Research Article

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Microsoft 365 as a Tool for Teaching During the Covid-19 Pandemic: Perceptions of Portuguese Teachers of Basic and Secondary Education

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Abstract: In the last year, and largely due to the pandemic situation of COVID-19, teachers experimented with technology in an innovative way not only to keep students engaged, but also to make learning more active and more significant. The Microsoft 365 was one of the solutions that provided schools, teachers and students with all the necessary resources to continue teaching and learning in a remote mode. In this work, we present a study that aims to know the opinions of several teachers about the use they made of Microsoft 365 during distance education and to know the degree of satisfaction obtained with its use. The adopted method has a descriptive and exploratory nature, focusing on a quantitative paradigm. The study participants were 101 teachers of basic[1] and secondary education[2] from schools in Northern Portugal. A questionnaire survey was used as a data collection instrument, which was mainly disseminated by email from Outlook. Data analysis was performed using Excel (Office 2016). The results suggest that Microsoft 365 was the appropriate response to the constraints imposed by the pandemic, and that most respondents revealed a high level of satisfaction with its use, despite not having much training in the use of teaching platforms.

Keywords: Microsoft 365; distance learning; digital platforms; teaching and learning methodologies.

1 Introduction

As with remote work, in recent times, distance education (DE) has also become evident and popularized as a practical, more economical and viable option for students and teachers worldwide. In fact, the pandemic situation that we are experiencing, forced changes in education in all world (Unesco, 2020a; Unesco, 2020b; Unesco, 2020c; Unesco, 2020d; Unicef, 2020). We all had to adapt, and teachers had to change their practices and adapt their teaching methods. To this end, to develop the digital skills of teachers, and to respond to the demands of today's society, the Portuguese Directorate-General for Education (DGE) prepared the Digital Training Plan for Teachers where the digital platforms will have a more active role, as it is necessary that teachers see technologies as allies in motivating and awakening students to the path of knowledge. Following this line, the teacher will have the mission of adapting their teaching methods to new technologies, to distance learning, revealing an effective receptivity and availability to change, as well as constant updating. Consequently, we agree with Lopes, Escola and Raposo-Rivas (2014, p. 371), since it is

> "It is essential to learn to master the technological tools to better plan and contextualize them in the curriculum. More than a mere mediator between knowledge and students, the teacher should know how to use ICT and how to integrate them into the curriculum. It is clear that the training of teachers must be developed so that they have a technological culture, but also that it implies a pedagogical renewal, allowing the maximum pedagogical profitability of the means" [Translation done by the authors].

1 Portuguese basic education consists of three cycles:
- 1st cycle, from 1st to 4th year (ages 6 to 10);
- 2nd cycle, from 5th to 6th year (ages 11 to 12);
- 3rd cycle, from 7th to 9th year (ages 13 to 15).

2 Portuguese secondary education consists of three years: 10th, 11th and 12th years (ages 16 to 18).

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However, the main objective of teacher training for pedagogical use cannot be limited to the instrumental domain of technological resources. It is necessary to learn to use the tools before applying them for educational purposes (Rodrigues, 2020).

Today, teachers have a variety of platforms to assist in the teaching and learning process of students in order to provide a collaborative learning environment for everyone (Aires, Escola & Lopes, 2021). Digital educational platforms are programs that include different types of tools whose role is to allow distance learning to be practicable (Prat, 2012) and as defended by Lopes and Gomes

> "In its most varied aspects, they can be used to transmit content and activities, follow the students' work, solve doubts and create spaces for interactive communication, assess students' progress. In addition, they are also useful for creating spaces for discussion and work for research groups, implementing virtual communities and learning networks around topics of common interest. These platforms are 'hosted' on the web, allowing teachers and students to access content anytime and from any location. Adopting a learning platform is a way to make teaching more dynamic by combining different formats in the same space" (Lopes; Gomes, 2020, p.111) [Translation done by the authors].

