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TEACHERS' PERCEPTION DURING PANDEMIC TIMES: CHALLENGES, OPPORTUNITIES AND CHANGES

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Abstract: This integrative literature review aimed to analyze research on teaching action and the challenges, opportunities, and changes in teaching from the basic education teachers' perception during the pandemic era considering the methodologies adopted in research carried out. Regarding the challenges, most teachers identified three areas of difficulties: interaction and communication, student motivation and coordination and learning assessment. Although it was a period of tensions, it was also perceived as a window of opportunity for changes in teaching practices. Develop new skills and knowledge, especially about educational technology, and rethink new ways of teaching and learning were the main opportunities perceived by teachers. As for the changes, they realized technological, pedagogical and social changes on the teaching action.

Keywords: Teaching; Challenges; Basic Education; Pandemic.

INTRODUCTION

The Covid-19 pandemic context resulted in new requirements and demands with regards to teaching, the forms of interaction and communication between teachers and students, as well as between teachers' colleagues and family members. It exposed and exacerbated the already known social and educational hurdles, such as social inequality, digital vulnerability, the precarization of teaching, the predominance of traditional teaching models, among others (Nilsberth et al., 2021). The context became even more complex in face of the adoption of Emergency Remote Teaching (ERT) and Blended Learning, which were implemented according to the specificities of their educational system in the different countries in the period between 2020 and 2022.

During this pandemic period, teachers unexpectedly began to work from their

homes, and were exposed to improvised and unprepared working conditions and exhausting work journeys. Sousa et al (2021) also add that, in most cases, these professionals did not have access to the necessary devices, platforms or training. Another important issue was the lack of specific training for teachers in relation to the use and integration of information technology and methodologies, which resulted in a linear didactic transposition from in-person teaching to ERT, based heavily on uploading content to digital platforms without ensuring planning the teaching process in a manner that was suited to the students' concrete learning conditions. In addition to these issues, it is worth noting that groups and individuals were experiencing the loss of relatives, social mourning, improvised home-office conditions, political tensions generated by government officials, scientific denialism, etc.

From the perspective of the Theory of Subjectivity, which integrates the framework of cultural-historical psychology, a contradictory and tense dynamic in the socio-relational educational system caused by the displacement of teachers' in-person activities to online teaching can be observed. These changes and contradictions can mobilize subjective productions, as well as generate new resources and alternative strategies that are not subordinated to the dominant ideology and that, due to their generative nature, can open their own creative avenues for change within the normative-institutional school system (Rossato & Ramos, 2020).

Thus, knowing that production of scientific knowledge about the action of teaching can be traced back to the beginning of its professionalization (Libâneo, 2004), we must ponder on the changes in this field of research due to the pandemic and, consequently, the ERT. Therefore, we aimed to explore the

challenges, opportunities, and changes from the teachers' perception and voice during the pandemic era.

This integrative literature review aimed to analyze research on teaching action and the challenges, opportunities, and changes in the teaching perception during the pandemic era considering the methodologies, theoretical frameworks and investigations' objectives adopted in research carried out. We characterize the concept of teaching action like a category that permeates the specificity of teachers' professional performance, the characteristics of their training, the knowledge necessary for their practice, among other important issues. Having a qualitative understanding of the teaching action implies understanding the subjective processes experienced in the teaching experience. Therefore, it is important to highlight the voices of teachers and seek to understand how they elaborated and positioned themselves in relation to their practice in the virtual classroom. Thus, according to Barrios and Tacca (2019, p. 217) "Listening to stories and learning the subjective productions shared by a school's educators regarding its constitutive processes is to value the experience of each and every one and the articulation between the symbolic and affective dimensions."

From this perspective, teaching is not rigid, but is, rather, developed daily in the classroom by real people and, therefore, is influenced by the cultural, historical, and social context in which people live and develop. What is expected of teachers assumes different characteristics according to the educational needs of certain times and social contexts, which can, in turn, be accepted or questioned (Libâneo, 2004).

Thereafter, we ask the following questions from the teacher's perspective: (1) what were the challenges on teaching action mediated by digital technologies during pandemic times

(2) what were the opportunities of teaching action mediated by digital technologies during pandemic times and (3) what were the changes on teaching action mediated by digital technologies during pandemic times?

METHODOLOGY

This study is an integrative literature review, aiming to synthesize and analyze published research on the subject. For Souza, Silva, and Carvalho (2010, p. 103):

The integrative review is the broadest methodological approach regarding reviews. It allows for the inclusion of experimental and non-experimental studies for a complete understanding of the analyzed phenomenon. It also combines data from theoretical and empirical literature, in addition to incorporating a wide range of purposes: the definition of concepts, theories and evidence review, and methodological analysis of problems of a specific topic.

Six stages were adopted in conducting this research: the elaboration of three guiding questions; literature review and sampling; the collection of information; critical analysis of the included studies; results discussion; and analysis construction and presentation (Souza, Silva and Carvalho, 2010).

The *Scopus* search base was selected for this study, as it presents a wide variety of articles from relevant journals. We undertook several tests and refined our research according to our objectives and the number of articles found during September of 2021 and May of 2022. Finally, we adopted the following descriptors and Boolean operators: "teacher OR "teaching action" OR changes OR transition AND pandemic AND emergency AND remote AND teaching AND learning" and "teachers' perceptions" OR "teaching action" AND changes OR transition OR "Emergency remote teaching and learning" OR covid 19 (see Table 1). To determine which terms would be kept and which would be removed, we turned to

the abstracts and keywords of articles that were considered relevant to the objectives of our research.

