documentation", that is, record events, classes, middle studies, experiences, interviews, testimonials, realities about the school, the city.

Like this:

To understand the street, the neighborhood, the neighbor, the city with the cinema is to enter into a relationship with the other and, simultaneously, in a critical and creative activity – of the plane, of the frame, of the light, of the rhythm. In other words, bringing students closer to what the world has to give us and simultaneously allowing them to create and invent with this world. (MIGLIORIN, 2015, p. 10)

By contacting the registry through videos, students have the opportunity to re-signify their gaze about the reality in which they are inserted, being able to actively participate through mobilizations based on research and research on a given subject. According to Fresquet (2008, p. 09), "learning to look at reality carefully, to think or intuit how to shape ideas, to share decisions and explain one's own choices, which in some way constitutes another way of relating to the world and to others."

In addition to the documentation, it is possible to work with videos as a form of "intervention", that is, "interfere, modify a certain program, an audiovisual material, adding a new soundtrack or editing the material compactly or introducing new scenes with new meanings" (MORAN, 1995, p. 04). This action stimulates creativity and synthesis capacity, in addition to encouraging students to explore video editing programs and, consequently, to acquire new knowledge and audiovisual skills.

Considering, also, the proposals of MORAN (1995), the video is as "expression", whose objective is to stimulate students to produce videos that can be related to their needs and realities, that is, videos that communicate, but also that can be adapted to the sensitivity of students. The projects, in this case, include interdisciplinary, playful productions that integrate various languages and knowledge.

With this, it can be reflected that producing videos in school provides other ways of being and being in class, because the role of the teacher as the protagonist of the learning process becomes decentralized (OLIVEIRA, 2017), since the act of producing videos allows the exchange and collective construction of knowledge.

By producing videos on a particular subject, presented and mediated by the teacher, students may have the opportunity to expand and reconfigure pre-existing ideas and knowledge and relate them to their own reality.

In addition, producing videos requires that digital resources such as internet access, mobile phone camera, computer, for example, be used. This practice contributes to the student's digital literacy, and may lead him to reflect on the usefulness of available technological resources and their possibilities beyond entertainment.   Thus, it is also possible to observe that the work with video production results in the creation of the object of learning by the students. After the entire process of recording, editing and displaying the productions, teachers and students can evaluate the entire process of construction of the project and what has been learned.

3. Mobile phone use to produce videos

With the massive advent of mobile digital technologies, we easily have, today, in the palm of our hands, not only a phone, but also a camera that can be used for the production of videos in the classroom. According to Pereira et al:

The constant technological advance and the growth of production in the area of communications facilitated access to digital cameras and mobile phones and many people, making it possible today to produce a photo or video. Thus, involving students from schools whose reality allows them to carry out a video production project can make them more active and reflective in the learning process, intellectually engaged in a recursive process, and the school space is seen as a center radiating knowledge and the teacher as a mediator. (PEREIRA et.al., 2011, P.09)

In this sense, including mobile digital technologies as a teaching and learning resource can expand the possibilities of consuming, producing and distributing information (LEMOS, 2009, p. 28) and also allow the construction of knowledge to be carried out collaboratively and significantly.

In addition to being accessible - both in terms of mobility and being an instrument present in the daily life of students and teachers - the mobile phone allows videos to be recorded and edited through specific and free applications available for download. However, it is known that, despite the constant technological and digital changes that society has been experiencing, the school has difficulties in keeping up with all these transformations. Consequently, this directly impacts the possibilities teachers could have to be able to teach and the opportunities that students could benefit from learning.

The use of mobile phones in the classroom is still a controversial issue in municipal and state legislation. There are laws and regulations that prohibit the use of these devices in school, or else there are documents that make it more flexible and allow teachers to decide when and how to use their mobile phones for pedagogical purposes.

In view of these scenarios, it is recommended that the school understand the current context in which students are inserted and interpret as an opportunity to approach these. It is also necessary that there be agreements between the school and the students in order to establish dialogues about the use of mobile phones for pedagogical and responsible purposes.

4. Mooc as an auxiliary tool in the audiovisual training of teachers

Although it is recognized the importance of teachers having training courses that contemplate the use and applicability of DCDc's in education, data from the ICT Education 2016 survey, conducted by the Internet Steering Committee in Brazil (CGI,.br), show that 70% of the teachers interviewed stated that they did not participate in any training course related to the use of ICDcS for their pedagogical practice and , of the teachers who took some training course, only 11% did so when offered by the school where it operates, during training.

Based on these data, and despite the scarcity of training or even incentive courses, whether coming from the schools themselves or Departments of Education, there is a movement, even if small, of teachers who have sought to improve their knowledge and update their practices by tainting them to the use of digital technologies.

This research also shows that 12% of the teachers paid with their own resources for the training courses carried out. This reveals that teachers are engaged in searching for training beyond those required or offered by the school community.

In this sense, distance education courses become great allies to teacher training, precisely because they allow knowledge and information to be accessed from any device connected to the Internet, anywhere, at low or no cost.

