

# Family Parents' Perspective of Different Social-Economical Statuses about the Online and Offline Classes during the COVID-19 Pandemic

CARLOS GRANADOS ORTIZ<sup>1</sup>, SWENEY GIRALDO ARISTIZABAL<sup>2</sup>,  
IVAN PADILLA ESCORCIA<sup>2</sup>, YESIKA ROJAS-SANDOVAL<sup>2</sup>,  
JOSE GREGORIO SOLORZANO MOVILLA<sup>3</sup>, SALOMÓN DAVID CONSUEGRA PACHECO<sup>4</sup>,  
YOLIMA ROCHA FONTALVO<sup>2</sup>  
<sup>1</sup>Universidad de Antioquia, Medellín, COLOMBIA  
<sup>2</sup>Universidad del Atlántico, Barranquilla, COLOMBIA  
<sup>3</sup>Escuela Superior de Administración Pública, Barranquilla, COLOMBIA  
<sup>4</sup>Institución Universitaria de Barranquilla, Barranquilla, COLOMBIA

*Abstract:* - This research work aimed to characterize the perception of parents of educational institutions of various socioeconomic strata of Barranquilla-Colombia about the teaching of classes in the synchronous and asynchronous mode in times of Covid-19. With a qualitative approach and an interpretative-hermeneutical design, 6 parents were chosen and an unstructured interview was applied in which aspects such as connectivity, strategies used by teachers and interaction with them during the pandemic were addressed. The main finding was that parents who are enrolled in low-income institutions agree that they do not have the guarantees for their children to receive a quality education under the modality at home; For their part, the parents who have their children enrolled in a high socioeconomic level assure that despite the fact that educational institutions have resources to teach the contents of the areas of knowledge, their attendants were demotivated by the new modality of teaching.

*Key-Words:* Parents, Covid-19, education, socioeconomic stratum.

Received: June 14, 2022. Revised: November 13, 2022. Accepted: December 15, 2022. Published: December 31, 2022.

## 1 Introduction

The new coronavirus outbreak has put humanity on edge. Worldwide, many countries began a process of confinement (quarantine), which forced all sectors to develop their work activities from home. One of the sectors most affected by the quarantine was education, [8]. Which has quickly passed from face-to-face to virtual and / or distance education, from the use of printed media to the incorporation of digital resources, and from direct student-teacher interactions to indirect interaction mediated by technology, [6]. This has caused basic, middle and higher level educational institutions to reinvent their pedagogical practices, with the aim of teaching their classes through synchronous and asynchronous encounters. Thus, the challenges that the confinement stage has brought, not only has affected the administrative or teaching staff of educational institutions, it has also affected students, especially those who do not have enough resources to receive classes in this modality. According to [29], this occurs because armed conflicts, natural disasters and pandemics prevent millions of children from enrolling in school. In that order, households that do not have the resources for their children to attend

virtual classes can hardly receive a quality education. What frames that home schooling has not been effective for all households, specifically for those who lack economic resources, which has caused the school dropout of boys, girls and adolescents, [15], [14], [20], [27], [30].

In addition to this, according to the United Nations [26], the closures of educational and learning spaces have affected 94% of the student population worldwide, especially in countries with scarce resources, which in turn has increased the gaps between the population, as there is greater vulnerability in students who have difficulty doing their homework due to their low economic condition to access the internet, [26].

Now, in the report carried out by, [25], it was found that in Latin American countries, which includes Colombia, the country in which this research is carried out, they adopted three field of action strategies to carry out carry out the educational process in the distance mode, in response to the educational needs of students given the contingency caused by Covid-19. These are: the remote mode,

through the use of platforms and formats with or without the use of technology; the mobilization and personal support of educational communities and virtual education. This since the pandemic has become a catalyst for educational centers around the world to seek innovative solutions in a short period of time, [15].

However, in Colombia, characterized by being a country with social inequality, in which there are six socioeconomic strata, conformed as follows: Stratum 1 (low-low), Stratum 2 (low), Stratum 3 (medium-low), stratum 4 (medium), stratum 5 (medium-high) and stratum 6 (high) according to the Department of National Planning, [4]. Likewise, it is to strata 1 and 2 that the right to education is being violated the most, since they did not have any technological tool to receive their classes in times of pandemic. Added to this, the last census carried out by DANE, it was found that only 43% of the Colombian population has internet access, [10]. Which is worrying and leads to many students declining to continue with their studies, because they did not have a computer, cell phone, internet in their homes or any other type of technological resource.