Using the Boolean operators, 305 articles were obtained on *Scopus*. On the first screening, all abstracts were read and 53 of these articles were selected. Those were read in full for the second screening and 26 articles that met the research's objectives, questions and the inclusion criteria were selected (see Table 2). A record of these articles was kept in Excel to extract important information for the purposes of this research and for the discussion. The searches were carried out between September 1st, 2021, and May 19, 2022. It is important to point out that we chose not to select books or books' chapters and conference papers, for the articles nature of usually being free and having an in-depth description of the studies.

The inclusion criteria focused on studies that investigate the teaching action mediated by digital technologies in the ERT in basic education from the perspective and perceptions of teachers. Another inclusion criterion was the period between March 2020 and May 2022, which corresponds to the height of the pandemic. Articles in Portuguese, English, and Spanish, in the areas of social sciences, psychology, arts and humanities and/or computer science were included. The inclusion criteria utilized concern fidelity to the central theme of the paper, which is: the teaching action during the pandemic period in basic education from the teachers' perspectives and perceptions.

On the other hand, the exclusion criteria excluded articles that dealt with topics that were specific to teaching but don't consider de voice or perception of teachers. On table 3 are described the exclusion criteria in detail and the number of articles excluded by each criterion, based on the main theme of the articles.

It is important to know that this sample of articles 26 represent a section of articles selected according to a timeframe of 26 months, the *Scopus* search base, languages, and areas of knowledge compatible with the goals of these research focus on basic education from the most important aspect: the teachers' perceptions.

RESULTS AND DISCUSSION

A DESCRIPTION OF THE SELECTED STUDIES

Of the selected articles, the researchers come from sixteen different countries (Sweden, Saudi Arabia, Portugal, USA, Slovakia, Philippines, Italy, Israel, Canada, Brunei, Brazil, India, South Africa, Turkey, Austria and Malaysia), and four different continents - which is relevant, as the pandemic did not impact all countries in the same way, considering geographic, cultural, political and economic differences, as well as the different views of these countries' governments on the pandemic. It is worth mentioning that six studies focus on the teaching of specific subjects, which are Physical Education (Kaya, 2021; Centeio et al, 2021), English as a second language (Ludovico et al, 2021; Denardi et al, 2021), STEM (DeCoito and Estaiteyeh, 2022) and technical subjects (Code, Ralph and Forde, 2022), and two others focus on the teaching of students with Special Educational Needs (Toquero, 2021; Schuck and Lambert, 2020;). There is also one study whose objective was to investigate the case of Natural-Science teachers of Deaf/Hard-of-Hearing Learners (LDHH) (Adigun, 2022).

As for the research objectives, there was also differences amongst the articles, but nineteen of them sought to identify the experiences, perspectives and practices of teachers at different stages of the pandemic (Berdgahl and Nouri, 2020; Nilsbert et al., 2021; Seabre et al., 2021; Marshall et al, 2020; Batac et al,

Formula	Date	Number of articles
teacher AND school AND “online teaching” OR “teaching action” AND Changes AND pandemic	01/09/2021	27
teacher OR “teaching action” OR changes OR transition AND pandemic AND emergency AND remote AND teaching AND learning	17/09/2021	102
“teachers’ perceptions” OR “teaching action” AND changes OR transition OR “Emergency remote teaching and learning” OR covid 19	17/09/2021	51
teacher OR “teaching action” OR changes OR transition AND pandemic AND emergency AND remote AND teaching AND learning	12/05/2022	212
“teachers’ perceptions” OR “teaching action” AND changes OR transition OR “Emergency remote teaching and learning” OR covid 19	12/05/2022	93

Table 1 - Search formulas, dates and number of articles found.

Source: elaborated for this study, 2022

Formula	Number of articles	Selected in screening 1	Selected in screening 2
“teachers’ perceptions” OR “teaching action” AND changes OR transition OR “Emergency remote teaching and learning” OR covid 19	93	18	8
teacher OR “teaching action” OR changes OR transition AND pandemic AND emergency AND remote AND teaching AND learning	212	35	18
Total	305	53	26

Table 2 - Search formulas, number of articles found and selected.

Source: elaborated for this study, 2022

Criteria	Description	Number of articles
Articles that exclusively address themes adjacent to teaching action but don’t consider the perception of being teacher during pandemic time.	They address issues such as pedagogical methods, evaluation, use of certain platforms or tools, training, pedagogical relationship, planning, etc.	43
Articles that address teaching in higher or informal education	Conducted exclusively with teachers from higher education or mixed responses from teachers of different stages of education, including higher education	90
Articles that address the perspective of other actors in the school community	Conducted exclusively from the perspective of students, families, principals, or pre-service teachers, or mixed perspectives from different actors	48
Articles that do not address teaching action	They address topics such as mental health, ERT readiness, digital competence, motivation and engagement, digital exclusion, student attitude etc.	92
Paid Articles	Articles that, from the abstract, were not excluded by any of the above criteria, however, the access of the full article is not free	5

Table 3 - Exclusion criteria and the number of articles excluded.

Source: elaborated for this study, 2023.

2021; Trust and Whalen, 2021; Giovanella et al, 2020; Cobe, Ralph and Forde, 2022; Shamir-Inbal and Blau, 2021; Ibrahim et al, 2022; Decoito and Estaiteyeh, 2022; Haskova et al, 2021; Alakrash and Razak, 2021; Kamal and Illyian, 2021; Panesi et al, 2021; Centeio et al, 2021; Woltran et al, 2021; Denardi et al, 2021; Ludovico et al, 2021).