In the pandemic context due to COVID-19, Microsoft 365 took on a prominent role as the preferred tool of many schools. It offered powerful tools to promote learning, collaboration, communication, and creating an environment safe reliable. But are teachers satisfied with joining this platform? Our study will seek to answer this question above all.

Indeed, technology will prevail in teaching and teachers will have to go beyond the more rigid dimensions of the traditional school. More technology, more practical assessment methods and more autonomous students are some trends that schools will need to follow.

In terms of structure, this article is organized as follows. After the introduction there are three parts: in the first part, within the theoretical context, the importance of the Microsoft 365 platform for the transformation of teachers' practices in education is discussed. The second part identifies the methodological options that guided the investigation and the third part discusses the results. Finally, some conclusions that emerged from this study are presented.

2 Theoretical Context: Microsoft 365 and The Challenges of Education in Times of Pandemic

The use of digital technologies (DT) can help educational processes, providing new ways of teaching and learning curriculum content (Kenski, 2012; Borba, Silva & Gadanidis, 2016; Motta & Kalinke, 2019). Learning platforms are one of the ways to promote teaching and learning. These platforms are hosted on the web, providing teachers and students with ubiquitous access to content, regardless of space and time. Today, it seems irrefutable that adopting a learning platform is a way to make teaching more dynamic by enabling the combination of different formats in the same space. Nowadays, platforms provide a collection of possibilities, resources, and tools (video, animations, forum, chat, tests, assessments, among others) that enrich the students' experience (Lopes & Gomes, 2020). It is important to highlight that these formats are not only used in the school context, in the academic period, but also as a central place for complementary learning outside this context and school hours (Fiori & Goi, 2020). In the context of formal education, the teaching platforms show more and more possibilities of pedagogical exploration that cannot be neglected, emphasizing the processes of communication, collaboration, inclusion and innovation. Microsoft 365 is the new wave of innovation for inclusive and collaborative learning (Aires, Escola & Lopes, 2021). Therefore, it is important that teachers know all the possibilities of the platform they use so that the content covered by them is effectively explored with students. Those who were born and grew up in this globalized and digital world, besides revealing more familiarity with technological devices, show a greater confidence in them as adequate supports for learning. To this extent, teachers should integrate these devices into their teaching practices as they ensure greater motivation and interest from students, facilitating interaction, active participation and, consequently, their learning (Oliveira, 2013). This familiarity of students with technological means, contrary to a specific representation that was created of them as digital native, does not correspond to the actual existence of digital skills by them, as they revealed difficulties in adapting to the virtual teaching context (Cabero-Almenara, 2020; Cabero-Almenara & Valencia-Ortiz, 2021). Wang, Hsu, Campbell, Coster and Longhurst (2014), argue that there is no evidence that teachers have less digital competence than students.

The Microsoft 365 encompasses a huge variety of applications, features, and possibilities, so it was and is a powerful friend in distance learning and a unique solution for a combined learning experience, accessible through mobile communications, mobile phone, tablet or computer (Aires, Escola & Lopes, 2021). Over the last few months, distance learning has become an increasingly present reality in the education system in all countries of the world due to the possibilities opened up by digital platforms (Unicef, 2020; Unesco, 2020a; Unesco, 2020b; Unesco, 2020c; Unesco, 2020d; Bozkurt & Sharma, 2020; La Velle, Newman, Montgomery, & Hyatt, 2020). These involve different tools to ensure that distance learning is possible (Prat, 2012; Unesco, 2020c). Creating virtual learning environments supported by Digital Technologies of Information and Communication is the main function of the platforms. In them, it is possible to manage the contents to be taught, as well as communicate and monitor students (Charnet, 2009). In several ways, they can be used to transmit content and activities, monitor students' work, solve doubts and create spaces for interactive communication, and assess students' progress. Furthermore, it is important to remember that they are also helpful in creating spaces for discussion, working for research groups, and implementing virtual communities (Raposo-Rivas, Escola, 2016a; Raposo-Rivas, Escola, 2016b) and broader networks of learning.