This is evidenced in the report carried out by [28] to higher education students, where it was found that 24% of university students did not continue their studies, of this 24%, 62.5% did not continue due to situations economic, 20.8% because they did not want to receive their classes in virtual mode, 12.5% because they did not have the resources to receive the classes and 4.2% because they had not been able to develop their professional practices. This in turn agrees with what was found by [2] in his research carried out in Mexico, regarding the fact that some universities in that country did not agree to teach their classes in virtual mode, since in addition to social inequality and economy of the country, this teaching modality would hinder the learning process of some of its students who had learning problems or psychological disorders such as anxiety disorder, depressive disorder, post-traumatic stress disorder, among others, and, contrasts with the research carried out by Abella et al., [1], with respect to the fact that the adaptation process that different universities in Spain went through was not traumatic, since to evaluate and teach the classes it relied on the use of platforms such as Moodle, which allowed students to develop any type of activity, in addition to the fact that most of the students had access to the internet service.

On the other hand, in the case of Basic Primary and Secondary Education in Colombia. It was found that 48% of the principals of public schools and 12% of private ones consider that their teachers do not have technical or pedagogical skills to teach the various areas of knowledge through distance education, virtual or through remote encounters, [10]. However, they ensure that institutions must have the support of the Ministry of National Education to train their teachers in the development of skills required to teach their classes in virtual mode, specifically in technological competence, described as the ability to select and use in a pertinent, responsible and efficient way, variety of tools and technological resources, in this case for the teaching of different areas of knowledge, [21], [14], [27]. For this reason, Idrovo, [18], ensures that distance education as long as it has technological infrastructure, in addition to teachers, students and parents with training in these tools, society in general can adapt to this new change or normality in times of Covid-19.

Now, the new modes of teaching today have generated significant changes in all members of the educational community. To the teachers because they have had to adapt to this new way of teaching their classes. An example of this is the study carried out by Monasterio and Briceño, [23], that shows how complex the process of adapting to the use of digital platforms has been in primary, secondary and secondary basic education teachers, so that some of the teachers They have chosen to resign from their jobs, due to the complexity that this type of tool has generated. On the other hand, the adaptation process that students of any level of education has been complex, Millán, [22], pointed out the effect that medical students have had to learn concepts that are learned more in practice or in a laboratory.

Furthermore, Acuejo et al., [3], showed that, due to classes in virtual mode, 55% of students with low socioeconomic status could not complete their studies because they did not send their academic activities within the deadlines established by educational institutions. Added to this, the adaptation process for parents was quite complex, since some of them had to face the temporary loss of their jobs, [7]. Additionally, helping their children to get the necessary technological tools so that they could receive their classes and pay the school fee, caused anxiety and depression in them, [31]. In this order, this research focuses its attention on characterizing the perception of the parents of students from different socio-economic strata of

Barranquilla-Colombia about teaching in the synchronous and asynchronous mode in times of Covid-19

## 2 Methodology

The approach used for this research is qualitative because it is based on an inductive process that describes and creates conclusions from theoretical perspectives that go from the particular to the general, [16]. This research seeks to collect data from the perspective and points of view of each of the participants, [17], since the researcher interviews a person, analyzes the data that obtained and from there he obtains some conclusions; Next, another person is interviewed, the information provided by this new participant is analyzed and the other participants continue to be interviewed. In this way, the results and conclusions are obtained from a more general perspective.

The research design is hermeneutic-interpretive type, [17], and consists of two phases in its design, the first is the choice of the topic that was selected from the field of research that are the classes in virtual mode from the perspective of the parents and according to their socioeconomic stratum, since it was observed that those students who study in institutions located in a high socioeconomic stratum, are receiving a better education during the virtual mode in comparison with students who study in educational institutions located in a medium-low or low socioeconomic stratum; In the second phase, the difficulties that parents have presented during the virtual modality are analyzed, since it is probable that some parents who have their children studying in schools located in a high socioeconomic stratum, present the same difficulties as those parents who have their children enrolled in schools with a low or low middle socio-economic stratum.

