

Among sailors and navigations: log books about the Mathematics Degree at the Federal University of Mato Grosso do Sul

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RESUMO

Apresentam-se neste texto algumas compreensões sobre o início da Licenciatura em Matemática a distância da Universidade Federal de Mato Grosso do Sul. Tais compreensões surgem de uma pesquisa de mestrado que teve como objetivo caracterizar os movimentos iniciais da constituição desse curso. As análises, pautadas em cinco entrevistas produzidas ao longo do mestrado, foram realizadas inspiradas nos delineamentos da História Oral, valendo-se de seus recursos de transcrição e textualização, juntamente com documentos oficiais obtidos na instituição. Esta metodologia vem sendo utilizada na Educação Matemática, em especial pelo Grupo História Oral de Educação Matemática (GHOEM) e História da Educação Matemática em Pesquisa (HEMPEP). Neste trabalho, dois movimentos destacaram-se e foram discutidos como temas de dois diários de bordo: (i) o de uma história sobre o curso investigado e; (ii) a importância de ações prévias (Parceladas e Licenciaturas Curtas) à sua criação, entendidas como uma continuidade de ações.

PALAVRAS-CHAVE: História da Educação Matemática. História Oral. Educação a Distância. Licenciatura em Matemática a Distância. Universidade Aberta do Brasil.

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*Among navigator and the navigation: the logbook of Mathematics
Licentiate course in the Universidade Federal de Mato Grosso do Sul*

ABSTRACT

This text presents some understandings about the beginning of the Mathematics Degree at a distance from the Federal University of Mato Grosso do Sul. Such comprehensions arise from a master's research that characterized the initial movements of the constitution of this course. The analyses, based on five interviews produced throughout the Master's degree, were inspired by the delineations of Oral History, using its transcription and texturing resources, with official documents obtained at the institution. This methodology has been used in Math Education, especially by the Oral History of Math Education Group (GHOEM) and History of Math Education in Research (HEMEP). In this work, two movements stood out and were discussed as topics of two logbooks: (i) that of a story about the researched course and; (ii) the importance of previous actions (Installments and Short Courses) to its creation, understood as a continuity of actions.

KEY WORDS: History of Mathematics Education. Oral History. Distance Education. Degree in Mathematics at a Distance. Open University of Brazil.

*Entre navegantes y navegaciones: bitácoras del curso Licenciatura en
Matemáticas de la Universidad Federal de Mato Grosso do Sul*

RESUMEN

En este texto se presentan algunos entendimientos sobre el inicio de la Licenciatura en Matemáticas a distancia de la Universidad Federal de Mato Grosso do Sul. Tales entendimientos surgen de una investigación de maestría que tuvo como objetivo caracterizar los movimientos iniciales de la formación de este curso. Los análisis, a partir de cinco entrevistas producidas durante la maestría, se realizaron inspirados en los diseños de Historia Oral, utilizando sus recursos de transcripción y textualización, junto con documentos oficiales obtenidos en la institución. Esta metodología ha sido utilizada en Educación Matemática, especialmente por el Grupo de Historia Oral de la Educación Matemática (GHOEM) e Historia de la

Educación Matemática en Investigación (HEMEP). En este trabajo se destacaron dos movimientos que fueron discutidos como temas en dos bitácoras: (i) el de una historia sobre el curso investigado y; (ii) la importancia de las acciones previas (Cuotas y Licencias Cortas) a su creación, entendida como una continuidad de acciones.

PALABRAS CLAVE: Historia de la Educación Matemática. Historia oral. Educación a distancia. Licenciada en Matemáticas a Distancia. Universidad Abierta de Brasil.

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*Se não saís de ti, não chegas a saber quem és.
(...) É necessário sair da ilha para ver a ilha,
que não nos vemos se não nos saímos de nós.
(José Saramago, 1998)*

Introduction

Higher Education in Brazil has distinct moments and movements that have culminated in the current scenario. The graduation courses, bachelor's and technologist degrees, face-to-face, semi-face, and distance learning courses, are examples of these. In particular, teacher training has gained, at each time, even more particular contours, short courses (SILVA, 2015), vague courses, improvement and dissemination campaigns, among others.

Researches from the Oral History of the Mathematics Education Group (GHOEM) and the History of Mathematics Education in Research Group (HEMEP) have shown us how these actions have influenced in different ways the training of teachers in the 20th century in different regions of the country. These actions, besides directly contributing to the formation of teachers of the time, produced and replicated ways of teaching and conceiving education and teacher training itself. Certainly, reflections of these modes are still present in our classrooms.

