

## Challenges and Opportunities for Educational Actors in light of the COVID-19 Pandemic in Paraguay

*Desafíos y oportunidades para los actores educativos ante la pandemia de COVID-19 en Paraguay*

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### ABSTRACT

The measures implemented in response to COVID-19 have affected education systems around the world, generating significant disruptions. This study examines the main challenges and opportunities presented to the different educational actors in Paraguay considering the health emergency and the need to give continuity to the educational processes in the country from the last week of March until the first days of May 2020. A total of 2501 people participated, including teachers, students, parents of non-university students, and managers from educational institutions at all levels and from all over the country. It follows a mixed-quantitative-explanatory approach and data collection was conducted through online questionnaires. The study showed changes and strategies implemented by educational actors for the development of classes mediated by digital tools. The results reflect challenges related to access to technological resources, training in the use of ICT, and difficulties in carrying out school activities. Among the opportunities mentioned is the possibility of continuing with studies, learning about technology, and transforming the educational system. These show evidence of the need to improve access to technology to guarantee equal educational opportunities in the country.

**Keywords:** Pandemic, Covid-19, education, perspectives, challenges

### RESUMEN

Las medidas implementadas en respuesta a la COVID-19 han afectado enormemente a los sistemas educativos de todo el mundo, generando importantes trastornos. Este estudio examina los principales retos y oportunidades que se presentan a los diferentes actores educativos en Paraguay ante la emergencia sanitaria y la necesidad de dar continuidad a los procesos educativos en el país. Participaron 2501 personas, entre profesores, alumnos, padres de alumnos no universitarios y directivos de instituciones educativas de todos los niveles y de todo el país desde la última semana de marzo hasta los primeros días de mayo de 2020. Sigue un enfoque explicativo cuantificado mixto y la recogida de datos se realizó mediante cuestionarios en línea. El estudio mostró los cambios y las estrategias implementadas por los actores educativos para el desarrollo de clases mediadas por herramientas digitales. Los resultados reflejan retos relacionados principalmente con el acceso a los recursos tecnológicos, la formación en el uso de las TIC y las dificultades para llevar a cabo las actividades escolares. Entre las oportunidades que se mencionan están la posibilidad de continuar con los estudios, el aprendizaje de la tecnología y la transformación del sistema educativo. Esto evidencia la necesidad de mejorar el acceso a la tecnología para garantizar la igualdad de oportunidades educativas en el país.

**Palabras clave:** Pandemia, Covid-19, educación, perspectivas, desafíos

## 1. INTRODUCTION

Since the declaration of COVID-19 as a pandemic by the World Health Organization (WHO), governments around the world have taken preventive measures to slow its spread (WHO, 2020). During this health crisis, not only the economy and health were affected, but also the education of millions of students around the world. Due to preventive measures, authorities abruptly closed schools and universities. Although such measures seem effective, these bring negative effects related to learning (Van Lacker and Parolin, 2020; Cifuentes-Faura, 2020), contribute to school dropout (Sanz, Sainz González and Capilla, 2020), increase stress and affect the economy (UNESCO, 2020a).

The main strategy adopted to cope with the closure of institutions is to continue education virtually or remotely through radio and/or TV, educational web portals and educational platforms according to the technological resources available (UNESCO, 2020b). This drastic change has led researchers to question the effectiveness of remote classes as there is still no evidence of their efficacy (Wang, Zhang, Zhao, Zhang, & Jiang, 2020; Viner et al., 2020). Likewise, not all students or institutions have the necessary tools, knowledge or spaces suitable for virtual learning (Álvarez, Gardyn, Iardevlevsky and Rebello, 2020; Álvarez Marinelli et al., 2020; Armitage and Nellums, 2020; Esposito and Principi, 2020; Li and Lalani, 2020) which generates social and educational inequality (ECLAC, 2020). For this reason, Reimers and Schleider (2020) argue that institutions are not prepared to continue education virtually since they either do not have the necessary tools or cannot guarantee their adequate use.

In Paraguay, immediate sanitary measures were adopted as of March 10th (MSPBS, 2020; Britez, 2020). These measures mainly affected public places and activities where people normally congregate, such as educational centers. Subsequently, the Ministry of Education and Science (MEC) developed an educational plan called "Tu Escuela en Casa" (Your School at Home) to ensure distance education for all school levels (MEC, 2020). Similarly, the National Council of Higher Education (CONES) established that higher education institutions should develop digital tools for the continuity of the educational process (CONES, 2020). Due to the limited information on how educational actors were affected by the measures implemented by the Paraguayan government to address the COVID-19 pandemic at the beginning of the quarantine, this study was conducted to examine the experiences of educational actors in the face of the challenges presented by issues such as access, resources, the uncertainty created by the situation, teacher and student readiness among others, as well as opportunities posed by these measures including the opportunity to invest in education, implement innovative approaches, continue learning and to rethink the entire educational system.

