

Local history education and Museum data: constructing a model for heritage digital curation

Paula Roberta Chagas^{*1,†}, Alison Carlos Filgueiras^{1,†}, Juliana Vasconcelos Braga^{1,†} and Feliz Ribeiro Gouveia^{2,†}

¹ Goiás State University, Anápolis, Brazil

² University Fernando Pessoa, Porto, Portugal

Abstract

The teaching of local history plays a fundamental role in the education of individuals, beyond the development of their critical sense and identity, but also in the sense of giving individuals autonomy to recognize their role in the territory, valuing their culture and traditions, a concept present in official educational documents in Brazil. In this sense, this article presents a model that aims to contribute to this field through the knowledge of heritage education based on the construction of a model for using the digital collections available at the Goiás Memory Center and promoting their reuse for educational purposes. Given the geographic and spatial characteristics of this territory, relatively distant from large centers where access to museum spaces is easier, the most effective way to work with sources, documents, and historical artifacts is through digital collections or even school textbooks made available by the government, which prioritize historical documents focused on the largest cities. Considering that the data from digital collections, as they are presented online, do not meet the pedagogical needs of elementary school teachers, as they are difficult to access even though they are available online, we intend to contribute to providing a new experience of reusing digital cultural contents, based on the construction of this model for accessing and organizing digital collections according to the needs of teachers and the creation of the Local History Teaching Repository at the Goiás Memory Center, thus organizing an ecosystem that integrates the work of the Goiás State University and its academics as Digital Curators and the school community.

Keywords

Digital Cultural Collections, Digital Curation, Museum Data, Heritage Education, Educational Reuse

1. Introduction

This paper investigates how to improve the teaching of local history using digital cultural collections and with the contributions of heritage education in Brazilian schools by building a model for digital curation and making content accessible online.

The research begins with reflections established throughout the development of several actions related to the management and preservation of tangible and intangible cultural heritage in the Goiás State and aims to present a model for organizing online digital collections that can meet the needs of history teachers in schools.

In this way, the proposal focuses on the use and reuse of the collections of the Goiás Memory Center (CMG) - a virtual platform that aims to bring together collections on the tangible and intangible heritage of the State of Goiás, one of 26 states of Brazil - in which the school community

MBD2024: International Conference On Museum Big Data, November 18-19, 2024, Athens, Greece.

^{*} Corresponding author.

[†] These authors contributed equally.

✉ paula.chagas@ueg.br (P. R. Chagas); alison.filgueiras@ueg.br (A. C. Filgueiras); juliana.braga@ueg.br (J. V. Braga); fribeiro@ufp.edu.pt (F. R. Gouveia).

ORCID 0009-0002-5449-7430 (P.R. Chagas); 0000-0002-9823-8943 (A.C. Filgueiras); 0000-0002-4621-5459 (J. V. Braga); 0000-0001-7308-4522 (F.A.R. Gouveia)



© 2024 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

has access to documents and materials aimed at heritage education and the teaching of local history. This proposal also engages with collaborative construction with users, according to their needs in their daily classroom routine, with a focus on promoting access to their own history for people in the community.

Digital curation comes into play here to enable the reuse of these materials for new purposes, in this case their educational reuse. According to Lavoie and Dempsey [1], this curation and the concern with the use and reuse of digital objects is characterized as a step forward in the desire to digitize everything possible in an abbreviated time, to save documents at risk of imminent loss.

The work of digital curation, which is concerned with providing long-term access through preservation and management strategies for these collections, is as important, if not more important, in this sense than simply digitizing the documents [2].

There are countless possibilities for reusing objects made available in digital cultural collections. Sayão [3] proposes a characterization of these activities distributed in six categories: Aggregation (recombining digital objects into new products), Collaborative Space (enriching and completing data with new information), Online Curation (organizing online exhibitions, connecting digital collections of cultural spaces with the user's personal material), Scientific Research (the use of digitized documents online to produce research based on obtaining detailed data), Computer Applications (the possibility of customizing collections based on user preferences) and, finally, Educational Activities, the central point of this research, as they can directly benefit from data reuse practices with the development of software and applications for courses, lectures, classes and even the storage of digital materials, images, videos, etc. [4].

This paper is then divided into three sections. In the first part, we present the premises that culminated in the realization of this research. Next, we present the model itself, with its architecture and the elements involved in its development. Finally, we present how this model will be operationalized, which focuses on the Teaching of Local History based on the contributions of Heritage Education, highlighting the aspects of digital curation and the planned ecosystem between school and university.