Therefore, we wanted to know the vision of teachers who were already using it in their teaching practice in some public and private schools in Northern Portugal which had the license to use this platform. From these schools, those who had adopted Microsoft 365 and were available participated in this study.

We applied the questionnaire in the last quarter of the 2020/2021 school year (May/June/July) by sharing the instrument's link by email through the directors/coordinators of the different groupings/colleges. At that time, teaching in Portugal took place preferably face-to-face; however, they had online classes whenever students were confined.

3 Research Methodology

Considering the study objectives, the methodology adopted was descriptive and exploratory (Gil, 2008; Triviños, 1987). The paradigm in which the investigation is inscribed is quantitative, involving data collection instruments appropriate to the paradigm and methodology, as is the case using a survey (De Ketele & Roegiers, 1999). This study was carried out with the aim of finding out how the Microsoft 365 platform is being using by the teachers, in terms of care and pedagogical dimensions to be considered in the organization of the teaching and learning process. At the same time, we want to identify the type of needs that may be being felt by schools and teachers in its context of use. The survey collected information on how Microsoft 365 is being used, concerning pedagogical aspects, particularly in teaching and learning processes, which involve teachers and students at their school. The survey has two parts. The first part, with 10 closed-ended questions, called "Characterization of teachers and their School Environment", collects information about the characterization of teachers and their School Environment. The second part, "Teachers satisfaction with the Microsoft 365 platform", had 15 questions, to identify how teachers used the Microsoft 365 platform and their degree of satisfaction.

The survey was specifically designed for this study and validated by national and international experts in the area of Education Sciences and Information and Communication Technologies, to verify the relevance of its content and the adequacy of its items to the study's objectives. To validate the questionnaire, we respected the orientation of researchers Almeida and Freire (2017). They advise "the consultation with specialists or professionals with practice in the field" (p. 29) of the content of the questionnaires. Consultation is done to verify whether the data collection instrument was adequately constructed, if the preparation of the questions was respected in the care that they must observe in their formulation, if they are worded to collect the information that is intended, if the data can be collected, if it is lacking information, and if there is an absence of questions that may be essential for the achievement of the research objectives.

3.1 Results Analysis and Discussion

In data analysis, the Microsoft Excel 2010 software was favored for the treatment of quantitative data and the elaboration of graphs. The tool is adequate, since complex statistical models were not required. We used descriptive statistics for the absolute frequencies and percentages of each answer.

Concerning the characterization of the teachers and their school environment, 101 teachers answered the questionnaire, 69 of whom were female (68.3%) and 32 (31.7%) male.

Table 1 shows that the teachers who participated in the study are mostly over 40 years old. Just 3% are under 30 years of age.

Education at a Glance (2019) (the annual report on education by the Organization for Economic Cooperation and Development (OEDC)) has already given new indicators to understand the extent of the ageing of the teaching profession. The aging problem has been accentuated in the last decade due to the extension of the retirement age and the austerity measures on not hiring new civil service teachers. The effects of the decrease in the number of students has been to reduce to a minimum the entry of young teachers into the system. If, in 2005, 16% of the workforce in the sector was under 30 years of age, currently only 1% of teachers are in this age group. According to the Education at a Glance report (2019), Portugal has the lowest percentage of teachers under the age of 30 - compared to Italy. The teaching workforce in Portugal has aged over the last decade and is among the oldest in all OCDE countries, as it can be seen in the Portugal report. Conversely, in the last ten years the proportion of teachers aged 50 and over has increased by 13 percentage points. Currently, 41% of teachers are in this age group. In 2005, they were half, that is, only 22%.

In observing Table 2, the teachers were from all cycles of the Portuguese education system. They have a relatively stable professional situation, as they belong to the grouping framework (QA) or the pedagogical zone framework (QZP), as it can be seen in Table 3.

A large majority of teachers (91.1%) is linked to teaching in public education (Table 4), conducting the teaching activity mainly in the municipality of Chaves (n=57). Teachers from the municipalities of Vila Real (n=30), Paredes (n=9), and Maia (n=5) also responded (Table 5).