## 2. METHODS

The study follows a mixed approach with a quan-qual explanatory design using questionnaires with open and closed questions. The sample consisted of 2051 participants distributed among teachers (1030; 41.2%), parents of non-university students (505; 20.2%), high school and university students (856; 34.2%) and educational managers (110; 4.4%). The scope was national; about 60% of the participants reside in Asunción (Capital of Paraguay) and in the Central Department. However, there was an interesting participation of educational actors residing in departments such as Paraguarí, San Pedro, Itapúa, Cordillera and Alto Paraná (between 4 and 8%).

Four data collection instruments were designed, one for each educational actor, based on the adaptation of questionnaires used by Wozney, Venkatesh and Abrami (2006). Each questionnaire contained items associated with sociodemographic information, possession of and access to different technological tools, means of communication used, teacher training in the use of ICTs, perception of the educational process in times of confinement, challenges and opportunities presented, and other questions aimed at discovering how the different educational actors are coping with the measures adopted by the pandemic. The questionnaires were applied from the last week of March until the first days of May 2020 by digital means such as messaging (WhatsApp), social networks and email in order to reach as many people as possible since at the time of distribution there was a total quarantine in the country. Data were analyzed using R statistical software (R Core Team, 2020) and sorted with Microsoft Excel tools. The results are presented in statistical tables and graphs, descriptive and with association analysis using the chi-square statistic.

The qualitative data were analyzed using content analysis strategies through coding and categorization resulting in three main analytical categories: “challenges”, “measures adopted” and “opportunities” with subcategories related to financial aspects, access to resources including technology and connectivity, uncertainty, aspects related to community members including training, attitudes, and time, mental exhaustion, quality and in some cases none. Considering the measures adopted, subcategories related to continuing, “according to possibilities”, the curriculum, adapting, prioritizing health, economic assistance, suspension of classes and the use of printed materials were identified. Regarding opportunities, subcategories were identified referring to “no opportunities”, “continue studying”, training, learning, implementing improvements, investing, digital migration and rethinking the educational system. (Table 1).

**Table 1.** Categories and subcategories according to qualitative analysis.

<b>Challenges</b>	<b>Measures</b>	<b>Opportunities</b>
Access	Continue the same	Continue studying
Resources	According to possibilities	Training - Learning
Financial	Curriculum	Implement improvements
Uncertainty	Adapt	Investing in infrastructure
Community	Prioritizing health	Digital migration
Skills and attitudes	Financial Assistance	Rethink the entire system
Training	Suspend classes	No opportunities
Weather	Printed materials	
Mental wear and tear		
Quality		
None		

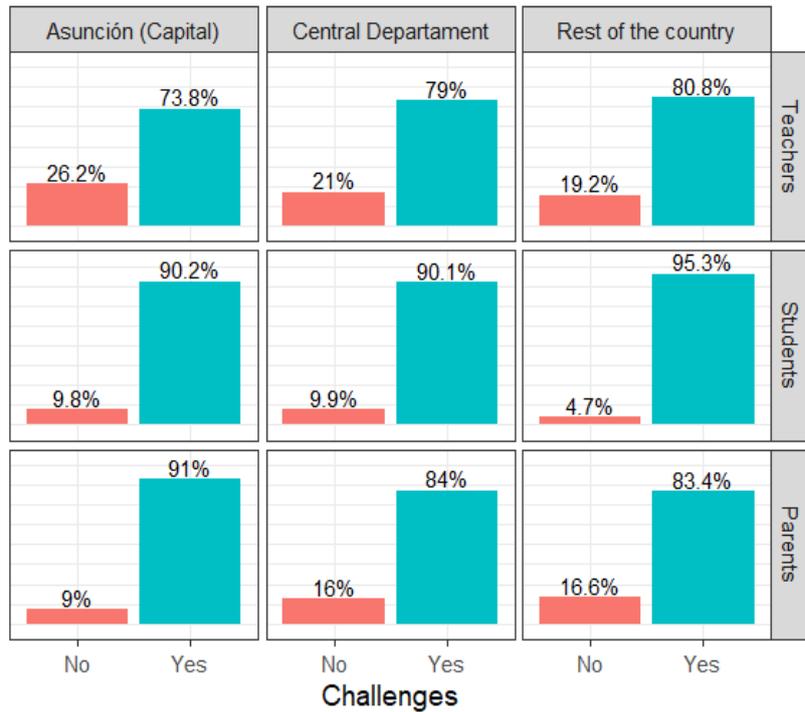
Source: Elaborated by the authors for this study.

### 3. RESULTS

#### 3.1 Challenges presented by the situation

The educational stakeholders who took part in the study expressed some degree of difficulty with at least one characteristic of the distance education process mediated mostly by digital tools. Figure 1 shows that, for the three educational actors, teachers, parents and students, difficulties were present in high percentages in all the areas of residence that were part of the study. Teachers and students residing in the interior of the country were those who in high proportions responded having some difficulty in the academic process (80.8% and 95.3% respectively). However, the opposite was true for parents. In this case, those who live in Asunción and in the Central Department indicated the most difficulties (84% and 91% respectively). On average, the highest percentages were for students (between 90% and 95%).

