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Educational Institutions, Memory, and New Technologies

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Abstract

This article reflects on the history of educational institutions by considering the importance of preserving their memory as a source of study in the field of education and focusing on the contributions of new information and communication technologies to the access and democratization of data. To conduct this study, which is bibliographic, studies by Magalhães (1996, 2004), Vidal (2000), Buffa (2002), Mogarro (2006), Miguel (2007), and Saviani (2007) were used as references regarding educational institutions, memory, archives, sources, and new technologies. The results showed that the documents stored in institutions are relevant to the study of educational policies and the establishment of social relations and that preservation practices have to be fostered by making use of new technologies and by seeking the participation of public bodies.

Keywords

Educational Institutions, Memory, Archives, Sources, New Technologies

1. Introduction

This article reflects on the history of educational institutions by considering the importance of preserving their memory as a source of study in the field of education and focusing on the contributions of new information and communication technologies to the access and democratization of data.

Schools are included in the category of educational institutions, which represent "a secondary-type education, derived from a primary-type education in a diffuse and unintentional way," as explained by Saviani (2007: p. 6). The school, as the greatest expression of educational institutions, develops from the relationship between participants in the social, political, and cultural process. It is an institution that produces and is produced from the history of human beings and, as such, is immersed in meaning and purpose.

To establish this discussion, it must be split into three aspects: the school in its social context; the organization of the school archives as a source of study for researchers, notably in the history of education; and new technological possibilities for preservation and document democratization.

Studies by Magalhães (1996, 2004), Vidal (2000), Buffa (2002), Mogarro (2006), Miguel (2007), and Saviani (2007) were particularly important for deepening questions relating to educational institutions, memory, archives, sources, and new technologies.

In its structure, the article, after dealing with the school context and archives, discusses the use of new technologies for document preservation and analyzes their implications.

2. Theoretical Framework

2.1. The School in Its Context

Justino Magalhães, in his work "Tecendo nexos: história das instituições educativas" ["Weaving nexus: the history of educational institutions"] (2004) conceptualizes schools as

[...] living organisms, whose integration into a prescriptive policy and educational structure of national and international dimensions is a conflict factor between the fields of freedom, creativity, critical meaning, and autonomy of actors, and the bureaucratic, political, and structural ideological normalization (Magalhães, 2004: p. 124).

When departing from old traditions in the historiographical field and proposing new interpretative modalities, Magalhães states that to study the formation and evolution processes of educational institutions, an approach that provides them with an identity is needed. Consequently,

[...] understanding and explaining the historic existence of an educational institution is to integrate it into the broader reality that is the education system, contextualize it, involving it in the evolution process of a community and a region, and finally, systematize it, and (re)write its life itinerary regarding its multidimensionality, giving it a historical meaning (Magalhães, 1996: p. 2).

For that to happen, according to Magalhães (2004), studies on schools should involve three aspects: materiality, constituted by the school, and its physical conditions, its building, equipment, educational materials, and organizational structure; representation, corresponding to the role played by the institution, including traditions, selected bibliographies, pedagogical models, statutes, *curricula*, and the institution's operations; and appropriation, referring to pedagogical practices by means of which learning occurs, backed in a pedagogical ideology, and the identity of the institution and the subject that act in it.

Considering that institutions are different from each other, the importance of analyzing the living conditions of the populations for which the school is intended, their economic-cultural context, and the educational policies guiding them must be added to the above proposal. In the words of Miguel (2007: p. 34), the history of institutions only has meaning "when it is viewed in light of educa-

tional policies," which depends on the play of forces of the State apparatus.

Identity and historical meaning, however, are not always featured in the research on educational institutions that have been conducted by Brazilian educators, since, in keeping with Buffa (2002: p. 25), the authors oscillate "between work of great theoretical density, albeit distant from the everyday school life", and "work filled with empirical reality which, because it does not provide more universal explanations, they cannot in turn, fully satisfy the readers' intelligence." However, the research of a school is one of the most compelling ways of studying philosophy, politics, and the history of Brazilian education because it enables the dichotomy between the particular and the universal, and the specific and the general, to be overcome, covering totality in its dialectical sense.