2. The experience with the Goiás Memory Center and the construction of educational materials

Throughout our teaching experience at the University, we have seen the need to contribute to ensuring that History classes with local and regional components are developed in more productive ways and with the use of materials centered on documents from cultural collections and museums.

Taking into account that the curricular documents reinforce the importance of the presence of local History and peripheral knowledge in teaching and learning practices in the classroom, as well as recognizing the difficulties that these professionals face in their daily work, the relevance of this work is part of the proposal to implement a virtual space in which the content and materials that deal with local History are concentrated and that, in this way, can contribute to the improvement and promotion of educational practices that are more productive and connected to the needs of the school community itself [5].

The discourse on the importance and potential of teachers and students creating their own teaching materials is remarkably interesting. However, we need to take into account the situation of a teacher and a public school within the Brazilian context, whether in peripheral areas or even in large cities, where the number of classes per week and the number of students in the same classroom do not contribute to the active creation of teaching materials that are more focused on the specific reality.

In addition to this challenge related to the need to produce their own teaching materials, teachers in basic and public education in Brazil face extremely high workloads to earn a decent salary, given the low amount paid to this working class. In addition, elementary school teachers face problems

related to the expansion of their functions, sometimes taking on pedagogical and administrative management roles at school, in order to ensure the functioning of all actions inside and outside the classroom, which can jeopardize the quality of the work they develop in their specific teaching activities [6].

Based on these issues and challenges imposed on elementary school teachers, especially those in public schools, a joint effort is needed to produce teaching materials and make these documents available, which can contribute to their teaching and learning practices.

It is worth emphasizing that the production of national historiography, considering local and regional perspectives, is already, to a certain extent, consolidated with Postgraduate programs and organized lines of research. However, within the specificity of the production of didactic historiography on local history, we still find quite fragmented initiatives, despite being particularly important.

These productions present gaps in the sense of concepts and methodologies specific to the writing of History, and, therefore, we have an enormous challenge of constructing another pedagogy of history, one that is concerned with the peripheries, that is, one that incorporates the local, starts from it and in this way prospects a path to sensitize and idealize a historical conscience as a possibility of recognizing the identity of the subjects [7].

Given that textbooks intended for public schools do not meet these curricular requirements for teaching local and regional history, that documents are scattered in various locations throughout the state, and that the few digital repositories that exist do not meet the needs of teachers, being more focused on academic scientific research, the central problem of this research is to investigate how we can contribute to teaching local history based on the contributions of heritage education and the use of digital cultural collections made available at the CMG.

There is a common misconception among historians about the digitization of documents, that the fact that they are available online would make them directly accessible and easily usable, and what we have found in practice is that simple digitization without an organization system, or even adequate indexing, results in the loss of artifacts in an infinite number of drives and folders or even in online collections where people only find what they already knew they were going to look for, which limits the users' exploration experience.

Returning to the questions about actions to preserve the tangible and intangible cultural heritage of the state of Goiás and starting from the premises that: a) there are few organized spaces of memory and culture in the state of Goiás and, for the most part, they are located in large centers, that is, far from the most peripheral spaces, making access difficult for the community in general; b) initiatives to digitize historical and cultural collections are very incipient and the availability of these collections online is even scarcer; c) when they are available, the spaces are poorly organized and have little connection with other collections, in the sense that there is no systematization of metadata and documentary characteristics that allow us to connect these objects; and d) the way in which these digital collections are presented online does not correspond to the needs of basic education; we proposed the construction of a section dedicated to Heritage Education for the Teaching of History within the CMG to promote the reuse of cultural and historical collections and, in this sense, contribute to the improvement of teaching practices based on the use of these digital collections for the Teaching of local History.

Regarding the methodology, this research is structured based on a bibliographic review that analyzes the state of production on the use of digital collections for teaching local history and also a quantitative research carried out based on the data collection through a pre-test, a questionnaire and subsequent analysis of these materials to build a model of access to these digital collections. In addition, we also used qualitative research procedures, through an interview with a focus group, to analyze and evaluate the proposed model.

3. Model proposal

An important question from the beginning, for the development of the research, was whether the CMG can promote the use of these digital collections from an educational perspective. In addition, there was also the question of how we can implement the educational part of this space with the collaborative help of the teachers themselves, as we understand that, by contributing directly to the organization for the provision of this content, the materials can be more easily used by these users.

