

SPECIAL SECTION: TEACHING IN HIGHER EDUCATION IN PANDEMIC TIMES

NETWORK SHARING: A PROPOSAL FOR KNOWLEDGE EXCHANGE IN PANDEMIC TIMES¹

Fernanda Araujo Coutinho Campos²

Ana Paula Campos Cavalcanti³

ABSTRACT

The objectives of this work are to report on and reflect on the experiences of the group "Educações em Rede" (Network Education). Formed by teacher-researchers, it was proposed as a space for continuing education for teachers at different levels and for networking, as a response to face educational challenges in the face of the Covid-19 pandemic. The actions carried out consisted of webinars transmission; production of tutorials and publication of articles to assist teachers in the theoretical, methodological and technical difficulties emerging in this context. The central motivation of "Educações em Rede" was to debate and share knowledge with different actors from different parts of Brazil and the world, establishing themselves as a learning network. The analyzed data show that the public was essentially composed of Brazilian teachers, from 30 to 45 years old, in search of an accessible space for debate and non-formal training in the use of technologies applied to education.

Keywords: Teacher education. Learning networks. Pandemic. Virtual communities. Digital Information and Communication Technologies (ICT).

How to quote this document – ABNT

CAMPOS, Fernanda Araujo Coutinho; CAVALCANTI, Ana Paula Campos.
Network sharing: a proposal for knowledge exchange in pandemic times.
Revista Docência do Ensino Superior, Belo Horizonte, v. 10, e024876, p. 1-23,
2020. DOI: <https://doi.org/10.35699/2237-5864.2020.24876>.

Received on: 01/09/2020

Approved on: 13/12/2020

Posted on: 31/12/2020

¹ A tradução deste artigo foi de responsabilidade das autoras.

² Universidade Aberta (Uab), Lisboa, Portugal.

ORCID ID: <https://orcid.org/0000-0002-0841-5871>. E-mail: fernanda.campos3x@gmail.com

³ Centro Universitário Newton Paiva, Belo Horizonte, MG, Brasil.

ORCID ID: <https://orcid.org/0000-0002-3865-2851>. E-mail: anapcletras@outlook.com

INTERCAMBIO DE REDES: UNA PROPUESTA PARA EL INTERCAMBIO DE CONOCIMIENTOS EN TIEMPOS DE PANDEMIA

RESUMEN

Los objetivos de este trabajo son informar y reflexionar sobre las experiencias del grupo "Educações em Rede". Formado por profesores-investigadores, se propuso como un espacio para la formación continua de profesores y para la creación de redes, como respuesta a los desafíos educativos ante la pandemia de Covid-19. Las acciones consistieron en seminarios web, producción de tutoriales y publicación de artículos para ayudar en las dificultades teóricas, metodológicas y técnicas que se demandan en este contexto. La motivación central de "Educações em Rede" fue debatir y compartir conocimientos con diversos actores de diferentes partes del Brasil y del mundo, estableciéndose como una red de aprendizaje. Los datos del análisis muestran que el público estaba compuesto, esencialmente, por profesores brasileños, de 30 a 45 años de edad, en busca de un espacio accesible para el debate y la formación no formal para el uso de tecnologías aplicadas a la educación.

Palabras clave: Formación de profesores. Redes de aprendizaje. Pandemia. Comunidades virtuales. Tecnologías Digitales de Información y Comunicación (TDICs).

PARTILHANDO EM REDE: UMA PROPOSTA DE TROCAS DE SABERES EM TEMPOS DE PANDEMIA

RESUMO

Os objetivos deste trabalho são relatar e refletir acerca das experiências realizadas pelo grupo "Educações em Rede". Formado por professores-pesquisadores, propôs-se como um espaço de formação continuada para professores de diversos níveis e de acolhimento em rede, como resposta de enfrentamento aos desafios educacionais diante da pandemia da Covid-19. As ações realizadas constituíram-se na transmissão de webinários; produção de tutoriais e publicação de artigos para auxiliar professores perante as dificuldades teóricas, metodológicas e técnicas emergentes nesse contexto. A motivação central do "Educações em Rede" consistia em debater e partilhar saberes com diversos atores de diferentes partes do Brasil e do mundo, estabelecendo-se como uma rede de aprendizagem. Os dados de análise demonstram que o público era composto, essencialmente, por professores brasileiros, de 30 a 45 anos, em busca de um espaço acessível para o debate e de formação não formal para o uso das tecnologias aplicadas à educação.

Palavras-chave: Formação de professores. Redes de aprendizagem. Pandemia. Comunidades virtuais. Tecnologias Digitais de Informação e Comunicação (TDICs).

INTRODUCTION

With the advent of the health crisis caused by Covid-19, there was the need for social isolation and, consequently, the closure of shops, bars and restaurants and, also, schools, from early childhood education to higher education. In face of the urgency of closing the doors, challenges were established for the entire educational community: teachers, managers, families and students. Therefore, it was necessary to open the windows and unveil the various challenges faced by education. In this context, the group “Educações em Rede” (“ER”) emerged and we intend to report its actions and experiences carried out between April and September 2020.

“Educações em Rede” was created in March 2020 by five teachers who live in several cities in Brazil and the world⁴. The “ER” main goals were: to assist teachers of different levels of education; to present possible solutions for a new educational scenario, which required the mediation of digital information and communication technologies; to reflect on education changes; to constitute itself as a support network; to share knowledge and academic experience.

