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eduCAPES and the scientific dissemination of educational products/processes of a professional graduate program in the state of Pará in the quadrennium 2017/2020

eduCAPES e a disseminação cientifica de produtos/processos educacionais de um programa de pós-graduação profissional no estado do Pará no quadrienio 2017/2020

eduCAPES y la difusión científica de los productos/procesos educativos de un programa profesional de posgrado en el estado de Pará en el cuatrienio 2017/2020

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Abstract
The elaboration of educational products/processes as a result of the dissertation of a Post-Graduation Program (professional modality) is primordial for the improvement of Brazilian education, bringing academic knowledge closer to the needs of society. Therefore, the present research investigates how the knowledge generated by a professional Post-Graduate Program (PGP) in the Teaching Area of a public University in Pará has been disseminated, identifying which regions of Brazil and the world are interested in these educational products/processes. For this, a documentary research was conducted with the analysis of these educational products/processes produced in the quadrennium 2017/2020, made available on the PGP website and on the eduCAPES Platform. Data collected: the type of educational product/process; number of downloads, viewing ranking by country and city (further arranged in geographic regions). It was found that the analyzed production was visualized in the European, American and Asian continents; and in the countries Brazil, United States and Ukraine; in Brazil the largest number of accesses is from the Southeast region. The most viewed products were educational games. In this context, the dissemination of academic production is vital to meet the demands of society and of teachers/researchers, helping in the solution of everyday problems and professional practice. So, making the products/processes accessible by making them available not only in open access platforms but also in other social media. Present the products in other languages for greater global reach.
Keywords: Dissemination of educational products; Post-graduation program; Teaching.

Resumo
A elaboração de produtos/processos educacionais como fruto do trabalho de conclusão de curso de Programa de Pós-Graduação (modalidade profissional) é primordial para a melhoria da educação brasileira, aproximando o conhecimento acadêmico das necessidades da sociedade. Portanto, a presente pesquisa investiga de que forma o conhecimento gerado por um Programa de Pós-graduação (PPG) Profissional da Área de Ensino de uma Universidade

pública do Pará tem se disseminado, identificando quais regiões do Brasil e do mundo tem interesse nesses produtos/processos educacionais. Para isso, realizou-se uma pesquisa documental com a análise desses produtos/processos educacionais produzidos no quadriênio 2017/2020, disponibilizados no site do PPG e na Plataforma eduCAPES. Dados coletados: o tipo de produto/processo educacional; número de downloads, ranking de visualização por país e por cidade (ulteriormente dispostas em regiões geográficas). Constatou-se que a produção analisada foi visualizada nos continentes europeu, americano e asiático; e nos países Brasil, Estados Unidos e Ucrânia; no Brasil o maior número de acessos é da região Sudeste. Os produtos mais visualizados foram os jogos educativos. Nesse contexto, a divulgação da produção academia é vital para que se alcance as demandas da sociedade e de professores/pesquisadores auxiliando na solução de problemas do dia a dia e da prática profissional. Assim, tornar os produtos/processos, acessíveis disponibilizando-os não apenas em plataformas de livre acesso como também em outras mídias sociais. Apresentar os produtos em outros idiomas para maior alcance mundial.
Palavras-chave: Difusão de produtos educacionais; Programa de pós-graduação; Ensino.

Resumen
La elaboración de productos/procesos educativos como resultado del trabajo de finalización de curso del Programa de Postgrado (modalidad profesional) es primordial para la mejora de la educación brasileña, acercando el conocimiento académico a las necesidades de la sociedad. Por lo tanto, la presente investigación investiga cómo se ha difundido el conocimiento generado por un Programa de Posgrado (PPG) Profesional del Área de Enseñanza de una Universidad pública de Pará, identificando qué regiones de Brasil y del mundo están interesadas en estos productos/procesos educativos. Para ello, se realizó una investigación documental con el análisis de estos productos/procesos educativos producidos en el cuatrienio 2017/2020, puestos a disposición en la web del PPG y en la Plataforma eduCAPES. Datos recogidos: el tipo de producto/proceso educativo; el número de descargas, la clasificación de la visualización por país y ciudad (además, ordenada en regiones geográficas). Se encontró que la producción analizada se visualizó en los continentes europeo, americano y asiático; y en los países Brasil, Estados Unidos y Ucrania; en Brasil el mayor número de accesos es de la región Sudeste. Los productos más vistos fueron los juegos educativos. En este contexto, la difusión de la producción académica es vital para satisfacer las demandas de la sociedad y de los profesores/investigadores, ayudando a resolver los problemas cotidianos y la práctica profesional. Así, hacer accesibles los productos/procesos, poniéndolos a disposición no sólo en plataformas de libre acceso sino también en otros medios sociales. Presentar los productos en otros idiomas para tener un mayor alcance global.
Palabras clave: Difusion de productos educativos; Programa de postgrado; Enseñanza.