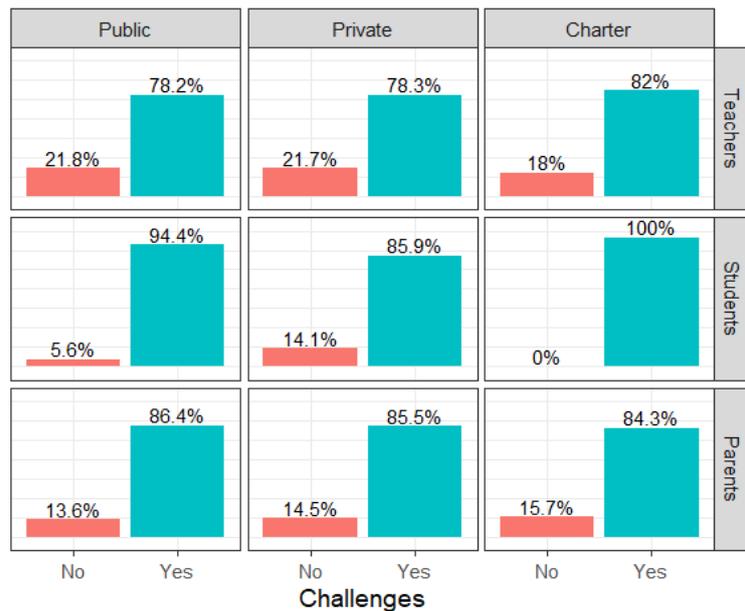
**Figure 1:** Percentages of teachers, parents and students concerning difficulties in Asunción, Central Department and the rest of the country.



Source: Elaborated by the authors for this study.

Regarding the difficulties presented to these same educational actors, according to the type of institution they attend, similar percentages were observed in comparison to the breakdown by zone or department of residence. Regardless of whether the institution of origin is public, private or subsidized, more than 78% responded that they do have difficulties. Again, the students most frequently expressed having some problematic situation in this teaching modality (Figure 2).

**Figure 2.** Percentages of teachers, parents and students regarding their difficulties by type of institution.



Source: Elaborated by the authors for this study.

The most important challenge highlighted by the participants was access to technological resources, including important aspects related to the possession of and access to useful technologies for the

educational process in the virtual teaching modality. The cell phone is one of the technological tools to which teachers, parents and students have the greatest access. More than 96% of them stated that they have at least one cell phone at home with Internet access. However, there was a decrease in the percentage of people who reported having at least one computer at home (81%). Parents and students have the least access to this technological tool, between 69% and 75% respectively.

Comparing computer ownership by area of residence (Asunción, Central department vs. the rest of the country), a significant difference was observed ( $X^2 = 170.8; p < 0.01$ ), with residents of Asunción and Central department expressing the highest percentages of access to at least one computer at home. On the other hand, a total of 54% of teachers, parents and students had unlimited Internet access. Again, in the interior of the country the differences are significant with respect to those living in Asunción and in the Central department ( $X^2 = 20.8; p < 0.01$ ).

Table 2 shows that the main difficulties presented to the students were the lack of understanding of the tasks assigned by the teachers, lack of motivation and problems related to the Internet connection (approximately 31, 21 and 20% respectively). For parents, the biggest problems were the lack of understanding of the assigned tasks and the lack of institutional support according to their answers (20 and 15% respectively). It is worth noting that about 23% of the parents stated that they did not have any difficulty in coping with school activities. On the other hand, 21.7% of teachers also indicated an absence of difficulties. However, those teachers who did report having some type of difficulty were mainly associated with Internet connection problems (38.8%), lack of access to technology (34%) and problems related to lack of knowledge in the use of technological tools (28.7%).

**Table 2.** Main difficulties reported by teachers, parents and students (%).

Difficulties encountered	Students	Parents	Teachers
I have no difficulties	7.7	23	21.7
Lack of motivation and/or institutional support	21.0	15	5.5
Lack of understanding of assigned tasks	31.1	20	-
Lack of support from parents/guardians	4.2	12	-
Lack of support from teachers	16.0	5	-
Lack of access to technology	9.8	6	34.0
Lack of knowledge in the use of technological tools	10.7	-	28.7
Lack of access to information, economic resources	13.6	11	10.0
Lack of time	10.3	7	-
Internet connection problems	20.3	6	38.8

Source: Elaborated by the authors for this study.

Limited access to the Internet contributes to the higher percentages of educational actors expressing difficulties ( $X^2 = 55.8; p < 0.01$ ). On the other hand, lower percentages of difficulties were associated with lack of support from teachers, lack of access to information and economic resources, as well as the lack of or limited time available to carry out the different activities that a new modality entails for the vast majority of educational actors (Table 3). The difficulties reported occurred in similar proportions comparing Asunción, the Central department and the other departments of the country ( $X^2 = 4.2; p = 0.125$ ). However, the differences are significant when compared by educational actors ( $X^2 = 72.1; p < 0.01$ ), with the group of students presenting the greatest difficulties.