Regarding the sample of this research, six parents from different private educational institutions in the city of Barranquilla were selected, taking into account the sector, that is, the socioeconomic stratum where the institution is located, but not where the parents reside. The choice of the sample was given under the criteria mentioned by [17] of a non-probabilistic sample or directed sample, through the sampling of voluntary or self-selected participants, which consists of several individuals applying and they are selected by the researchers according to their criteria.

### 2.1 Instrument for Data Collection

The instrument used to collect the data for this research was an interview. This technique was used to interact in an open way making use of the type of unstructured interview, where it indicates that the information obtained from it is the result of the simultaneous construction from the responses of the interviewee with the parents. The validation of this instrument was done through the delphi method in which several researchers from different countries and experts on the subject validate the questions mentioned above, [9]. The questions that were asked to each of the parents were the following:

1. How does the educational institution where your child studies develop the classes?
2. How do you monitor your child's learning process?
3. How often does the teacher meet (synchronously) with your child?
4. How often do you communicate with teachers?
5. Through what means does the institution inform you about your child's academic performance?
6. What do you think of classes in virtual mode (synchronous and asynchronous)?
7. If alternation were given, would you send your child to class?
8. What have been the challenges that you have had to live with your child in his / her learning process during the virtual mode classes?

### 2.2 Participants

The choice of the sample was made under the criteria of non-probabilistic sampling [17] that corresponds to 6 parents of students of basic secondary education who received classes under the remote modality. It should be noted that the informed consent of the participants was taken into account to be part of the research.

### 2.3 Analysis and Discussion of Results

For the analysis and discussion of the results, the answers given by the parents in each of the questions asked were taken into account. Next, we will proceed to perform the analysis. For this, some tables will be presented, through which the answers given by each of the parents will be analyzed and later a general analysis of the question will be carried out.

Analysis of the question: How does the educational institution where your child studies develop the classes?

Table 1. Analysis of question # 1.

Socioeconomic stratum where the institution is located	How does the educational institution where your child studies develop the classes?
Low-low	Parents affirm that teachers assign activities every 15 days, which they must pick up at school and deliver them eight days later. In addition, not all subjects send activities, the directors of the institution prioritized and students only receive activities in mathematics, natural sciences, Spanish, English and social sciences. In addition, they ensure that students do not receive classes, they must read the documents delivered by teachers and in this way, based on what they understand to solve the activities.
Low	The parents of the low-level educational institution assure that the teachers communicate with the students via WhatsApp, those students who do not have WhatsApp should ask their classmates what information the teacher has given, the teacher sends audios explaining the topics and with Based on these audios the students carry out their activities, the delivery of these activities are via WhatsApp through photos.
Medium-low	The participants assure that the teachers use a virtual platform, where they upload videos, documents and any other information related to

	the topic that is being addressed, additionally it is connected through zoom to explain and teach the classes twice a week.
Half	Participants affirm that teachers go online from Monday to Friday from 8:00 a.m. at 1:00 p.m. In accordance with these, the institution prioritized the teaching of basic subjects such as: mathematics, physics, chemistry, biology, history, geography, English and Spanish, the other subjects are not addressed under this modality. Likewise, teachers develop the class through the Zoom platform.
Medium-high	Parents assure that the teachers of their attending go online from Monday to Friday during the established class schedule, and even extended the class schedule, which begins at 7:00 a.m. and ends at 4:00 p.m. Likewise, they ensure that teachers develop some subjects synchronously and others asynchronously, activities and evaluations are developed in classes, students rarely have to do homework or activities at home, because the time that classes end is at 4 pm.
High	According to the participants, the teachers connect online from Monday to Friday from 7:30 a.m. at 3:00 pm, they develop the classes through the google Meet platform, which allows the classes to be recorded and the student can reproduce them and clarify doubts while carrying out an activity or if he

	presented a problem with the electrical flow or other personal inconvenience.
<p>General analysis</p> <p>It can be seen that institutions with a medium, medium-high and high socioeconomic stratum, have better tools and resources to teach their classes, and develop the teaching-learning process in an appropriate way. On the other hand, educational institutions that are found in the low-low and low socioeconomic strata present an inappropriate class system, if we take into account that the explanation and support of an expert person is important for the understanding of the concepts. Monasterio and Briceño, [23], mention that, as a result of the situation, educational institutions had to rethink the way they developed classes, but many educational institutions lack communication platforms and systems that make the teaching process inefficient .</p>	

Source: self made

Analysis of the question: How do you monitor your child's learning process?