With this in mind, our intention in this text is not to seek justifications for what we have today through a direct application of causes and effects, but rather, to produce pasts³ that help us draw new understandings about the present. In this impetus, we realized a work of historiographic bias that looked for the opening of the Mathematics Degree course at UFMS in the distance modality, aligned to research projects that map the formation and performance of teachers in Brazil, represented by GHOEM and, specifically, in Mato Grosso do Sul, by HEMEP. From that, we look, then, for possible sources to produce pasts about this course. Official documents, photographs, diaries and interviews were used for that, some refer to the ordinances and edicts supplied by the Bulletin of Services of UFMS and others constituted from the interviews made and the documents ceded by our interviewees. The personal documents and the interviews made counted with the collaboration of people who worked directly in this course and who occupied, at the time, the positions of head of the distance education coordinator, teachers of the course, tutors and academic secretary⁴. This search for collaborators was possible and more accessible because the course still exists at the time of the research (2017 and 2018) and because the research supervisor worked on this course, suggesting professionals who could help us in this journey (MORAIS, 2017).

The study of documents, such as the regulations of the Ministry of Education (MEC) and the creation of the Open University of Brazil (UAB), has shown us a national panorama that, to an unsuspecting reader, may seem somewhat homogeneous. However, the historiographic research on these themes shows us how much each region of Brazil had to deal with the urgent demand for qualified teachers and how much they created, (re)elaborated and improvised in this

³ Production elaborated from the voices of those who experienced the moment studied. According to Pinto (2013, 2015), we have adopted "past production" or "stories" instead of "versions of the past".

⁴ Throughout the research, we interviewed teachers: Antônio Lino Rodrigues de Sá; Sônia Maria Monteiro da Silva Burigato; Magda Cristina Junqueira Godinho Mongeli; Heloisa Laura Queiroz Gonçalves da Costa and secretary: Sandra Helena Nahabedian Ramos de Souza.

direction to form a greater number of teachers in a shorter space of time. This mark, present in the 20th century, is also present in the beginning of our century.

In Mato Grosso do Sul, particularly in the movement to observe the constitution of this course, other initiatives were present: Short Courses, Full and Parcel Degrees and the courses aimed at a specific clientele, such as lay teachers, for example.

As far as legislation is concerned, distance learning degrees are regulated by the publication of the Law of Directives and Bases of National Education (LDB), of December 20, 1996, and the Decree n. ° 5.622, of December 20, 2005. According to Almeida and Borba (2015), this regulation is located in the so-called "third generation" of distance education in Brazil, a generation marked by technological advances and the creation of the first Higher Education course in this modality, taught in spaces called Virtual Learning Environments (AVA), which led us to understand that the modality already existed, however its resources were much more limited than those we know.

The distance learning degrees appeared to meet the demands of the country and, based on edicts, the federal institutions and institutes began to implement their projects, placing courses already institutionalized in the face-to-face mode, with an offer also focused on the distance learning mode. Movements that occur because of the regulation of the modality and the creation of the Open University of Brazil - UAB⁵.

The expansion of the modality, in this beginning, had as a priority the offer of initial training courses in undergraduate and continuous training courses, always directed to the training of Basic Education teachers. Edicts published by the Ministry of Education (MEC), specifically by the Secretariat of Basic Education (SEB), organized these courses. In this context, the UAB, when launching its first public notice, started to approve and regulate poles

⁵ System implemented in 2006, through Decree No. 5,800 of July 8.

and courses in the distance mode, in all regions of the country. The Edict No. 1, of December 16, 2005, made this call to the Municipalities, the States, and the Federal District, and its main objective was in:

To promote the "Open University System of Brazil - UAB", which will result from the articulation and experimental integration of higher education institutions, municipalities and states, in terms of Article 81 of the Law of Directives and Bases of Education, aiming at the democratization, expansion and internalization of public and free higher education offer in the country, as well as the development of research projects and innovative teaching methodologies, preferably for the area of initial and continuing education of basic education teachers. (BRAZIL, 2005, p.1)

After this announcement, institutions from all over the country, interested in implementing courses in this modality, sent their proposals to the MEC, to the Secretariat of Distance Education. In this first call, 14 courses of Mathematics Degree were approved and offered in 63 poles (ALMEIDA; BORBA, 2015). According to the study of these authors, by 2015 there were 37 (thirty-seven) courses for a degree in Mathematics at a distance, of which 3 (three) were located in the Midwest region. Among these was the "Licenciatura em Matemática a distância da UFMS", a master's research focus course discussed in this text.