In view of the conditions of social isolation, imposed to try to reduce the spread and contagion of the new coronavirus, it was necessary to reprogram the spaces and the learning processes with Information and Communication Technology (ICT) as a mediator. Thus, new times and spaces were created, new didactics, new forms of relationship interactions. In this respect, new challenges have appeared, namely: How to schedule an on-line class? Will everybody have access to that? How is equity in education now? Are the teachers prepared? What is the best platform? These and other issues were the starting point for the formation of the “ER” group.

Faced with the challenge imposed on teachers, the “ER” group proposed to carry out a series of actions, including webinars, publication of articles, creation of a website and workshops. For this purpose, many teachers were invited to exchange and co-create networked knowledge based on diverse experiences.

Seen in these terms, the work of the group – evidenced by the involvement of a significant number of participants⁵, the exchanges, the diversity of shared experiences – presented itself as a phenomenon of open and multiple formations in a network, as Castells (1999) imagined.

In this connection, the “ER” group was established as a space for exchanges and network shares made by and for teachers, using ICT and the virtual space to share content for free and

⁴ Namely in cities of Minas Gerais, Portugal and Sweden.

⁵ There were more than 15.000 views and 1.300 subscribed users on *Youtube*. Access: <https://www.youtube.com/channel/UCbwuKo04wV-KnlFhBsCHqjw>. There were more than 1.500 registrations in the webinars and accomplished workshops.

without institutional support. We believe that, during the group's months of action, experiments were carried out that corroborate theories and practices of network and digital culture scholars, such as Castells (1999), Pretto (2011), Lemos (2002), Lévy (1999), Schlemmer (2012) and Santos and Weber (2018). The choice of these theorists is due to the fact that the group uses virtual space (in an open and networked way) and digital tools to build disruptive learning spaces. Furthermore, it is justified because we understand that the phenomenon reported and experienced does not require a change in training, relationships and in teaching and learning, overcoming a look at the instrumental use of ICT and considering the contemporary uses mediated by networked ICT (CASTELLS, 1999) and cyberspace (LÉVY, 1999).

In case of, until March 2020, school institutions, whether in basic education or higher education, were not adapted and prepared to teach using digital technologies, after the middle of the referred month, they were forced - abruptly - to reorganize and adapt for technology-mediated education, which was called "remote education".

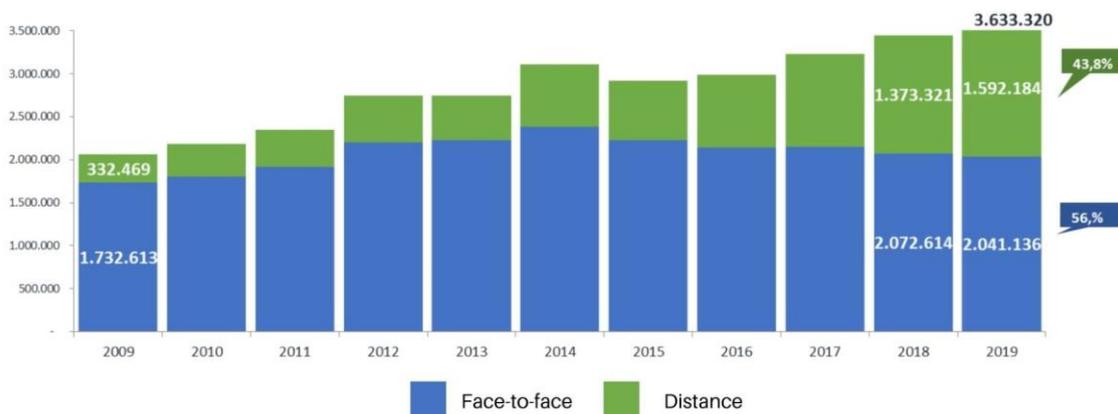
The article presents the report of the constitution of the "ER" group in the context of the Covid-19 pandemic, reporting the experiences and data of the participants. In addition, it questions the definitions created for education at this time and, finally, reflects on the relevance of the group's actions.

EDUCATION IN PANDEMIC TIMES

2020 was a completely defying year to education all over the world. The closure of schools, due to the propagation of Covid-19, forced an adaptation to a new way of teaching in which digital technologies were used to mediate pedagogical relationships, while the entire school community was at home.

Until March this year, classes in basic education schools only took place in person. On the other hand, in higher education, even with a good part of the offer being in person, distance education (DE) was already a reality. In the case of public higher education, the experiences of the Open University⁶ exposed the expertise, while private universities have significantly expanded their offer in this modality in recent years. According to data from the Higher Education Census (INEP, 2019), the number of university students enrolled in DE totaled 43.8% of the total undergraduate enrollment, as shown in Graph 1:

⁶ The exception, in public higher education institutions, is the Open University of Brazil project created by Decree No. 5,800, of June 8, 2006, with the intention of expanding the offer of distance courses in public institutions. There is a reality, evidenced in research, of the difference in public institutions between classroom teaching and the Open University of Brazil project, making them almost separate institutions. To learn more, see Mill (2012) and Veloso and Mill (2020).



Grafic 1 – Number of undergraduate course entries by type of education
Source: INEP, 2019, p. 12.

