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TEACHING GEODIVERSITY REMOTELY: DIALECTIC POSSIBILITIES OF VIRTUAL SUPPORT GROUPS

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ABSTRACT

In view of the scenario generated by the COVID-19 pandemic, some academic activities hadto be canceled or adapted to remote education, which, in a way, boosted the use of Information and Communications Technology (ICT) tools as facilitators of teaching and learning. In this sense, the present study aimed to describe an experience report of the "Civil DOC" project, by way of action research, to expose and discuss the challenges of ICT use as a support for remote teaching-learning practices in times of social isolation. The most effective adaptation was the concentration of activities that fed the project's social network, carried out in two main ways: the production and weekly publication of virtual content on Geodiversity, alternating with live broadcasts. Greater interactivity was observed among the students involved in the project, in meeting the demands and in the appropriation of bibliographies related to the subject, with an increase in the interaction of the project members with one another. In addition, the reach of the publications and live broadcasts via the project's social mediawas significantly higher than expected in the workshops and lectures that would be held in the institution's physical spaces.

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INTRODUÇÃO

The changes resulting from the popularization of Information and Communications Technologies (ICTs) began to reverberate in teaching practices, especially when consideringstrategies more aligned with Active Learning, as can be observed, for example, in the study byLobo and Maia (2015).In line with the possibility of streamlining classes (GARCIA; OLIVEIRA; PLANTIER, 2019), these tools can enable a teaching-learning process with greater autonomy, protagonism, and connectivity with the Network Society paradigm in this experiential repertoire of the 20th centuryof connectivity, social media, and digital solutions for iterativity and management, despite Rocha, Carvalho, and Bastos (2003)'s persisting reservations regarding the digitally excluded. Nevertheless, such popularization was still based on a process in the developmental phase, which, at least in the reality of higher education institutions in the inner Amazon region, was a timid initial debate. The construction of this debate was overcome by the occurrence of the pandemic caused by the Sars-CoV-2 virus, the causative agent of the disease known asCOVID-19. In a few months, the tools that were able to streamline the teaching-learning process became the primary "known" means to continue such activity. With this scenario in mind, the present chapter proposes to describe an experience report, by way of action research, regarding the challenges faced in using ICTs, specifically social media and message-sharing files, as a support in order for teaching-learningpractices to proceed during this moment of suspension of face-to-face activities and social isolation. It is considered that this particular episode at the beginning of the 21st century can provide a laboratory to determine which teaching skills are needed and what stimuli and strategies can be carried out so that students may continue their teaching-learning process, primarily via virtual support.

Extensionand teaching-learning possibilities: Considering the educational view raised byFreire (1970) and the necessary problematizations to be fulfilled, as discussed by Gurgel (1986), extension activities appeared in the history of Brazilian higher education as a possibility for information exchange, popularization of knowledge, and social action for/together with the society (FERNANDES *et al.*, 2012). When science isapproached non-linearly, extension activitiescease to be a result of teaching and research and startbeing considered as another space for the construction of knowledge and relevant social practices, as described inSíveris (2011). Therefore, it can be understood that "university extension is the educational, cultural, and scientific process that articulates teaching and research in an inseparable way and enables the transforming relationship between the university and society"

(NOGUEIRA, 2000, pg.11). Thus, the teaching-learning process can be seen as an instrument that fosters active learning through social engagement, both by the student and the teacher, including the possibility of interactions and updates regarding paradigms and perceptions (RICARDO; MAFRA, 2013; SANTOS; ROCHA; PASSAGLIO, 2016). Contact with society and other possibilities of configuring knowledge isconsiderably enriching, both for teaching practices and student training, and may even appear as a counterpoint to the effects of the tendency towards the specialization of knowledge (SEVERO, 2020), which, although necessary, may also end up contributing to fragmentation and distancing from daily life. The use of non-formal teaching and learning environments is quite common when addressing the topic of Geodiversity. Extension activities compriseone of the main tools used in the dissemination of knowledge in the area since thesubject inevitably encompasses, for example, Geotourism, Geocommunication, and possible ways to contribute to solidarity economy, issuesthat are strongly connected with society. In addition, theyprovide students involved in such activities with the possibility to learn in order to contribute to their professional training and in theirdevelopment as citizens. Thus, being a process articulated with society, extension needs to be connected with current events, as in the case addressed in this study, interacting more in the daily life of social media and other information and communications technologies (ICTs). Based on that premise, the Civil DOC Extension Project was restructured, adjusting to this new reality, and some of its objectives and methods were adapted for remote teaching.