It is in this context that we find the MOOCs (Massive Open On-line Courses), which are courses offered in the modality at a distance, massive, open and distributed on the Internet and mediated by digital technologies. According to Mattar (2013, p. 30)"[...], a MOOC is in principle an online course (which can use different platforms), open (free, without prerequisites for participation and using open educational resources – REA) and massive (offered to a large number of students)." Therefore, the main goal of MOOCs is to allow anyone to learn about subjects of interest or, then, to improve skills that can be useful in both academic and professional life.

In recent years, this distance travel model has spread across several virtual platforms. One of the main differences between this type of course and the others of the EaD modality lies in the fact that MOOCs are opened, that is, they can be accessed by anyone, anywhere in the world, as long as there is an internet connection. Given this advantage, people have sought courses that meet their needs in a practical, direct and, mainly, democratic way. Another difference between MOOCs and other distance learning courses is the fact that MOOCs require a lot of action and interaction between participants, mainly through forums (RIEDO, 2017). According to this (2017, p.77): "[...] through interaction, collaborative learning is encouraged and the course loses the coldness of the isolated participant on the computer. The interaction also stimulates and motivates continuity in the course, avoiding abandonment, a very frequent problem in EAD."

In fact, these aspects contribute to moocs being an opportunity to deepen on some subject, democratization of access to knowledge and also sharing specific information in different areas and different levels.

4.1. MOOC construction: your mobile phone, your camera: audiovisual production for teachers

This article presents, at this point, a MOOC aimed at teachers, aiming to approach, in a simple and introductory way, basic concepts about audiovisual production and that can be easily applied using the cell phone camera, making the work with videos more accessible, both for the teacher himself and for his practice in the school context.

The course (MOOC) was named "Your phone, your camera: audiovisual production for teachers" and was hosted on a digital platform called Coursify.me. This platform allows users to attend or create courses free of charge or, in some cases, for payment. In addition, it offers customization services, video and document hosting and integration with other platforms such as Dropbox and YouTube.

The courses can be organized by modules and, in all sections, there is a space of "comments", which allows the possibility of discussion and interaction between the course participants, which, as already seen, are essential tools in online courses, because they enable the exchange and collective construction of knowledge.
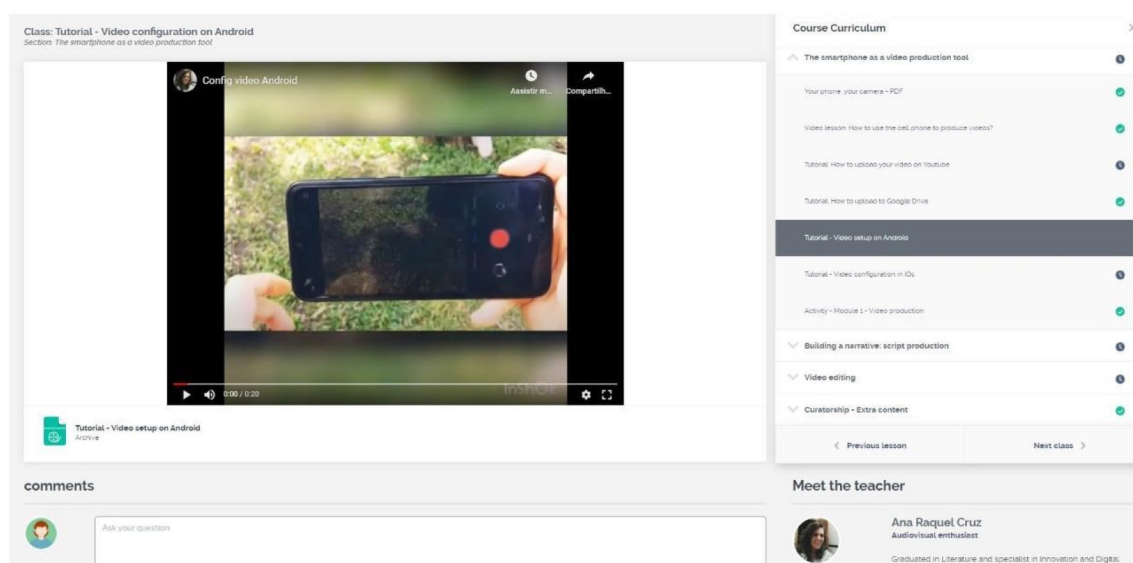

Figure 1: Area of the participant
Source: The author (2019)

This course had its content reviewed and improved, aiming to be suitable for connective learning, offering open educational resources (REA) and various media formats, such as videos, books, articles and websites, in order to allow participants to have access to information beyond those contained in the MOOC. The course was divided into four modules, with a workload of 20h.

Each module contains sections dealing with specific issues about audiovisual production and also an activity at the end, whose objective is, in addition to being an instrument of evaluation and self-evaluation, to provide opportunities for the construction of knowledge through practical activities. These activities were constructed in such a way that the student can reflect on his own learning (self-assessment) and also

evaluate and be evaluated by the other course participants (peer evaluation). The goal is that, at the end of MOOC, the students are able to produce videos with their mobile phones and develop skills such as scriptwriting, recording and editing videos.