Table 2. Analysis of question # 2.

Socioeconomic stratum where the institution is located	Question # 2: How do you monitor your child's learning process?
Low-low	<p>The monitoring that the participants carry out is based on what their children tell them or what they see that they are doing, because the teachers do not constantly deliver a report where the student's process can be evidenced, the only way they have It is the pre-report before the newsletter delivery. In addition, a mother mentioned `` I saw my son in his room reading books, this gave me peace of mind because I observed that he was studying, when I received the newsletter, I observed that he had lost 10 subjects because he had not delivered the commitments,</p>
Low	

	it is from here that they I said, why didn't they notify me in time and I could have taken the correct corrective "
Medium-low	The participant assures that the institution has a platform that allows entry with the username and password to the subjects, so that in this way she observes if her visit is up to date or has any pending activity.
Medium	<p>The participants assured that the educational institution has a platform where each parent has a username and password in which the student's academic performance can be observed on any date. In addition, they can communicate at any time with the teachers and thus corroborate what is on the platform.</p>
Medium-high	
High	

General analysis

We can observe that parents who are in the low-low and low socio-economic strata, cannot do a good follow-up to their children, since the institution does not provide enough tools for this process, unlike parents families that have their children enrolled in middle and high-income institutions, which have institutional platforms that allow constant monitoring of the tasks and activities delivered by the students. This process is important so that students achieve each of the achievements established in each of the subjects and that in turn the teachers can give feedback on each of their progress in the area. It is important to mention that the family is an important actor in the academic process of students, because the accompaniment of parents contributes to the achievement of good academic results by students, [19].

Source: self made

Analysis of the question: How often does the teacher meet (synchronously) with his / her child?

Table 3. Analysis of question # 3.

Socioeconomic stratum where the institution is located	Question # 3: How often does the teacher meet (synchronously) with your child?
Low-low	The parents assured that the institution assigned a class a week in a synchronous way, in that space the teachers meet in spaces of 30 minutes (maximum) and explain what they are going to do. In addition, they affirmed that most of the time their children could not connect since they do not have a computer. Given this, cell phone use was the tool that their children used the most, although only sometimes, since they did not have internet service all the time.
Low	The participants affirmed that the institution assigned meetings every day of the week of 2 hours a day for the development of one of the areas of knowledge.
Medium-low	According to the participants, the institution assigned meetings three days a week, in these three meetings the classes had a duration of 4 hours in which the students meet with several professors from different areas of knowledge.
Medium	The parents assured that the institution assigned synchronous meetings in the usual class schedule. In these, the teachers connect to the class and teach their
Medium-high	
High	

classes through the platform that the institution has determined.

General analysis

It is observed that in the low-low, low and medium-low socio-economic strata; Students do not receive their classes at the usual class times and do not receive classes in all the corresponding subjects. Additionally, parents emphasized that recharging data or connecting to Wi-Fi was not easy for their attendants, because their daily livelihood had been affected by the pandemic crisis, and sometimes students could not connect to the lessons. In addition, they mentioned that the aid that the government was offering, such as chips with Wi-Fi, parks with Wi-Fi, among others; they did not come home. According to Motaitianu, [24] "The way a teacher communicates with his students is important, and if he uses attractive ways to show information through interaction, the results will be immediate" (p. 709). From the above, the importance of interaction and communication that teachers must have with students stands out, and this is of great importance in the virtual modality.

Source: self made

Analysis of the question: How often do you communicate with teachers?

Table 4. Analysis of question # 4.