On the other hand, the other studies had more specific goals. The study by Alghamdi and Al-Ghamdi (2021) sought to understand the views of elementary school teachers in Saudi Arabia and their concerns regarding school education during the pandemic and its impacts on teaching and the development of skills for the 21st century. Toquero (2021) and Schuck and Lambert (2020) explored the challenges faced by Special Education teachers, the teaching strategies used throughout the pandemic and what they expect from Inclusive Education after the pandemic also, more specifically Adigun (2022) has investigated if the teachers were able to teach LDHH via Zoom and their challenges and successes. Anderson (2021) investigated not only problems experienced by elementary school teachers, but also the effectiveness of ERT, as well as its potential, limits, and possible influences on in-person teaching. Cooper, Timmons and MacGregor (2021) aimed to identify the impacts of ERT in Ontario, as well as the factors which contributed to challenges and success of teachers and students. Finally, both Kaya (2021) and Centeio et al (2021) sought to analyze the views and perceptions of physical education teachers on distance education during the Covid-19 pandemic and explore their needs during this time.

According to theoretical frameworks used by these authors, we point out that, of the twenty-six articles selected, nineteen did not specify a theoretical framework and based themselves on literature review, analysis and/or on the description of context. This

information reinforces the critique that points to the common phenomenon of atheoretical tendencies in scientific production in the field of psychological knowledge (González-Rey, 2013). Some studies use concepts only to describe or label the investigated events, relying on the apparent scientific neutrality, which contributes very little to the construction of critical and creative knowledge. In this way, researchers must go beyond reified techniques and theories, and be ethically-politically responsible for their actions, decisions and for recognizing themselves as active and creative subjects within the construction of knowledge (Patiño-Torres and Goulart, 2017).

We also highlight that most of the research selected used non-dialogical methodologies (online questionnaire, journaling, and case study), which, in a way, does not enable the researcher to stimulate inquiries, reflections and stances by teachers, thus leaving a gap in the psychological knowledge on how teachers experience their role as learners in this time of crisis. González Rey and Mitjans Martínez (2017a) recommend the use of methodologies that encourage dialogic communication, enabling unique and creative constructions by participants and researchers.

It is worth mentioning that during the pandemic, due to the social distancing sanitary measures, carrying out research *in locus*, through face-to-face interaction with the participants, was a challenge. The mediation of digital tools generated, on the other hand, the opportunity to contact participants from different locations online. This scenario demanded creativity from researchers, who had to reinvent themselves and think of new and different means of accessing participants.

Thematic categorization and content analysis are methodologies recognized and validated by the scientific community, and although they have enormous scientific value, when guided primarily by classes or categories

Title	Authors	Year	Area
Covid-19 and Crisis-Prompted Distance Education in Sweden	Nina Bergdahl, Jalal Nouri	2020	Computer sciences
How teachers experienced the COVID-19 transition to remote instruction	David T. Marshall, David M. Shannon, Savanna M. Love	2020	Education
“Am I Doing Enough?” Special Educators’ Experiences with Emergency Remote Teaching in Spring 2020	Rachel K. Schuck and Rachel Lambert	2020	Education
Digital teaching as the new normal? Swedish upper secondary teachers’ experiences of emergency remote teaching during the COVID-19 crisis	Marie Nilsberth, Yvonne Liljekvist, Christina Olin-Scheller, Johan Samuelsson, Claes Hallquist	2021	Education and computer sciences
Elementary Teachers’ Thoughts about Distance Education and Learning 21st-Century Skills during COVID Pandemic	Amani K. H. Alghamdi, Naimah Ahmad Al-Ghamdi	2021	Education
Emergency Remote Teaching and Learning in Portugal: Preschool to Secondary School Teachers’ Perceptions	Filipa Seabra, António Teixeira, Marta Abelha, Luísa Aires	2021	Education and remote teaching
Learning to teach and learn (not only foreign languages) during the coronavirus pandemics	Alena Haskova, Romana Havettova, Zuzana Vogelova	2021	Education and arts
Qualitative Content Analysis of Teachers’ Perceptions and Experiences in Using Blended Learning during the COVID-19 Pandemic	Kenneth Ian Talosig Batac, Jonnedel Azucena Baquiran, Casper Boongaling Agaton	2021	Education
Emergency remote teaching with technology during the COVID-19 pandemic: using the whole teacher lens to examine educator’s experiences and insights	Torey Trust, Jeromie Whalen	2021	Education
The Effects of the Covid-19 Pandemic on Italian Learning Ecosystems: the School Teachers’ Perspective at the steady state	Carlo Giovannella, Marcello Passarelli, Donatella Persico	2021	Education
Education and the Fourth Industrial Revolution: Lessons from COVID-19	Hussien Mohamad Alakrash, Norizan Abdul Razak	2021	Social sciences and languages
‘Sana All’ Inclusive Education amid COVID-19: Challenges, Strategies, and Prospects of Special Education Teachers	Cathy Mae D. Toquero	2021	Social sciences
Schooling Interrupted: Educating Children and Youth in the Covid-19 Era	Lorin W. Anderson	2021	E d u c a t i o n a l policies
Facilitating Emergency Remote K-12 Teaching in Computing-Enhanced Virtual Learning Environments During COVID-19 Pandemic - Blessing or Curse?	Shamir-Inbal, Blau	2021	Psychology and Education
School teachers’ perception and challenges towards online teaching during COVID-19 pandemic in India: an econometric analysis	Tuba Kamal and Asheref Illiyan	2021	Economics
Online learning in kindergarten during Covid-19: Teachers’ experience and perception in Italy	Sabrina Panesi, Chiara Fante, Lucia Ferlino	2021	E d u c a t i o n a l Technology
The success and struggles of physical education teachers while teaching online during the COVID-19 pandemic	Erin Centeio, Kevin Mercier, Alex Garn, Heather Erwin, Risto Marttinen, John Foley	2021	Physical Education
Views of Physical Education Teachers on Distance Education during the COVID-19 Pandemic Period: A Qualitative Study	Hande Baba Kaya	2021	Physical Education