The following table aims to demonstrate the detailed summary of the course, containing the modules and their respective objectives, the descriptions, sections, evaluative activities and educational resources used.

Table 1: Detailed MOOC Summary

MOOC	Your phone, your camera: audiovisual production for teachers
Access *Link*	http://audiovisualnaescola.coursify.me/courses/producao-de-videos-em-sala-de-aula--utilizando-smartphone
Module 1	The smartphone and its possibilities of use for videos
Objectives	Understand the main functions of the mobile phone to produce videos; understand how to upload videos to Youtube; create a personal presentation video.
Description	In this lesson, you will explore the features available on your mobile phone, learn how to use "video" mode, and learn about some apps that make it easy to produce videos.
Sections	a) Your phone, your camera: How to use your phone to produce videos? b) Tips for shooting with your mobile phone, video settings and applications for recording and editing videos and audio. c) How to publish videos on YouTube?
Activity in module 1	Create a personal presentation video, post on YouTube and post on the discussion forum, commenting on the challenges and difficulties encountered at the time of production of this first video.
Educational Resources	Video lesson, indication of scientific articles, tutorials, lesson plan, movie excerpts, indication of websites and blogs.
Module 2	Cinematic language
Objectives	Understand the main concepts of cinematographic language; create a video, contemplating one of the aspects of cinematic language and posting on the forum.
Description	In this lesson, you will know the main elements that make up the cinematic language.
Sections	a) Plan, take, scene, sequence
Activity in module 2	Create a video containing a scene and at least one filming plan and post on the forum. Evaluate the video of a participant, based on the evaluation roadmap available on the platform.
Educational Resources	Videolesson, tutorials, movie excerpts, website and blog nomination.
Module 3	Building a narrative: script production.
Objectives	Understand the main characteristics of the script, its role in audiovisual production and its formats.
Description	In this lesson, you'll learn the basics for building a video script.
Sections	a) Introduction to the roadmap b) Character building c) Storyboard
Activity in module 3	Produce a short script, with up to five scenes, and post in the forum, evaluating it according to the questionnaire to evaluate the structure of the script, available on the platform.

Educational Resources	Videoaula, artigo científico, tutoriais, trechos de filmes, plano de aula, indicação de sites, blogs e aplicativos.
Module 4	Video editing
Objectives	Learn and explore video editing apps on mobile; produce a video, based on the script created in the third module, recorded and edited; evaluate the audiovisual production of any participant.
Description	In this lesson, you will know some applications for video editing on mobile!
Sections	a) Apps and tips for editing video on mobile
Final Activity	Record, with the mobile phone, the script produced in the previous class (module 3); edit in a mobile app; post the video on Youtube and then post the link on the forum. Evaluate the video of a lecturer, making a comment on the audiovisual production made by him.
Educational Resources	Video lesson, tutorials, movie excerpts, indication of websites, blogs and applications.

Source: The author (2019)

As it was possible to observe, the course aimed to contribute to the audiovisual training of the course participants (in this case, teachers), bringing basic concepts and practical activities that can also be used in the day-to-day classroom. In addition, the activities allow the students to interact with each other, which contributes to the exchange of knowledge, because there will be a diversity of experiences and areas of knowledge gathered with a common goal.

Thus, knowledge becomes a constantly evolving process, in which students and teachers can learn and teach together, because producing videos at school "provides other ways of being and being in class, because it decentralizes the role of the teacher, as a central figure of the learning process. In this way, it escapes the repetition and massification of data knowledge." (GOD, 2014, p. 163)

At the end of the MOOC, the student is invited to produce a video, gathering the learnings along the modules, and to post it in the discussion forum, so that the other participants can appreciate. In addition to engaging the teacher to produce something and, with this, learning by doing, this type of activity has the potential to make him more confident to use digital technologies, resulting in an important gain for his professional training.

Final considerations

This article presents an end point; however, paradoxically continuous, in the sense that the learning perspective of digital natives is better consolidated in the technology bias and, also, that the production of videos can be an ally in these acquisitions. We consider that this product is only a contribution, since other technological artifacts will emerge, modifying future teaching and learning scenarios.

Thus, the text presented in the text the theoretical paths that led and justified the construction of a free MOOC on the production, editing and scripting of videos, aimed at teachers and dressed in the bias of a sharing of ideas that aim at a greater scope of these in terms of cognitive strategies used in their classes.

We also added that the pedagogical use of videos allows new ways of accessing knowledge to be contemplated, especially when individuals become not only consumers, but also producers of videos, prosumers. Thus, teachers – mostly digital immigrants – capable of using digital technologies with criticality and relevance can be good mediators of the pedagogical process. Thinking about this assertion,

we seek to present the development of that educational product (MOOC) that sought as objective the work with audiovisual production from a tool commonly used by the current society: the cell phone.

Nevertheless, the cell phone is configured in contemporaneity as this instrument that can form, synergy between the intention to teach and the appropriation of learning. In this society, where digital technology is urgent as tools and a source of research, mobile is popularized and used by practically the entire population, a new paradigm of communication that reaches the whole of society and areas of knowledge.

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