Therefore, it is necessary to adopt, in the research on educational institutions, "theoretical-methodological principles, categories of analysis and technical procedures related to the use of research sources," as stated by Buffa (2002: p. 26).

In consonance with Buffa's approach, relationships between work and education would be considered in the theoretical-methodological principles, with the adoption of a methodological option that would consider the particular as an expression of general development. Inspired by the categories proposed by Petitat (1994), the author suggests that the following be investigated:

[...] the process of creation and installation of the school, the characterization and the use of physical space (the architectural elements of the building, its implantation in the ground, its surroundings and finishing), the space of power (directory board, desk, teachers' lounge), organization of use of time, the selection of educational content, the social origin of the school clientele and his likely destination, teachers, legislation, standards and administration of the school (Buffa, 2002: p. 27).

Employing such categories to conduct research in an educational institution, using technical procedures for investigation, conducting data collection, and using sources, one can find a number of documents in the school archives relating to the preservation of educational memory, and the possibility of it being used in research in the history of education.

The intersection between the data obtained through the analysis of documents from a school archive allows establishing close correlations between the various information (also obtained in documentary resources outside the school), revealing a high level of consistency and logic within the school archival fund, and the central role of its documents to understand the organization and operation of the institution that produced them (Mogarro, 2006: p. 72).

A historian, working with documentary sources, seeks out an approximation of what is real that enables him to find the answers to his doubts and questions. This does not mean that sources lead him to the truth, or that facts have occurred as mentioned in the documents; however, they may lead him to an interpretation in which there is consistency between what the document brings, and what is built from it.

Notwithstanding this, it is known that the conditions of the archives available in schools are often precarious. The historian, in the absence of written docu-

ments, is supposed to search for other sources, documents in the broader sense as proposed by Le Goff (1992: p. 54), comprising "[...] written, illustrated documents, which may be transmitted by sound, image, or in any other ways." Owning these documents, he shall know how to interrogate them and make them talk.

Despite this possibility of wide use, overcoming the positivist tradition, guiding the educational institutions on the preservation of their sources is necessary. This may be done by discussing alternatives so that only what needs to be stored is saved, and then by disposing of material not useful for historical reconstruction of the institutions one wishes to know about.

Another aspect that deserves mention before turning to the question of the school archive is the difference between memory and history, which are not the same thing. The contribution of Nora (1984), for its clarity, is illuminating. For him:

> Memory is life, always protected by the living groups, and in its name, it is in permanent evolution, open [to] the dialectic of memory and forgetfulness, unconscious of its successive deformations, vulnerable to all uses and manipulations, susceptible to long latencies and sudden rejuvenation. History is an ever problematic and incomplete reconstruction of what is no longer (Nora, 1984: p. 19-20).

The historian understands that it is not possible to recover the past as it happened. However, part of his job is to recover the past based on the present, analyzing different sources, and reconstructing past events in the present.

2.2. The School Archive

The historical reconstruction of educational institutions as an object of study for history education demands the existence of sources, most of which may be available in schools.

As stated by Gatti Júnior (2002: p. 4), schools are "[...] places that carry an arsenal of sources and key information for the formulation of interpretations about themselves and, above all, about the history of Brazilian education."

This arsenal of sources and information, however, must be preserved, organized, and accessible. Given these characteristics, when it comes to the archives in educational institutions, the possibility of achieving an integrated work with the participation of professionals in the history of education, archivists, and technology, while ensuring appropriate management and the protection and disposal of documents must be considered.

The school, as a new object of study in history (Le Goff & Nora, 1995), brings to this analysis diverse historical sources that reflect the context of educational, social, and cultural practices and guidelines of the time in which they occurred.