Exploring How Ontario Teachers Adapted to Learn-at-Home Initiatives during COVID-19: Blending Technological and Pedagogical Expertise in a Time of Growing Inequities	Amanda Cooper, Kristy Timmons, Stephen MacGregor	2021	Education
Austrian Elementary School Teachers' Perception of Professional Challenges During Emergency Distance Teaching due to COVID-19	Flora Woltran, Ralph Chan, Katharina-Theresa Lindner and Susanne Schwab	2021	Education
Impacts from COVID-19 Pandemic in English Language Classroom	Didiê Ana Ceni Denardil, Raquel Amoroginski Marcos, Camila Ribas Stankoski	2021	Linguistic
Trajectories of an English Language Teacher in Emergency Remote Teaching	Francieli Motter Ludovico, Mariana Backes Nunes, Patrícia da Silva Campelo Costa Barcellos	2021	Linguistic
The Experiences of Emergency-Remote Teaching Via Zoom: The Case of Natural-Science Teachers Handling of Deaf/Hard-of-Hearing Learners in South Africa	Olufemi Timothy Adigun	2022	Education
Hub-and-spokes practices of blended learning: trajectories of emergency remote teaching in Brunei Darussalam	Fahmi Ibrahim, Nena Padilla-Valdez, Umi Kalthum Rosli	2022	Education
A Disorienting Dilemma: Teaching and Learning In Technology Education During a Time of Crisis	Jillianne Code, Rachel Ralph, Kieran Forde	2022	Education
Transitioning to Online Teaching During the COVID-19 Pandemic: an Exploration of STEM Teachers' Views, Successes, and Challenges	Isha DeCoito, Mohammed Estaiteyeh	2022	Education

Table 4 - Presentation of the analyzed articles.

Source: elaborated for this study, 2022.

Research methodologies	Authors
Online questionnaires	Berdgahl and Nouri, 2020; Seabra et al., 2021; Marshall et al, 2020; Batac et al, 2021; Trust and Whalen, 2021; Giovanella et al, 2020; Code, Ralph and Forde, 2022; DeCoito and Estaiteyeh, 2022; Shamir-Inbal and Blau, 2021; Toquero, 2021; Kamal and Illyian, 2021; Panesi et al, 2021; Centeio et al, 2021; Woltran et al, 2021; Denardi et al, 2022
Semi-structured interview	Nilsberth et al., 2021; Alakrash and Razak, 2021; Batac et al, 2021; Ibrahim et al, 2022; Adigun, 2022; Schuck and Lambert, 2020; Kaya, 2021; Cooper, Timmons and MacGregor, 2021; Toquero, 2021; Woltran et al, 2021
Panel discussion	Haskova et al, 2021
Case study	Ludovico et al, 2021
Literature review	Anderson, 2021
Journaling	Alghamdi and Al-Ghamdi, 2021

Table 5 - Research methodologies assorted by authors

Source: elaborated for this study, 2022.

selected *a priori*, they may not favor a sensitive analysis by the researcher on the productions of teachers in such a complex context such as schools. Specifically, we agree with González Rey (2013), Patiño-Torres and Goulart (2017), when they argue, regarding research on education, that the quality of information obtained through quantitative investigations and statistical models offer a limited view of the processes of construction and attribution of meaning, by excluding the singular and spontaneous constructions that arise between participants and researchers, which can, in turn, generate new zones of senses and can reinstate the active and creative character of all those involved, both participants and researcher.

In the analysis stage, the articles were grouped by themes and content according to this study's objectives: to analyze the results of the studies of the last two years on the challenges, opportunities and changes that occurred in teaching during the Covid-19 pandemic in relation to school education, considering the teachers' perceptions and perspectives.

CHALLENGES AND OPPORTUNITIES REGARDING CHANGES IN TEACHING

The studies considered that, even for those teachers who transposed their in-person teaching method to digital platforms by maintaining synchronous expository classes and written and individual evaluative activities, there were changes in teaching during the Covid-19 pandemic in either the emergency remote teaching or the blended system. These changes were identified by teachers as challenges or opportunities, as shown in Figure 1.

The main difficulties or challenges encountered were related to communication and interaction with students, which results in

many other challenges, such as an increased workload and longer working hours, as well as challenges in relation to assessing learning, motivating, and coordinating students, providing satisfactory instructions, and identifying struggling students.

The use of digital tools was also a challenge for most teachers, who expressed difficulty in planning and creating virtual learning environments and activities that did not restricted themselves to a linear didactic transposition from in-person teaching to online teaching.

Furthermore, obstacles related to other actors in the school community were also reported, such as challenges in the relationship with families, either due to a lack of support or due to family members doing students' activities on their behalf; challenges due to a lack of organizational support in the relationship between teachers and the school board; and, finally, challenges keeping up with the school curriculum. Schuck and Lambert (2020) also identified that the teachers faced problems dealing with students' emotions during this time. Table 7 summarizes the main challenges experienced by authors.