Concerning their academic qualifications, almost all teachers declare to have a degree. In addition, it is emphasized that a very significant number also hold a master's degree (36%), and 6.9 % also hold a PhD (Table 6).

Regarding the teacher´s satisfaction with the use of the Microsoft 365 platform, Table 7 makes it clear that, with regard to the level of competence in using Microsoft 365 Education, most respondents (75.3%) consider that their level is not of a beginner, but is median or advanced. They also said that they did not have adequate training for this platform. The training issue reveals a similarity with the national results shown and discussed in other studies (Marôco, 2020; Ribeirinha e Silva, 2020; Fenprof, 2020; Escola, 2020a; Escola 2020b) about the absence of specific training for the use of distance learning platforms.

Table 1: Age of teachers.

	Fr.	%
Age		
21 to 30	3	3
31 to 40	18	17,8
41 to 50	35	34,7
51 to 60	27	26,7
more than 60	18	17,8
TOTAL	101	100

Table 2: Schooling cycles.

	Fr.	%
Teaching cycles of the teachers		
1st Cycle	14	13,9
2nd Cycle	24	23,8
3rd Cycle	36	35,6
Secondary	27	26,7
TOTAL	101	100

Table 3: Professional situation.

	Fr.	%
Professional situation		
In internship	1	1
Contract teacher	19	18,8
QA Professor	59	58,4
QZP Professor	13	12,9
No answer	9	8,9
Other	0	0
TOTAL	101	100

Table 4: Activity Sector.

	Fr.	%
Activity sector		
Private	9	8,9
Public	92	91,1
TOTAL	101	100

The teachers who received training in this area, did it mainly during distance education, as shown in Table 8. Analyzing it, it is clear that until the pandemic teachers had not had specific training for a teaching context like

Table 5: Schools location.

	Fr.	%
Location		
Chaves	57	56,4
Maia	5	5
Paredes	9	8,9
Vila Real	30	29,7
TOTAL	101	100

Table 6: Academic qualifications.

	Fr.	%
Academic qualifications		
Bachelor's Degree	1	1
Graduation	50	49,5
Degree with integrated master	7	6,9
Master	36	35,6
PhD	7	6,9
TOTAL	101	100

Table 7: Competence in using Microsoft 365 Education.

		Fr.	%
Characterization of the level of competence in using Microsoft 365 Education			
Female	Beginner	18	17,8
	Median	44	43,6
	Advanced	7	6,9
Male	Beginner	7	6,9
	Median	20	19,8
	Advanced	5	5,0
TOTAL		101	100,0

Table 8: Formation of teachers.

	Fr.	%
Formation		
Before mandatory distance learning	9	30
During distance learning	20	66,7
After distance learning	1	3,3
TOTAL	30	100

this. So, distance education was challenging for the entire school community. This emergency scenario should reflect that "we think about creating and developing structures that respond to these changes and the needs of teacher training and lifelong education, which highlight the multifaceted, multidimensional, multidisciplinary and multicultural reality" (Moreira & Schlemmer, 2020, p. 27). We agree with Moreira and Schlemmer (2020) on the urgency of creating new teacher training programs that can provide solutions for transformative moments such as the COVID-19 pandemic.

Table 9 shows that when teachers needed help to use the Microsoft 365 platform, 32.7% turned to someone from the school's support structure, 30.7% looked for information on YouTube, 27.7% sought help with a colleague, and only 8.9% used the ICT coordinator of their group of schools. Marôco (2020) presents similar results. In his study, 74% of teachers declared that they had not resorted to support from formal, institutional networks (ICT Coordinator of the School), and 90% of respondents said they did not request any help from specialized technical services or even consultants outside the School. Along the same lines, Escola (2020a) argues that the teachers' lack of specific initial or continuing training was not constituting an impediment or a reason to stop teaching activities. Even in an adverse context, the urgent need to maintain contact with students led teachers to seek answers to their doubts, and indications as to the most effective way of progressing from colleagues, family members, friends or even informal groups on social networks/forums and adequate to meet the needs of students. Escola (2020a) argues that these data point towards more excellent dialogue and cooperation among teachers.