In addition, in higher education, experiences with distance learning could also happen in a partial way, since almost two decades ago, non-face-to-face offers were made possible, in other words, with part of the workload of courses and subjects in which digital technologies⁷ were used. In the last update of this guideline, it was established, through Ordinance No. 2117, that 40% of the disciplines could occur using the distance modality⁸.

The expressive growth in the number of DE entries may be related, on the one hand, to the increased access to ICT and, on the other, to political and social issues. In recent years, we have seen an increase in the number of vacancies, especially in the private network, with the discourse of capillarity - distribution of poles, social inclusion and increased competitiveness among institutions. This means that distance education was already a reality in Brazil before the pandemic.

It is important to consider, however, that other reasons led many people to choose distance education in higher education. We can list at least four reasons. The first one is related to the value of these courses. As they are less expensive for institutions and, due to the notable precariousness of teaching work, distance courses are much cheaper than on-site courses. The second reason can be justified by the flexibility of time. The student can fulfill his academic obligations within his routine and at a time other than commercial. The third is associated

⁷ The first ordinance that provided for non-in-person offers was Ordinance No. 2,253 (BRASIL, 2001). In 2004, it was updated, stipulating that 20% of the workload of courses and/ or subjects could be offered semi-face-to-face.

⁸ Ordinance No. 2117, of December 6, 2019, provides that: "HEIs may introduce the offer of hours, in the form of distance learning, in the pedagogical and curricular organization of their face-to-face undergraduate courses, up to a limit of 40% of the total course hours"(Portuguese to English version by the translator; BRASIL, 2019, art. 2).

with access. That is, people who live in rural towns, in which there are no university centers nearby, have an alternative in distance learning. Finally, we are witnessing an interesting marketing phenomenon, the career transition. In this sense, for these professionals it is much more feasible to sit in front of their computer instead of presenting themselves, in person, at a college bank.

Still on distance education, it is known that it was not the experiences of this modality - with predominance of asynchronous, own educational plans and designs and a specialized team - those used by school institutions when responding to the education crisis caused by Covid-19.

What was experienced in education in 2020 was called remote education, an experience that combined the use of digital technologies for the mediation of classes, with the presence of classroom teaching methods and techniques.

At this stage it is necessary to clarify something fundamental: the difference between distance education and remote education. According to Arruda (2020), distance education involves prior planning, consideration of student and teacher profile, medium and long term development of teaching and learning strategies that take into account the synchronous and asynchronous dimensions of DE. While emergency remote education, as stated by Hodges et al. (2020), is a temporary shift from the delivery of curriculum content to an alternative form of supply, due to the crisis situation, as shown in Table 1:

Distance Education	Emergency Remote Education
Technologies with a pedagogical intention.	Technologies to solve non-presence.
Synchronous and asynchronous moments.	Primarily synchronous moments.
Space-time flexibility.	Requirement of synchronous moments according to school hours.
Pedagogical moments for interaction with teachers, with the content and among students.	Interaction moments with the teacher.
Planning and preparation in advance.	Little or no planning, a temporary action delivered as an alternative to the confinement times.
Support from tutors and technical staff for questions and difficulties.	Synchronous teaching support.

Majority target audience: adults.	Majority target audience: all students without classes (from kindergarten to postgraduate).
Autonomy.	Family support.
Legally authorized plans.	Emergency plans.
Numerous studies, theories, models, standards and assessment criteria focused on the quality of learning.	Classroom teaching methodology mediated by digital communication technologies.
Attendance registered by participation in forums and fulfillment of activities.	Suggested synchronous presence.

Table 1 – Comparison between Distance Education and Emergency Remote Education
Source: adapted from Hodgeset *al.* (2020).

The situation created by the pandemic has given new meaning to all levels of education. What we followed was a possible reorganization to continue the actions of the school term. Digital technologies were present, but methodologies and times were rescued from the usual face-to-face education.

Additionally, in cases where access to the internet was not feasible for everyone, we followed the resurgence of video lessons, teaching through handouts, radio lessons, in other words, alternatives were sought to serve students. Despite the closed doors of schools, education has not stopped.

However, the experiences of distance learning for basic education did not exist until then. On the one hand, due to the lack of legislation related to distance education for this level and, on the other hand, because there is still a lack of confidence in DE. And not only that. The use of digital technologies was not a reality in schools yet, and the training of teachers on the subject was still insufficient. These were, without a doubt, some of the great challenges of the confinement period: training teachers to use digital technologies and internet access for all.

In this scenario of many doubts, five teachers joined forces so that, somehow, they could contribute with their peers. Thus, “Educações em Rede” was created, a project of non-formal, open and networked training actions, aimed at teachers of all levels and modalities of education and from different countries. The group was based on collaboration, active learning, reflection-action, the learning community, the learning teacher and innovative education. Obviously, not every problem has been solved; yet, the group also believes that it has contributed in some way to the formation of its peers, as the third section of this article.

But we were not alone.

In this situation of adversity, insecurities and uncertainties, we followed the creation of communities of teachers on social media, such as *Facebook* and *Whatsapp*, so that teachers could exchange information, share knowledge and support each other, creating space for outbursts, statements about the difficulties they faced and, consequently, they were able to build new knowledge.⁹

We know that virtual social networks are a communication and interaction tool. If before the pandemic they were already used by students and teachers, in 2020, social media made it possible to create new groups and online learning communities to share information and exchange experiences, forming the so-called learning communities online which are characterized “as a new way of social organization and change the way the subject relates to information, learns and produces knowledge” (Portuguese to English version by the translator; SCHLEMMER, 2012, p. 265).