In addition to the challenges presented in Figure 1, teachers also faced opportunities, as shown in Figure 2. However, some of the studies identified opportunities as challenges.

According to Figure 2, it can be observed that more than 50% of the studies recognize that the pandemic created the opportunity to learn new ways of teaching and learning, thus generating new pedagogical approaches. Another opportunity generated by ERT, and blended teaching was the development of skills/ knowledge regarding the use of information and communication technologies because, although many reported that they did not have the necessary training, the digital environment enabled them to make use of these tools in their teaching practice. In addition, it

Analysis methodologies	Authors
Thematic categorization	Nilsberth et al., 2021; Seabre et al., 2021; Trust and Whalen, 2021; Alakrash and Razak, 2021; Code, Ralph and Forde, 2022; DeCoito and Estaiteyeh, 2022; Ibrahim et al, 2022; Shamir-Inbal and Blau, 2021; Toquero, 2021; Panesi et al, 2021; Schuck and Lambert, 2020; Cooper, Timmons and MacGregor, 2021; Woltran et al, 2021
Content analysis	Alghamdi and Al-Ghamdi , 2021; Batac et al, 2021; Kaya, 2021; Denardi et al, 2021
Statistical analysis	Berdgahl and Nouri, 2020; Giovanella et al, 2020; Kamal and Illyian, 2021
Collaborative data analysis	Centeio et al, 2021
Narrative analysis	Ludovico, Nunes and Barcelos, 2021

Table 6 - Analysis methodologies assorted by authors

Source: elaborated for this study, 2022.

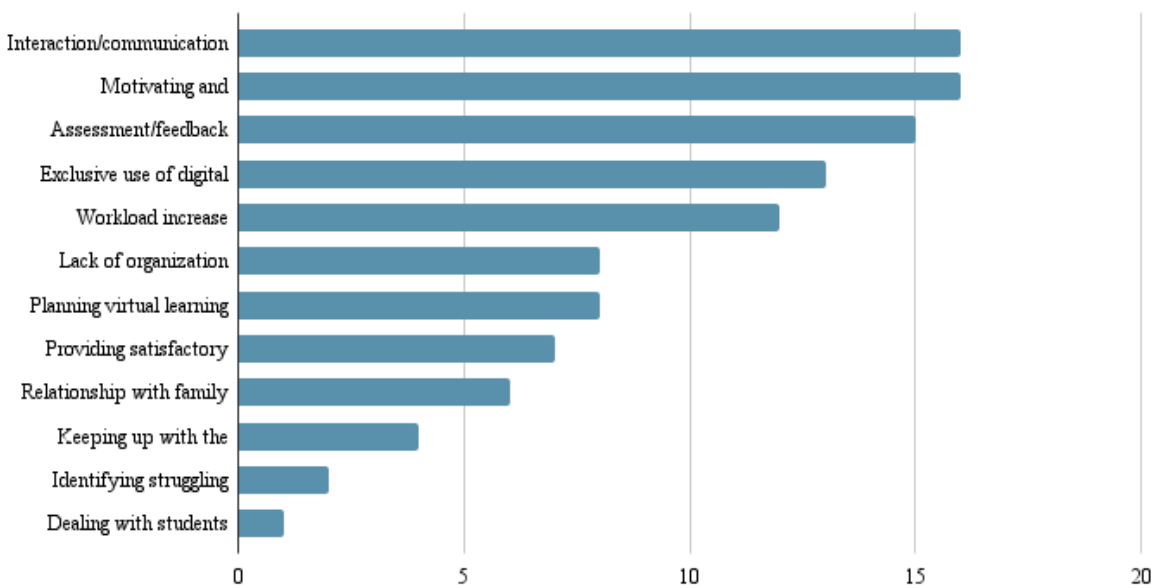


Figure 1 - Main teaching difficulties/challenges Chart.

Source: Elaborated for this study, 2022.