During research and search for documents, we found evidence that the Degree in Mathematics at a Distance from UFMS began to be processed from the first UAB announcement, having its proposal approved in 2006. Thus, the first selection process for students occurred in February 2008, with the announcement of UAB1⁶. In this first announcement, the offer of this degree was extended to three states in Brazil, with the poles of Água Clara (MS), Camapuã (MS), Cruzeiro do Oeste (PR), Rio Brilhante (MS), Igarapava (SP); São Gabriel do Oeste (MS) and Siqueira Campos (PR). This expansion of the offer to other states was due to the

⁶ Name used internally by UFMS to denominate the order of the offers made by the university in calls for bid, adding the number of this order to the term UAB.

negotiation between UFMS and UAB, supported by a counterpart from MEC that would bring improvements to the physical structure of the institution, while UFMS would be responsible for taking this first offer of the course to the states of São Paulo and Paraná, thus not staying only in the interior of the state of Mato Grosso do Sul, as occurred in the following classes.

The degree in Mathematics at a distance from UFMS - until the end of the research (2017) - closed three offers based on the edicts: UAB1, UAB2 and UAB3. The fourth call, UAB4, according to information from the coordination, was concluded at the beginning of 2019, but there were no open classes for Mathematics. In the study, we found that in eight years of offer, the Degree in Mathematics at a distance from UFMS trained 160 teachers in the area with EDI7, corresponding to 36% of the initial enrollments.

When elaborating this brief panorama, we try situating the reader as to what the documents talk about the beginning of the degrees in Mathematics at a distance, specifically the Degree in Mathematics at a distance of UFMS, however, the version presented below brings in its core the voices of the characters of this process.

We had the purpose, in this development, to look at the first years of the course, respecting the time of study that a Master's degree foresees and the diversity of situations that influenced this course. In this context, we are faced with events that occurred before, during and after its implementation and that can certainly bring out other research.

For developing of our research, we have adopted the historiographic perspective, based on the methodology of Oral History, which relies heavily on movements such as the Annales School⁸, the New History⁹, among others. More

⁷ Exclusion by Diplomacy.

⁸ Created to promote a new kind of history" (BURKE, 1997, p. 11), so all historians connected to the New History are seen as heirs to the "School of the Annales" (MATOS, 2010).

⁹ The term "New History" or "New History" was launched in 1978 by some members of the so-called Annales group, according to Guy Bourd  and Herv  Martin (MATOS, 2010).

specifically in the field of the History of Mathematical Education, in which some groups, such as HEMEP and GHOEM, have produced their ways of approaching history, that is, producing their historiographic movements and methodological adjustments.

By using this methodological option, sources were elaborated from audio/video, transforming them later into written, transcribed and textualized records. In the historiography produced, we tried "[...] to highlight the importance of memory, orality, testimonies, the lives of people deemed essential" (GARNICA, 2007, p. 08) and, based on this conception, we created narratives, sayings, which helped us interpret, explain and produce meanings within the research.

Our understanding of historiographic production is not that of a mere transformation of what has occurred into a text, but a production that refers to a certain lived moment concerning writing, not of lived experience, but of writing from lived experience. (PINTO, 2015, p. 867)

In the development of this investigative exercise, we organized a dossier with documents raised¹⁰, however the focus turned to the voices of our collaborators, which we call "sayings of a crew", and became the main basis of this study. We then intended, based on these records, to elaborate scenarios, recreate stories, valuing the various visions/versions presented, in this study, by five collaborators.

Thus, we navigate and glimpse world views, produce trips, create scenarios and recreate stories from the truths established by our respondents. We reflect on the various manifestations presented on the initial years of the Degree in Mathematics at a distance from UFMS and we experiment ways and possibilities of talking about a past, building it and (re)creating it. From the

¹⁰ Dossier on the Degree in Mathematics at a distance from UFMS: Understanding versions and initial directions of a course, available at: <https://grupohemep.wordpress.com/dossies-hem>.

navigation performed by the initial years of the course, we came across movements that preceded this process and allowed us a new understanding - our version - of the investigated course, outlined in two logbooks, a metaphor used to draw part of our analysis.

In this first logbook, we wrote to you elaborate historiography, anchored in the studies raised in the research, which sketched the beginning of the Mathematics Degree at a distance from UFMS and, in the second logbook, we tried to describe and characterize better these movements precursors to the course.

Log Book I

A story about the EaD Mathematics Degree course at UFMS

In Mato Grosso do Sul, "graduations" began shortly before the state division (Mato Grosso *uno*). At the time, the university was a state (UEMT¹¹) and there were also Pedagogical Centers. These centers gathered the courses of Higher Education, such as Pedagogy, Human Sciences, Literature, Pharmacy and Dentistry. The course called Mathematics Degree first appeared in Três Lagoas in 1970 and in 1975, it was called Science Degree, offered by UEMT. Only later, in 1981, it arrived in Campo Grande, initially as a Degree in Sciences and, before forming the first class, it became a (Full) Degree in Mathematics (GONZALES, 2017).

