

International Journal of Human Sciences Research

Acceptance date: 29/11/2024

HOW THE EDUCATIONAL SYSTEM ATTENDED TO STUDENTS WITH SEN RELATED TO HEARING IMPAIRMENT IN THE AREA OF VIRTUAL CLASSES AND INCLUSION IN THE CARAPUNGO SECTOR IN THE CITY OF QUITO-ECUADOR

Guadalupe Esperanza Andrade Rivera

Vice Rector of the “Ing. Juan Suárez Chacón” Fiscal Educational Unit
Edgar Morin Real World Multiversity,
PhD in Complex Thought. Mexico City
<https://orcid.org/0000-0002-9156-2716>

Bayron Pabel Arciniega Acosta

Rector of the “Ing. Juan Suárez Chacón” Fiscal Educational Unit
Pontificia Universidad Católica del Ecuador, Master’s degree in education, mention in ICT-mediated learning management, Quito-Ecuador
<https://orcid.org/0009-0009-9186-1271>

Berónica Judith Guamantica Guamán

Teacher: Unidad Educativa Fiscal “Ing. Juan Suárez Chacón”.
Milagro State University. Master in Basic Education. Ecuador
<https://orcid.org/0009-0001-0915-1505>

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



Jessica Maribel Vargas Tuqueres
Teacher. Enrique Vacas Galindo”
Pastaza-Puyo Educational Unit
Universidad Técnica Particular De
Loja. Master in Education Sciences
<https://orcid.org/0009-0009-4951-898X>

Johanna Belén Chiluisa Pinto
Teacher. “Specialized Educational
Unit of Cotopaxi”
International University of La Rioja (UNIR).
Master in Educational Neurology.
<https://orcid.org/0009-0009-4031-928X>

Gina Viviana Loor Paz
Teacher - Educational Unit “Luz del Campo”
Eloy Alfaro Laica University of
Manabí. B.A. in Languages and
Linguistics with a major in English.
<https://orcid.org/0009-0002-8434-6166>

Luz Carmita Espinoza Pesántez
Vice Rector - Unidad Educativa
“Agustín Cuesta Vintimilla”
ECOTEC University - Guayaquil. Master in
Technology and Educational Innovation.

Ruth Graciela Vera Barros
Rector - “Agustín Cuesta
Vintimilla” Educational Unit
Technical University of Ambato-Ecuador.
Bachelor of Science in Education
<https://orcid.org/0009-0009-7431-9069>

Sara Gabriela Meneses López
Teacher - Escuela Fiscal “Jorge
Villacrés Moscoso”
San Gregorio University of Portoviejo.
Master’s Degree in Education
with a specialization in Psycho-
pedagogical Intervention
<https://orcid.org/0000-0001-7436-6548>.

Mariana Beatriz Mejía Illisaca
Teacher - School of Basic Education
“República de Colombia” Cuenca
International University of La Rioja (UNIR).
Master’s Degree in Psychopedagogy
<https://orcid.org/0009-0001-0390-1299>

Alejandra Catalina Gordón Cazar
Clinical Psychologist - “Unidad
Educativa Especializada Ambato”
Equinoctial Technological University. Master
in Education, specializing in Educational
Inclusion and Attention to Diversity
<https://orcid.org/0009-0001-0153-0156>

Abstract: Distinguishing that currently education is committed to develop meaningful learning in the entire population of Ecuador that is within the education system, through the implementation of ICT's as educational platforms, with the aim of providing students and teachers the space to generate more dynamic and attractive classes, especially at the time that the health crisis occurred in our country, bringing the classroom to the home. This new reality triggered in families, problems such as high levels of stress, frustration and anxiety because they could not have the necessary resources to access education and much more for families who have their children with hearing impairment because they felt the lack of empathy and inclusion. This reality drives us to search for a real solution.

Keywords: Education, ICT's, inclusion, hearing impairment.

INTRODUCTION

Education in recent years has focused on the construction of meaningful knowledge through the development of critical thinking, skills with performance criteria, complemented by the application of ICT's; [3] with the aim of making classes dynamic, awakening the creativity of teachers and students, as a change of scheme in learning. Currently, due to the implementation of virtual classes, it has become a fundamental tool to strengthen the educational quality of the entire community.