Socioeconomic stratum where the institution is located	Question # 4: How often do you communicate with teachers?
Low-low	Parents assure that there is very little communication with the teacher, and that contact with them usually occurs when newsletters are delivered by video conference in case there is access to the Wi-Fi network or by telephone. It is interesting that the participants assured that when they wanted to communicate with the teacher, he did not usually respond or did so approximately 15 days
Low	

	later.
Medium-low	<p>The participants affirm that the communication that occurs with the teacher is two or three times a period and that due to school policies, the institution did not provide the teachers' phone numbers, and that in general their phone numbers are private.</p> <p>The type of communication that they claim to have had with the teachers is about a preventive report where it was reported if the student was missing a subject, the second was to schedule the delivery of the report and the third was about the delivery of the report.</p>
Medium	<p>It was found that the participants ensure that communication with teachers was constant, via WhatsApp, email, meeting through digital platforms or by phone call. Additionally, they could meet with teachers at times established by the institution or in mutual agreement with teachers.</p>
Medium-high	
High	
<p>General analysis</p> <p>It is observed that the parents of the low-low and low socio-economic strata had no permanent communication or almost none with the teachers. In addition, the father of the family from the lower-middle socio-economic stratum had to take advantage of one of those three calls to the maximum to mitigate any doubts or concerns that he had, because afterwards he was not going to be able to communicate with him. According to Swick ([12]), in the relationship between parents and school personnel (teachers) communication stands out as a key factor that must be taken into account. Since there is constant communication, the results and academic performance of the student are favored.</p>	

Source: self made

Analysis of the question: Through what means does the institution inform you about the academic performance of your child?

Table 5. Analysis of question # 5.

Socioeconomic stratum where the institution is located	Question # 5: Through what means does the institution inform you about your child's academic performance?
Low-low	<p>The participants affirmed that both teachers and the institution (directors) communicate through video calls on WhatsApp or phone calls.</p>
Low	
Medium-low	<p>The participants affirm that the teachers and the institution communicate through telephone calls or through institutional email.</p>
Medium	<p>Parents affirm that teachers and the institution communicate via email when it is general information, by telephone if it is personal information that does not require formality and through Google Meet when there are appointments that require more formality, such as the delivery of Academic report.</p>
Medium-high	<p>The teachers and institution communicate via email when it is general information, by telephone if it is personal information that does not require formality and through zoom when they are appointments that require more formality.</p>
High	

Source: self made

Analysis of the question: What do you think of classes in virtual mode (synchronous and asynchronous)?

Table 6. Analysis of question # 6.

Socioeconomic stratum where the institution is located	Question # 6: What do you think of classes in virtual mode (synchronous and asynchronous)?
Low-low	Parents assure that synchronous classes are for those who have the resources and means necessary to receive them, and those who do not have this facility or have many children, cannot do it. The position they show is interesting regarding that the national government should help students who do not have facility with this type of resources. On the other hand, about asynchronous classes, parents affirm that, this type of classes promote undirected autonomous learning, because the student reads and learns what he believes, and not what is owed, because he does not have a guide (teacher).
Low	
Medium-low	The parents stated that both modalities require discipline on the part of the student and a good directed, didactic and motivating work on the part of the teacher, because, if there is no motivation in the students, in any modality and even face-to-face, students will present problems.
Medium	
Medium-high	
High	
General analysis	
From this question it is observed that the parents of the low-low and low strata make mention of the tools	

that must be had to teach the classes and the needs that each of these have. On the other hand, the parents of the medium-low, medium, medium-high and high strata, emphasized the pedagogical way in which teachers should teach classes regardless of the study modality. It is from here that the latter think about the education of their children since they have the tools to receive their classes, but the first two do not have said tools.

Concepts such as self-regulated learning in which students actively participate in their metacognitive, motivational and behavioral learning process stand out in their responses” (Zimmerman and Chuck, cited by [18], p. 1). And also, motivation, García & Valverde, [11], affirm that “Emotion is a key factor in the achievement and construction of learning. The emotional involvement of the individual joins her cognition and abilities forming a single whole that intervenes in the teaching and learning process, largely determining its success”(p. 82). Therefore, it is important to recognize the value of emotion and motivation in the learning and teaching processes in educational communities, the different results in comprehensive training and the teacher-student relationship to create positive and quality environments, [13].

*Source: self made*

Analysis of the question: If alternation were given, would you send your child to class?