In relation to this, according to the qualitative analysis, it was also found that one of the most common difficulties, especially by parents, teachers and students, is the access to technological resources and internet connectivity, considering issues related to cost first and the reach of connectivity, especially in the interior of the country where internet access is more limited. For example, some parents mentioned that their children “need to use a computer or phone each and we parents also need to work at the same time with the same computers.” This position was reinforced by teachers and managers who emphasized that “most families only have one smart cell phone device and usually have several children who need to do homework.” Thus, the fact that not all of them have smart devices with enough memory means that

“the turnout of the homework done by the students is low.” In relation to this, students also stated that “the biggest challenge would be that not everyone can participate in classes via video calls. The problem would be that not everyone has a WiFi plan, or there are areas where WiFi connections are not available.” Similarly, students also indicated that “the biggest challenge is not having a good signal to do the work.” Thus, one of the student participants expressed:

The biggest challenge, I consider, is to manage classes through the virtual modality, since, in my case, it is difficult to connect by videoconferences through the zoom platform, because I have limited Internet and the signal in the interior is not good. And that, of course, virtual classes, I do not consider as a substitute measure for face-to-face classes. But it does help and I see it as an opportunity to encourage study and nurture knowledge despite the situation we are in (Teacher, May 2020)

Another important aspect related to the previous one is the financial difficulties that in many cases prevent access to connectivity, and in some cases even threaten the continuity of the educational process, especially in privately managed institutions that depend on student fees. One of the main challenges in this regard, according to educational managers, was to maintain the teaching staff during the pandemic. Thus, at the time of the study, private institutions had to reduce their teaching staff (13%), reduce teachers' salaries (22%) and offer discounts to students (60%) in order to be able to continue the educational process. Parents, teachers and students also referred to this aspect through the open-ended questions indicating that due to the crisis they were often unable to accompany the educational process due to lack of resources, materials and internet connection.

From these financial difficulties, a lot of uncertainty is generated, which is another of the most important challenges reported by all educational actors. This uncertainty resulted in many indicating their serious concern with the situation, as can be noted in the following expressions of an educational manager:

We are in a [state of] total uncertainty. We have no parameters to follow, we are between a rock and a hard place, we lose 20% of our students every month.... The parents are demanding a 50% discount, but we know that no matter how much we do that only 20% will pay for the lack of work. So we expect more from the government, at least someone to listen to us to know what course to take.... Anyway, many more things (Educational Administrator, May 2020).

However, the uncertainty is not only related to financial issues, but also to academic issues. Participants from all levels expressed their concern about the uncertainty generated by this situation. Thus, teachers and managers indicated that the guidelines received from the official bodies (MEC, CONES) were not clear at the time of the study. In some higher education institutions, academic activities had not yet resumed, and this generated a lot of uncertainties, especially on the part of teachers and students. On the one hand, some wanted to find a way to do it so as not to lose the year, while others did not agree because, according to their criteria, “the conditions were not right.” An education manager summarized it as follows: “I was a vice principal for a long time, and I can see a lot of uncertainties in this process, no one can advise anyone because everything is new.”

Because of all this, many educational institutions were left with the uncertainty of how to carry out the “virtual migration” which they also referred to as one of the main difficulties at the beginning of the pandemic since it must contemplate all educational and administrative processes in a format for which the institutions were not prepared. They needed to have the resources and the appropriate technological infrastructure as well as the members of the community with the necessary preparation to face this change.

All the educational actors agreed that the lack of training is one of the most important difficulties presented in relation not only to the personnel of the institutions but also to the students and their parents. As for parents and students, as shown in Table 2 and according to what was expressed by managers, teachers and themselves, they were not prepared to assume a new educational modality either. “Parents are not

prepared to accompany their children in their homework” was one of the difficulties expressed. Thus, many expressed difficulties in understanding the instructions and in being able to accompany their children’s learning or due to lack of knowledge of the technology, the content and/or the way to facilitate their children’s learning. On the other hand, the students, despite being “digital natives”, were not prepared to perform school tasks at a distance according to the teachers and students, since many difficulties expressed were related to the ability to “adapt to the world of technology”, to understand the assigned tasks and to be able to perform them in the distance mode. Thus, students had expressions such as: The biggest challenge is to continue learning virtually, as we are not used to it... and the technological limitations we face, as in most cases the student population suffers from lack of coverage, smart phones, computers, etc.” (Teacher, May 2020).

Similarly, educational managers also highlighted the lack of training as one of the most important difficulties encountered when transferring teaching to the distance modality. Sixty-five percent of the managers responded that their teachers did not receive any type of training prior to the beginning of the quarantine. Furthermore, 45 of the 70 institutions that indicated the latter had not yet received training at the time of this study. From the perspective of the teachers regarding training, it was evident that of the 1019 teachers who responded to this aspect, 231 had not received any training. It could also be seen that more than 100 teachers who had not received training before quarantine received it during the confinement period. It should be noted that a total of 534 participants in the teaching community received some training related to the use and management of technological tools, at least those associated with teaching-learning activities.

Considering the integration of ICT before and after the quarantine was declared, we found increases in the percentages of teachers in the ICT integration stages such as Familiarity, Adaptation and Creative Application, and decreases in the Awareness, Learning and Understanding stages when the health restrictions were in full effect. Table 3 shows the description of each of these stages and the dimensions in the increases and decreases in the percentages of teachers. It is noteworthy that in the first stage (Awareness) and in the last stage (Creative Application) there were the greatest differences in the percentages. These results indicate a greater tendency of teachers towards the integration of ICT in the distance learning modality.

