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RESPONSE CAPACITY OF THE EDUCATION SECTOR IN URUGUAY THROUGH ACCESS TO ICT BETWEEN 2020 AND 2021 IN PANDEMIC

CAPACIDAD DE RESPUESTA DEL SECTOR EDUCATIVO EN URUGUAY A TRAVÉS DEL ACCESO A LAS TICS ENTRE 2020 Y 2021 EN PANDEMIA

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ABSTRACT

The article is oriented to analyze how the educational sector in Uruguay adapted using ICTs in a period of pandemic, as well as the measures that were taken to mitigate these secondary effects and their changes. This was the product of a solid Competence-based Education; This has been possible due to the measures taken by the National Government, and in a summarized planning emphasizing the Competences. In particular, the benefits of competency-based learning in a small community and its implementation in large communities are investigated. The example of the suspension of classes at the national level in the Oriental Republic of Uruguay is presented, and later the learning data is analyzed according to the levels of everyone. From these analyzes it is observed that, in the reformulation of the teaching methodology in education, it has its fundamental complement in the Competences for the correct implementation, adapting to the New Normality. The implications of those who do not have the Competences of people or team members, do not adapt to market demands, lose their position and remain stranded in time. Competence-based learning will be the fundamental key to achieving the success of the stipulated objectives.

Palabras clave:

RESUMEN

El artículo se orienta a analizar cómo el sector educativo en Uruguay se adaptó mediante el uso de las TICs en un período de pandemia, así como las medidas que se tomaron para mitigar dichos efectos secundarios y sus cambios. Esto fue producto de

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TIC, educación, proyectos, Competencias.	una sólida Educación basada en Competencias; ha sido esto posible debido a las medidas tomadas por el Gobierno Nacional, y en una planificación resumida haciendo hincapié en las Competencias. En particular se indaga en los beneficios del aprendizaje basado en competencias en una comunidad pequeña y su implementación a las grandes comunidades. Se presenta el ejemplo de la suspensión de clases a nivel nacional en la República Oriental del Uruguay, y a posterior se analizan los datos de aprendizaje acorde los niveles de cada individuo. A partir de estos análisis se observa que, en la reformulación de la metodología de enseñanza en la educación, tiene su complemento fundamental en las Competencias para la correcta implementación, adaptándose a la Nueva Normalidad. Las implicancias que tienen quienes no poseen las Competencias de las personas o los integrantes de los equipos, no se adaptan a las demandas del mercado, pierden su posicionamiento y quedan varados en el tiempo. El aprendizaje basado en Competencias será la clave fundamental para alcanzar el éxito de los objetivos estipulados.

Introduction

In Uruguay, it was determined by law that the Uruguayan state would establish secular, free and compulsory school education, as well as the organization of its regulatory institutes and the subjects to be taught. This was in the Decree Law of Common Education on August 24, 1877 (ANEP, 2021). The education provided by the government is *secular*, that is, away from any religious doctrine, the education provided by the government is *free* for all individuals attending in the public sphere (belonging to the State) and education will be *compulsory* common and general, at the first level for School or Primary and at the second level up to three years minimum of Basic Secondary Education in Law 14.101 (Parliament of Uruguay, 1973).

In this sense, few phenomena have such a great capacity to modify a context as education, whether in socialization or social changes.

It is that, in this regional and national context, that since August 24, 1877 (Decree Law of Common Education), in Uruguay all institutions taught classes according to the traditional unilateral teaching model, the teacher speaks and exposes his knowledge, students listen, note and then study to be evaluated and graded (Educare Electronic Magazine, 2019).

In the beginning it was considered that the teaching teams had to be in the same physical place, working the stipulated hours; changes have taken place from a decade ago to the present, where they are carried out with virtual means, including people from different places, in order to achieve each of the deliverables, according to the established study plan (Oviedo, 2014).