In this way, we understand that being online is a phenomenon prior to the pandemic and part of humanity’s scientific-technological and cultural development. However, the health emergency situation, which requires social distancing and confinement, meant that the relationship between physical and virtual was deepened. The pandemic context accentuated the phenomena of social networks and cyberculture narrowing in-person and virtual spaces and expanding non-formal learning spaces.

Digital Technologies and education: necessary issues

In the perspective brought by Covid-19 pandemic, the internet and digital technologies were the resources used as spaces for interacting with the outside world, for training and information, for those who have internet access.

In Brazil, unfortunately, this is not a reality for everybody. According to data from “Comitê Gestor de Internet no Brasil (CGI.BR, 2020)”, in urban areas 77% of the population has access to the internet and, in rural areas, access reaches 53% of the population.

Despite the fact that digital technologies are already a reality for part of Brazilian population, the conditions brought by Covid-19 made ICT become more intense means and spaces of communication and sharing, whose purposes varied from leisure to education. In a confinement context, the following could be verified: increase in the combined use of cell phones and computers and internet access via television; increase in public services and

⁹ In a more specific case, we mention “Grupo E-learning Apoio”, created on Facebook on March 8th by Portuguese teachers, which, in one week, had more than 8,000 subscribers and, in September 2020, more than 30,000.

financial transactions; adding users who performed work activities over the web; growth of virtual school activities or research, according to research conducted by Cetic.br (2020).

If, before the pandemic moment, the use of ICT in education was a mix of challenges and possibilities, with the arrival of Covid-19 and the closure of schools, its use became mandatory. It was observing this movement and the conditions established by Covid-19 that “Educações em Rede” met with the objective of sharing, dialoguing, reflecting and problematizing education in the country. The group’s intention, therefore, was to propose solutions, paths, alternatives, as well as to give support to teachers and other members of the school community, in facing these changes.

NETWORK SHARING: A PROPOSAL FROM “EDUCAÇÕES EM REDE”

As we indicated initially, “Educações em Rede” was composed of five teachers - masters and PhDs in Education – in March 2020, who met and proposed to share scientific knowledge and teaching experiences from different levels of education, through the web.

It was in the virtual space that the “ER” group met to carry out and disseminate their actions. Social networks, web pages and streaming platforms were used, namely *Facebook*¹⁰, *Linkedin*¹¹, *Instagram*¹², *Wordpress*¹³ and *YouTube*¹⁴, which increased access and the possibility of dialogue with people interested in the topics covered. On the other hand, for the communication and management of the group’s activities, the following platforms were used: *Google Docs*, *Mailchimp*, *WhatsApp*, *Stream Yard* and *Skype*.

The “ER” group’s actions focused on non-formal, free training and without institutional reference. A teacher-to-teacher initiative, for those who believe in education, collaboration, lifelong learning, transformations and possible educations.

We started the activities with the proposal of two weekly webinar broadcasts and the recording of a tutorial during the period when schools were closed. The first action taken was the live broadcast of a webinar on April 3rd, 2020. The group’s actions followed the government’s decision of social distancing and the programming of webinars and tutorials continued. However, these actions were transformed with the active listening of teachers and with the participation of guests and those interested in the theme. Thus, the production of articles, infographics, reading tips and newsletters was added to the actions as the activities were developed between the months of April to September, 2020. Globally, they were

¹⁰ *Facebook*: <https://www.facebook.com/educacoesemrede>

¹¹ *Linkedin*: <https://www.linkedin.com/in/educacoesemrede/>

¹² *Instagram*: <https://www.instagram.com/educacoesemrede/>

¹³ *Wordpress*: <https://educacoesemrede.com/>

¹⁴ *Youtube*: <https://www.youtube.com/channel/UCbwuKo04wV-KnIFhBsCHqjw>

constituted as actions and activities of the group: webinars, tutorials, workshops, articles, infographics and reading tips. We now begin to expose the results of these actions.

In order to more accurately illustrate the scope and relevance of the work and efforts undertaken by the group, here are some data extracted from social media between April 3rd and September 28th, 2020:

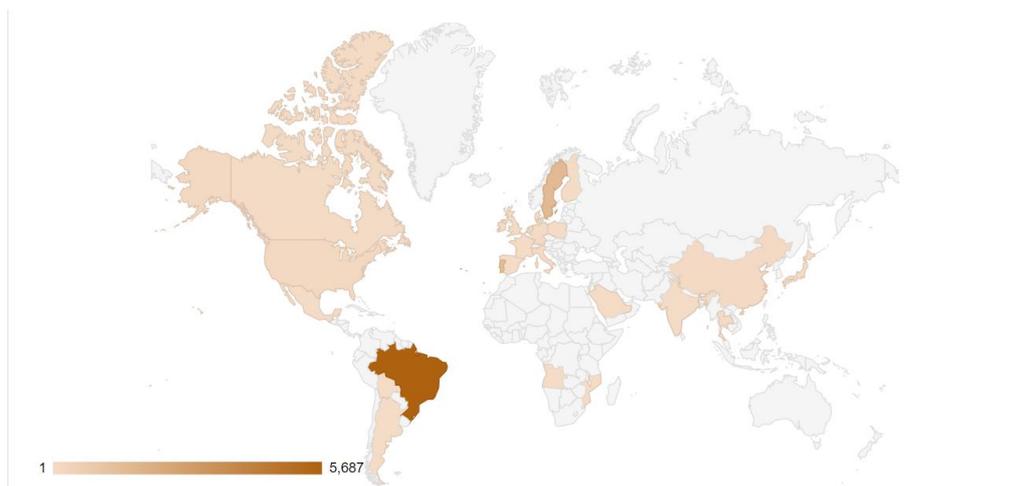


Figure 1 – Countries where access to content was found
Source: prepared by the authors, 2020.