**Table 3:** Distribution of teachers, according to stages of ICT integration.

Stages of ICT integration for teachers	Before quarantine	Once quarantine was declared
Awareness (I am aware that the technology exists, but I have not used it, maybe I am even avoiding it).	14	4
Learning (I am trying to learn the basics. Sometimes I get frustrated using computers and lack confidence).	17	15
Understanding (I begin to understand the process of using the technology and can think of tasks in which it could be useful).	17	15
Familiarity (beginning to gain confidence in using the computer for specific tasks and becoming comfortable using it)	16	20
Adaptation (I see the computer as a tool and no longer worry about it as a technology. I can use many applications)	10	11
Creative application (I can apply what I know about technology in the classroom for instruction and have integrated it into the curriculum).	27	36
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Elaborated by the authors for this study based on Wozney, Venkatesh and Abrami (2006).

The results also showed that as the teacher incorporates or uses ICT in education, the tendency to express difficulties decreases significantly ( $X^2 = 42.3; p < 0.01$ ), the same occurs when the levels of competence in the use of ICT are high ( $X^2 = 55.1; p < 0.01$ ). It is important to indicate that training in the use of ICTs was shown to be more than necessary according to the educational actors’ own manifestations. In this sense, despite the fact that there were teachers who had received training in the use of ICT prior to the beginning

of the mandatory quarantine, the results show a still incipient adaptation to classes mediated by digital tools, which could affect the entire educational process.

Another difficulty that arose at the beginning of distance learning classes is related to time and homework load, mainly expressed by parents and students. There was evidence of higher percentages of these two educational actors who believe that the amount of homework is adequate, 68.3% of parents and 46.1% of students. However, 17.9% of parents and 44.3% of students responded that the homework given was excessive, while 13.7% of parents and 9.6% of students thought it was insufficient.

Regarding the time dedicated by teachers to planning pedagogical activities and correcting students' work, high percentages of teachers expressed a significant increase in the time dedicated to these activities after the declaration of quarantine. Specifically, 36% and 29.1%, respectively, stated that the time dedicated to planning teaching activities and correcting students' work increased significantly. Between 20.3% and 21.6% stated that there was no variation and only 5.6% and 10.9% of teachers responded that the time allocated to these two activities decreased significantly. Thus, taking into account the limitations in transferring their lessons to the virtual modality, many teachers emphasized that one of the great difficulties faced when studying is the organization of time since "now you don't even have time to rest... weekends are no longer weekends because they believe that working from home you are always resting." This leads to "mental exhaustion" as expressed by both teachers and managers. The latter stated that one of the challenges they face is that of having to act as mediators to provide support to other members of the educational community, especially in relation to the latter. This is how one teacher put it:

I do everything in my power, I send homework by WhatsApp to parents or students, I send short explanatory videos, they send me their finished work... As professors we have more difficulties, because we have to attend to 500 or more students a week, and it is impossible to cover everything effectively and efficiently. Because of the time factor and basic technology (Teacher, May 2020).

All these difficulties due to the lack of knowledge lead to the fact that the attitudes of teachers, students and parents become an important challenge. For teachers, on the one hand, the attitudes of some parents and students in relation to the modality present important challenges; and on the other hand, for parents, the attitudes of students, especially children, is a challenge that they often do not know how to face. The students themselves, as can be seen in Table 2, expressed difficulties in motivation and in the ability to be disciplined when carrying out the activities necessary for learning in this modality. Finally, from the point of view of both managers, parents and students, the attitude of teachers may be due to the lack of training and the need to do so. There are also challenges of communication between educational actors and, in the words of one teacher, "the biggest challenge is to reach all students in the same way as it would be in a face-to-face setting."

The latter is closely related to the concern of all members of the community to not only reach everyone but to "take care of the quality" of the teaching-learning process in this extraordinary context and how it can be maintained taking into account all the difficulties and challenges presented above. For this reason, at the time of data collection for the study, when it was not yet known how long the health measures would be extended, answering the question "do you agree with the continuity of academic activities through strategies mediated by technology?" 51% of students and 50% of managers of educational institutions answered that they do not agree. In this sense, those students who expressed having some difficulty in this teaching-learning process are those who in the highest percentage express the desire not to continue with distance classes. 53.5% of those who indicated having difficulties do not agree with continuing with the educational process, while only 19.7% of those who did not have difficulties are also against continuing classes with the help of digital media.

Those who preferred to suspend classes until they could return to face-to-face classes argued issues related to access and equity since many are not in conditions to maintain the quality of education in the distance format proposed by the MEC. On the other hand, those in favor of continuity through the distance modality expressed concern not losing the school year, especially those who are in their last year at all levels. Finally, as seen above and reinforced by the qualitative assessments, a non-negligible number of participants stated that they had no difficulties and saw this situation as an opportunity to continue learning in innovative ways, as will be seen below.