In the Carapungo sector and in other sectors where there is a population in a vulnerable situation, it is another reality. When talking about vulnerable people, it is known that their socioeconomic situation is complicated, with limitations to cover the basic expenses that a family requires, which implies little or no accessibility to technological networks, directly affecting the educational development of its members and it becomes more complicated when this family suffers from a disability such

as deafness or one of their children who are within the educational system. For this reason; the objective of this research is to identify; how educational institutions and families have faced this educational challenge, the inclusion and use of tics?

It has been evidenced in several families in Ecuador; as they have gone through endless difficulties, first the amount of human losses; second, the lack of experience in the proper use of technology, third, the reality of families that for various factors; do not have access to the internet, and its proper adaptation to serve students with hearing impairment. It has resulted in emotional conditions such as stress; in families and students, frustration for not being able to enter virtual classes, also in the economic field and not being able to access technological equipment to help their children in their educational process, and families who suffer from hearing impairment or have a child with that disability, who have more barriers to break, because Ecuador is not an inclusive country, and in education there is much to advance, which has resulted in the school dropout of some students of this group of people. [4]

OVERVIEW OF HEARING IMPAIRMENT

Since ancient times, people had the belief that a deaf person was not "educable" because according to their criteria, a deaf person had no spirit. In the Middle Ages, guided by the church, the thought arose that a person with a disability was a sign of a "punishment from God", which led the Inquisition to burn at the stake all those who had a disability. In the 16th century, the monk Pedro Ponce León became the first person to educate young deaf people from a noble family so that they could learn to read and write, thus enabling them to inherit their family's property. Friar Ponce used the written alphabet, gestures, writing and later

on he used the manual alphabet (dactilology). In the XVII century Juan Pablo Bonet continued with the work of Friar Ponce, writing the work entitled "Reduction of letters and the Art of teaching the dumb to speak". Thus, gradually in the course of history, some people took interest in the communication of deaf people, improving their techniques, signs, lip reading and expanding their vocabulary. But in a moment in the year 1880, in the congress of Milan, they decide that the best technique for deaf people are no longer the signs, but the oral communication; What affects completely in the educational quality of deaf people, because schools focus much of the time in schools to teach to pronounce the sounds of letters, than in a real academic training. Now that we live the processes of inclusion in education, teachers do not know appropriate communication strategies for people of the deaf community and in few universities have sign language interpreters for this type of students (Burgos, 2015).

HISTORY OF TICS, IN EDUCATION

In the development of humanity, social changes and revolutions cannot be referred to without technology being immersed in this atmosphere, just as an example we can mention the changes in communication that generated the presence of the printing press, television, computers, cell phones and social networks, and all the information that is available to students, professionals, researchers, and the general population. [1]

Since the 1900s, society began to make great discoveries in technological advances, which facilitated global, social, labor and educational communication. Everything is linked as a neural network, connecting the achievements of the past with those of the present and those of the future. Historically, we have never had access to so much infor-

mation and knowledge as in the last 10 years. It has been demonstrated that the proper use of ICT's in students has allowed them to develop their creativity, discover and build their own learning in a meaningful way, developing their skills at their own pace, awakening their curiosity and encouraging research.

The use of ICT's within the educational field has become increasingly important, but since the health crisis, it became the protagonist in the educational process, because it was the only tool that allowed the contact of teachers and students, requiring that the curricular content is adapted to this new reality and depending on the level of connectivity of the teacher, of the students and their digital skills, it was possible to transform routine classes [5] into dynamic, novel and attractive classes, giving students the opportunity to participate actively and simultaneously in their learning process and construction of their knowledge.

To achieve and take advantage of all the benefits of technology in the educational field, it is required that all actors have a minimum of tools to work, such as a computer (desktop or laptop) or a smartphone, as well as access to an internet network. And unfortunately, in this process that we have experienced worldwide, it has become more evident the socio-economic gap that exists, especially in Ecuador, in the sector of San Juan de Calderon, (to mention one of the many vulnerable sectors) where students either do not have access to internet, or lack technological equipment, to help them connect to their classes. Another unfavorable point, is that the reality of the families of the sector, most of the representatives, prefer that the time destined for the classes, the children help with work inside the house, in the field, or in the informal sales, (activity that the families of the sector; in their majority are dedicated).