From Table 10 data, most teachers participating in this study only started using Microsoft 365 when the digital platform boom occurred with COVID-19 lockdown; few teachers used it before.

Table 11 data makes it clear that the Microsoft 365 applications that teachers use the most are Teams, a "synchronous interaction tool" (Aires, Escola & Lopes, 2021), *Word*, *Forms*, *Outlook* and *PowerPoint*. The least used by the participants was *Skype*. It is also important to highlight that the schools chose the platform they wanted to work with. Although no teacher was prevented from using others, they were informed that in their teaching practice they had to prioritize the use of the platform adopted by the grouping so that there would be uniformity in the platform used between teachers of the same grouping.

Table 9: Support for the Microsoft 365 platform.

	Fr.	%
Who supported whenever they needed help in the context Microsoft 365		
Someone from the school's support structure	33	32,7
ICT coordinator of the cluster	9	8,9
Information / tutorial in YouTube	31	30,7
A colleague	28	27,7
TOTAL	101	100

Table 10: Microsoft 365 Usage Time.

	Fr.	%
How long have you been using it (or for how long used) Microsoft 365 Education		
Less than 1 month	4	4
1-6 months / one semester or less	19	18,8
7-11 months / two semesters	42	41,6
1-2 years	21	20,8
2-3 years	4	4
More than 3 years	11	10,9
TOTAL	101	100

Table 11: Microsoft 365 applications to carry out teaching activities.

	Fr.	%
Microsoft 365 applications that you use to carry out teaching activities		
Excel (for calculations)	45	44,6
Forms (to create online forms and/or questionnaires)	63	62,4
OneDrive (virtual disk storage and document sharing)	41	40,6
OneNote (digital notebook)	24	23,8
Outlook (e-mail management)	63	62,4
PowerPoint (to create presentations)	59	58,4
Skype for Business (communication tool)	1	1
Stream (video service where you can securely split, upload and display videos)	10	9,9
Teams	87	86,1
Word (to edit text)	69	68,3
TOTAL	101	100

Table 12 data shows that for 25.7% of teachers, Microsoft 365 use allows adequate management of classes and individual students (Notepad) (e.g., scheduling of activities, notes, notices to students or guardians, ...); 20.6% think that it organizes teaching and learning materials; 18.8% believe that it facilitates greater contact with students; 15.8% believe that it makes it possible to create additional learning material available to students; 14.9% believe it gives security to students and teachers (only registered teachers and students have access to the contents of the class). For just 2% of teachers, Microsoft 365 provides a suitable environment for taking online tests or online surveys.

Table 12: Most significant pedagogical advantage of using Microsoft 365 Education.

	Fr.	%
Most significant Advantage of Using Microsoft 365 Education		
Gives security to students and teachers (only registered teachers and students have access to class contents)	15	14,9
Provides a suitable environment for conducting online tests or questionnaires	2	2
Provides an adequate management of classes and individual students (Notepad) (ex.: scheduling of activities, notes, communications to students or guardians, ...)	26	25,7
It facilitates greater contact with students	19	18,8
Organizes teaching and learning materials	21	20,8
Allows additional learning material to be made available to students	16	15,8
TOTAL	101	100

Returning to face-to-face teaching, digital platforms are no longer used as much as they were during the initial lockdown phase on March 12, 2020. However, we believe they have not ceased being used as they were being utilized before the pandemic. In the study of Marôco (2020) 35% of teachers declare that they have never used a distance learning platform (Moodle, Classroom, MSTeams, or any other). This study reinforces our perception (Table 13). More than half of the teachers (56.4%), continued to use the Microsoft 365 to complement classroom teaching (additional material is placed online); 33.7% use it for mixed-format classes (some program units are still online); 25.7% for contacting parents or guardians. Only 7.9% use it to support and clarify doubts for students and to contact students and other teachers. These results are in line with several national studies. Ribeirinha and Silva (2020) argue that one of the lessons of the pandemic is that teaching in the future will tend to be hybrid, where distance learning tools are integrated into teaching practices; in Marôco's research (2020) most respondents consider that, despite not having previously used the platforms, they intend to continue to do so even after returning to face-to-face record.