Table 7. Analysis of question # 7.

Socioeconomic stratum where the institution is located	Question # 7: If alternation were given, would you send your child to class?
Low-low	All the parents agreed that they would, and also agreed on the following:  <ul style="list-style-type: none"> <li>• They are afraid that their children could be infected and thus infect their relatives.</li> <li>• How would the institutions comply with and guarantee bio-security in their children?</li> </ul> Would they receive classes for those subjects that have not received
Low	
Medium-low	
Medium	
Medium-high	
High	



	synchronous classes?
--	----------------------

Source: self made

Analysis of the question: What have been the challenges that your child has had to experience in their learning process during virtual classes?

Table 8. Analysis of question # 8.

Socioeconomic stratum where the institution is located	Question # 8: What have been the challenges that you have had to live with your child in his / her learning process during the virtual mode classes?
Low-low	The parents stated that they had two great challenges, the first is to have an electronic device where their child could carry out their academic activities and the second is to guarantee connectivity to a Wi-Fi network.
Low	The parents agreed that their biggest challenge has been to pay the monthly payment so that their children could study, because due to the situation of the pandemic, two of them were left without a job, in another parent, their income was reduced by 40%.
Medium-low	
Medium	
Medium-high	The parents agreed that their greatest challenge was to combat the depression and anxiety that their children were presenting as a result of the virtual classes.
High	
General analysis	
From this question we can see that three of the parents had financial problems to pay the monthly payment of the institution. In addition, they stated that the institution reduced its values between 20% to 40% so that parents did not withdraw their children from the institution and could continue	

studying. On the other hand, it is also observed that the children of the parents of the medium-high and high strata presented anxiety and depression, which led them to put their children under psychological monitoring. This last aspect is of great relevance since it is a situation that has occurred in many countries, as shown by the research carried out by Broche-Pérez, Fernández-Castillo, Reyes [5] who carried out a review of different studies, in which they found that the most frequently reported emotional difficulties were: depression, stress, apathy, irritability, insomnia, post-traumatic stress disorder, anger and emotional exhaustion.

Source: self made

#### 4 Conclusion

It was found that the parents of the low-low and low socio-economic strata are the ones who have presented the most difficulties, because the teaching-learning process that their children were having was not in line to guarantee a good development of the competencies.

In addition, it was observed that some parents had financial difficulties to make the payments corresponding to the monthly payments at the institution. Likewise, based on the aforementioned, it can be observed that some institutions reduced their income due to the fact that some granted discounts of 20% to 40% on the value of the monthly payment so that parents did not withdraw students from the institution. On the other hand, we can also observe that some parents had to seek psychological help because their children were presenting depression and anxiety due to the development of virtual classes due to Covid-19.

From the above it is evident that the Covid-19 pandemic arose unexpectedly, educational institutions found it necessary to make adaptations of their teaching modality to virtual / remote. In this way, various difficulties were manifested in the students' homes such as internet access, communication between parents and teachers, monitoring the performance and performance of students, the importance of communication and interaction between students. -teachers, teachers-parents, students-parents and in this way contribute and contribute to an effective teaching-learning process. As well as implies a commitment and challenge on the part of teachers regarding the pedagogical strategies to be implemented that are

mediated by ICT, in such a way that it motivates students to learn and generate meaningful learning.

It is important to mention that the family is an important entity in the teaching-learning process, regardless of the teaching-learning modality, parents must be present and actively participate in it, and, as a result of the pandemic of the Covid-19 became more evident and fundamental the role that the family plays in the student training process.