INCLUSION, DIDACTICS AND METHODOLOGIES

In order to address everything related to inclusion, we must first break the erroneous criteria that a large part of society has, where they think that what is different is bad. We must work on a comprehensive education with adults, at home and all its members, because we are a reflection of the values inherited from our families, we must be aware that every human being has the right to be treated as equal and not marginalized for being different. In recent years, as a society we have progressed with reference to the issue of inclusion, in the legal aspect has been given a full response with reference to people with disabilities, even the RAE changed its definition in the word “disability”, now what we need is a change of attitude and a strong commitment of society in general.

To achieve what is already stipulated in the law and for society to be more empathetic, we must take into account some important aspects such as improving the curriculum in teacher training universities, with tools, teaching strategies that are completely close to the reality of students with SEN in the classroom, so that we can respond to the diversity of the group, develop interdisciplinary-transdisciplinary projects, not limited to work by subjects. Also, to implement processes of assessment and early identification of educational needs (associated or not to the disability), then teachers can provide appropriate pedagogical aids to students, specifying and further developing their potential, thus offering the opportunity for a wide variability of activities, skills and content related to their emotional, cognitive and behavioral development, respecting their learning pace.

And in order to achieve this objective for students with SEN, the application of didactics is needed, which not only seeks academic or theoretical development, but also focuses

on social and practical development, that is, as a tool for teachers that will help improve the teaching and learning processes, providing alternative solutions to the problems encountered daily in groups of students. Thanks to the contributions of theoreticians such as K. Lewin and W. Carr, who argue that didactics is a versatile tool, because it can be understood as a field of scientific knowledge, as curriculum design or as a methodological strategy, which proposes and challenges teachers to be researchers in the classroom, and through teamwork can help their students to achieve their goals, develop their skills and achieve a better future, fulfill their life project.

How can a teacher adequately apply didactics with students with educational needs? Develop the theory of the contents from practice, doing with their hands, forming their own experience, discovering with all their senses, skin, smell, taste, the varied world around them. Remembering that didactics does not work in isolation, it is composed of all the other disciplines, which motivates the teacher and his students to be innovative and to analyze critically everything that is in their environment and the student will be challenged to confront new ideas, with all his previous learning baggage and as a game, he will develop his abilities, his intelligence and his level of communication. As defined by Vygotsky in several of his works, in the “zone of proximal development”, a process where the student is the main actor of his learning, he mentally organizes the stimuli of his environment, processes, constructs and transforms them. The objective of didactics is to improve the teacher’s intervention in teaching, fully committed to the educational practice, highlighting the affective component, respecting and valuing the other. By stimulating and enriching their environment in an atmosphere of sincere and positive communication, the activities become truly inclusive and educational.

For this inclusion process to be strengthened, methodological strategies are needed that meet the objective of linking students with SEN to the teaching and learning process; because the methodologies are based on ideas, which when applied in an appropriate and structured manner, inspire and guide the activities of teachers together with their students and seek to achieve the educational intention, which is to move from dependence to independence of students, generating changes, innovating and with the ability to solve problems that emerge in their walk, which will allow a continuous transformation that becomes imbalance and cognitive rebalancing, because all this learning will be done from their own discoveries and experiences motivated by reflection, search for solutions respecting the diversity and uniqueness of their environment and here the teacher is an open-minded mediator, because the methodology is not fixed and immutable, on the contrary, it is dynamic and plural, because education in general is open, changing and now must be inclusive.

HYPOTHESIS

The reality forced education to become virtual, affecting hearing impaired students and families in the Carapungo area because most teachers lack mastery of issues such as inclusion and management of technological resources in the classroom.

OBJECTIVES

GENERAL OBJECTIVE

To determine the incidence of the use of ICT's in the families of hearing impaired students through surveys, interviews and data collection, in order to crystallize this reality and the urgency of providing a solution to this difficulty.