### 3.2 Measures taken to address the situation

In order to give continuity to the educational processes, the educational institutions adopted different distance learning models adapted to the reality and context of each one. Thus, 87% of the managers indicated that their institutions offered virtual classes in view of the measures introduced by the government. Many of them expressed that for the first time they were entering technology-mediated classes, and those who had previously conducted virtual classes did so as a complement to face-to-face classes (about 75%).

However, according to the perspectives presented by the other educational actors, the continuity of the activities was not homogeneous in all the institutions and the means of communication among the educational actors varied significantly. A generalized use of WhatsApp for communication between parents, teachers, educational managers and students was evidenced. It was also used to facilitate the sending and receiving of school assignments, mainly for the actors of the basic and intermediate levels of the national education system, since this medium is low cost, easy to access and use for most people. This shows that having at least one smart cell phone with an internet connection at home is extremely important to continue with their studies.

On the other hand, students in higher educational levels reported higher percentages of students using online educational platforms and videoconferencing to maintain communication with teachers of the different subjects studied at the educational institution they attend. This may be due to the fact that online educational platforms are commonly used by higher education institutions. The use of text messages and e-mails by the four educational actors to maintain instant and constant communication was observed between 1% and 34.3%.

Considering that the lack of infrastructure and knowledge were some of the main challenges, it was observed that once the quarantine was declared, around 50% of managers indicated that the teachers in their institution received training in the use of the tools necessary for virtual migration. This was also evidenced by the statements made by teachers who, as can be seen above, received training once the quarantine had begun.

Considering that “during the pandemic everyone is very stressed”, both teachers and managers saw themselves in the role of emotional support for the other members, especially the latter who act as mediators between the national authorities and the educational community. Many, when asked how they are coping with the situation, expressed that they are doing it “as best as possible” and “as far as possible.” Thus, the digital migration was being carried out according to the possibilities of each educational community and its members since, as seen above, many do not have the optimal conditions to face this situation. All also mentioned the need to “adapt” to the circumstances, focus on the curriculum and “prioritize health.”

However, there are very different perspectives on the measures taken. While some are coping “as well as possible”, others are not having a good time and are feeling a lot of stress and anxiety due to the situation. Some of the measures implemented include continuity in the distance modality to prioritize health. Many mentioned the need for the government to “provide financial assistance to continue as well as the possibility of preparing printed materials to facilitate those who do not have secured connectivity.” Also, others suggested “providing teachers and students with computers with free internet so that no one has difficulty working and doing homework.” Another suggestion for the government from a participant is to “invest more in education, especially technology, infrastructure, and training.”

Another measure suggested by a director was that “teachers should return to the institutions in shifts to coordinate the work from there and thus be able to print materials for those who do not have access to the Internet.” Likewise, many teachers and students at the time of this study considered that they should “return as soon as possible, taking into account health protocols.” Other suggestions included “having the theoretical classes virtually and the practical and laboratory classes face-to-face”, or “canceling classes for three months and returning after the winter vacations” (July).

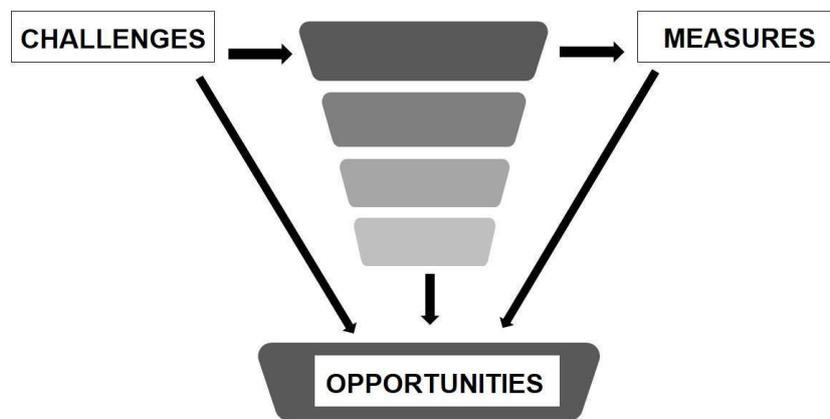
At the time of this study, many members of the educational community believed that it would be possible to return to face-to-face classes by then; however, after several months the situation has not yet improved,

as Paraguay has experienced a late emergence of infections due to early measures and their subsequent relaxation. Although a good number of participants, especially managers and students, considered canceling classes, many others, especially teachers, supported the continuity of education by all possible means. Thus, one student expressed the following:

We thought that this quarantine was not going to last long, we were going to come back and make up for the maximum 2 weeks of missed classes but this extended and continues to extend more so it calls attention and one begins to look at everything that we would have already developed in this time that has already passed and the truth is that we have a lot of work, pending exams, so somehow or another we must move forward because otherwise we are left behind (Educational Administrator, May 2020).

These examples lead to the last category of this analysis where, based on the challenges and the measures adopted to face this urgent need to adapt to the circumstances, some important opportunities are presented according to the perspective of the participants (Figure 3).

**Figure 3.** Challenges and measures leading to opportunities.



Source: Elaborated by the authors for this research.