It is in this sense that, in February 2017 in Uruguay began to insert the teaching methodology called ABPC (Competency-Based Project Learning), starting an introduction to young people of this new methodology being the basis for the preparation to the new multicontext of globalization that is presented in the formation of students (Pérez Aguirre, González Espada, & Sarasola Bonetti, 2022).

This meant a big change for everyone: a) teachers had to change the planning they had been doing for years, b) students had to change the model they were used to. For this, it was necessary to maintain the dynamic that, for the same objective, there are different motivations

This methodology is based on the premise that the learner must maintain the importance of learning by doing. In the opinion of the writer, information is obtained instantaneously through ICT (internet, laptop, tablet, cell phone, etc.) being these used as a means of support to students and teachers in order to achieve the desired objectives, i.e., the student can research and have the definition or subject to give at the time, and the important thing is to learn that knowledge with practice, i.e., with practical example cases.

It is understood that it is essential that the institutions take care and help their collaborators to learn and capitalize on this experience by developing resources and strengthening the teams, in order not to affect the students. This, in turn, makes it possible for the team to emerge stronger in confidence and leadership on a daily basis, thus empowering teachers, students and institutions.

In 2006, at the initiative of the Presidency of the Oriental Republic of Uruguay, the CEIBAL Plan (Conectividad Educativa de Informática Básica para el Aprendizaje en Línea) was implemented, being a plan aimed at social and technological inclusion that implemented the delivery of one computer per child and per teacher belonging to the Public Education system (Annual Report 2011, Presidency of the Republic)

This plan delivered laptops, connected people and study centers to the Internet and installed the infrastructure for their connectivity. This was a great step forward for the country, as it stood out as the pioneer in Latin America in carrying out this campaign to update educational tools so that its teachers and students could improve their learning performance.

With this plan, Uruguay began to move forward in favor of quality education, mainly oriented to people from a compromised social context, thus avoiding exclusion and their disintegration from the educational system. The plan was oriented towards the equality of people from the beginning of their learning in educational centers, using ICT at the service of education.

The final result was that 100% of the school population has its own computer equipment, thus equalizing opportunities for all of society and its future.

Since the beginning of the Ceibal Plan, Uruguay's educational system has been strengthened with nationwide Internet connectivity, as well as the ability for all students included in the system to have a computerized tool that allows them to advance in their studies.

In 2008, with the Ceibal Plan already in place, ICTs took on an important role in the daily work of both teachers and students; therefore, the need arose to rethink school administration in order to transform it, make it more agile and efficient, and that is why a software called GURI (Unified Management of Records and Information) was developed and implemented in the educational system, aimed at having an updated database of teachers and students and unifying management at the national level. In the same way, the GURI Teacher applications are being developed, with the objective of maintaining interaction between the central organization and all teachers at the national level, as well as the GURI Family application, which maintains the communication links between the organization (school, management) and the students. Both applications facilitate communication, speed in obtaining information, as well as improving access to it.

In March 2020, the Uruguayan educational system - as well as the entire population - faced an unprecedented reality in its history: the closure of all educational centers and the suspension of classes at all levels due to the COVID19 pandemic. The government decreed a national health emergency on March 13, 2020, and one day later, a 14-day suspension of classes in public and private schools was ordered, which was extended several times (Presidencia de Uruguay, 2020). And CODICEN's (Central Board of Directors) resolution No. 1 dated March 14, 2020.

According to data from the United Nations Educational, Scientific and Cultural Organization (UNESCO), in the 2020 school year (between March and August), educational institutions worldwide were closed for an average of 11 weeks. Adding 3 weeks of partial closures, i.e., a) in some regions of the country closed and in others not; b) when some grades worked face-to-face and others not, and c) when all centers are open, but there is a reduction in the time load of face-to-face classes (UNESCO, 2020). Based on these points, it can be said that on average the closure of educational institutions lasted approximately 14 weeks (three and a half months out of the six months taken into account). For the same period, the Oriental Republic of Uruguay had a total closure of 4 weeks of classes, since the centers in all grades in rural areas were only closed during that time. In the rest of Uruguay the closure was 10 weeks of classes. In addition, there were 4 weeks of partial closures; therefore, Uruguay is close to the world average, and below the average for Latin America, where the total closure of centers was approximately 18 weeks. (INEEd, 2021b).