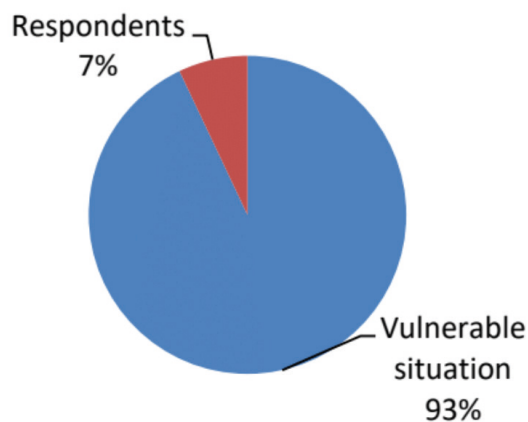
SPECIFIC OBJECTIVES

- Analysis of accessibility to technology in the families of the Carapungo sector.
- To determine the level of knowledge about inclusion and use of ICTs among teachers in the sector.
- Present the data collected and make a proposal for a possible solution to this problem.

METHODOLOGY

This article wishes to make known the problems that exist in the educational system in the field of inclusive education and application of technologies; because it is an aspect that requires much attention, to avoid more student desertion and take into account the reality that exists in Ecuador. [8]

The research is of an exploratory-descriptive type and the methodology for collecting information consisted of interviews with different actors: teachers, students and parents, a population of 1900 families, a sample of 144 people was taken. The study area selected is Carapungo (urban-rural) and considered a sector with a high percentage of vulnerability and high poverty rates (Graph 1).

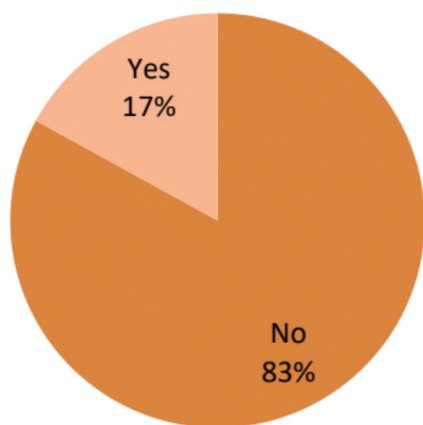


Graph 1: Families in Carapungo

The methods used in this research are reliable, since it was conducted through a platform, where the participants, prior to the survey, gave their approval to carry it out. It should be emphasized that the methods used in this research are validated by means of the survey technique, which determines that they are reliable data to give real importance to the case studied.

RESULTS

The first results obtained from the survey of educational actors in the community of Carapungo were the following. To teachers who work with deaf students in a regular group: Are you fluent in sign language? graph 2.



Graph 2: Are you fluent in sign language?

Of the teachers and authorities surveyed, we found that most of them are fluent in Ecuadorian Sign Language (Lsec), only 17% are not yet proficient, however, these teachers are in the process of professionalizing in the area of inclusive education, which in Ecuador is called Special Education, in order to have the tools to communicate with the community referred to in the research.

What is important and valuable in this aspect is the commitment of the teaching staff and their attitude of seeking the most creative ways to communicate with students, such as learning Lsec, because it is directly linked

to what Morin says “the need to promote a knowledge capable of addressing global and fundamental problems” (page 1), as in this case, inclusive education. Attending to the communication processes with deaf students touches one of the most sensitive points involved in a fundamental way in the life of all humans, therefore, its mastery is essential in the staff that serves this group of students, an issue that will have to be addressed constantly and assume the implications of improving their level of communication.