Difficulties and Challenges	Authors
Communication and interaction with students	Nilsberth <i>et al.</i> , 2021; Alakrash e Razak, 2021; Seabrae et al, 2021; Marshall, Shannon e Love, 2020; Haskova, Havettova e Vogelova, 2021; Toquero, 2021; Code, Ralph e Forde, 2022; Shamir-Ibal e Blau, 2021; DeCoito e Estaiteyeh, 2022; Kamal and Illiejan, 2021; Denardi et al, 2022; Centeio et al, 2021; Woltran et al, 2021; Adigun, 2022; Kaya, 2022
Increased workload and longer working hours.	Berdgahl e Nouri, 2020; Nilsberth <i>et al.</i> , 2021; Marshall, Shannon e Love, 2020; Batac, Baquiran e Agaton, 2021; DeCoito e Estaiteyeh, 2022; Shamir-Inbal e Blau, 2021; Wotran et al, 2021; Denardi et al, 2022; Ludovico et al, 2021; Cooper, Timmons and MacGregor, 2021; Schuck and Lambert, 2020
Assessing learning and giving feedback	Berdgahl e Nouri, 2020; Nilsberth <i>et al.</i> , 2021; Marshall, Shannon e Love, 2020; Haskova, Havettova e Vogelova, 2021; Shamir-Inbal e Blau, 2021; DeCoito e Estaiteyeh, 2022; Code, Ralph e Forde, 2022; Wotran et al, 2021; Denardi et al, 2022; Ludovico et al, 2021; Schuck and Lambert, 2020; Centeio et al, 2021; Kaya, 2022; Kamal and Illiejan, 2021
Motivating and coordinating students	Seabre <i>et al.</i> , 2021; Marshall, Shannon e Love, 2020, Haskova, Havettova e Vogelova, 2021; Shamir-Inbal e Blau, 2021; DeCoito e Estaiteyeh, 2022; Anderson, 2021; Ibrahim, Padilla-Valdez e Rosli, 2022; Denardi et al, 2022; Ludovico et al, 2021; Panesi et al, 2021; Cooper, Timmons and MacGregor, 2021; Centeio et al, 2021; Kaya, 2022; Schuck and Lambert, 2020
Providing satisfactory instructions	Marshall, Shannon e Love, 2020; Haskova, Havettova e Vogelova, 2021; Batac, Baquiran e Agaton, 2021; Kamal and Illiejan, 2021; Centeio et al, 2021; Wotran et al, 2021; Adigun, 2022
Identifying struggling students	Marshall, Shannon e Love, 2020; Haskova, Havettova e Vogelova, 2021; Batac, Baquiran e Agaton, 2021
Use of digital tools	Berdgahl e Nouri, 2020; Batac, Baquiran e Agaton, 2021; Code, Ralph e Forde, 2022; Shamir-Inbal e Blau, 2021; Ibrahim, Padilla-Valdez e Rosli, 2022; DeCoito e Estaiteyeh, 2022; Adigun, 2022; Schuck and Lambert, 2020; Centeio et al, 2021; Wotran et al, 2021; Kaya, 2022; Cooper, Timmons and MacGregor, 2021
Planning and creating virtual learning environments	Seabre <i>et al.</i> , 2021; Haskova, Havettova e Vogelova, 2021; Batac, Baquiran e Agaton, 2021; DeCoito e Estaiteyeh, 2022; Toquero, 2021; Ludovico et al, 2021; Panesi et al, 2021; Schuck and Lambert, 2020
Relationship with Family members	Haskova, Havettova e Vogelova, 2021; Shamir-Inbal e Blau, 2021; DeCoito e Estaiteyeh, 2022; Schuck and Lambert, 2020
Lack of organizational support	Berdgahl e Nouri, 2020; Nilsberth <i>et al.</i> , 2021, DeCoito e Estaiteyeh, 2022; Ibrahim, Padilla-Valdez E Rosli, 2022; Shamir-Inbal E Blau, 2021; Toquero, 2021; Panesi et al, 2021; Denardi et al, 2022
Keeping up with the school curriculum	Nilsberth <i>et al.</i> , 2021; Code, Ralph e Forde, 2022; Kaya, 2022
Dealing with students' emotions	Schuck and Lambert, 2020

Table 7 - Difficulties and Challenges assorted by author

Source: elaborated for this study, 2022.

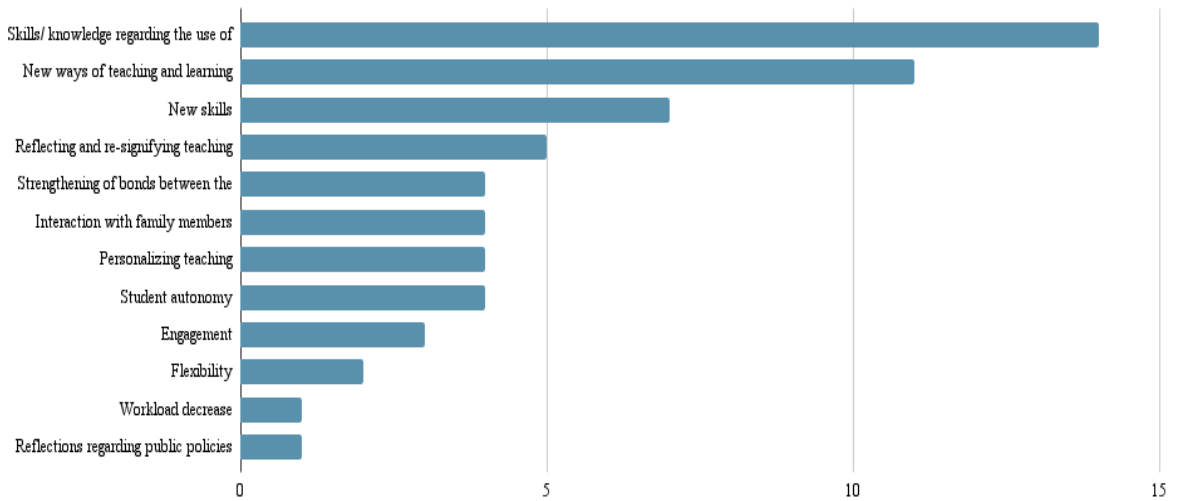


Figure 2 - Teaching opportunities Chart.