The access to the contents of the website was made by people located in the countries: Brazil, Portugal, Sweden, United States, China, Germany, Canada, Thailand, Angola, Italy, Spain, among others.

Regarding the number of subscribers and followers on social media and *YouTube*, we have achieved the following ranges:

Social Network and <i>YouTube</i>	Number of subscribers/followers
<i>Facebook</i>	373 followers
<i>Instagram</i>	661 followers
<i>YouTube</i>	1.370 subscribers
<i>LinkedIn</i>	2.170 connections

Table 2 – Number of subscriptions to the group’s social media
Source: prepared by the authors, 2020.

With the regard to production, up to the middle of September, 45 videos were published on the *YouTube* channel: 27 webinars, 11 tutorials, 7 online workshops, 2 reflection videos and 1 lecture, as shown in table 2. Besides that, 10 articles by guest lecturers were published on the website, in addition to infographics and reading tips.

In table 3, we present the Schedule of events held and tutorials published until September 2020. We emphasize that, between April and June, the group held two webinars and published one tutorial per week. From the second week of June, the publication of collaborative articles produced by guests or interested parties was included. In August, the “Semana Pensar e Fazer” of the “ER” group was organized, with webinars and workshops. In September, the group’s last webinar was held.

In total, we had the presence of 40 professionals to present general and specific topics in Education. In these formative moments, reflections on Education were presented, as well as digital resources for pedagogical use in tutorial or workshops format.

Date	Publication	Theme
04/03	<i>Webinar</i>	Education in social isolation times
04/07	<i>Webinar</i>	Plan online class
04/08	Tutorial	Sharing teaching plan, menu and course schedule
04/10	<i>Webinar</i>	The maker movement in the combat against Covid-19
04/14	<i>Webinar</i>	Motherhood, Education and quarantine
04/17	Tutorial	How to <i>podcast</i> using <i>Anchor</i>
04/21	<i>Webinar</i>	Digital tools and their uses in education
04/22	Tutorial	Interdisciplinary activities with <i>Google Earth</i>
04/24	<i>Webinar</i>	Open Educational Resources
04/28	<i>Webinar</i>	Entertaining online education
04/29	Tutorial	<i>Stream Yard</i>
05/01	<i>Webinar</i>	Experiences with learning platforms in higher, basic and child education
05/05	Tutorial	<i>Google Docs</i> as a collaborative writing tool
05/05	<i>Webinar</i>	Between the root and the flower, time and spaces: teaching today

Network sharing: a proposal for knowledge exchange in pandemic times

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05/06	Tutorials	Creating tutorials using <i>PowerPoint</i>
05/08	<i>Webinar</i>	Online Language Teaching: a self-employed teacher's experiences
05/12	<i>Webinar</i>	Teaching-learning methodologies
05/13	Reflection video	Democratization of the media and technology spectrum in times of pandemic
05/15	<i>Webinar</i>	<i>Soft Skills</i> : their roles in education and in the world of work
05/19	Tutorial	How to install and configure <i>Zoom</i>
05/19	<i>Webinar</i>	Rethinking the teaching of the Portuguese language
05/22	<i>Webinar</i>	Among the excess of information and knowledge production
05/26	<i>Webinar</i>	Styles of using virtual space for online learning
05/27	Tutorial	How to do screen sharing in <i>Zoom</i>
05/29	<i>Webinar</i>	Mental health in quarentine
06/02	<i>Webinar</i>	<i>Design Thinking</i> to education
06/05	<i>Webinar</i>	Network teacher training
06/09	Tutorial	<i>Animaker</i>
06/10	Tutorial	<i>G-Suite for education</i>
06/16	<i>Webinar</i>	Portuguese language teaching: strategies for online learning
06/18	Reflection video	Living the present in times of uncertainty
06/30	<i>Webinar</i>	Methodologies for teaching History: face-to-face and online
07/14	<i>Webinar</i>	Educators producing contents on the internet
07/21	Lecture	Collaborating in a network for education in Covid-19 times
07/24	<i>Webinar</i>	How to produce and conduct the online class
07/29	<i>Webinar</i>	Cyberculture and networked creative practices
08/10	Workshop	Basic education of Libras
08/10	<i>Webinar</i>	Think and do

08/11	Workshop	“Luz, Câmera e “E-ducação””: communication from the perspective of education
08/11	Webinar	Inclusion and Education
08/12	Workshop	Google Classroom
08/12	Workshop	Dynamics and interaction with Padlet
08/13	Workshop	Synchronous test using Google Forms and Zoom
08/13	Webinar	Content production to DE
08/14	Workshop	Interactive activities with H5P
08/14	Workshop	Gamification on Genial.ly
09/28	Webinar	Early childhood education: experiences during the pandemic

Table 3 – Video productions from “ER” group on YouTube
Source: prepared by the authors, 2020.