The Civil DOC Extension Program: views on Heritage – YEAR II: The aim of the"Civil DOC - Year II" project is to explore and socialize the various facets, configurations, and reminiscences related to the interface of built heritage and natural and cultural heritage, as well as the interrelations of geological heritage with immaterial elements of the landscape. This is because it is understood that heritage goes beyond the conventional structures of buildings and other constructs of human technology, encompassing natural elements and components that, in turn, have anthropic actions as a modifying agent in the formation and maintenance of the factors that compriseit. Therefore, the present extension project deals with the popularization of terms related to Geodiversity, working with the possibility of scientific dissemination to the general public. In the original conception of this project, we proposed to produce audiovisual records and didacticinstructional material, in addition to holding workshops and lectures in the institution's physical spaces, and, in the end, structure an electronic repository that would house such collection. However, with the occurrence of the pandemic, our entire work plan required rethinking, leading to several decision-making issues: Which means would allow the (re)production of audiovisual records on Geodiversity without field research orthe ability to carry out in-person meetings? How to proceed with the popularization of terms related to the subject if training activities could not take place due to social isolation? How to maintain the members engaged during an uncertain, dangerous, and unprecedented scenario in the experience of those involved? How to continue teaching and learning activities without the classroom scenario?

The answers to these questions can be found throughout the experience report registered in this book chapter.

METHODS

According to Gerhardt and Silveira (2009), the typology of the presentresearch can be described as a qualitative study of an applied nature; as for its objective, it can be characterized as a descriptive studysince its procedures are consistent with action research. This study was guided by the Basic ActionResearch Cycle based on "problem identification, planning of a solution, and the implementation, monitoring, and evaluation of its effectiveness" (TRIPP, 2005,p. 446). The necessary reflections for evaluation followed the assumptions of the action research described by Toledo, Giatti and Jacobi (2014). As previously mentioned, the problem consisted of how to continue the teaching-learning activities and popularization of Geodiversity in spite of social isolation. Thus, we conjectured the possibility of using a social media profile to popularize the topics of Geodiversity and content production, and the activities of organization, debates, and reflections werecarried out through an instant message-sharing file. In order to implement this possibility, an initially non-systematic organization was created, which subsequently gave rise to a systematic procedure of task division. Monitoring was assessed through engagement, either by project members or by the project reach, and was based on the production of shared content on social media. The evaluation of effectiveness isdetermined by wayof the experience report, adopting narrative interviewing as a research technique since it allows, through the autobiographical narrative of the authors, the possible organization of the perceptions and experiences of those involved (PINHO; SOUZA, 2015). As a criterion for evaluating effectiveness, involvement in activities was used as an analytical category, which was comparedwiththe observed actions within the conversation circles. An article on the subject was provided to the project members, who were asked to read and later discuss its content in a conversation circle. However, with the event of the pandemic, such discussion was performed through the instant message-sharing file.

RESULTS AND DISCUSSION

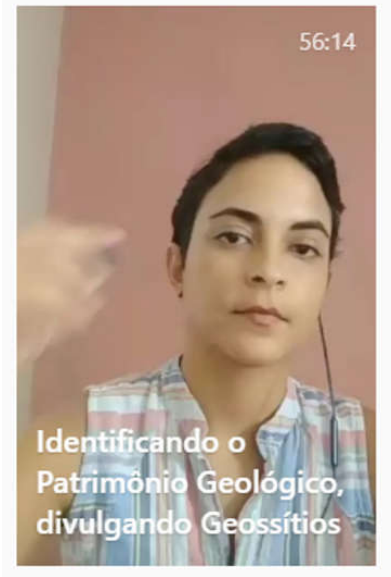
The first attempt to resume activities was carried out using the instant message-sharing file. The dialogues concerning the project planningroutinesgavewayto a virtual conversation circlewhich was held every two weeks after the members had read a study recommended by the project's managing professors. Even though the material had been read, it was perceived that the activity record was scarce, showing only the previously sent messages and denoting a lack of active participation by all members of the project. Since the project hasits own social media, which was originally supposed to serve as a content repository, it was available to function as a platform for disclosing activities. However, no content had been produced for publication. In this sense, two strategies were devised: 1. Live broadcasts would be organized, with guests who worked in the field of Geodiversity, and afterward, the audiovisual content would also be available for asynchronous viewing; 2. Content would be produced to be posted in the social media, and would be divided into three categories: a) concepts related to Geodiversity; b) recommended reading material; c) related trivia. This material would be produced according to the work schedule defined by the project members. This didactic decision was based on two schemes, an adaptation of the concept of peer learning (MULLER *et al.*, 2017), where students could learn together, collaboratively, and an autonomous form of learning, with protagonism and initiative, inverting the logic that teachers should send materials for research and reading. Instead, the students would need tosearch for materials, whichwould eventually be evaluated by the teachers, thus approaching the study strategies of the inverted classroom model.