Mogarro (2006: p. 74) lists a number of sources produced within or outside the institution, which, according to her, make it possible "to establish a documentary geography about the school":

- Legal texts and documents emanating from the central power;
- Official statistics;
- Technical reports, prepared by inspectors, deans and principals of schools;
- Regulations, communications, norms, and other texts produced by the school, as well as memorandums, which may also be documents ensuring the communication flow between the political body of guardianship and the school itself;
- Administrative and pedagogic documents, constituting a large part of the archives of each educational institution;
- Publications from outside the school, books, newspaper and magazine articles, etc. They are scientific papers, educational and cultural, poems that often appear in the local and pedagogical press, authored by institution teachers, who also have published books, expressing their professional culture through these modalities.
- Equipment, school furniture and objects of various kinds;
- Educational materials, which are found in the school, but also are frequently a part of archives outside the institution;
- Students' schoolwork that generally belong to private estates, and reveal the meaning attributed by people to school and educational processes, over their journey of life;
- Photographs and other iconographic documents;
- Testimonials from teachers, students, officials and other elements, who have been active in the educational system, school and community (Mogarro, 2006: p. 74).

It is desirable that educational institutions worry about the preservation of documents such as those previously mentioned. Preserving, as Vidal (2000) explains, "does not mean keeping everything, but *evaluating* the documentation, discarding the unnecessary, and creating minimum conditions of survival of the physical medium (materiality) and document information" (Vidal, 2000: p. 39). The archivists will help historians regarding the use of techniques of hygiene, stabilization of pH, and packaging. Information technology and communications professionals will give their contributions to organization of data banks, indices, and entries.

Institutions usually have official documentation, which is preserved and made available in various forms to scholars. However, not only do they have official school documents but they also have school notebooks, textbooks, students' schoolwork, autobiographies, memoirs, and teachers' and students' diaries, which may be used as sources, and, combined with each other, shall cooperate to give a better understanding of the information about the object searched.

Official school documents (mail—letters and applications, official journals, reports, statistical surveys, opinions, decrees) provide the historian with a view of public bodies, directors, standards, and of what is to be done at a school. Conforming to the public interest in documents like transfer forms, school records of students, acts of graduation, their destruction is forbidden by educational institutions, whether they are public or private.

However, school notebooks are a historical source whose complexity is similar to the others, allowing one "to know and study this 'black box' of history of education-which were, and continue to be the reality and school practices, the everyday life in classroom, and educational institutions" (Viñao, 2008: p. 16). As a product of school culture—although not everything is in them—notebooks enable one to know the organization of the work in the classroom, the timetable (calendars, schedules, and programs), the use and content of texts, and the language. In them, besides exercises and activities carried out by the student, there are corrections made by teachers and annotations made by students or families.

Analyzing the notebooks, it is also possible to identify the type of use of the textbooks and the exercises performed.

In general, however, the notebooks are not preserved. The ones that escape destruction are usually those of the best students, with hard covers, beautiful handwriting, or even those of the "clean slate," which does not accurately represent what happens with students in the classroom. Not only that, "it is very difficult to retain complete series of all notebooks, or a student's most notebooks from the same educational institution for a long period or at the same level, or level of education for a long, extended time," as observed by Viñao (2008: pp. 24-25).

The memory of teachers and pupils regarding events of high impact affecting them and their routines, if stimulated by interviews with the use of oral history, also generates documents. The narratives of the subjects forming a part of history enrich the investigative process, allowing one to understand the past and the present in its policies, ideologies, and practices.

Thus, the reconstruction of the history of educational institutions is closely related to preservation and organization of their files, by means of which one has access to sources that will enable the research and production of knowledge.

2.3. New Technologies

For the researcher, it is not always easy to locate and access historical sources. Although they exist, they are often not available or properly catalogued. Amorim remembers that

[…] preservation and access activities were considered mutually exclusive [in] and permanent conflict. In the digital world, the concept of preservation is magnified, including [the] description of item being preserved and contemplating the actions relating to access. There is no restoring, conditioning appropriately, microfilm [ing] and digitiz[ing] a document without enabling their location through search tools (Amorim, 2000: p. 92).

In particular, technology has become an ally of research in education. Digitization of older documents, as well as the organization and cataloguing of the material, can increasingly facilitate access. Storing documents electronically means obtaining practicality and economy of time and space, ensuring the preservation of the original documents, and avoiding them being handling constantly by researchers.

This means scanning the reproduction by electro-scanners on disk or other

medium to high-density support allowing the visualization of the document in terminal or its impression on paper. Through this statement, "[...] the materiality of the book by the immateriality of texts without specific place" was replaced, as observed by Chartier (1994: p. 100).