The interesting thing about publishing on *YouTube* is that, through the *Studio* tool, from this *stream* platform, it was possible to identify very accurate data of accesses and views, which we share on Table 4:

Information		Numbers
Views of all videos		17.053 views
Watch time		3.500 hours
Access by	Smartphone	9.053 (53,1%)
	Computer	7.283 (42,7%)
	Television	215 (1,3%)
	Tablet	176 (1%)
	Game console	6 (0,0%)

Most watched videos	Early childhood education: experiences during the pandemic	1.764 views
	Portuguese language teaching: strategies for online learning	1.500 views
	Between the root and the flower, time and spaces: teaching today	1.277 views
	Rethinking the teaching of the Portuguese language	746 views
	Digital tools and their uses in education	660 views

Table 4 – Number of videos posted by the group “Educações em Rede” on *YouTube*
Source: prepared by the authors, 2020.

Based on the data in Table 4, it appears that the “ER” group achieved more views from *smartphones*, besides that the participants who followed the videos on a computer spent more time in front of the screen (2.042,2 hours).

The presentation of these data highlights the relevance of a project that was intended to support teachers of all modalities and levels of education in a clearly challenging moment.

Participants: demands and exchanges of knowledge

In this item, we present the data of the two forms answered by the participants. Phase 1 corresponds to the period from April 3rd to June 5th, 2020, since the beginning of the project; it had a questionnaire made available to the public through the *Google Forms* tool. It was through the registration form that we were able to draw the interests of this audience in a more assertive way and, thus, direct the programming and verify the need for themes related to ICT in pedagogical practices, as well as the instrumentalization of these resources.

The form had eight questions, seven of which were objective and one discursive, and sought to know the profile of the participant, the challenges to cope with the scenario marked by the pandemic, his time preferences and suggestions on topics of interest to him.

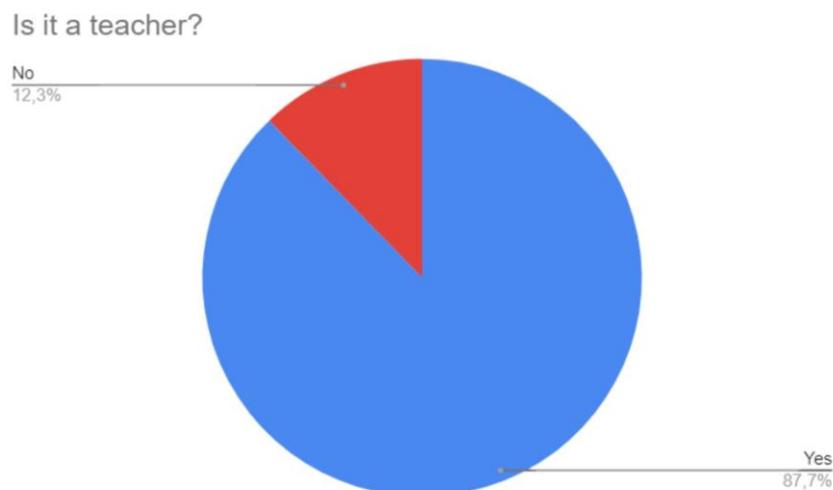
Phase 2 started in the second week of June. The webinars started to be fortnightly, and we started publishing articles on the website. In this phase, we realized the need for new data in order to understand the public more closely. At the end of Phase 1, we requested to the

participants, via email, to complete the questionnaire called “Questionário de Avaliação das atividades do grupo ‘ER’”. Despite the low adherence – only fifty-four respondents – the result also helped us to understand the pains and needs of teachers and others enrolled in the activities.

Through the registration form, we verified that most of the subscribers were in Brazil (95%), however, we also checked the presence of Portuguese and Spanish people. Data from a recent survey by *DataReportal* (KEMP, 2020) indicated Brazil in third place among the countries where people spend the most time on the network, second only to Philippines and South Africa. In addition, during the pandemic, all universities and, practically, all state and municipal¹⁵ networks started the migration from classroom to remote education, thus leading a mass of teachers and also institutions to different proposals and models, as reported by Méloet *al.* (2020). It must be considered that, of the five members of the group, three resided in Brazil and those abroad were Brazilian. The fact that the group is consisted of Brazilian man and women may have been a major factor in determining participants of the same nationality. It is also noteworthy that we made a wide dissemination among professional contacts and Education Departments in Brazil.

DATA ANALYSIS OF THE QUESTIONNAIRE PARTICIPANTS

As expected, the majority of the public was composed, mostly, of teachers, considering that, from the total of registered participants, 81.3% or 821 of them were from this category.



Graphic 2 – Number of teachers participating in the webinars promoted by “ER” group
Source: “ER” group file, 2020.

¹⁵ To find out the number of secretariats that have adopted remote education, see: <http://www.consed.org.br>. Source: Portals of State Education Departments.

According to data verified by the group's *YouTube* channel, the audience was mainly female (83,6%). This is probably due to the gender relations that historically determined the role of the teaching profession as a maternal activity and more suitable for women, which also explains low wages. As a consequence of the notable devaluation of the teaching profession related to salary, the choice for teaching is still recurrent among women. Prá and Cegatti (2016) advocate:

Education and teaching are among the social spaces that women accessed earlier and were more easily incorporated into the world of work. This scenario revealed the tendency towards the feminization of certain professional careers, areas of study and certain levels of education, especially in the initial stages of instruction. However, women's demands for access to education and the labor market required them to face the challenge of reserving some place for traditional female obligations derived from motherhood, domestic duties and care tasks (Portuguese to English version by the translator; p. 215).