In addition to this platform, others are used by teachers and students. Table 14 data shows that 77.2% of the teachers of this study also use the Zoom-Colibri, 57.4% the Porto Editora Virtual School, 38.6% the Leya Digital Classroom, and 28.7% the Google Classroom.

Time will pass and the use of platforms will remain (Ribeirinha & Silva, 2020; Escola, 2020a; Escola, 2020b). Regarding Microsoft 365, 66.3% of teachers increasingly use this platform, 32.7% use it in a similar way as they used to if we compare the time they started using it (when distance learning became a necessity and the only possible alternative). Now they are teaching face-to-face, and only 1% reported making less use of this platform (Table 15). This position corroborates the results of Ribeirinha and Silva (2020) where it was concluded that one of the lessons of the pandemic is the most frequent assertion of the use of distance learning resources. Cabero-Almenara (2020) also considers that the pandemic brought about a profound change in the education system, where it was possible to verify the change from a model heavily centered on the teacher transmission of information, "to a model strongly centered and mediated by technologies" (p.1) [Translation done by the authors].

In fact, Table 16 data shows that most (78.2%) of teachers participating in the study are globally satisfied with what they can do on the Microsoft 365 platform. It is a platform that gives schools, teachers, and students all the resources needed to continue teaching and learning remotely. No teacher reported being dissatisfied and only 3% are very dissatisfied.

To better understand the level of teacher satisfaction, we present in several tables (17, 18, 19 and 20) the different aspects that we considered in our study regarding the Microsoft 365 platform: Intuitiveness and way of organizing the materials on the platform; Quickness/ Speed of learning the interface and navigating; Assessment tools (tests, questionnaires, ...); Help/Guidance Tools; Collaborative features (sharing files and other resources, calendar, ...); Communication features with other teachers from the same educational community; Communication features with students; Access to the educational contents of the course (materials format, e.g., flash, html, pdf); Integration with mobile communication devices (e.g., tablet, mobile phone); Integration with other collaborative applications (e.g., online whiteboards, forums, ...).

About the intuitiveness and way of organizing the materials on the platform (Table 17, left column), 78.2% of teachers said they were satisfied, and 9.9% even considered it an excellent platform in this regard. Only 4.0% are dissatisfied or very dissatisfied. Regarding the quickness/speed of learning the interface and the way to

Table 13: Use Microsoft 365 when teaching face-to-face.

	Fr.	%
Now that we are in face-to-face teaching, use Microsoft 365:		
Just to contact the guardians	26	25,7
For mixed-format classes (some program units are taken online)	34	33,7
To complement face-to-face teaching (additional material is posted online)	57	56,4
Other	8	7,9
TOTAL	101	100

Table 14: Other platforms used.

	Fr.	%
Other platform(s) you have already used, as a student/trainee or as a teacher/trainer		
Leya's Digital Class	39	38,6
Google *Classroom*	29	28,7
Porto Editora Virtual School	58	57,4
Zoom/Colibri	78	77,2
TOTAL	101	100

Table 15: Evolution of the use of the Microsoft 365 platform since its implementation.

	Fr.	%
Evolution of use of the Microsoft 365 platform since its implementation		
Lower usage	1	1
Similar usage	33	32,7
Increased usage	67	66,3
TOTAL	101	100

Table 16: Overall satisfaction with the activities you can do with Microsoft 365.