The digitization process presents advantages such as the reduction of areas of archiving, reduction of time in information retrieval, faster updating of data, and the possibility of the files being accessed by multiple users, besides allowing backup copies to be kept. For Amorim (2000: p. 92), among the many applications of new technologies in the processing of documents, "it is in the information retrieval and preservation that its presence is more striking, meeting modern techniques of information processing determining that preservation and access are viewed univocally." If, previously, preservation and access activities were considered mutually exclusive, in the digital world, they complement each other. However, "technology resources must be incorporated as another stage in the archival work, since they do not replace the already established methods of organization and preservation of the documents" (Amorim, 2000: p. 92). Digitization does not eliminate the stages of identification, description, securing and microfilming of documents, before their computerization or digitization.

Overall, there are three stages in the process of digitizing documents: classification and analysis of the physical condition of the archive, microfilming, and digitization of the archive. The microfilming can be conventional or electronic. In the conventional way, the information is managed and preserved by means of document image acquisition by a photographic process, and in the electronic form, through scanning. Regarding the advantages, microfilming has long durability (over 300 years), low estimated costs, and technological simplicity, as well as great ability of compaction. However, in the conventional sense, its reading depends on specific equipment and produces copies of inferior quality to the original, besides creating difficulty in reading the document.

The digitized documents, as well as those whose origin is digital, produced with the use of appropriate *software*, are managed by the Electronic Document Management System (EDM), which categorizes and ensures material safety. Information management, in its whole life cycle, is promoted by EDM. In this regard, Pena and Silva (2008) explain that:

> The development of EDM projects aims to program information systems effective in managing textual information and images, reducing the time spent on daily activities relating to production, localization and documentary distribution, ensuring registered information that preserve[s] documents, streamline[s] and democratize[s] access, and rationalize[s] spatial occupation of great amounts of documents supported on paper (Pena & Silva, 2008: p. 93).

2.4. Analysis

It's well known that technology has broken with traditional processes, introducing new equipment and the unsuspected possibilities of information dissemina-

tion.

Regarding the disadvantages of the digitization process, the costs of constant changes in media and the obligation to use equipment and *software* for data recovery may be cited. Additionally, participation of public bodies, or obtaining financing, is of great importance.

It is indisputable that advances in access to documents have led researchers to devote efforts to the purpose of owning and benefiting from resources obtained by using new technologies. Because of this appropriation, we witness the appearance of resources that go beyond simply using technology, involving the creation of groups, centers, and study programs, computed documentary banks, creation of webpages, discussion lists, editing of electronic magazines, and other possibilities that are available to historians every day.

3. Conclusion

The objective of this article is to reflect on the history of educational institutions by considering the importance of preserving their memory as a source of study in the field of education. It also considers the contributions of new information and communication technologies to the access and democratization of data.

Reflection on the importance of maintaining historical sources concerning the memory of educational institutions, and comparison with the possibilities offered by new technologies in terms of preservation and access and contributions to research in the field of history of education, yield the following observations:

a) Educational institutions keep relevant documents with regard to how social-institutional relations were established, and how public educational policies were implemented.

b) There are different types of documents, many of which, because of their nature, tend to have a shorter lifecycle, getting lost more quickly, such as notebooks and textbooks, and letters and photographs, for instance.

c) The preservation of documents applying information and communication technologies, despite several advantages, has the inconvenience of higher cost, demanding resources that are not always available in schools, and suggests funding and public sector support in such endeavors.

d) Notwithstanding the difficulties of maintaining documents in school, practices could be encouraged among students, faculty, and staff members in order to select, catalog, and store documents of historical relevance, making them available to researchers.

f) The work concerning the organization, preservation, and democratization of archives in schools will require the participation of archivists, historians, and technicians, integrating knowledge and skills for the quality assurance of documents integrating this archive.

In conclusion, these advances and possibilities represent a new stage in the preservation and access to documentation of educational institutions, providing researchers with significant advantages.

It is important, however, to highlight the need for a collective effort so that

these possibilities can come to fruition, which will involve initiatives of educational managers, public bodies, and the society in general.

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