Unlike other countries where the emergency generated the paralyzation of activities, in Uruguay the educational system addressed the new reality in a responsible, proactive and innovative manner, appealing to the existing strengths in its organization and human resources that allowed it to provide emergency remote education, as well as taking advantage of the potential of the various technological resources, with the exception of rural schools in 17 of the 19 departments of the country (in Canelones and Montevideo they remained closed), which reopened in three previous stages: from April 22 those with up to 30 students, from April 28 those with 31 to 50 students and from May 4 the remaining ones (UNICEF, 2020b).

On the one hand, the success of this strategy relies on the access of students and teachers to the necessary resources for distance education: computers or other electronic devices, platforms through which exchanges can take place between the parties and a stable connection to the Internet; given all this with 14 years of experience in the implementation of the Ceibal Plan. On the other hand, as shown by the International Computer Literacy and Information Literacy Study (ICILS), the access of students and teachers to information and communication technologies is a necessary but not sufficient condition for the effective use of these tools for educational purposes. Digital literacy and the use of computer resources for teaching and learning require training and support for teachers in their use, and preparation of students to use computers for these purposes, which is considered both an educational objective in itself and a cross-cutting competency (Fraillon, 2020).

Although the use of computers and online platforms has been incorporated into the teaching processes in our country, these resources became vitally important as of 2020, when the health emergency led education to be developed in virtual or blended mode. Access to these technologies became necessary not only in educational centers, but also in students' homes, as they are essential tools for studying and solving exercises at home.

In order to succinctly understand the study of this work, it is important to describe what is competency-based project learning, what is a project, what are competencies, and what are information and communication technologies.

The ABPC methodology (project-based learning by competencies), is where the student carries out learning by doing, fundamentally applying the competencies, where we find as elements of competencies the following: communication, creative thinking, critical thinking, scientific thinking, computational thinking, metacognitive, intrapersonal, initiative and action orientation, relationship with others and local, global and digital citizenship. Knowledge is at the student's fingertips. The teacher adds learning by doing, researching and performing individually and in groups. This is where the elements of competencies are applied (Pérez Aguirre, González Espada, & Sarasola Bonetti, 2022).

If competencies are applied (recognizing competencies as the sum of knowledge plus skill plus attitude), by applying the necessary competencies, success can be achieved in any project, be it at a personal, educational or professional level. By setting a concrete objective, designing and following a structured plan, it will be possible to achieve that objective. Competencies at the educational level are the basis for the development of more advanced competencies in the professional world. Therefore, it is increasingly necessary to change traditional learning for learning based on competencies, because it allows the application of these competencies in any context, something that we see as necessary in today's world, where changes are constant and only the use of competencies allows adaptation to them.

The education system must offer the next generation competent and not only knowledgeable about information. This is possible if an educational methodology that contemplates the development of competencies, such as ABPC, is applied. (learning based on competency-based projects), since it is not only enough to have theoretical knowledge, if we combine this with our own skills and fundamentally with the attitude of each individual, the best results are obtained, adapting to what Erik Hoefer (1983) expressed in these complex times of constant change, the competent will inherit the world, while the knowledgeable will find themselves perfectly prepared to face a world that no longer exists. According to publications and statistics, the application of educational projects based on competencies allows us to obtain the desired success, in a continuous improvement of our deliverables (Barry, 2004).