Thirty-one years after the creation of this first course of Mathematics Degree, discussions began about the creation of a degree in Mathematics at UFMS. Regulated by UAB in 2005, from the adhesion to the first public notice of the Open University of Brazil, it had its offer expanded beyond the state of Mato Grosso do Sul, serving some municipalities of Paraná and São Paulo.

¹¹ Universidade Estadual de Mato Grosso.

In the state of Paraná, the course was offered in the cities of Cruzeiro do Oeste and Siqueira Campos; in São Paulo, in the city of Igarapava; and in Mato Grosso do Sul, the course served the cities of Camapuã, São Gabriel do Oeste, Água Clara and Rio Brilhante.

These seven poles marked the beginning of the degree in Mathematics at a distance from UFMS, revealing to us the most diverse situations that a course and its proponents can experience, when working on its implementation. By meeting the demand of two other states, it was not imagined that so many other situations could occur faced with this more distant offer, even so the professionals of the time were willing to work in this initial phase, traveling long distances to accomplish their craft. According to testimonials, there were several visits to these poles, where they spent weekends giving classes and, on Monday, they should return to UFMS to attend the courses in-person. Although tiring, these professionals remember with nostalgia this beginning.

These trips happened long before the implantation of UAB because the University already offered other courses in this modality, however, only inside the state. These teachers worked on different projects, but in general on those aimed at the initial and continuing training of teachers throughout the state. At the time, the professors taught courses that had a format close to the courses we know today, but their resources and technologies were different. Among the precursors, the Short-Term Degree and the Parcel Degree of Short-Term or Full Term were highlighted. These courses were established because of the demands raised in the municipalities and, when there was no longer this demand, the course was destined to another Pedagogical Center (before UAB this was the name given to a structure similar to what we know today as poles). All the professionals interviewed in the survey also worked in these courses.

In the UAB system, right after the submission of course proposals to the MEC, the municipalities that presented a relevant demand for the course offer

formalized the partnership with UFMS, committing to cede the site, materials and infrastructure in general. The University, in turn, assumed the formation of professionals, implementing, organizing and sending their teachers for developing the subjects. The MEC, in this context, after the approval of the proposal, conducted the survey of the poles and the places where the courses would be held. Professionals were sent to the poles to evaluate if the conditions established by the public notice had been fulfilled. If there were any problems, the center was notified to review them and only then could the offer begin. In these partnerships, the municipalities did not always fully comply with the agreement signed, once or again the teachers faced structural and material problems, often dealing with improvisations.

According to one of these teachers in the UAB system, right after submitting the course proposals to the MEC, the municipalities that presented a relevant demand for the course offer formalized the partnership with UFMS, committing themselves to cede the site, materials and infrastructure in general. The University, in turn, assumed the formation of professionals, implementing, organizing and sending their teachers for developing the subjects. The MEC, in this context, after the approval of the proposal, conducted the survey of the poles and the places where the courses would be held. Professionals were sent to the poles to evaluate if the conditions established by the public notice had been fulfilled. If there were any problems, the center was notified to review them and only then could the offer begin. In these partnerships, the municipalities did not always fully comply with the agreement signed, once or again the teachers faced structural and material problems, often dealing with improvisations.

According to one of these teachers

Once, for example, in one of these schools, one of the rooms had a light but no blackboard and the other had a blackboard but no

light. We improvised at that moment, complained to the polo coordinator and the other day it was fixed. Little by little they began to structure themselves. (MORAIS, 2017, p.147)

After the deployment of UAB, the course now has: a distance tutor for each subject; a tutor in-person to assist students at the pole; a tutoring coordinator; a course coordinator and a coordinator of Distance Education at the University. All of them are paid by FNDE or CAPES scholarships, and before starting the course they participated in specific training for each function. The professionals who were hired participated in the training course and, in the performance of the disciplines, had the opportunity to strengthen their training, reviewing concepts and methodologies taught in the distance learning modality. The Federal University of Mato Grosso, a pioneer in EaD, contributed to this accomplishment and participated in many discussions in this beginning, socializing with UFMS the advances obtained until that moment.

In the implementation of the course, besides the problems of hiring professionals, other obstacles, such as the processes related to the approval of the course were mentioned emphatically in the speech of the manager and secretary of the time because there was a considerable delay, due to the lack of a specific structure, of an academic system and of a proper council for the modality. As for the pedagogical aspect, there were problems in logistics, which, in turn, needed to be well organized. This implementation even required the production of specific material for the course, requiring new skills from the EaD professor.

At the beginning of the Mathematics Degree at a distance, the enrollments and the other referrals were waiting for the finalization of these processes to start the offer, because it depended on these approvals and should fit minimally in the dates and models already established for the face-to-face courses.