After this change, it was necessary that skills with handling social media be developed. Three types of skills can be mentioned: handling the operational functions of social media, handling the operational functions of software for generating content, and timing for communication in a virtual environment.Regarding the latter aspect, it is noteworthy that the time required to learn, direct, and maintain attention is overcome by biological and psychosocial factors (DE-NARDIN; SORDI, 2008), which need to be considered in virtual reality. Therefore, in an attempt to minimize distraction, the activities, such as thosein synchronization with live transmissions, the conversations in the instant messaging file, and the interactions between peers, which produced conceptual image content for sharing on social media, did not exceed 60 minutes of interaction. A restrictive time period is fundamental to maintain temporality in the classroom. However, it is valid to consider that this was an informal learning environment with virtual support. Thus, the stimuli are different, as are the demands of synesthetic interactions, and there are indications in the literature that point to the need to reduce the time of

screen exposure (SCHAAN *et al.*, 2019). Therefore, we opted for an average class time of 60 minutes. After two months of activities (June and July 2020), the results were very promising. Greater interactivity was noticed among the students involved in the project, in meeting the demands and in the appropriation of bibliographies related to the subject. This was possible after using the following strategy: those responsible for the preparation of digital content needed to conduct a search on the concepts and curiosities related to Geodiversity and its subareas (Figure 1), as well as an intense reading of at least two articles in order to generate quality content, which wasdisclosedin the social media after review by the project's managing professors.

Source: authors, 2020.

Figure 1. Example of the informational content generated and shared on the project's social media (Translation of figure:Did you know that the Serra das Andorinhas (with its historical, archeological, landscape and environmental background) was protected by State Law No. 4,855/1989 and that the Serra dos Martírios/Andorinhas Park was created by State Law No. 5,982/1996? The Park possesses a significant potential for geotourism in the Southeast region of Pará and is located in the municipality of São Geraldo do Araguaia.)



Source: authors, 2020.

Figure 2. Live transmissioncarried out by @patrimoniosgpgg, which is availablefor watching on the project's profile (translation of figure:Identifying Geological Heritage, popularizing Geosites)

The involvement of the students participating in the project in mediating the live broadcasts was also encouraged in order to enhance their need and interest in seeking knowledge autonomously. Another important aspect to be mentioned was the reach of the live broadcasts (Figure 2). Those that were watched later, *i.e.*, asynchronously, exceeded a total of one thousand views, comprising the number of views of each of the videos of the six livestreams carried out until now. It is worth noting that, in the initial project, the educational meetings that would be offered were to be held in the institution's physical spaces, which probably would not have reached an audience close to a thousand people. Nonetheless, interactivity by this means, although possible, is not as expressive in the sense of knowledge exchange since the spectators are more passive. Even though they can ask questions, the students are not able to actually interfere in the sense of sharing opinions, or even exchanging experiences in a lengthier way, as occurs in educational activities in physical environments, a fact that is due to the limited number of wordsallowed inthe social medias comments section. Considering the experience with the Civil DOC Project, improvements regarding issues related to accessibility have been suggested. The project still does not make use of audio description, thus presenting limitations regarding access for people with visual impairments, for example, therefore requiring audiovisual translations of an intersemiotic nature.

Final Considerations

We observed that due to the demand for an immediate application of the products obtained from the studies and readings carried out by the students, the interest and interactions with the other members of the project were enhanced. The reach obtained with the project was very positive. Nevertheless, in the sense of interactivity, it still has limitations regarding the exchange of knowledge with the community on account of the limited number of words allowed in the social media's comments section. However, it can still be considered an efficient tool to popularize knowledge in the field of Geodiversity. In terms of extension activities, the limitations related to the exchange of knowledge represent significant barriers totwo-way interactions with the community.

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