It is important to emphasize that carrying out this research also allows the construction of future models that can contribute to the improvement of educational practices for all areas of the Brazilian curriculum, based on the use of digital collections and Heritage Education, given that the curricular requirements of anchoring skills and abilities with local knowledge.

As a result, we investigated with History teachers what their educational demands were and how they would like to have digital collections of objects, documents, and cultural assets in general available for use in the classroom. This allowed us, based on User Studies, to ascertain their needs to organize and plan the information in a more appropriate and targeted way. The innovation, in this case, is the collective construction, instead of just studying the feedback and comments of users on systems previously set up according to the researcher's logic [8].

Therefore, we reinforced the intention of placing, through the figure of the History teacher, the school as the protagonist of our research. A model was built collaboratively with the users, according to their needs. According to Sayão [9], the survival and success of this digital content depends on the interaction with our target audience. That is why we advocate dialogues with the school community – represented by teachers – and preferably public schools, to determine what their daily needs are and how they would like to access these cultural assets through systematization.

The objective of this model is to facilitate and promote this reuse on an ongoing basis, in order to create an ecosystem for the preservation of tangible and intangible cultural heritage, which emerges from actions developed between schools and universities, through research, extension and teaching activities, focused on digital curation and the ongoing training and education of users through the promotion of training and workshops.

This ecosystem begins with the resumption of actions to rescue and preserve cultural artifacts and objects that took place through the organization and cleaning of physical collections and their subsequent digitization – steps that have already been established and are taking place within the scope of CMG's actions – and, combined with this step, we established the insertion of the Digital Curator figure to carry out the aggregation of metadata and characteristics that relate digital objects to the Teaching of local History.

To this end, we propose the involvement of undergraduate students in teacher training, especially those in the last two years of the course, who are already completing mandatory curricular internships and participating in school life, to carry out these digital curation actions, focusing on the demands for knowledge and expertise requested by the school community. These teachers in training will prepare and organize teaching materials and virtual exhibitions based on a selection of cultural assets available, preferably in the CMG digital collections, in line with the teachers' demands.

That said, the participation of interns in the development of digital curation activities is interesting, given that this insertion in the internship field, which is the school, is essential for the training of future teachers, as it allows the development of essential skills for the exercise of the profession. Thus, the performance of these digital curation activities is in line with the objectives proposed as necessary for their training as History teachers. This participation of interns – and, eventually, of other academics – also contributes directly to the maintenance and continuity of the production of digital content for the platform, overcoming the difficulty in obtaining ongoing funding to develop these actions.

Another aspect of this ecosystem is the holding of workshops and activities aimed at the continuing training of school teachers to assist in the use of these materials, given, as mentioned above, the large amount of workload and the numerous assignments to which these teachers are subject. In this way, by conducting collaborative work immersed in the needs of the school

community, we seek to contribute to the use of these documents through the constant production of specific teaching materials that consider the curricular guidelines, and the skills intended for classes anchored in local issues.

The consolidation of this stage is in line with the defense of effectively providing people with access to their culture through actions developed within the school environment, especially in public schools, to reinforce the identity and culture of the subjects enrolled there, constantly seeking to dialogue with the reproduction of non-exclusionary practices. Combined with the desire to help school agents “become” protagonists of their own existence.

Additionally is important to emphasize that all stages were carried out collaboratively and, in this sense, it was necessary to conduct a diagnosis with these teachers, to try to find out what are the characteristics that involve the implementation of their practices, as well as what are the conditions they face at work and how they organize the preparation of their classes. In this way, we sought to conduct a data survey to verify the possibilities of developing a model that is appropriate to the needs of users, which culminated in the design of the proposed model.

The idea behind the construction of this model, in addition to promoting better teaching and learning practices, is to value the figure of this especially important professional, who is often ignored in our country. We now present below the operational design of the proposal, that is, the layout of the model for accessing and organizing digital collections from the perspective of Heritage Education and the Teaching of Local History.

4. The model architecture

This design is an extension of the CMG's main scheme, which organizes its activities through the axes of Documents, Oral History and Image, and Archaeology. In view of this, we are proposing an expansion based on the transversal axis of Heritage Education, focusing on History Teaching and with a special emphasis on Local History Teaching, based on the promotion of reuse of collections with a repository that we call the Local History Teaching Repository (REHL) [10].