After every process mentioned, the procedures for the vestibular and later the registrations were started and, after that, the coordination was organized for the inaugural class. In this class, held at the poles, the whole structure and

functioning of the course was presented, as well as the preparation of these new academics for interaction with the Moodle environment. Unlike what we see today in Remote Education, these courses were loaded with face-to-face meetings, which occurred directly at the poles. This was one of the reasons that caused several evasions, considering that most of the academics believed that there would not be classes in-person because it was an EaD course. A better appointment for this model would be "semi-face-to-face course". Another factor that influenced this evasion was the difficulty with the Hard Sciences. The lack of discussion of a curriculum more focused on the teaching of mathematics was evident. We noticed that, in the implementation of this course, the curriculum was based on curricula of in-person courses that, even being focused on initial teacher training, focused on a more academic oriented training (máster and doctorate). These curricula were implemented with little attention to preparing teachers to work in basic education. The short time and thickening of the classes made these discrepancies scream.

In this format of UAB, there was a lot of technology, but it did not always present in these poles, especially concerning the quality of the Internet. The signal was not good, the manipulation of the virtual environment became difficult, and web conferences (or web classes) did not always occur as planned. However, the possibility of manipulating these resources caused many teachers to experiment with other teaching methodologies and to appropriate different resources to meet their needs. Teachers and tutors unfolded in an attempt to bring knowledge, and the specificity of mathematical writing was a hindrance to teachers, tutors, and students. The logistics issue always demanded a lot of work and presented difficulties, since it should be thought to attend face-to-face meetings in all poles on all weekends, even considering poles with more than 1,000 km of distance. Although these teachers spent the weekends traveling and, simultaneously, attending the face-to-face courses during the week, they were able to find time to elaborate other ways and methods of teaching to supply the

students' needs at a distance, reinforce the contents addressed and to clarify their doubts. Thus, they studied and tested AVA resources and software that could facilitate the teaching of mathematics in this modality.

Another aspect that calls attention at the beginning of the implementation of the course was the convincing work directed to these academics, that is, how to convince them that they were students of a Federal University? This was another challenge for the institution and teachers who attended and worked on the course. The fact that these scholars were linked to a municipality, that they had classes in a school (sometimes in small desks, suitable for children and adolescents) and not in their own academic space, caused the difficulty in establishing this belonging to the university space. Professors reported that many were convincing arguments, using terms like "the opportunity" and "the responsibility" of these academics with society. Alternatively, the municipalities served established a degree of importance to the professors who arrived there, with cars and drivers from a Federal University. This gave them a certain degree of "authority". Professionals from the Mathematics Degree at a distance were well received by the municipalities. The population understood these actions as a unique opportunity to study at a higher level. UFMS plates were installed in the structures where the course occurred, seeking to reinforce their presence there.

In this course of implementation of the Degree in Mathematics at a distance from UFMS, many were the challenges, training, meetings and seminars that discussed the implementation actions. As the years went by and the studies in Mathematics Education were expanded, the management teams, with their teaching staff, started to review their programs, subjects, menus, objectives and workload and, as a result, besides meeting the demand for initial training in several modalities, they started to offer complementary training and specializations for mathematics teachers in

which everyone in the state was invited to participate. Currently, EaD has been formalized in both public and private institutions.

Log Book II

Forerunner Movements to the Mathematics Degree (EaD) at UFMS

In the development of the research, it was possible to notice that the Degree in Mathematics at a distance, as well as several other degrees in Brazil, had its origin from other projects of initial formation of teachers, such as the Short Degree in Sciences and Mathematics and the Parcel Degree, the latter being mentioned with more emphasis in the interviews. These movements were highlighted as precursors, being the Degree in Mathematics at a distance from UFMS a kind of improvement of these projects, also highlighting the continuity of some actions within the proposals for teacher training for the interior of the state.

The Licentiate's Degree, or simply "installments" as our witness stated, it was a project thought to attend the lack of teachers that existed at the time. It was a formation of emergency action, having as its focus the teachers in service who did not qualify for the classroom, the so-called lay teachers. According to testimonials, the project began in the 1970s in Mato Grosso *uno* and, in 1991, in Mato Grosso do Sul, covering several municipalities, according to their demands. The course was divided into phases and occurred during the vacation period - the focus of the training was the teachers who were in the classroom - however, besides the vacation period, there were moments of presence and distance, that is, it was semi-face-to-face teaching. The "*Parceladas*" were graduation courses (short duration or full duration), but they were molded to attend the demand of the lay teachers regarding their schedules. However, Short Courses, which already faced opposition from scientific societies, when they were extinguished, ended up presenting some

problems regarding the question of the workload, that is, teachers trained by it, later had to return to their studies to complement the workload, considering the new regulations to equate to the Full Degree.