Source: elaborated for this study, 2002

Opportunities	Authors
New ways of teaching and learning	Alakrash e Razak, 2021; Alghamdi e Al-Ghamdi, 2021; Seabre <i>et al.</i> , 2021; Batac, Baquiran e Agaton, 2021; Trust e Whalen, 2021; DeCoito e Estaiteyeh, 2022; Ibrahim, Padilla-Valdez e Rosli, 2022; Code, Ralph e Forde, 2022; Kaya, 2021; Centeio et al, 2021; Ludovico et al, 2021
Development of skills/ knowledge regarding the use of information and communication technologies	Alakrash e Razak, 2021; Seabre <i>et al.</i> , 2021; Batac, Baquiran e Agaton, 2021; Trust e Whalen, 2021; Shamir-Inbal e Blau, 2021; Ibrahim, Padilla-Valdez e Rosli, 2022; DeCoito e Estaiteyeh, 2022; Centeio et al, 2021; Kaya, 2021; Ludovico et al, 2021; Denardi et al, 2022; Cooper, Timmons and MacGregor, 2021; Adigun, 2022; Panesi et al, 2021
New skills	Alghamdi e Al-Ghamdi, 2021; Trust e Whalen, 2021; Batac, Baquiran e Agaton, 2021; DeCoito e Estaiteyeh, 2022; Ibrahim, Padilla-Valdez e Rosli, 2022; Berdgahl e Nouri, 2020; Haskova, Havettova e Vogelova, 2021; Shamir-Inbal e Blau, 2021; Alakrash e Razak, 2021; Panesi et al, 2021
Reflecting and re-signifying teaching practices and school	Alghamdi e Al-Ghamdi, 2021; Seabra <i>et al.</i> , 2021; Trust e Whalen, 2021; DeCoito e Estaiteyeh, 2022; Ibrahim-Inbal e Blau, 2021; Code, Ralph e Forde, 2022; Denardi et al, 2022
Interaction with family members	DeCoito e Estaiteyeh, 2022; Shamir-Inbal e Blau, 2021; Toquero, 2021; Schuck and Lambert, 2020
Strengthening of bonds between the different actors in the school environment	DeCoito e Estaiteyeh, 2022; Shamir-Inbal e Blau, 2021; Ibrahim, Padilla-Valdez e Rosli, 2022; Panesi et al, 2021
Personalizing teaching	Shamir-Inbal e Blau, 2021; DeCoito e Estaiteyeh, 2022; Panesi et al, 2021; Cooper, Timmons and MacGregor, 2021
Student autonomy	DeCoito e Estaiteyeh, 2022; Ibrahim, Padilla-Valdez e Rosli, 2022; Denardi et al, 2022; Adigun, 2022
Greater engagement of the student body in school activities	DeCoito e Estaiteyeh, 2022; Ibrahim, Padilla-Valdez e Rosli, 2022; Centeio et al, 2021
Flexibility	Kamal and Illyian, 2021; Centeio et al, 2021
Workload decrease	Ibrahim, Padilla-Valdez e Rosli, 2022.

Table 8 - Opportunities assorted by authors.

Source: elaborated for this study, 2002

enabled the development of new skills, such as creativity, flexibility, observation, listening and other non-specified skills.

Considering these studies, we need to reflect and re-signify teaching practices, teachers' identities, and the school itself as a result of the changes in pedagogical practices. In fact, Toquero's (2021) study, carried out with teachers of inclusive education, reported the opportunity to question and reflect upon public policies on inclusion in educational environments.

Moreover, the opportunity to personalize teaching and encourage students' autonomy was identified, as students were able to access content at their own pace, receiving individualized guidance and feedback, and were encouraged to seek to create new learning resources and to carry out school activities more actively, which also resulted in increased self-confidence in the learning process.

The opportunities that were also described as challenges were: the interaction with family members; the strengthening of bonds between the different actors in the school environment; greater engagement of the student body in school activities; and a workload decrease - the latter being described by teachers who worked exclusively with blended teaching and that reported that the use of technology facilitated planning activities and recording students' progress. These differences may be the result of varying perceptions of how the pandemic affected different regions and how government authorities and school communities have responded to it, as well as of the differences in individual teachers' experiences.

In general, the authors identified changes in teaching action at the technological pedagogical issue, and social levels, which challenged teachers according to the aspects that will be described below.

Technological challenges included

the quality and availability of internet connection and students' access to the necessary hardware. Pedagogical challenges included the limited digital skills of teachers and students, the teachers' lack of ability in using digital resources and in planning digital learning spaces, the lack of interaction and motivation, and teachers' difficulty in ensuring a social and cognitive presence. Finally, social challenges included the lack of interaction between students or between teachers and students, physical conditions for learning at home, and family availability to provide support (Seabra et al., 2021, p. 3-4).

In this perspective, González Rey and Mitjans Martínez (2017b) emphasize that all processes that challenge the human condition can become a motor to produce new subjective resources, opening new avenues for interaction in socio-relational spaces. The disruptive situations that occurred during the pandemic can significantly and uniquely contribute to the development of teachers' subjectivity, revealing a new configuration, in the cultural-historical perspective, of the relationship between learning and development.

Seabra et al. (2021) highlighted that these experiences were significant in creating possibilities for rethinking the curriculum, teaching, and learning process, assessments and the organization and coordination of pedagogical work, creating new roles for teachers and students. In this context, the former assumed the role of facilitators - not mere instructors-, while the latter garnered greater control of their learning process (Batac et al, 2021), which, consequently, indicates that this period was important for the faculty's holistic professional growth.

It should also be noted that some of these experiences were experienced by teachers simultaneously as challenges and opportunities. The main example is the use of digital technologies, as many did not use them exclusively or used them very seldom

in the period prior to social isolation. Five of the articles point that in relation to the use of digital media - which was initially considered negative, due to the lack of teachers' experience or training or to the precariousness of platforms and applications -, teachers were able to expand their knowledge regarding their use as tools for pedagogical purposes, which, in turn, produces repercussions that affect the return of on-campus teaching (Berdgahl and Nouri, 2020; Seabra et al., 2021; Alghamdi and Al-Ghamdi, 2021; Batac et al, 2021).