This author understands the interconnection existing between ABPC and projects at the professional level, given that today project management is a transversal axis in all professions, there being a link between educational competencies and the competencies of the project manager, for all its elements of competencies in both areas. In this sense, a project is understood as a temporary effort to carry out a product or service with a unique result. It has a well-defined beginning and end. Its completion can result in the achievement of the objectives at best (PMI, 2021). Until 2020, it was considered that a project manager was in charge of supervising a single project; nowadays, the management of Projects, Programs (set of two or more Projects) and Portfolios (set of two or more Programs) is being chosen, so that more than one project can be managed at the same time, without interfering with one another, even complementing each other (IPMA, 2015). A PM (Project Manager) used to be proven only by hands-on experience; today, Project Management has become a professional career that can be applied to all sectors, where individuals must be trained and certified to stand out from others; just like teachers in educational competencies, where preparation and certification surpasses them in pursuit of their students' education.

Competence is the sum of knowledge plus skill plus attitude; that is, it is not enough to have only theoretical knowledge, it must be complemented with the skills and attitudes of each individual; that is when one becomes competent. Competencies in education are divided into two domains, where domain 1 contains the elements of competencies: Communication, Creative

Thinking, Critical Thinking, Scientific Thinking, Computational Thinking and Metacognitive; and domain 2 contains the elements of competencies: Intrapersonal, Initiative and action orientation, Relationship with others and Local, global and digital citizenship (ANEP, 2022). At the same time in Project Management the competencies, are divided into three areas: perspective, people and practice, and these areas contain their elements of competencies (IPMA, ICB, 2018). The perspective area contains five competency elements (strategy, governance, regulations, power and interest, culture and values), the people area contains ten competency elements (self-reflection, reliability, communication, participation, leadership, teamwork, conflict and crisis, resourcefulness, negotiation, results orientation) and the practice area contains fourteen competency elements (project design, objectives, scope, time, organization, quality, finance, resources, procurement, planning and control, risks, stakeholders, change, balance).

In order to identify each of these elements in their use, key competency indicators are used, as an example for the competency element personal values and leadership, the key competency indicators are: Identifies and reflects on the ways in which own values and experiences affect work; Builds self-confidence based on personal strengths and weaknesses; Identifies and reflects on personal motivations for setting goals and maintaining focus; Organizes personal work depending on the situation and own resources; Assumes responsibility for personal learning and development. These indicators are fundamental in their contribution to the educational methodology implemented in Uruguay and, fundamentally, in the use of ICT as a tool to support education.

Applying these elements of Competencies with their key indicators makes projects achieve the desired success. If we say that a project is everything we do in our personal and professional life, it is because all plans (ideas, problems or needs) are unique and temporary, therefore, they become projects. The actions we perform on a daily basis are associated with projects, and the statistically studied logic indicates that I must have competencies if I want to successfully complete a large part of my activities.

In its beginnings, projects were the fiefdom of architects and engineers; with the passage of time, the experience gained we have understood that the project profession is horizontal and encompasses all professions and sectors; in this sense is that it has been transforming and including the terminology of projects in all professional fields and sectors, including education, which is part of the context of this research, with the transformation from unilateral and traditional learning to project-based learning (IPMA, ICB, 2018). Where there is a continuous interrelation of action between the elements of project competencies and the elements of education competencies, with ICTs being a basic tool for the training of students.

Project Based Learning (PBL) can be defined as a task-centered teaching and learning modality, a shared process of negotiation among participants, with the main objective of obtaining a final product. This method promotes individual and autonomous learning within a work plan defined by objectives and procedures. Students take responsibility for their own learning, discover their preferences and strategies in the process. They can also participate in decisions regarding content and learning assessment (Thomas, 2000).

Empirical evidence suggests that PBL has a positive effect on students' acquisition of knowledge, development of skills such as collaboration, critical thinking, and problem solving (Mergendoller, Maxwell, & Bellisimo, 2006). In addition, students who participate in PBL activities become more engaged in learning. However, (Brush & Saye, 2008) they claim that PBL is a real challenge for teachers, as they need support to plan and disseminate PBL effectively, while students need help to organize their time and be able to complete the tasks, as well as to integrate technology into the projects in a meaningful way (García-Varcálcel, 2017).

ICTs are developed from the scientific advances produced in the fields of information technology and telecommunications, that is, the digital era has begun to be part of both education and all professions, so the use of ICTs has also become a transversal axis for the achievement of objectives, at all levels access to technology has been essential to face the constant changes in recent years.