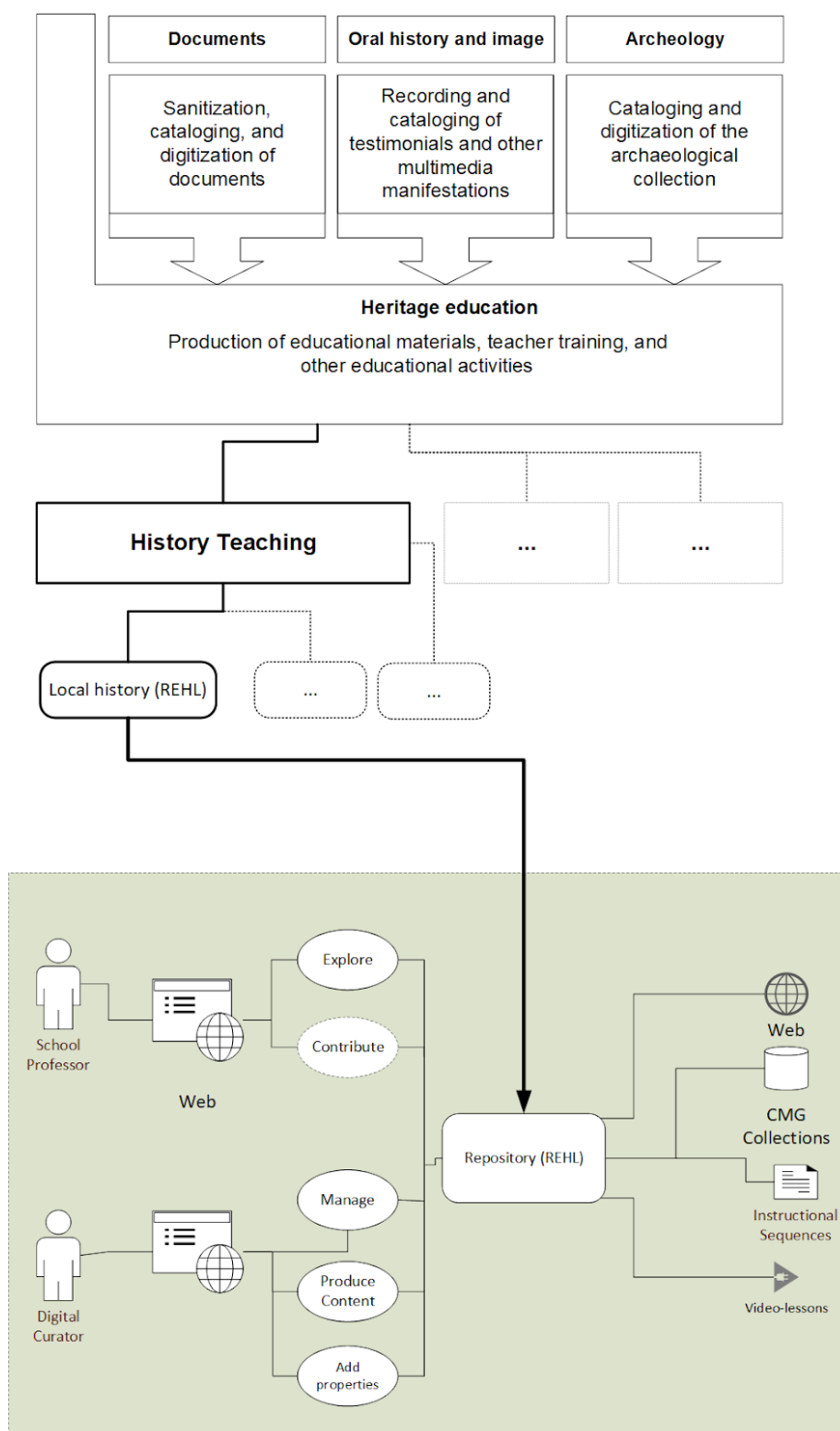


Figure 1: Diagram of how REHL works with the participation of teachers and digital curators. (Source: The authors)

In the figure above, we can see that there are other possibilities within the field of Heritage Education that are not defined, but that could easily serve the purposes and needs of other disciplines. In the context of Portuguese Language and language studies, for example, for the construction of materials on how writing changes throughout historical periods and regions of the state, or even for the area of Geography, thinking based on the changes in territories and population migrations that

appear in ecclesiastical documents. In the lower part of the figure, we have established a drawing thinking about how the actors in this process will organize their activities, that is, situating school teachers and digital curators, in this case, university interns.