### 3.3 Opportunities presented by the situation

Although many participants expressed that they did not see opportunities in the situation triggered by Covid-19, based on the challenges presented and the measures adopted or suggested, many of the educational actors were able to identify some opportunities presented by this situation. Firstly, from the students' perspective, the distance or virtual modality represents an opportunity to "continue studying" and "not lose the year." In addition, some students emphasized "the opportunity to continue studying without the need to attend school, which makes it easier to avoid the expenses involved in attending classes." This is a position, as opposed to the one presented by many of the financial difficulties that the new modality represents, which shows something that some see as a difficulty, others see as opportunity. In this sense, it is worth mentioning the opinion of one of the parents who states that this "is an opportunity to educate and be educated at home... to recover family affection." Related to this is the one expressed by many actors as an "opportunity to learn" or an "opportunity to train" in the use of digital tools and how to take advantage of them for learning, as well as to "continue growing in order to be able to teach."

These training opportunities can also be seen above where it is evident that many teachers were trained during the post-quarantine period and that many also increased their level of ICT incorporation in their activities according to their responses. In addition, many of the participants noted that opportunities include developing skills in all types of platforms to implement improvements that target learning, including the opportunity to provide individualized attention, promote collaborative work and creativity.

For example, some noted:

*“Presents incredible opportunities to apply differentiated instruction, more time to devote to understanding the content (on the student’s part). Encourage creativity on the part of the learner and teacher.”* (Teacher, May 2020).

*“To finally be able to make good use of technology and advance a little more with this, teachers must also have the ability to use technology well and appropriately.”* (Student, May 2020).

Thus, many highlighted that through the measures implemented, they will be better prepared in the future to face similar situations. They also mentioned the opportunity to invest in infrastructure, especially in technology, but also in construction, highlighting that this is a “brilliant opportunity for public institutions to have infrastructure for their students according to their needs, to be safe.” Also, related to the organization of educational institutions is the opportunity to have flexibility at work through teleworking, “minimizing costs and travel.”

As seen above, some mentioned the opportunity to “get closer to families” as managers, teachers and parents had to become close allies to support students’ learning. They mentioned the “opportunity to be more supportive and reinforce values” as well as to better understand the true situation of the educational systems. Thus, many stakeholders from all walks of life referred to the opportunity to improve the education system and to “restructure existing systems” so that they can “use technology to improve the learning process” and “develop new skills such as flexibility and adaptability.” Finally, although the situation is difficult and challenging for most participants, many, nevertheless, see it as an opportunity for change, to “work together to improve the quality of education”, to “create a collective consciousness to change the vision of education.”

#### 4. DISCUSSION

In the context of the COVID-19 pandemic, education has undergone “the most rapid pedagogical and assessment transformation ever seen” (Brammer and Clark, 2020, p. 454). Such changes were made in order to mitigate the negative effects of the pandemic such as loss of learning and decreased economic opportunities for students (World Bank Education, 2020) as well as social and economic gaps in technology access (Alvarez et al., 2020; Alvarez Marinelli et al., 2020; Armitage and Nellums, 2020; Esposito and Principi, 2020; Li and Lalani, 2020; Lloyd, 2020; Vivanco-Saraguro, 2020). The results of this study partly expose the situation of educational actors: parents, students, teachers and educational managers in the face of the health measures imposed in Paraguay. Such results indicate difficulties, measures adopted and opportunities of the current educational process. It should be noted that two points of view are currently identified: on the one hand, education reform that seeks change and redefinition of the role that education plays in educational communities, and on the other, returning to the “old normal” that considers the pandemic as a passing situation that will not generate any change (Harris, 2020, p. 2; Azorín, 2020). Considering this, there are still no concrete long-term solutions for the return to face-to-face classes or the effect that such a strategy will have on the future of the main educational actors.

In terms of difficulties, although it is indicated that most of them have a cell phone to carry out educational activities or, in the case of parents, contact with teachers, it is important to highlight the lower ownership of computers, especially in the case of parents and students, and how this could affect the educational process. Technological equipment together with the necessary knowledge for its use are paramount for the continuity of education, and these should be accessible to all families (Almazán, 2020). Additionally, there is the importance of the personal space available for study as this affects online learning (Bhaumik and Priyadarshini, 2020). Considering learning in unprecedented times, the role of the teacher has been decisive in the face of the measures taken for the continuation of education remotely (Hincapié, 2020). However, the lack of access to certain technological tools represents an obstacle to the performance of teaching work and the education of students. Other studies indicate that teachers encounter difficulties in terms of the lack of access to technological tools, content adaptation problems in addition to workload and working from home (Sánchez et al., 2020; Johnson, Veletsianos, & Seaman, 2020). The increased work evidenced by the study is also a challenging factor for the performance of academic work. On this, Tomei (2006) states that planning remote classes takes 14% more time than traditional classes.

The study demonstrates the need for more training in the use of ICTs as well as Picón, Caballero and Paredes (2020, p. 12) point out the need to “develop not only knowledge but also skills in the management of ICTs.” Likewise, Gómez (2020) emphasizes the importance of knowing how to use complex software necessary for learning. Jones (2004) also highlights the difficulties regarding the use of ICTs, the necessary skills and the lack of technological and pedagogical training for their correct use by teachers. However, the current situation leads to hasty decisions, which makes it difficult to design remote classes when they should be face-to-face, especially if the aim is to maximize the benefits and reduce the limitations of remote education (Dunlap, Verma and Johnson, 2016). Added to these barriers is the reality of each teacher: working from home implies balancing tasks, having space free of distractions and, above all, having the necessary tools and a stable internet to carry out educational work (Monasterio and Briceño, 2020; Zhang, Wang, Yang and Wang, 2020), which is not reflected in the reality of many teachers.