There are multiple definitions of ICT: According to (Cabero, 2002) iCTs are those that revolve around three basic media: computers, microelectronics and telecommunications; but they

revolve, not only in isolation, but more significantly in an interactive manner that allows new communicative realities to be achieved. The characteristics specified by different authors as representative of ICTs, as described by Cabero, are as follows (Cabero, 2002)are: Immateriality, Interactivity, Interconnection, Instantaneity, High image and sound quality parameters, Digitalization, Greater influence on processes than on products. (Belloch Ortí, 2021)

This paper seeks to analyze the response capacity of the educational sector in Uruguay to adapt through access to ICTs the activities at primary and secondary education levels between 2020 and 2021 during the pandemic, as well as to analyze the measures taken to mitigate the secondary effects of the changes.

All of this was oriented towards teachers and students, who were forced to remain at home, but had to continue with their jobs, students with their educational classes and interacting with their families and friends. This was carried out with the support of ICT at the service of people and their adaptation to this new normality.

The pandemic raised a big question for authorities and teachers about the near future of education. The black swan appeared (a risk that cannot be prevented due to the unusual nature of its activity). With this, teachers and students lost contact, it was not known how they would continue with the established study plan and whether the measures established by the National Government to deal with the health emergency caused by the COVID-19 coronavirus should be maintained. It is at that moment that the elements of educational competencies (communication, creative thinking, critical thinking, scientific thinking, computational thinking, metacognitive, intrapersonal, initiative and action-oriented, relationship with others and local, global and digital citizenship) began to be applied in an agile way in order to alleviate the situation, mainly to ensure that students do not lose contact and can continue with their studies. For all these reasons, the educational system, schools, high schools, universities, public schools and technical institutes, had to adapt their methodology. In the adaptation process, principals, teachers, students and even ICT personnel had to be trained in the new methodology. This led to the application of the elements of educational competencies, intertwined with project competencies in the planning was critical to achieve the desired success as on Monday, March 23, 2021 (ten days after the pandemic was declared), classes resumed throughout Uruguay. The capacity for a rapid response was due to the application of the elements of competencies such as communication, computational thinking and action orientation; being fundamental to face the pandemic, being measured based on the applications developed for communication with teachers and students (GURI Teachers and GURI Family), being Uruguay the country that had the fastest response in the region, unlike, for example, the Republic of Argentina, which remained more than 16 months without any educational activity

The implementation of Competency-based Educational Projects allows each educational organization (in view of the ABPC curricular projects already planned and in execution) to adapt to its use, using ICT as a base tool, in order to increase the number of teachers day by day because it allows them to obtain the desired results, with the defined budget and without exceeding the timeframe, allowing them to achieve pedagogical efficiency. The guiding premise should be to recognize that projects begin and end with people and that competent performance is essential for any successful project.

In Uruguay there are multiple strengths to support this modality, such as the previous experience in different subsystems that already offered blended learning modalities, which implies that a significant number of teachers were familiar with this type of proposals and the use of educational platforms. In addition, there is a large repository of resources available to make the practices effective (DGEIP, 2020).

Method

This article consists of a research with a non-experimental work methodology, because the study variables were not manipulated, descriptive type because only a description of the interaction of the variables, their dimensions and indicators was made, with a mixed approach, being these indicators (measured by surveys), the access to ICT that students and teachers had, if

they had internet access, if the computer was shared, conditions prior to the pandemic of computer use; these surveys were conducted through the applications GURI Teachers and GURI Family, measuring the results to compare why the response was so fast and with the scope of analyzing the responsiveness of the education sector in Uruguay to adapt through access to ICTs the activities at primary and secondary education level between 2020 and 2021 in pandemic. Analyzing the measures taken to mitigate the secondary effects of the changes that arose during the process.

The target population consisted of institutions under the Ministry of Education and Culture of Uruguay.