Based on this representation, we present our operationalization model that considers the production, management, and maintenance of these cultural assets. To address these issues, we have the school teacher, represented at the top of the diagram, who will have, upon accessing the CMG platform, in the “teacher” section, a portal where he can explore the digital cultural assets that will be available in the REHL virtual space.

In this repository, the user will have access to several types of materials, such as instructional sequences related to different subjects, video lessons, the CMG's own collections or links to other content on the internet. All of these materials will necessarily be connected to local knowledge, that is, they will have undergone a process of Digital Curation, carried out by the figure of the digital curator who, initially, will be the interns of the history course, but which can be expanded with the addition of new projects and actors in this process.

Furthermore, is important to highlight that digital curation is a field that encompasses digital preservation, data curation and management of information assets throughout their life cycle [11] and in this sense, it comprises tasks such as selection, preservation, maintenance, collection, archiving and re-evaluation of digital assets [12], essential knowledge to promote this reuse of digital collections for educational purposes.

The active participation of these interns in this role of digital curation of the collections, assisting in the selection and organization of materials, in addition to adding value to data sets and digital objects, inserting additional metadata or annotations, so that they can then be reused, also has the potential to expand the didactic field by crossing disciplinary boundaries: cultural heritage organizations such as libraries, archives and museums, funding agencies, government agencies, data centers, institutional repositories, and civil society organizations [13].

The digital curator will also be responsible for the repository management process, contributing to the production and maintenance of materials, so that they can be part of the REHL collection and easily found through searches carried out by users, that is, in dialogue with the specific knowledge that emerges from the mental structures of these users.

Also, in this sense that digital curation and preservation mark the introduction of the “assumption of preservation for someone rather than preservation of something” [14]. In other words, with digital information, curation and preservation are targeted to specific users and their requirements, effectively tailoring the services that deliver that information to specific users and their uses. Curation and preservation are often considered in this light, and concepts such as preservation intent have been developed to capture and articulate the goals of these efforts, making the intentions behind actions and decisions explicit [15].

We emphasize that, initially, teachers will be limited to exploring the content, but with the implementation of these activities and the implementation of ongoing training and other pedagogical actions, we intend to expand so that teachers can produce and add their own materials to the memory center's collections, which will give them autonomy within this portal to act even in the production of content of their interest. However, at first, we left this action of contribution in the background, precisely to reinforce our intention of facilitating the process of preparing teachers' activities and not motivating yet another obligation among many that these professionals already have.

We reinforce, in that way, how our proposal fits within the actions of preserving the state's tangible and intangible heritage, through Heritage Education and the management of the CMG's digital collections.

5. Final Considerations

It is important to highlight that the model constructed for accessing the materials is still in the prototype stage, that is, it was planned theoretically together with the teachers and focuses on the

categories listed and considered essential for them in the construction and preparation of their classes which are: School year, School stage, Subject, Chronological Period, BNCC Skills, DC-GO Skills, Didactic Resource and Research Term.

The teachers and curators have already constructed some educational materials as an example, but we will only be able to verify their effectiveness from the moment they are put into operation and used systematically by these users, during the planning of classes and their activities throughout the school year.

The next steps of this research already include the execution of these stages for the planning of the next school year, with the realization of another field experiment in another school in a new city in the interior of the state of Goiás.

At the same time, the work with digital curators must be strengthened, considering that the first materials produced were experimental activities conducted during supervised internship guidance, and some students did not complete them, as they had great difficulty in carrying out this work. This is another challenge to be overcome and also an object of new studies to consider how we can continuously include the production of these materials in the pedagogical plan of the UEG History course and that it is not just one of the possible activities that the supervising teacher may request of these students.

From this, new analyses should be conducted to verify what were the challenges in its implementation and what updates and suggestions for changes will be necessary for it to continue to meet the proposed objectives. Therefore, we recommend that new studies be conducted at the end of the next school year, with the application of new individual questionnaires and another focus group interview to verify ways to maintain and adapt this model.

Finally, we would like this work to help raise awareness in memory spaces such as museums and archives so that this educational reuse with the support of digital media becomes the center of their concerns in future projects, given that these actions have proven to be the main way to guarantee the preservation of cultural heritage and the survival of the rich cultural traditions of the Brazilian people, at a time when there is great difficulty in feeling part of and even being proud of being a citizen connected to their own territory.