#### References:

- [1] Abella García, V., Grande de Prado, M., García-Peñalvo, F. J., & Corell Almuzara, A. (2020, April). Webinar "Adaptaciones de urgencia a la evaluación virtual en entornos habitualmente presenciales" (Version 1.0). Zenodo. <http://doi.org/10.5281/zenodo.3759324>
- [2] Alcántara Santuario, A. (2020). Educación superior y COVID-19: una perspectiva comparada. En H. Casanova Cardiel (Coord.), *Educación y pandemia: una visión académica* (pp. 75-82). Ciudad de México: Universidad Nacional Autónoma de México, Instituto de Investigaciones sobre la Universidad y la Educación. Recuperado de [http://132.248.192.241:8080/jspui/bitstream/II\\_SUE\\_UNAM/541/1/AlcantaraA\\_2020\\_Educacion\\_superior\\_y\\_covid.pdf](http://132.248.192.241:8080/jspui/bitstream/II_SUE_UNAM/541/1/AlcantaraA_2020_Educacion_superior_y_covid.pdf)
- [3] Aucejo, E., French, J., Ugalde, M. y Zafar, B. (2020). The impact of COVID-19 on student experiences and expectations: *Evidence from a survey*, *Journal of Public Economics*, 191, 104271. <https://doi.org/10.1016/j.jpubeco.2020.104271>
- [4] AS Colombia (2020). *¿Cuáles estratos socioeconómicos hay en Colombia y cómo saber a cuál pertenezco?* Recuperado de [https://colombia.as.com/colombia/2020/04/30/actualidad/1588280639\\_246875.html#:~:text=Seg%C3%BAn%20el%20Departamento%20de%20Planeaci%C3%B3n,%20Dalto%20y%20%20%2D%20Alto](https://colombia.as.com/colombia/2020/04/30/actualidad/1588280639_246875.html#:~:text=Seg%C3%BAn%20el%20Departamento%20de%20Planeaci%C3%B3n,%20Dalto%20y%20%20%2D%20Alto)
- [5] Broche-Pérez, Y., Fernández-Castillo, E., Reyes, D. (2020). Consecuencias psicológicas de la cuarentena y el aislamiento social durante la pandemia de COVID-19. *Revista Cubana de Salud Pública*, 46(1), p.p. 1-14. Recuperado de <https://scielosp.org/article/rcsp/2020.v46suppl1/e2488/es/>
- [6] Cabero, J., y Valencia, R. (2021). Y el COVID-19 transformó al sistema educativo: reflexiones y experiencias por aprender. *International Journal of Educational Research and Innovation (IJERI)*, 15, p.p. 218-228. <https://doi.org/10.46661/ijeri.5246>
- [7] Chiatchoua, C., Lozano, C., & Macías-Durán, J. (2020). Análisis de los efectos del COVID-19 en la economía mexicana. *Revista Del Centro De Investigación De La Universidad La Salle*, 14(53), 265-290. <https://doi.org/10.26457/recein.v14i53.2683>
- [8] Conde-Carmona, R., Padilla-Escorcía, I. (2021). Aprender matemáticas en tiempos del Covid-19: Un estudio de caso con estudiantes universitarias. *Educación y Humanismo*, 23(40), p.p. 1-19. DOI: <https://doi.org/10.17081/eduhum.23.40.4380>
- [9] Cruz, M. (2009). El método Delphi en las investigaciones educacionales. Editorial Academia.
- [10] El Tiempo (2020). *Rectores de universidades piden alivios al Gobierno*. Recuperado de <https://www.eltiempo.com/politica/gobierno/universidades-alertan-de-disminucion-en-matriculas-492538>
- [11] García, N., y Valverde, J. (2008). Cerebro y emoción: reflexiones para contextos educativos. *Revista Contextos de Educación*, 20(25), 77-88.
- [12] Garreta, J. (s.f.). La comunicación familia-escuela en Educación Infantil y Primaria. *Revista de la Asociación de Sociología de la Educación*, 8, (1), p.p. 71-85.
- [13] Giraldo-Aristizabal, S., & Serrano-Ramírez, M. (2020). Ambiente escolar y su importancia en la calidad educativa: una perspectiva neuropsicológica. *Educación Y Humanismo*, 23(40), p.p. 1-18. <https://doi.org/10.17081/eduhum.23.40.4130>
- [14] Granados-Ortiz, C., y Padilla-Escorcía, I. (2021). El aprendizaje gráfico de la recta tangente a través de la modelación de las secciones cónicas utilizando GeoGebra. *Revista Científica*, 40(1), p.p. 118-132. <http://dx.doi.org/10.14483/23448350.16137>
- [15] Grupo Banco Mundial de Educación. (2020). *Covid-19: Impacto en la educación y respuestas de política Pública*.
- [16] Hernández-Sampieri, R., Fernández, C., y Baptista, P. (2010). *Metodología de la investigación*. México: McGraw-Hill Interamericana.