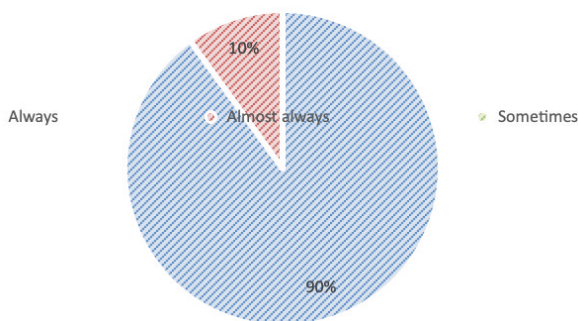
The staff responsible for the care of deaf students, not only operates the visual-gestural, but also the subjects with this condition upon entering an educational institution, are involved in access to written language and a number of possibilities for the promotion of cognitive development. Attending to the access to the language of deaf students in the institution, summons to assume one of the fundamental problems, because the institution is not a welcoming space exclusively for the care, it focuses on the educational process in an integral way and above all with quality, and one of them is based on the mastery of the communication process.

Based on the results obtained, we can see that 90% of teachers plan in detail the skills, activities and content for students with SEN associated with hearing impairment, because in this way real objectives can be achieved within the educational process of deaf students, these plans are made under the parameters of curricular adaptation provided by the Ministry of Education through the District Support Units for Inclusion (UDAI), which seeks to ensure access, permanence and completion of the educational process of students with disabilities. But the staff working in the UDAI is very limited and being able to provide personalized attention to each institution becomes a difficult reality to crystallize. In addition, the analyses or studies

that are carried out, are in a parcelled or disciplinary way, which also makes it difficult to link with the totality. Now in these data, it is also necessary to analyze the 10% of teachers who almost always plan in detail the activities for deaf students, why is that? What causes this attitude in the teachers? Talking with some of these teachers, they explained that it is due to the lack of information from the authorities, who provide training workshops to help develop this aspect of planning.

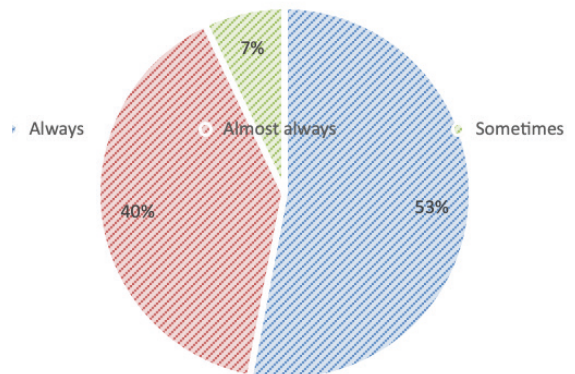
worldwide this past year, due to the health crisis, and that by force all teachers had to apply technology in their classes, with self-training through tutorials, looking for ways to make the class attractive, motivating students to participate, and also develop the ability to detect if any student is lagging behind, these challenges were assumed by many teachers, with real commitment, but others did not.

2. Do you plan in detail the skills and content according to the needs of deaf students?



Graph 3: Question 3.- Do you develop varied learning experiences such as workshops, laboratories, interactive pages, e-mail, chats, platforms?

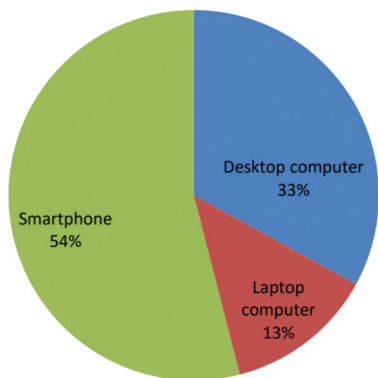
3. Do you develop varied learning experiences such as workshops, laboratories, interactive pages, e-mail, chats, platforms?



Graph 4: Question 4.- Do you have technological equipment in your home?

In this question, we can see the reality of several teachers and the lack of training in the management and implementation of interactive tools in their classes, 53% always do it, but 47% are between almost always and sometimes; When talking with the teachers, they explain that it has also been a challenge for them to manage these new tools, but that they are looking for training that will allow them to improve their work, because they are aware that deaf students are very visual and by applying interactive dynamics in their classes, they can reach better levels of understanding, by developing their cerebral, cultural and knowledge characteristics, as mentioned by Morin in the Seven Wisdoms. Considering also the reality that has been experienced

According to the data collected from parents, it can be seen that most of the students have a telephone to access their classes, 33% have a desktop computer and 13% a laptop computer, which makes it more difficult to understand the classes, because on the screen of a telephone, it is not easy to see the images or information shared by the teacher, and more complicated if the teacher does not use sign language or subtitles, leaving out of the educational process the students with need, related to hearing impairment.