	Fr.	%
What is your level of overall satisfaction with what you can accomplish with Microsoft 365?		
Very dissatisfactory	3	3
Unsatisfactory	0	0
Indifferent	2	2
Satisfactory	79	78,2
Excellent	17	16,8
TOTAL	101	100

navigate, 79.2% mentioned being satisfied and only 3% were dissatisfied.

More than half of the teachers who answered the questionnaire are satisfied with the assessment tools (tests, questionnaires, ...) or with the help and guidance tools (Table 18). From the analysis of this table, it can be seen that few teachers are dissatisfied or very dissatisfied with these tools. However, jointly discussing these results with those presented in Table 12, (where the most significant educational advantage of the Microsoft 365 was asked), we found that only 2% of respondents valued this dimension; that is, it provides a suitable environment for carrying out online tests or online surveys. The study of Marôco (2020) has close results. Regarding distance learning platforms (particularly assessment tools), only 14% of respondents consider it difficult to use software/digital applications for assessment.

From Table 19 data, it can be seen that regarding collaborative features (sharing files and other resources; agenda, calendar, ...), and communication features with other teachers from the same school and with students, almost all teachers are also satisfied.

Concerning access to the subject's educational content, only 3% of teachers are dissatisfied, 17.8% are indifferent, and most are satisfied (Table 20). Most teachers are also confident with the integration possible with mobile communication devices (e.g., tablet, mobile phone) and the Microsoft 365 platform and the integration with other collaborative applications (e.g., online whiteboards, forums, ...).

Given the level of satisfaction that teachers showed, it is not surprising that Table 21 shows that 60.4% of teachers answered that they would probably recommend Microsoft 365 to a friend, and that 35.6% do so without any doubt. Only a tiny group of respondents (4%) consider it unlikely that they will recommend it to a friend.

Table 17: Teachers' satisfaction regarding the intuitiveness and ways of organizing materials and quickness/speed of learning the interface and the way of navigating.

	Fr.	%	Fr.	%
	Intuitiveness and way of organizing materials on the platform		**Quickness/speed of learning the interface and way of navigating**	
Very dissatisfactory	2	2	0	0
Unsatisfactory	2	2	3	3
Indifferent	8	7,9	7	6,9
Satisfactory	79	78,2	80	79,2
Excellent	10	9,9	11	10,9
TOTAL	101	100	101	100

Table 18: Teacher satisfaction with assessment and help/guidance tools.

	Fr.	%	Fr.	%
	Assessment tools (tests, questionnaires, ...)		**Help/guidance tools**	
Very dissatisfactory	1	1	1	1
Unsatisfactory	8	7,9	3	3
Indifferent	10	9,9	12	11,9
Satisfactory	66	65,3	76	75,2
Excellent	16	15,8	9	8,9
TOTAL	101	100	101	100

Table 19: Teacher satisfaction regarding collaborative features, communication with other teachers.

	Fr.	%	Fr.	%	Fr.	%
	Collaborative features (sharing files and other resources; agenda, calendar, ...)		**Communication features with other teachers from the same educational community**		**Communication features with students**	
Very dissatisfactory	1	1	1	1	0	0
Unsatisfactory	1	1	0	0	1	1
Indifferent	2	2	4	4	1	1
Satisfactory	69	68,3	67	66,3	67	66,3
Excellent	28	27,7	29	28,7	32	31,7
TOTAL	101	100	101	100	101	100

Table 20: Teachers' satisfaction in accessing the contents of the subjects, integration with mobile communication devices and collaborative applications.

	Fr.	%	Fr.	%	Fr.	%
	Access to the educational contents of the course (materials format, e.g., flash, html, pdf)		Integration with mobile communication devices (e.g., tablet, mobile phone)		Integration with other collaborative applications (e.g., online whiteboards, forums, ...)	
Very dissatisfactory	1	1	0	0	2	2
Unsatisfactory	2	2	3	3	2	2
Indifferent	18	17,8	19	18,8	25	24,8
Satisfactory	71	70,3	61	60,4	62	61,4
Excellent	9	8,9	18	17,8	10	9,9
TOTAL	101	100	101	100	101	100

Table 21: Microsoft 365 recommendation.