1. Introduction

Professional master's (PM) degrees were created in 1995 by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) [Coordination for the Improvement of Higher Education Personnel] and regulated by the Portaria CAPES 80/1998, with the purpose of: (a) professional training as an objective to support social/organizational/professional and market demands; (b) the transfer of knowledge made available to society in order to favor local, regional or national development; (c) the articulation of professional training with the demands of companies and public and private organizations in order to improve the effectiveness, efficiency, competitiveness and productivity of the latter (CAPES, 2017a).

Since its regulation, there has been a significant growth in the creation of PMs and their recognition by CAPES and the academic community as an important way to improve Brazilian education, including both the area of Education and the area of Teaching (Rezende & Ostermann, 2015). The Teaching Area (Area 46) was created through CAPES Ordinance No. 83/2011 of June 6, 2011, and the number of Programs in this area has increased considerably and consists currently of 230 courses, distributed in: 86 Master courses and 40 Doctoral courses in the Academic modality; 96 Master courses and 8 Doctoral courses, in the Professional modality; totaling 187 Post-Graduate Program (PGP) (Rizzatti et al., 2020, Nascimento et al., 2017).

As a result of the master's dissertations of the PMs of the Teaching Area, a product or process of educational approach must be developed that can be used by other professionals, with practical application character, aimed at the instrumentalization of teaching in a given social context (Sousa, 2013, Paixão et al., 2014). In this way, it seeks to build links between academic knowledge generated in research in education and teaching for its application in educational products/processes aimed at the demands of society and regional and national needs (CAPES, 2019).

In order to evaluate the Post-Graduation, CAPES created working groups to elaborate documents that guide the evaluations, among these: area documents, evaluation forms (differentiated between academic and professional PGPs), among others. In the Area 46 document, the following item is mentioned: "Prospects for the impact of PGPs in the area on society", and this statement asserts states that the impact of the programs needs to be demonstrated from their results and effects, in addition to proving and evidencing the reach/diffusion (local, regional, national, and international) of the knowledge produced by the PGPs. In the PM's quadrennial assessment form, it is oriented that the educational products/processes have some kind of record, have free access, and are registered in the eduCAPES Portal.

The eduCAPES is a portal of open educational objects for use by students and teachers of basic, higher and pos-graduation education who seek to improve their knowledge (eduCAPES, n.d.). The Portal provides some statistics on access to educational objects available on the portal, such as: number of downloads of files, ranking of views by countries, and ranking of views by cities.

Based on the data offered by this Portal, this study aimes to identify the geographic diffusion of knowledge generated by a Professional PGP in the Teaching Area of a public University in Pará. Identifying in which regions of the country and the world there are researchers interested in the educational products/processes generated from the master's dissertations of students of this program.

2. Methodology

This is a documental research. We analyzed the educational products/processes generated from the master's dissertations of students of a Professional PGP in the Teaching Area, grade 4 of a public university in Pará, available on the portal of that PGP and on the eduCAPES Platform.

As inclusion criteria of the study sample, educational products/processes generated from master's dissertations defended in the quadrennium 2017/2020 were analyzed.

The identification/cataloguing of the products was carried out in the period November 1 to November 15, 2021. Information was collected such as: master's dissertation title, type of educational products/processes, author, number of views by type of educational products/processes, number of downloads, ranking of views by countries, ranking of views by cities (later organized into geographic regions). This information was organized in an Excel spreadsheet for better data visualization.