This urgency to train teachers has been present in every testimonials, especially regarding the implementation of these courses. One of the testimonial clarifies that in

[...] short term degree course, which enabled teachers to work in the areas of Chemistry, Physics, Biology and Mathematics, it was found that this form of teaching began in 1972 after the promulgation of LDB in 1971. (MORAIS, 2017, p.163)

A law that, in its scope,

[...] order to minimize the lack of qualified professionals to work in 1st and 2nd-grade schools. It was said that they needed to train teachers in the shortest time and at the lowest possible cost (Ibid.).

In Installments and Short-Term degrees, we find no evidence of payment of scholarships or any other incentive to teachers. There were also no positions, such as distance and in-person tutors, much fewer coordinators for these tutors. Only the teacher, a secretary and a study advisor. Teachers faced several difficulties, as governments did not always comply. When the mandates were over and there was a change of manager, this offer became uncertain, because it depended a lot on the intentions of the new manager. The rupture of the offer also occurred when one of the parties did not comply with the agreement and, thus, the project came to an end for not having subsidies to continue to work.

In their testimonies, the teachers revealed that, as some of their colleagues stopped receiving for the classes given, consequently they ended up giving up the course. They also reported that the managers tried in every way to keep the project in the municipality, however, most of the time, they could not.

In these research dialogues, many elements emerged, highlighting the need to better discuss the particularities of each project, looking and reflecting on the degree in question, seeking to trace continuity and ruptures with other projects.

Shortly before the division of the state, in the 1970s, the implementation of these projects pointed to great changes in the Higher Education scenario. The second LDB, Law No. 5,692, of 1971, announced reforms for Higher Education, by setting a minimum training to act as a teacher. At that time, there was also the teaching course, which was a Professional Technical High School course that enabled teachers to act in the initial grades of Elementary School, including Early Childhood Education. The requirements undertaken by LDB charged national education with qualifications compatible with its performance in the classroom. One of them emphasized that the teacher to work in the 1st grade with the classes from 1st to 4th grade, would need to have a minimum qualification of 2nd-grade complete; for the classes from 5th to 8th grade and 2nd-grade, the qualification would be the Higher Education. Therefore, while the law required these levels of education, the institutions did not meet the necessary conditions to achieve them. There was not sufficient teachers trained by area to meet the demand and, with the lack of these professionals, professionals trained by the former 2nd-grade were accepted and, thus, even with the requirement of LDB, the training of these professionals and the offer of initial training by the area of knowledge took time to occur.

However, if we look before the first LDB (1961), we see that "the licentiate" already existed in the Faculties of Philosophy, Sciences and Letters, since the 1930s. The regulation of the second LDB (1971) fostered the reorganization and expansion of offers. The first project that arose to meet the law was called the Full and Short-Term Degree, both could be offered both in-person and in installments (a semi-face-to-face model). Thus, professors graduated from the Full Degree could work in the Gymnasium and High

School, while the Short Degree would qualify the professors only to work in the Gymnasium (1st to 8th grade¹²), later called 1st grade, which is currently equivalent to what we know as Elementary School.

Specifically, in Mato Grosso do Sul, the offer of the Short-Term Curriculum began soon after the Curriculum in Science and Mathematics. In the 1970's, the Degree in Science and Mathematics served the following municipalities in the state: Corumbá (1970), Aquidauana (1971), Dourados (1975), Três Lagoas (1970), which began the offer as a Degree in Mathematics and, in 1975, became known as the Degree in Science. All offered by the State University of Mato Grosso (UEMT), at the time of Mato Grosso *uno*. In Campo Grande, the course was implemented only in 1981, initially as a Degree in Science and, even before forming the first class, it was renamed Full Degree in Mathematics, a course that exists until today (SILVA, 2015; GONZALES, 2017).

The terms "Short, Full and Installment degrees" caused much confusion among the students and even among the teachers of the courses. As for these names and based on the statements of our crew members, we understand that the project "*Installment*" was a type of training. It was a project that occurred in stages, with classes and activities at a distance (semi-face-to-face), both for the Short-Term and Full Term Graduations, the former with a lower workload than the latter.

To better understand, the Short-term Degree course enabled teachers to work in the areas of Chemistry, Physics, Biology and Mathematics and, in Mato Grosso do Sul, it started in 1972, that is, this course appeared shortly after the Short-term Degree in Science and Mathematics, mentioned above. Both degrees sought to meet the emergency character of teacher training with less time and lower cost possible.

¹² Law 5692, of August 11, 1971, resolution 30 of this law, items b and c.