- [17] Hernández-Sampieri, R., Fernández, C., y Baptista, P. (2014). *Metodología de la investigación*. México: McGraw-Hill Interamericana.
- [18] Idrovo AJ. (2020). Primeras lecciones de la pandemia de COVID-19 a la educación médica colombiana. *Salud UIS*, 52(2): 87-88. doi: <http://dx.doi.org/10.18273/revsal.v52n2-2020002>
- [19] Lastre, K., López, L., Alcázar, C. (2018). Relación entre apoyo familiar y el rendimiento académico en estudiantes colombianos de educación primaria. *Psicogente*, 21(39), pp. 102-115. doi: <https://doi.org/10.17081/psico.21.39.2825>
- [20] Lerma, K. (2008). Aportes de la psicología sociocultural y genética al aprendizaje autorregulado. *Revista Iberoamericana de Educación*, 47(2), p.p. 1-7. doi: <https://doi.org/10.35362/rie4722382>
- [21] Ministerio de Educación Nacional (2013). *Competencias TIC para el desarrollo profesional docente*. Recuperado de [https://www.mineducacion.gov.co/1759/artic/es-339097\\_archivo\\_pdf\\_competencias\\_tic.pdf](https://www.mineducacion.gov.co/1759/artic/es-339097_archivo_pdf_competencias_tic.pdf)
- [22] Millán, J. (2020). COVID-19 por SARS-COV2 también ha afectado a la educación médica. *Educación Médica*, 21(4), p.p. 261-264. <https://doi.org/10.1016/j.edumed.2020.06.001>
- [23] Monasterio, D., & Briceño, M. (2020). Educación mediada por las tecnologías: un desafío ante la coyuntura del Covid-19. *Observador Del Conocimiento*, 5(1), p.p.100-108. Recuperado de [http://www.oncti.gob.ve/ojs/index.php/rev\\_ODC/article/view/132](http://www.oncti.gob.ve/ojs/index.php/rev_ODC/article/view/132)
- [24] Motataianu, I. (2014). The Empathy and Communication – Pride Personality's Dimensions of the Teacher. *Procedia - Social and Behavioral Sciences*, 142, p.p. 708 – 711. doi: <https://doi.org/10.1016/j.sbspro.2014.07.602>
- [25] Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (2020). *La educación en situaciones de crisis*. En Red. Recuperado de <https://es.unesco.org/themes/educacion-situaciones-crisis>
- [26] Pachay-López, M., y Rodríguez-Gámez, M. (2021). La deserción escolar: una perspectiva compleja en tiempos de pandemia. *Polo del Conocimiento*, 6(1), 130-155. DOI: 10.23857/pc.v6i1.2129
- [27] Padilla-Escorcía, I., & Conde-Carmona, R. (2020). Uso y formación en TIC en profesores de matemáticas. *Revista Virtual Universidad Católica del Norte*, (60), p.p. 116-136. Doi: <https://www.doi.org/10.35575/rvucn.n60a7>
- [28] Semana (2020). Desplome en las aulas: ¿Cuánto cayeron las matriculas en las universidades? Recuperado de <https://www.semana.com/educacion/articulo/desplome-en-las-aulas-cuanto-cayeron-las-matriculas-en-las-universidades/695451/>
- [29] UN (2020). *Informe de políticas: la educación durante la Covid-19 y después de ella*.
- [30] World Economic Forum, (2020). *3 ways the coronavirus pandemic could reshape education*. Recuperado de <https://url2.cl/N3klw>
- [31] Vivanco, A. (2020). Teleducación en tiempos de COVID-19: brechas de desigualdad. *CienciAmérica*, 9(2), p.p. 166-175. Doi: <http://dx.doi.org/10.33210/ca.v9i2.307>.

**Conflict of Interests:** The authors declare no competing interests

**Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself**  
No funding was received.

**Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)**  
This article is published under the terms of the Creative Commons Attribution License 4.0  
[https://creativecommons.org/licenses/by/4.0/deed.en\\_US](https://creativecommons.org/licenses/by/4.0/deed.en_US)