The census sample, selecting the educational institutions under the CODICEN (Central Board of Directors) by sampling among the 2300 urban and rural schools among the 19 departments, 230 were taken, maintaining the socio-cultural characteristics in order to maintain the descriptive percentage and thus obtain access to complete information. This evaluation assessed the family context, computer use, workspace, internet connection.

In the aforementioned schools, teachers and students were surveyed, with 230 principals, 2760 teachers and 55200 children (18400 girls and 36800 boys) participating and responding to the survey.

The study sample used for this study was determined on the basis of the complete universe of student centers in Uruguay; taking into account the size of the population, the confidence interval, the confidence level, among others, the percentage defined for the research, defined above, was reached.

The tools used were surveys, interviews with the heads of the educational centers, as well as with teachers and students. With stipulated variables as follows:

1. Responsiveness of the education sector in terms of: access to technology (did they have equipment?) and digital competencies for the use of ICTs (were they trained to use them?).
2. Side effects of changes in the process (did isolation cause slowing down during learning?).

All oriented to achieve the desired objective of the work, to analyze the response capacity of the educational sector in Uruguay to adapt through access to ICTs the activities at primary and secondary education level between 2020 and 2021 in pandemic. Analyzing the measures taken to mitigate the secondary effects of the changes that arose during the process.

Results

From the results obtained from the research carried out, it can be seen that:

Figure 1

Percentages of access to ICTs before and after the pandemic

Directors			
Access to ICT			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
230	12	21	197
100%	5%	9%	86%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
230	3	24	204
100%	1%	10%	89%

Teachers			
Access to ICT			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
2760	523	816	1421
100%	19%	30%	51%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
2760	119	912	1729
100%	4%	33%	63%

Students			
Access to ICT			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
55200	4544	18231	32425
100%	8%	33%	59%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
55200	4446	11028	39726
100%	8%	20%	72%

Figure 2

Percentages of educational competencies before and after the pandemic

Directors			
Educational Competencies			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
230	73	124	33
100%	32 %	54 %	14 %
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
230	28	76	126
100%	12 %	33 %	55 %

Teachers			
Educational Competencies			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
2760	475	1583	704
100%	17 %	57%	26%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
2760	239	867	1654
100%	9%	31%	60%

Students			
Educational Competencies			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
55200	19712	23614	11874
100%	36%	43%	22%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
55200	16873	25786	12541
100%	31%	47%	23%

Figure 3

Percentages of content adaptation to the curriculum before and after the pandemic

Directors			
Adaptation of the contents of the study plan			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
230	4	51	174
100%	2%	22%	76%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
230	2	29	198
100%	1%	13%	86%

Teachers			
Adaptation of the contents of the study plan			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
2760	259	521	1980
100%	9%	19%	72%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
2760	89	828	1843
100%	3%	30%	67%

Students			
Adaptation of the contents of the study plan			
Before 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
55200	8251	22853	24096
100%	15%	41%	44%
After 2020			
Respondents	**Low Level**	**Medium Level**	**High Level**
55200	6432	23497	25271
100%	12%	43%	46%

Product of the analysis of statistics and documentation extracted from the Ministry of Education and Culture of Uruguay, the gradual implementation since 2017 of the ABPC methodology has reflected that the educational system if it applies the Methodology of Management of Educational Projects based on Competencies and according to the reality we live in, they get to obtain better results to finish their cycle, and feasibly reach to achieve their objectives in the stipulated deadlines.

The elements of educational competencies (such as those detailed in its two domains) that are included in the curricula to be taught, allow for flexibility in the planning projection, its implications and thus maintain the operability of all members of the multidisciplinary team of the educational project, achieving success in the best way and mitigating the side effects of the changes that arise in the process.

Discussion

The final analysis shows that before 2020, access to ICT and educational competencies were being developed as part of the educational growth program in Uruguay, which is reflected in the fact that when the pandemic began, the response was rapid, even more so than in other countries in the region. Although they were not prepared for the transformation of the curricula and based on the competencies and access to ICTs, the adaptation of the contents took place quickly so that education would not stop and continuity would be maintained, unlike what happened in the region.