The second LDB, being regulated, stimulated the institutions to create projects that would attend the lack of teachers in the country, therefore, the two mentioned projects were implemented in similar times. Here, a person who wanted to study in Higher Education, especially the teachers in action, could opt for the Full or Short Duration Degree, the one that existed in his municipality. These degrees could be "by installments" or not. Remembering once again that the focus was on teachers in service and that they did not have the necessary qualifications, the installment plans presented themselves as a strategy to attend these professionals during school vacations.

These courses were implemented from agreements established by city halls, education departments and state or federal institutions. The municipalities were responsible for the structure and for selecting technical professionals, while the university entered with the structure of training and professionals to work in it. Any Higher Education institution could offer these two courses. In the case of UEMT (that originated the current UFMS), it was offered at first the Degree of Short Duration in Sciences in the installment modality, called, therefore, the Degree of Short Duration in Sciences with two years of duration. Its first offer occurred in the cities of Ponta Porã, Rondonópolis, Paranaíba and Coxim. They had a total workload of 1,560 hours, distributed in four phases. The second offer, in the city of Nortelândia (MT), was 1,920 hours, distributed in eight phases. Both offers had a duration of two years. When the vacation period arrived, the teachers would go to the headquarters schools and stay there for the whole period. During the day, there were classes and in the evening the schools served as lodgings for the academic teachers. In this format, there was no tutoring, and the study was condensed, intensive. The motivation of these professionals was the opportunity to do higher education and they received a financial incentive,

scholarships for those who finished the course, remuneration during the vacation period and the promise of an effective position. With these incentives, there was almost no evasion (GONZALES, 2017).

In this panorama of precursor actions to the investigated course, we noticed that "the graduations" were implemented to attend a demand of teachers that did not have a specific formation for the classroom. There was an urgent need to train them, who could opt for the Short-Term or Full Term course. However, the professionals trained for the Short duration degree got their place in the schools for a certain time because, as soon as the training was expanded, the Short duration degree was closed and the demands increased, especially with the last LDB (1996). The supply of teachers gradually increased and these professionals, when they remained in education, occupied marginal positions before those graduated with full degrees. Many of these had to go back to university and complement the workload to match those with full degrees. This more generalist and sometimes relaxed formation provoked prejudices, since it was considered a less prestigious formation, reasons that led to the extinction of several courses in this modality already in the 1980s. In the then UFMS, in 1981, the course that started with the name of Degree in Science, before finishing the first class started to be called Full Degree in Mathematics. This information points out that the formation policies and projects were directed to attend a momentary problem. Although there was a discourse that a more generalist professor could better articulate the contents, the professional entities rejected this idea, pointing to a light formation in each area and therefore insufficient.

Thinking about what currently occurs and looking at the Degree in Mathematics at a distance, we realize, in discussions involving a course taught in the distance modality, that it is seen as a less prestigious course. In some situations, this degree is similar to one in-person and in other aspects it is distant. They move away from what concerns the administrative part: the

system of enrollment, of notes, of dependencies, of re-offering. There are some administrative obstacles, especially in the matter of re-offering, because in some poles there is no opening of a second class, that is, there is no discipline being offered for the student to follow in parallel. In the pedagogical part, there are also differences, a class of questioning, for example, in the face-to-face mode is very different from the distance mode; in the latter, a lot of creativity is required from the teacher and tutor to be able to clarify these doubts and even from the student, to manifest his questions.

In these reflections on these different course formats, we understand how much these previous experiences have contributed to the current formats and how much the difficulties faced previously reside in the current courses. Whether or not, with or without problems, these projects met in part the needs of the time, when the main objective was to qualify teachers. Thus, in the Mathematics Degree the distance from UFMS was not different, in the study it was possible to notice that the course is shaped by previous training experiences, taught in the state of Mato Grosso do Sul. However, we should ask: would this degree really be a continuity of these experiences, with so many unique elements and different organizations? Many are the common and proper elements of these projects with the course investigated.

The objectives of these projects, even the degree in Mathematics at a distance, are similar and focused on the urgency of the formation of teachers to supply the lack of professionals that existed at the time, mainly in the interior of the state. The structures of these courses, mainly mathematics, inherited the same workload as the courses in-person, however, without considering the specificity of the modality, that is, the pedagogical questions did not always have their own proposal, they were always using models of the in-person and adapting them to the distance formats. Adequacy in the schedule, workload, menus and names of the subjects were present in the discussions between

teachers and students, however, few were materialized or effectively implemented in the pedagogical project.

Another issue that led coordination and teachers to discuss was the high evasion rate. This issue strongly appeared in the speeches of these crew members, sometimes caused by difficulties with the exact subjects and others by the lack of previous knowledge of the course proposal. In the case of the degree in Mathematics at a distance, another reason for evasion, reported by the interviewees, was the feeling of loneliness and isolation of these academics. It is interesting that, in the Degree of Short Duration in Sciences in the Installment modality, these rates of evasion were minimal, almost non-existent, perhaps because the incentives were the best possible.