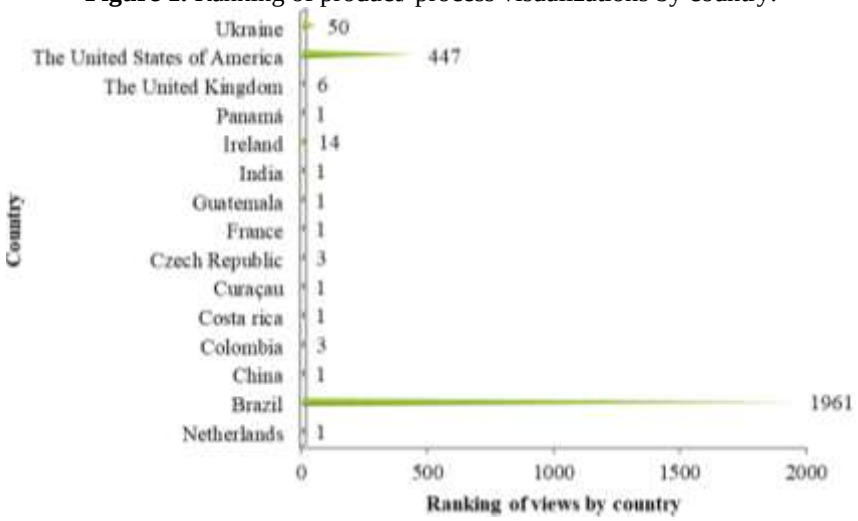
This study is characterized as a documentary research which is a procedure that uses methods and techniques to capture, understand, and analyze varied information and that uses, in essence documents that have not undergone analytical treatment (Lima Junior et al., 2021; Kripka et al.,). Since this is a documentary research, using data collected on a public access platform, there was no need for submission and evaluation of the material by a Research Ethics Committee (REC) (Resolução Nº 510, 2016).

3. Results

A total of 78 educational products/processes produced in the 2017-2020 quadrennium were analyzed. A total of 2,508 downloads were verified, and it is not possible to identify the downloads by country, since the platform does not provide this differentiated data.

Figure 1 shows the ranking of views by country. The highest number of accesses in Brazil stands out, followed by the United States of America, and third in Ukraine. The data obtained from the eduCAPES Portal shows that the academic production of the MP was viewed by users in three continents (Europe, America and Asia), including countries where Portuguese is not used.

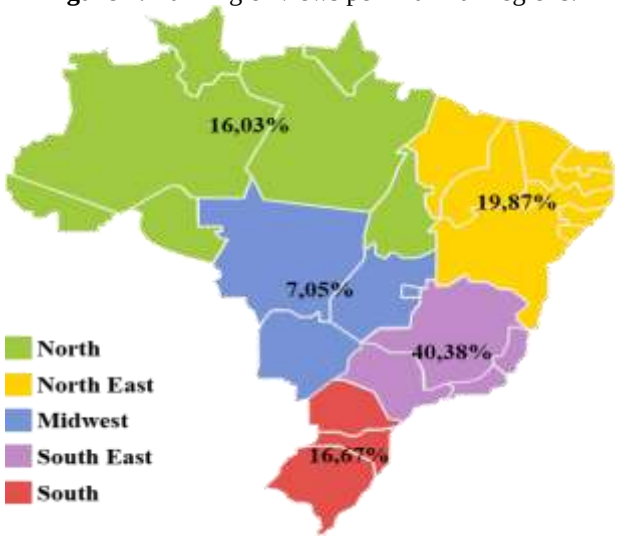
Figure 1. Ranking of product/ process visualizations by country.



Source: Authors.

As for the visualizations by geographic regions, it was found that most users who visualize educational products/processes generated in the PM are in the Southeast region of Brazil, and with less accesses users from the Midwest region of the country (Figure 2).

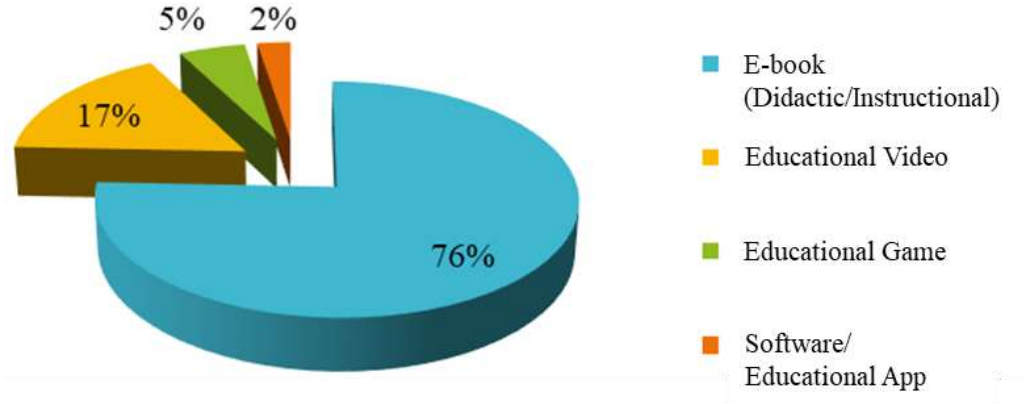
Figure 2. Ranking of views per Brazilian regions.