Acknowledgements

This research was supported by Universidade Estadual de Goiás (Goiás State University – UEG). The presentation of this paper at Museum Big Data 2024 event was supported by the Events Assistance Program (Pro-Eventos) of the Universidade Estadual de Goiás (Goiás State University – UEG).

Declaration on Generative AI

The authors have not employed any Generative AI tools.

References

- [1] B. Lavoie, L. Dempsey. Thirteen Ways of Looking at Digital Preservation. In: D-Lib Magazine, 10. (2004). URL: www.dlib.org/dlib/july04/lavoie/07lavoie.html
- [2] T.N.C. Santos. Curadoria Digital: o conceito no período de 2000 a 2013. Dissertação de mestrado em Ciência da Informação. Universidade de Brasília. Brasília. (2014). URL: http://repositorio.unb.br/bitstream/10482/17324/1/2014_ThayseNataliaCantanhedeSantos.pdf
- [3] L. F. Sayão. Digitalização de acervos culturais: reuso, curadoria e preservação. In: Seminário de serviços de informação em museus, 4. São Paulo (2016). URL:

https://www.researchgate.net/publication/319403030_Digitalizacao_de_acervos_culturais_reuso_curadoria_e_preservacao/link/59a82ad5aca27202ed5f47d6/

- [4] K.M.W. Freire, L.F. Sales and L.F. Sayão. Curadoria Digital no contexto artístico e cultural: possibilidades de reuso de dados de arte. In: *Encontros Bibli: Revista eletrônica de Biblioteconomia e Ciência da Informação*, 25, 01-21. (2020). URL: <https://doi.org/10.5007/1518-2924.2020.e74280>.
- [5] P. R. Chagas, F. A. R. Gouveia, A. C. Filgueiras and M. A. C. Torres. Goiás State University as Locus for Heritage Preservation: Genesis of a Memory Center. In *6th International Conference on Heritage and Sustainable Development*, 741–48. Granada-ES (2018): 741-748.
- [6] J.M. Esteve. O mal-estar docente: a sala de aula e a saúde dos professores. Baurú. São Paulo. EDUSC. (1999).
- [7] M.A. Gonçalves. Periodização. In: *Dicionário de Ensino de História*. Rio de Janeiro. FGV. (2019).
- [8] C. A. Araujo. Correntes teóricas da Ciência da Informação. *Ciência da Informação*, 38. (2009): 192-204.
- [9] L. F. Sayão. Digitalização de acervos culturais: reuso, curadoria e preservação. In: *Seminário de serviços de informação em museus*, 4. São Paulo (2016) URL: https://www.researchgate.net/publication/319403030_Digitalizacao_de_acervos_culturais_reuso_curadoria_e_preservacao/link/59a82ad5aca27202ed5f47d6/
- [10] A. C. Filgueiras, F. R. Gouveia and P. R. Chagas. Interoperabilidade Semântica Em Patrimônio Cultural: Estratégias e Ferramentas Para Concepção de Um Centro de Memória. In: *Revista Sapiência: Sociedade, Saberes e Práticas Educacionais* 155. (2020): 136–55.
- [11] A. H. Poole. The Conceptual Landscape of Digital Curation. In *Journal of Documentation* 72, no.5. (2016): 961–86. URL: <https://doi.org/10.1108/JD-10-2015-0123>
- [12] A. C. Fermann, A. P. Lima and S. M. I. Chardulo. Gestão da Informação: desafios e competências para preservação digital. *Prisma.com*, n. 44. (2020): 123–44. URL: <https://doi.org/10.21747/16463153/44a7>
- [13] G. Oliver and H. Ross. *Digital Curation*. Second edition. London: Facet Publishing (2016).
- [14] R. S. Bettivia. *Encoding Power: The Scripting of Archival Structures in Digital Spaces using the Open Archival Information System (OAIS) Reference Model*. ProQuest Dissertations and Theses. (2016). URL: <https://hdl.handle.net/2142/92696>.
- [15] N. M. B. Moles. *Inside Open Government Data Curation: Exploring Challenges to the Concept of a ‘Designated Community’ Through a Case Study of the City of Toronto*. ProQuest Dissertations and Theses. University of Toronto. (2019). URL: <https://tspace.library.utoronto.ca/handle/1807/97579>