In the study, we also found that the Degree in Mathematics at a Distance brings strong singular elements. Processes of the modality in-person that do not apply in the modality the distance were constantly discussed by our crew members, an example would be the question of the dependence of a discipline in the modality the distance. The lack of a specific academic system for EaD has become a problem, although the project, the workload, the subjects and other documents are the same, they are different modalities and courses and, mainly, the calendars are different, in the EaD course, in general, there were no vacations or vacations, these were important times for academics to catch up on the study.

The presence of tutors in this course is also something unique. We would say that it would be a gain of the participation of these professionals in the development of the Degree in Mathematics at a distance of UFMS, a function that did not exist in other formats of higher education. The technology can be included in this particularity, because, in the UAB proposal, there were different technological tools, a Virtual Learning Environment (AVA), specific control systems, something totally new for the group involved: professors, tutors and the academic secretary had to adapt. Learning and participating in web conferences,

recording video lessons, moving in the Moodle environment, being more attentive to e-mails and posts in AVA, were a great challenge at the time, in addition to the problems of logistics, a very particular brand of this course, intensified due to the offer extended to the poles of Paraná and São Paulo.

In quoting some peculiarities perceived in the dialogue, we understand that the lack of a project for EaD, built and thought by professionals involved in the modality, led to the virtualization of traditional school, i.e.: "an attempt to implement, using technological means, courses or educational actions that are present in traditional teaching" (VALENTE, 2010, p.35), i.e., we are always using models of the classroom and virtualizing this classroom by technological means.

Final considerations

We present here part of the master's research that investigated the creation of the degree in Mathematics at a distance of the Federal University of Mato Grosso do Sul. Our historiographic process originally elaborated fictional dialogues that emulated writing in a forum at AVA, in which our interlocutors, coming from interviews or written texts, dialogued among themselves, producing stories about the course. In this movement of emulation, as we wrote, we remembered other texts, other lines that were linked in the production of this narrative. These affectations undoubtedly took on personal and subjective dimensions proper to the narrative treatment.

For the cut in question, we opted for a movement in a single voice, but one that dialogued with these interlocutors. From our travel to here, the evaluations in periodicals nourished the impression that we had about the difficulty to convey narratives, that are close to fiction and literature, in the field of Mathematical Education. Thus, we listed two movements, diaries: a historical narrative about the course and the previous courses that served as a

foundation for its existence. In the first, the collation of sources and affections made us to produce a narrative, even if unique, open to multiplicity, capable of being questioned by those who lived the process from another perspective or who read our sources, even so, a plausible narrative, possible, at the same time, to be corroborated by those who read our sources and who lived the process under study. The second deals with identities, similarities and ruptures, different temporalities of the courses that preceded the Degree in Mathematics at a Distance at UFMS. Perhaps we could flirt with Deleuze and Guattari (2011), proposing here a multiplicity, smaller than identity, of $n-1$ dimension, or even Jacques Derrida (2012), with his "neither, nor", so the course would be neither continuity nor a complete innovation. However, we didn't do them, they were not readings that inhabited us at that moment, in contrast, in an organic movement, we emulated formats, we imitated narratives in order to enter, even if necessary in some cases - we admit - into their language games. We base ourselves on the truths of the sources and not on the truth that the sources could provide us in a process of agglutination and overlapping of fragmented versions. Each statement, although it may compose a flap of an immense quilt, is at each moment a different quilt that is constituted in front of an interlocutor: different from the other, different from itself.

In this game of belonging and non-belonging, from inside and outside, we produce an overview of the degree in question. From the record of each logbook, we try to dispose of part of our analytical movement, bringing our understanding about the sayings of our crew during the trip.

In this journey through the initial years of the Degree in Mathematics at a distance from UFMS, we thought, initially, that we could describe only the aspects related to the implementation of the course, however, during the research, we came across other directions. We found in these directions versions, contributions and strong indications of the course

as a continuity of previous formations, mainly when we are faced with common elements to the course projects. There is a network of connections and similarities, both with courses from other areas focused on teacher training in the state, as well as mathematics courses from other regions and institutions. The internalization of teacher training in our state is, without a doubt, a strong agglutination of these actions in different times.

The elements pointed out present a degree that has its own characteristics with different ways of working, but which was not constituted by itself, but by the observation of experiences before the course, of other models, adapted to better meet the demand of the time from elements and movements that reveal a continuity of short and full duration degrees. The virtualization of the traditional school, even if it defends itself unwanted, brings with it the movement of the possible and moves these characters to scenarios not yet invented.

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