Source: Authors.

As for the typology of educational products/processes, the most frequent ones were didactic/ instructional materials and e-book (76%) on continuing education for teachers, didactic sequences, reflections on pedagogical experiences, and educational media such as educational videos, educational games, and software/educational app (Figure 3). The educational products/processes with the highest average number of views were educational games (57.75%), followed by educational videos (34%), software/educational app (32.5%), and e-books (25%).

Figure 3. Typology of educational products/processes, generated in the 2017/2020 quadrennium.



Source: Authors.

4. Discussion

Scientific dissemination (SD) has been increasingly produced in our society and with the revolution in communication generated by new technologies, it has been transported through various media and aimed at varied audiences (Lima & Giordan, 2021, Bueno, 2010). Platforms such as eduCAPES are used for sharing teaching resources on a global scale, since they offer free access to content produced by Brazilian educators. On this platform, in addition to open and free access, interested parties can share, adapt, translate, recombine, remix, and update the teaching content provided, while protecting the copyrights of the original work (CAPES, 2017b).

According to Ferreira et al. (2021), when these materials are made available, in their structure they already have a combination of open resource use (with use licenses such as Creative Commons CC-BY). However, there are complaints about what and how to use these pedagogical resources in virtual and/or hybrid environments and they come from the teachers and students themselves who are unaware of these repositories and their functionalities.

Disseminating academic production is an essential mechanism for the productions to reach a certain social group and help them in their professional practice. Castro, Oliveira and Tinti (2019) highlight that PM Coordinators should develop constant and articulated actions, aiming at the dialogue and circulation/dissemination of educational products and meeting the demand of teachers/researchers who seek means and methods for the improvement of their professional performance for effective improvement of the quality of education.

For Rizzatti et al. (2020), it is necessary to broaden the debate about the impact of educational products/processes, and especially to make this work reflect directly on Basic Education in our country, seeking to meet social demands. Considering, above all, that the COVID-19 pandemic demanded from teachers the search for educational materials that could help them in their pedagogical practices in times of migration from the face-to-face school environment to the digital school environment. Regarding the ranking of views, there were more views by users from the Southeast region. This region stands out as the region with the largest number of Programs and Courses in the Teaching Area in contrast to the North and Midwest regions, which figure with the lowest numbers of programs (CAPES, 2019). In addition, according to data from the Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics] (IBGE, 2020), the Southeast has the highest percentage (24.6%) of individuals with higher education while the North region (16.5%) has the lowest rate of graduates. This may have contributed to the results observed in this study, with a greater demand for knowing educational products/processes in this region.

For the authors Prado, Backes, Santana e Souza (2007), increasing the supply of PGPs in the North and Midwest regions will contribute to reduce regional inequalities regarding the supply of qualified human resources training and

generation of scientific and technological knowledge, especially in the Amazon region.

Regarding the typology of educational products/processes, the most viewed type of technology was educational games. Pinheiro and Pinheiro (2021), Borges (2019), Silva, Oliveira and Silva (2020) state that in school environments the use of games in a contextualized manner can represent an extraordinary instrument in working with different contents, helping educators as a method of intervention for the teaching of formal educational content.

Tsutsumi et al. (2020), in a systematic literature review of empirical studies that evaluated the effect of educational games on learning academic subjects, demonstrated that games had the effect of increasing the academic performance of students. For Santos et al. (2021), educational games instigate the student's attitude of protagonism, guaranteeing them a more meaningful learning.

5. Final Considerations

In the field of education, professional training allows the teacher to think about his or her pedagogical performance, creating teaching situations that allow the student to think critically about the transformations in the environment, favoring their educational and human development; the educational products/processes are means of transforming the reality where this professional is inserted. Scientific dissemination in open access portals is an important strategy of action, as it allows academic production to migrate from the academic world and reach society outside the walls of the academy.

Another aspect to highlight is: (a) the need to write educational products/processes in other languages to make this academic production more accessible and attractive to researchers and users of eduCAPES worldwide; (b) in addition, productions linked to Master's dissertation in other languages are Internationalization strategies recommended by CAPES for PGP to reach standards of excellence of grade 6 and 7 programs; (c) investing in research that identifies which educational products/processes arouse students' interest so that this technology can be used in teaching practice, reducing school dropouts and providing significant learning to students.

In addition, it would be important that PM managers invest in events/social networks to disseminate educational products/processes created in their programs, so that more professionals have awareness and can use/adapt the products/processes to solve problems related to their field of work.

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