	Fr.	%
Would you recommend the platform you use to a friend?		
Not at all	0	0
Unlikely	4	4
Probably yes	61	60,4
Yes. No doubt	36	35,6
TOTAL	101	100

4 Conclusions

In this last year, teachers have resorted, as never before, to the help of digital technology to organize the didactic processes in remote and hybrid teaching, which has revealed difficulties in their teaching practice in the public education system. However, learning platforms are today an unavoidable necessity to respond to the challenges of teaching in the 21st century. To continue to support teachers and students in creating a holistic learning environment and elevating School education, Microsoft 365 introduced new features for teachers and students. As teachers, it was crucial to understand if these features were helpful in the teaching and learning processes. In this sense, we decided to carry out the present study that aims to know the opinions of several teachers about the use they made of Microsoft 365 during distance education, and to know the degree of satisfaction obtained with its use.

About the first objective, this study revealed:

- that Microsoft 365 was the appropriate response to the constraints imposed by the pandemic;
- that although there was great distrust of the platform, due to lack of specific training for its use, and consequently the fear founded on its service without knowledge or preparation (two-thirds of respondents confirmed that they had undergone training during the period of confinement), nevertheless, this difficulty did not impede ensuring that the majority of schools continued to ensure that pupils continued to have contact with teachers;
- the positive nature of the experience for teachers during the pandemic, as, after returning to face-to-face activities, the majority of teachers (56.4%) stated that they continued to use Microsoft 365 to complement face-to-face teaching.

Concerning the second objective, this study showed:

- that teachers are satisfied with the use of the platform, specifically about the level of competence in its use: 75.3% of the participants consider that they are not beginners, but relatively medium or advanced users, even though they state that they have not had adequate training in the use of this platform. These results are similar to those of other studies (Marôco, 2020; Ribeirinha and Silva, 2020; Fenprof, 2020);
- that more than three-quarters of the teachers surveyed (78.2%) revealed a high level of satisfaction with their performance, i.e., with what they were able to with Microsoft 365, although being a platform that provides teachers and students with a wide range of resources and potential for remote learning;
- that teachers are sensitively aware to the platform pedagogical possibilities, both in terms of collaborative functionalities and communication with students, between teachers and with the educational community. This can be attested by the results obtained, which are mostly satisfactory and excellent (if we add the answers of the teachers who responded good and ideal to these features, we have

more than 95% of the respondents). At the same time, these results confirm that it has become clear that this platform enables school activities to go beyond the physical and spatial boundaries of the school and serve as pedagogical/informative support to the whole school community, especially to parents;
- that the value of face-to-face teaching and its irreplaceable character has not been questioned (Escola, 2020a; Escola 2020b) since it has advantages and undeniable merits, but also boasts limitations, and some of them can be remedied by complementing the teacher's educational action with activities on a learning platform such as Microsoft 365;
- that the adoption of a learning platform is a way to make teaching more dynamic by combining different formats in the same space. With technological advances, more and more resources have been included: video; animations; forum; chat; gamification; tests; assessments, and so many other possibilities have been added to the tools, enriching students' learning experiences;

In conclusion, this research has highlighted the importance of platforms in educational institutions. The pandemic situation in which the world was immersed led both Portugal and other countries to the need for the physical closure of schools, and the incessant search for solutions that would continue to allow students to pursue their learning projects. In this very adverse context, technology has proved decisive in responding to the challenges of a confined society. Educational institutions have had to reinvent themselves, placing even greater value on dialogue with the partners in the educational community because it was with them that they jointly sought answers to the difficulties they encountered. Teachers, students, even the parents were much more proactive. In a genuinely collaborative and humble spirit, they asked or gave help to colleagues, searched for information/training on the web, self-trained themselves, created and shared teaching resources. In short, they transformed the school. The difficulties and challenges they faced and overcame show the relevance of the road travelled and, at the same time, give a glimpse of the future direction.

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