Prá and Cegatti's (2016) statement is supported by critical feminist theory, but it can also be evidenced from Carvalho's (2018) data:

		Brazil		Early Childhood Education		Lower Elementary School		5th to 8th grades (or equivalent)		High School	
		N	%	N	%	N	%	N	%	N	%
2009	Female	1.535.919	82,7	365.664	96,8	670.359	90,9	577.652	73,6	295.335	64,2
	Male	321.359	17,3	11.896	3,2	67.474	9,1	207.557	26,4	164.688	35,8
	Total	1.857.278		377.560		737.833		785.209		460.023	
2013	Female	1.644.717	81,5	463.860	96,9	675.710	90,1	570.673	71,1	312.717	61,6
	Male	372.354	18,5	14.951	3,1	74.656	9,9	232.229	28,9	194.900	38,4
	Total	2.017.071		478.811		750.366		802.902		507.617	
2017	Female	1.683.772	81,0	538.708	96,6	677.219	88,9	527.146	68,9	303.900	59,6
	Male	395.138	19,0	18.833	3,4	84.518	11,1	237.585	31,1	205.894	40,4
	Total	2.078.910		557.541		761.737		764.731		509.794	

Table 5 – Teachers by sex and teaching stage – Brazil–2009/2013/2017

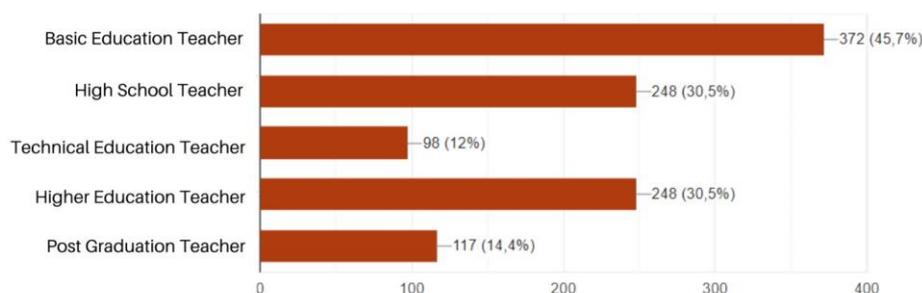
Source: Carvalho (2018).

The figures presented by Carvalho (2018), from the database of the Census of Basic Education, are similar to "Educações em Rede" public's data, that is, we verify the feminization of the teaching profession, especially in basic education. Notably, Table 5 shows a significant difference between male and female in early childhood education. In all the analyzed years (2009, 2013 and 2017), the percentage of approximately 96% of women in early childhood education remains against less than 4% of the male presence in that modality.

In the early years, the situation remains almost the same, with a slight increase in the male presence. Over the three analyzed years, there was a modest decrease of women (from 90% to 88%). On the other hand, the entry of men is much more expressive. In high school, the percentage almost balanced in 2017, with the presence of 40% of men in comparison with almost 60% of women.

The data presented allows us to affirm and confirm what was announced based on our figures: the female presence in basic education is notably higher. The public of the group “Educações em Rede” was mainly consisted of women, and this is the gender that predominates in basic education.

And the teachers of that level of education were a significant part of the public. Of the 814 registered participants, 620 were male and female teachers of basic education, mainly of elementary school, as shown in Graph 3:



Graphic 3 – Level of education in which they teach
Source: “ER” group file, 2020.

The data extracted from Graph 3 suggest that, although there is a significant number of basic education teachers, higher education teachers had an expressive participation in our webinars. Considering the theme for which this journal is intended, it is necessary to give special emphasis to these numbers.

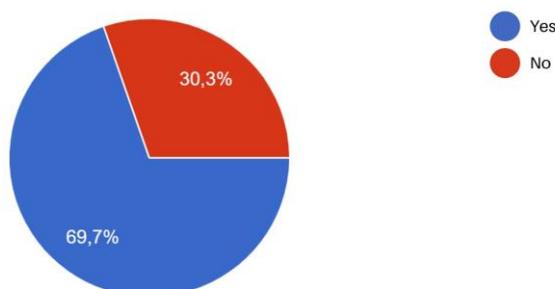
As we have argued in this text, we believe that the adoption of new digital technologies in the educational context is very recent, including for teaching in universities. The theme has also been postponed in academic discussions and has recently become essential due to the situation imposed by the pandemic.

The work developed by Riedner (2018) reveals the same impression that we have about adhering to ICT in the educational context, especially in higher education. Riedner’s doctoral thesis (2018) sought to investigate pedagogical practices and digital technologies in higher

education, specifically; at Universidade Federal do Mato Grosso do Sul. The work concludes that, despite the attempt to incorporate digital technologies in the subjects, and despite the use of some digital resources by university professors, the level of incorporation still does not allow the use of ICT beyond the instrumental.

According to the research by Riedner (2018), of the 24 professors interviewed, only two teachers developed activities that can be considered innovative and that are beyond the trivial (use of the multimedia projector and display of videos, for example). Unquestionably, this is a work that has a very specific profile, but we believe this sample can represent what is observed in most universities.