Furthermore, albeit not being the focus of this review, it is important to consider that many studies have reported the multiple changes as a result of other problems experienced by teachers, such as professional and personal concerns, financial problems, stressful family relationships, emotional instabilities and/or health issues etc. that are also part of the social fabric of their lives and that also subjectively configure their positioning in the world. Also, one has to keep in mind that teachers are human beings with experiences and requirements beyond their professional role, what makes the more admirable the tremendous effort and creativity displayed during this time of crises.

According to the studies, the changes that have taken place in teaching in the face of the consequences of the pandemic scenario required an abrupt adaptation to the context of unpredictability and to the emergency imposed by the implementation of a new manner of teaching in the short term.

FINAL CONSIDERATIONS

We consider that the objectives of this review were achieved, and we highlight the importance of the results found during this historic moment for the field of Education in face of the numerous impacts on the ways of learning and teaching that were experienced and that will still continue to influence school

socio-relational spaces.

As for the methodologies used in the selected articles, they pertain to the descriptive-instrumental paradigm, that is, they are guided by the description of the people or events investigated, focusing on the results obtained by data collection instruments. We believe that these methods do not enable the researcher's creative exercise or the participants' expression, and that they could benefit from a qualitative, dialogic, constructive, and interpretive approach. In this interface field of Psychology and Education, it is fundamental to produce new knowledge, through qualitative methodologies and epistemologies, that has the potential to transform the social reality. An emphasis on dialogue entails:

[...] a constructive process of those who participate in it and dialogue implies contradictions, ruptures, the opening of avenues, where new relationship processes appear associated with new subjective productions of the individuals in dialogue. (González-Rey and Mitjás Martínez, 2017a, p. 29).

We identified that teachers were instigated by challenges and opportunities during their teaching activity throughout the Covid-19 crisis, which resulted in changes in teaching. According to Rossato and Ramos (2020), moments of tension that occur in actions or relationships that demand beyond that which is available by the immediate experience of a person or group can lead to the development of different and new subjective resources, which, in turn, enable qualitative changes in several areas and encourage an active participation of teachers in their professional practice. In agreement with this perspective, we understand that the changes experienced in teaching are not and should not be fleeting and will have consequences for in-person teaching after the pandemic, as authors Cipriani et al (2021, p. 20) argue:

Participants emphasized that some changes would carry on and that these are necessary to innovate teaching dynamics. However, they've also stated that it will take time for a (re)adaptation and that they are apprehensive with regards to the post-pandemic emotional impacts and mental health of students and teachers. They are also concerned about being welcoming when on-campus schooling resumes. In this sense, they've stressed the importance of listening and dialogue, as they believe that there will be a big difference and gap amongst the levels of learning.

Transformations in teaching are implemented so far as practices are transformed in their relationship with theoretical and critical knowledge about reality. That means that.

[...] teachers analyze their practice in light of theory, thus reviewing their practice and experimenting new ways of working, creating new strategies, inventing new procedures. By reflecting upon one's own practice, that is, placing their practice at the center of reflection, teachers increase their awareness with regards to their own practice (Libâneo, 2004, p. 79).

Therefore, the difficulties that arose from the crisis and that forged new ways of teaching and new practices demand support and endorsement from school management so that they can integrate teaching practices upon resuming on-campus teaching. In the post-pandemic educational and social scenario, the challenge is for schools to develop actions that support teaching, such as continuing teacher training and promoting participation in the learning community, which, in turn, encourage interactions and relationships based on respect and trust, the implementation of personalized strategies for learning aimed at promoting and reinforcing the meaning and personal value that students attribute to school learning (Coll, 2014, 2017; Engel and Membrive, 2018).

Both aforementioned actions enable listening with critical attention to the problems that arise from the hard times experienced and strengthen mutual trust between the researcher and the participants. This process generates feelings of belonging to the community and identity by valuing not solely the standardized production of scientific knowledge that characterize most university institutions, but also the singularity of each person or community and its possibilities the creation of new zones of intelligibility on the scientific knowledge.

While we hadn't studies focusing the long-term implications of ERT, this research indicates a few urgent needs and possible ways of navigating the changes we experienced in school education. The results of the articles analyzed suggest the investment in teacher-training on technology-mediated pedagogy, the need to create school preparedness plans for emergencies and for political investment to close the digital divide. On the other hand, Batac et al (2021, p. 239) reinforce that "the COVID-19 pandemic catalyzes teachers and other education stakeholders to accept a different perspective and skillset to meet the needs of today's learners". Teachers and students have proven that they can use a variety of resources, which leads to an inevitable digital transformation of schools. Anderson (2021) draws attention for the prioritization of a culture of care in the schools, due to the moments of distress and suffering caused by the COVID-19 crisis. Other two studies (Shamir-Inbal and Blau, 2021; Ibrahim et al, 2022) the likelihood of continuing to use blended and distance learning.

At last, we emphasize the strict timeline and limited possibilities available for preparing these studies done in such a critical period of time. Further, many published studies have a rather descriptive character and present rather superficial outcomes. We recommend

the continuation of empirical studies in qualitative approaches on the effects of the pandemic in the short, medium, and long term to assess the extent to which these changes can integrate the new forms of teaching in the future of Education in the world.

CONTRIBUTIONS

Study design: ALBP, WMR, AE; data collection and analysis: ALBP, WMR and manuscript preparation ALBP, WMR, AE.

CONFLICT OF INTEREST

The authors did not have a conflict of interest in the preparation of this paper.

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