According to this study, educational actors presented difficulties regardless of the institution of origin. This could be due to the lack of technological infrastructure, concrete pedagogical guidelines, and the continuous changes regarding the implementation of new educational strategies (Soto-Córdoba, 2020). Hernandez (2020) indicates that a plan of action before situations of adversity and also leadership by educational managers are indispensable to give continuity to the educational process. Although the guidelines received focus on continuing the educational process, they are mainly centered on the content to be taught and not on student learning. Bozkurt and Sharma (2020) argue that students should be supported through a “pedagogy of attention, not on a purely didactic and insensitive basis” (p. 4). So too, Borup Jensen, Archambault, Short, and Graham (2020) emphasize the importance of student participation and the support of the educational community and the family. Consequently, it is important to foster affective learning environments, attend to the needs of students to promote their active participation in remote classes (Cáceres-Piñaloza, 2020; Reimers, 2020; Monasterio and Briceño, 2020; Cerdan, 2020; Bao, 2020).

Thus, educational institutions are faced with new challenges that commit them to seek solutions to ensure the continuity of the educational process (Stone-Johnson and Miles, 2020). Likewise, due to the uncertain environment in which academic tasks are developed, it is important to address the needs of educational staff, students and the school community in general. Institutions are expected to be aware of the context of teachers, parents and students and take effective, appropriate and realistic initiatives and strategies (Netolicky, 2020).

The opportunities identified by the educational actors are related to the attitude towards digital migration. The current situation represents an opportunity to rethink new pedagogical designs and also to explore new strategies in relation to distance education. Similarly, the adoption of technological tools and the shift to remote classes offers educational actors a space to work together and maintain high quality education through the use of technological tools in the classroom. The use of ICT and teacher training during the pandemic offers the opportunity to adopt new means of learning. Azorín (2020) notes that “COVID-19 offers a golden opportunity to rethink what matters most in education” (p. 1). Considering this, learning takes place not only in the context of students and parents but also in the entire educational community. On the other hand, the results of the study expose the predisposition of professionals for collaborative learning to improve the teaching-learning process and educational quality. Similarly, Hargreaves and O’Connor (2018) state that some aspects of professional collaboration between educational institutions are benefited by the creative use of technological tools.

## 5. CONCLUSIONS

The results of the study reflect the changes and strategies implemented by the different educational actors in response to the COVID-19 pandemic in order to give continuity to classes so as not to lose the school year. It is necessary to emphasize that all educational actors expressed difficulties regarding the transition from face-to-face to virtual classes and the implementation of technological tools to provide continuity to the educational process. Among the main challenges we can report the lack of access to technological resources and the lack of tools such as computers to carry out academic tasks. In addition, there is lack of access or limited access to the Internet, especially in the interior of the country, and problems regarding the cost of this service. Among the difficulties affecting parents and students, it is

important to note problems such as lack of understanding of homework, internet connection and lack of institutional support. However, there were people who did not report any difficulties. As for teachers, they reported having problems with the internet connection, access to technologies and lack of knowledge in the use of various technological tools. Similarly, the lack of training not only affected teachers but also parents and students, further hindering the teaching-learning process.

Although the educational community is facing a dramatic educational transformation in terms of learning and the use of new technologies, the context in which they find themselves and the opportunities reported should also be noted. Currently, the different educational actors consider as a challenge the uncertainty in which they live since they are also going through difficult situations not only academically but also financially. On the other hand, among the opportunities highlighted by the participants is the possibility of continuing their studies, learning about technology and transforming the educational system through the creation of a new “collective conscience.” This is why it is essential to take into account the different perspectives of teachers, parents and students on the situation and their responses to the measures taken by the government, as they are important to inform and guide public policies and strategies to mitigate the effects of the closure of educational institutions and try to maintain educational quality. These results demonstrate the need for greater and better access to educational technologies by the main educational actors in the country to ensure equal academic opportunities (Trujillo, Segura, Fernandez, & Jimenez, 2020; Azorin, 2020). Similarly, it can be said that minimizing student dropout and preserving the quality of education for all students represent the greatest challenges for the continuity of the educational process.

Considering the results, the decisions made by educational institutions and the Ministry of Education are in the best interest of the continuity of education. However, such decisions should also encompass the well-being of the main educational actors and their different contexts. This study sought to provide insight into the experiences of managers, teachers, students and parents in the face of the COVID-19 pandemic and their responses to the initial measures taken in Paraguay. A follow-up study is planned to compare the perspectives of educational stakeholders during the different phases of the disruption of face-to-face education due to COVID-19 in order to have better understanding about their experiences and perspectives regarding digital migration and the academic situation they are in. In this way, it will be possible to have more complete information on the experiences lived and the consequences of the measures adopted.

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