Graph 5: Question 5. - How many technological elements do you have in your home?

This difficulty, in accessing the internet, having a technological resource that allows students to independently perform their activities, is something out of reality for this sector, where most of its population is within the ranges of poverty and extreme poverty, who have only one phone and in the best of cases a computer, for use by all family members, to this must be added, the aspects that families commented that were difficult to face, for example understanding the operation of digital platforms, scanning a document, uploading a document in the WhatsApp application, etc. What was latent in the families was expressing their concern about the pedagogical development of their children. For the following reasons. First, their economic limitation, second, because of the low level of schooling of parents and not being able to help in their doubts and third, that compared to private educational institutions, fiscal education has improved significantly.

CONCLUSIONS

This research also showed that a deaf student, in a motivating environment that considers his interests and allows him to gradually develop his abilities, that playfully challenges him to raise his level of complexity in learning, can develop his skills and turn it into an enriching activity for his life, the student loses his fear or stops seeing it as an insipid activity and begins to enjoy it.

The teacher knows that he faces a lack of resources, within the educational spaces, in addition to struggle with the apathy of some families, but this struggle that he will make through information and the results that will be seen in the future, will motivate families, students and authorities to invest all that is necessary for their children to develop all their skills, abilities, and have tools to face the world.

It has been demonstrated the impact that families have suffered in general, with the use of technology, especially in the most vulnerable sectors of Ecuador, since at present they have become a fundamental tool in the teaching process, therefore it is necessary to contribute to it so that students with need associated with hearing impairment and parents are immersed in personal, social and educational development.

REFERENCES

- Aguilera, A. (2004). *Introducción a las Dificultades del Aprendizaje*. Madrid: Mc Graw Hill.
- andujar, O. (12 de 03 de 2020). *Ejercicios de comprensión lectora*. Obtenido de Ejercicios de comprensión lectora: <https://www.orientacionandujar.es/wp-content/uploads/2017/04/50-ejercicios-de-comprension-lectora-.pdf>
- Angulo, E. (01 de 07 de 2011). *Enciclopedia virtual*. Obtenido de Eumed.net: https://www.eumed.net/tesis-doctorales/2012/eal/metodologia_cuantitativa.html
- Arango Ahumada, M. (2019). Descripción de la relación entre los desórdenes alimenticios y los estudiantes de programas de nutrición y dietética : revisión de literatura. *Potifia Universidad Javeriana, Bogotá*, 49.
- Audifon. (14 de 06 de 2019). *Audifon, grupo Audika*. Obtenido de Audifon: <https://audifon.es/como-ensenar-a-ninos-sordos/#>
- B.B.C. (01 de 11 de 2019). *B.B.C.* Recuperado el 6 de 11 de 2020, de bbc.com/mundo/noticias-america-latina-51990674: bbc.com/mundo/noticias-america-latina-51990674
- Bernal Torres, C. A. (2006). Metodología de la investigación para la Administración, Economía, Humanidades, Ciencias Sociales. En L. G. Figueró (Ed.). Mexico, Mexico.
- Burgos, P. (08 de 11 de 2015). *Discapacidad Auditiva*. Recuperado el 14 de 07 de 2020, de <https://priscillaburgoa.blogspot.com/2015/11/historia-de-las-personas-con.html>: <https://priscillaburgoa.blogspot.com/2015/11/historia-de-las-personas-con.html>
- Carbonell, J. (2015). *Pedagogías del Siglo XXI*. Barcelona: Octaedro.
- Catalá, G. y. (2001). *Evaluación de la comprensión lectora*. Barcelona: Graó.
- Cervantes Nieto, H. (2019). OBLIGACIONES LABORALES DEL COVID 19. Mexico: ISEF.
- comercio, E. (2020). Quito es la ciudad que acumula más pérdidas económicas en la pandemia. *El comercio*, 1.
- CONADIS, C. N. (2014). *MANUAL PRÁCTICO PARA INTÉRPRETES EN LENGUA DE SEÑAS ECUATORIANA*. Quito: CONADIS.
- Dámari, E. (2017). Sistematización de experiencias como método de investigación. *Scielo*, 14-15.
- Delgado Diaz, C. (2007). *Hacia un nuevo saber. La bioética en la*. Habana: Publicaciones Acuario.
- Dennison, P. (2006). Brain Gym. En P. Dennison, *Brain Gym* (págs. 69-85). Barcelona: Robin Book.
- Ecuador, M. d. (01 de 07 de 2016). *Instructivo para la aplicación de la Evaluación Estudiantil*. Obtenido de Instructivo para la aplicación de la Evaluación Estudiantil: <https://educacion.gob.ec/wp-content/uploads/downloads/2016/07/Instructivo-para-la-aplicacion-de-la-evaluacion-estudiantil.pdf>
- EDUCATIVA, I. N. (2013). *Estímulos PISA de Comprensión Lectora liberados Aplicación como recurso didáctico en la ESO*. Madrid: inee.
- Fernández, D. (29 de 10 de 2014). *Slideshare*. Obtenido de Pluralidad metodologica: <https://es.slideshare.net/DiKaHuFeR/pluralidad-metodologica>
- Freire, P. (1970). *La Pedagogía del Oprimido*. México: Siglo XXI.
- Freire, P. (1984). *La importancia de leer*. México: Siglo XXI.