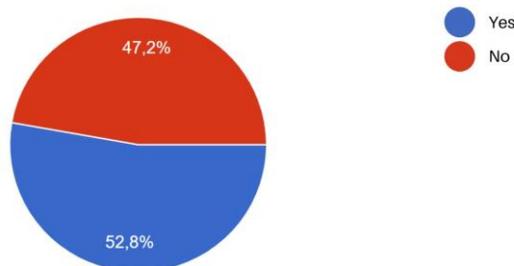
In the same questionnaire, it was also asked whether the participants needed to adapt their classes to online or remote teaching due to the new coronavirus pandemic. Most of the subscribers (69,7%) answered that they needed to adapt. This survey, presented in Graph 4, reveals a crucial aspect: the training work on active methodologies and guidance on the use of ICT was mandatory in this context, mainly because part of the teachers seem to demonstrate inability to deal with applied digital resources to the teaching-learning process.



Graphic 4– Adaptation to online classes

Source: "ER" group file, 2020.

An interesting data, which deserves further investigation, refers to the experience with distance education, because a little more than half of the subscribers informed that they have already experienced the modality. What does not seem to be very clear is whether the participants' experience took place as teachers or as students. Considering that the majority of the public is consisted by basic education teachers, it is assumed that this audience has experience as a student in DE.



Graphic 5 – DE experience
Source: “ER” group file, 2020.

What we conclude in this section is that the “ER” group managed to reach the public it intended to reach: teachers of all teaching levels and modalities. Nonetheless, we emphasize that teachers of basic education were undoubtedly those who most felt the effects of social distancing due to the pandemic, since the segment is not characterized by the experience of online teaching or hybrid proposals (especially in public schools). However, a more precise survey is needed to identify the type of experience with distance education that these teachers had, as well as it is relevant to differentiate the teaching staff that works in public schools and in private institutions.

FINAL CONSIDERATIONS

The group “Educações em Rede” reiterates the purpose of forming peers, in a non-formal way, using the space of networks for creation, co-creation and exchange of knowledge. We also consider it relevant to bring this experience to the academic space so that it is possible to think that the spaces must be multiple, that educating yourself does not mean receiving only a diploma, but being in constant learning to face daily challenges.

Without a doubt, pandemic times have uncovered questions that we should think about, especially, what education we want to offer when classes return and what education we want for the future.

The challenges experienced during the pandemic months for education were multiple: unequal access to ICT, little investment in educational projects, lacking training of teachers in the use of technologies.

What solutions would be possible for this moment: remote education? Video classes? Radio lessons? Study notebooks? The answers depend on each reality, since it is also impossible to obtain a single truth. The work carried out by teachers in times of social distancing was in the contours of the possible in the face of an unexpected and never before experienced moment.

What is certain is that education professionals have reinvented themselves in recent months. And they also sought to find solutions for the continuity of their classes.

From this report, it is possible to raise some important considerations: teachers of all teaching levels and modalities are thirsty for continuing education that prioritizes the use of digital technologies (in a less trivial and more active and innovative way); there is still a long and arduous path regarding the presence of ICT in classrooms, but the pandemic anticipated discussions and forced a pedagogical practice in virtual environments.

Based on the data presented, we can consider that the group reached the initially set work goals, that is, it contemplated teachers by offering tutorials and webinars that suggested the use of tools, platforms and applications for education.

Meanwhile, it is important to consider: if, on the one hand, the emergence of the educational technologies theme incorporated into education gained strength with the need for remote classes, on the other, it is known that many pedagogical practices, in this context, did not succeed.

It must be considered that many institutions in the private network already dealt with hybrid education, had their own virtual environments and already rehearsed teaching in a virtual context, mediated by technology. However, this was far from the reality of many public schools. What we saw, in this segment, was an amateur practice that sought to be made possible daily, with well-intentioned teachers, but without the training to deal with digital resources. Despite the remarkable efforts of teachers in many public schools, the challenge was even greater: unequal access to the internet was revealed.

Thus, there is, once again, social inequality, reproduced in the school environment, now physical and virtual. While children of the middle class accessed their synchronous classes within the virtual environments of their schools with relative ease, children of the poor could not perform a simple download of short videos, sent by teachers via messaging application.

It is possible that we are witnessing new post-pandemic times in the educational context. We hypothesize that many children and teenagers will be harmed, with their studies even more outdated, on the other hand, we will see the applicability of hybrid education, which should already be a methodology incorporated by schools.

We believe that “Educações em Rede” has fulfilled its role. And that this initiative was constituted as a non-institutionalized, open and free training power for teachers interested in thinking pedagogically about the new reality. During the months of April to August, it was established as a learning community in non-formal online spaces, without being restricted to walls, constituted in networks and social media, connecting teachers from different places in the country and the world.

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Fernanda Araujo Coutinho Campos

Educational consultant, e-tutor and instructional designer at Universidade Aberta (Portugal). PhD and Master in Education (Faculty in Education – UFMG), specialist in Distance Education (SENAC Minas) and graduated in History (PUC Minas).
fernanda.campos3x@gmail.com

Ana Paula Campos Cavalcanti

PhD in Applied Linguistics (Faculty of Letters – UFMG). Master in Education (Faculty of Education – UFMG). Graduated in Pedagogy (UFPE) and Literature (Estácio de Sá) and professor at the Newton Paiva University Center.
anapcletras@outlook.com