It has been fundamental to apply the Competency-based Educational Projects in a substantial way with the support of the tools provided by ICT, being essential for the development of people, their jobs and social interrelation, fundamentally responding to what has been the analysis of the response capacity of the educational sector in Uruguay to adapt through access to ICT the activities at the primary and secondary education level between 2020 and 2021 in pandemic. Analyzing the measures taken to mitigate the secondary effects of the changes that arose during the process.

With the experience and lessons learned, at the beginning of the year 2022, a mixed system (face-to-face and distance learning) began to be implemented in the educational system, increasing the application of competency elements and with a great effort in project-based education based on competencies. At the same time, it is being applied in different government agencies and increasing the training of their personnel in competency-based certification.

During the time when face-to-face contact was interrupted, due to the impossibility of daily face-to-face physical contact that characterizes exchanges between teachers and students, teachers, professors and students had to make use of ICT for communication, course delivery and the planning of activities. In all grades (primary, secondary and university), teachers favored the use of digital platforms. (INEEd, 2021a, 2021c).

There were strategies of various kinds to give continuity to the educational process, which has been the least interrupted in the region. Distance education played a key role in maintaining the link between teachers, families and students, which resulted in a significant increase in the use of ICTs.

As a result of the methodology used and the results obtained in the research, the analysis of statistics and research documents reflects the vision of how Competency-based Educational Projects supported by NICT tools have contributed to formulate the provision of services at a distance and in interaction with the population, in a permanent

way beyond the emergency, as a contribution and from the lessons learned from the current vision resulting from the pandemic that became a reality.

The COVID-19 pandemic has made virtual study and learning-by-doing a necessity; however, this trend is here to stay. Some teachers will return to face-to-face work after the pandemic, but most will continue to collaborate virtually as employees in remote or hybrid environments.

The impact of COVID-19 has been profound. The world is different and teaching staffs can operate everywhere. The findings of this study indicate that people will continue to work together to overcome obstacles and that technology will continue to play a key role in defining the future.

This is the starting point for the ABPC research in conjunction with NICTs, which are accessible to all, such as those investigated, oriented to families; by means of these tools we want to understand and work on a reality that is reflected in many educational institutions, fundamentally taking into account a precision for the response capacity of the educational sector in Uruguay to adapt through access to ICTs, as well as keeping in mind the risk analysis to mitigate the secondary effects of the changes.

Conclusions

The main objective of this research was to analyze the response capacity of the educational sector in Uruguay to adapt the activities at the educational level between 2020 and 2021 to the pandemic through access to ICTs. Analyzing the measures that were taken to mitigate the secondary effects of the changes that arose during the process, arriving at the conclusion from the research data, that the educational sector having implemented the ABPC methodology supported by ICT was a necessary tool to achieve the continuity of student learning in Uruguay, between 2020 and 2021, as well as the mitigation of the risks that arose as a result of the pandemic.

If we start from the concept of competency already developed, learning and integrating the different elements of competencies implies changing or transforming the internal resources of the person, i.e. attitudes, knowledge, skills, interests, motivations, in order to orient them towards the personal objectives to be achieved or common objectives of the organization and thus achieve a satisfactory response to the demands of the context. This is not a simple task and for which more than one learning strategy should be used to develop competencies, given the various dimensions involved.

The application of Competency-based Educational Projects has come to remain in the planning of people and educational centers; perhaps not with the intensity with which they were carried out in this period, but applied in accordance with the new demands of innovation, communication between people and the optimization of resources.

We must be aware that if we apply the methodology of competency-based project learning, future generations will be better than us and we will be able to continue moving towards a sustainable future.

In other words, although the COVID-19 coronavirus imposed several changes in the way of educating, the educational system maintained its objective, that of training citizens for the 21st century, in competency-based project learning. This presents the proposition that, if planning precautions are taken, it will further mitigate the risks that students will not lose the quality of their studies.

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