- Freire, P. (1984). *La importancia de leer y el proceso de liberación*. Madrid: Siglo XXI.
- Freire, P. (1993). *Cartas a quien pretende enseñar*. Argentina: Siglo XXI.
- Freire, P. (2009). *La educación como práctica de la libertad*. Madrid: Siglo XXI.
- Gobierno, M. d. (2010). *Plan Buen Vivir*. Quito: Gobierno Central.
- Jessica, G. (2003). *GUÍA PARA EL ANÁLISIS DOCUMENTAL*. Buenos Aires: Clacso.
- Mineduc. (2020-21). *Currículo Preorizado para la emergencia*. Quito.
- Morin, E. (1994). *Introducción al pensamiento complejo*. Godissa.
- Morin, E. (1999). *Los 7 saberes necesarios para la educación del futuro*. UNESCO.
- Morin, E. (2018). *El octavo saber*. México: MMREM.
- Morín, E. (s.f.). *Enseñar a vivir*. Buenos Aires: Nueva visión.
- Ocampo, A. (2015). *Lectura para todos*. Chile: CELEI.
- Parra, V. (2015). Una exclusión que se perpetúa: tensiones entre docentes, niños sordos y niños oyentes en escenarios escolares de Popayán. *Revista Virtual Universidad Católica del Norte*, 115-128.
- Rodríguez, A. (2017). Métodos científicos de indagación y de construcción del conocimiento. *Redalyc*, 1-26.
- Tamayo y Tamayo, M. (1997). *El Proceso de la Investigación científica*. México: Limusa.
- vida, M. l. (17 de 05 de 2008). *wordpress.com*. Recuperado el 14 de 07 de 2020, de <https://milibrodemivida.files.wordpress.com/2008/05/17-capitulo-16-los-grandes-personajes-que-levantaron-la-voz-con-la-lengua-de-senas.pdf>: <https://milibrodemivida.files.wordpress.com/2008/05/17-capitulo-16-los-grandes-personajes-que-levantaron-la-voz-con-la-lengua-de-senas.pdf>
- Villaverde, M. (1900). *Lectura y escritura (Método analítico - sintético)*. Quito: Imprenta de la Juventud.
- vivir, S. p. (14 de 04 de 2016). <https://prezi.com/ivq8tv-fgttq/subsecretaria-para-la-innovacion-educativa-y-el-buen-vivir/?fallback=1>. Recuperado el 12 de 08 de 2020, de <https://prezi.com/ivq8tv-fgttq/subsecretaria-para-la-innovacion-educativa-y-el-buen-vivir/?fallback=1>: <https://prezi.com/ivq8tv-fgttq/subsecretaria-para-la-innovacion-educativa-y-el-buen-vivir/?fallback=1>