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Vulnerability in Learning at the Cognitive Level in Elementary School Students

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Abstract---The objective of the research work is to support the vulnerability that students have in learning at the cognitive level, in this way it is necessary to know the evolutionary stages of children, managing to understand them to enrich their development, for this it is necessary to consider a mediated learning model during class time; therefore, the fragility in children's learning should be better known by teachers due to the influence on cognitive development in the teaching-learning process of elementary school students. The exploratory research was carried out with the Inductive and deductive methods, focused on teachers, students, and parents with the purpose of evaluating the learning contents in the students, the result was that teachers and students should be linked to mitigate vulnerability, proposing interaction between both parties obtaining achievements with the academic objectives within the classroom.

Keywords---cognitive, development, learning, teaching, vulnerability

Introduction

Some of the most problematic issues underlying evolutionary reconstructions of cognition in general and reconstructions of empathy relate to the lack of empirical evidence for all the elements involved in the story and the impossibility of connecting them in terms causal. The question is whether this prevents the use of evolutionary notions to support or support explanations that attempt to account for the nature of traits such as empathy. The value of this general vision in different spheres of theoretical production cannot be denied. Excessive and unrestricted use, overextending the scope of claims that can be made, leads to problems that are virtually impossible to solve (Miller, 2003; Hofmann, 2006). Empathy is the affective-cognitive response, by the individual who observes the experiences of other people, is activated by the state of need, influencing the manifestation of the perception and assessment that the individual has, observer of the well-being of that other person. Teachers must consider that education can help to learn to "observe and perceive" the message that human interaction emits through actions, as well as help through activities to develop positive social behaviors that result in practices of peaceful coexistence and respectful among all boys and girls (Díaz, 2013). This suggests that the school is a fundamental element in shaping the empathic response of boys and girls as a formative and collaborating instance in the consolidation of ethical-moral acts of people. So this research suggests that the school shares with the family the responsibility for the development of positive social behaviors, where the emotional component of empathy makes it vulnerable to environmental influences, to the circumstances of the subject who performs the empathic action. In the school environment, cognitive empathy is consequently not conscious, but learned and voluntary, so it is also teachable (Granger, 1988; Toya & Skidmore, 2007).

The student learns by imitation, with the teacher being a model of behavior to follow in the relationship with the child and the family (Mejía, 2012). It is considered necessary for educators to know the results of this type of research, since a school environment with an authoritative tendency could enable conditions for the development of

empathy as a motivator of prosocial behaviors. Research suggests that these kinds of behaviors facilitate sociability, adaptability, and peer relationships. In the results obtained, empathy appears as the main motivator of prosocial behavior, in its cognitive components (understanding of the other), but especially in its emotional components (concern for the other) (Ruiz, 2015). How empathy develops (feeling or understanding what another feels), cognitive (as the ability to be affected by the other) and sympathy (as an inclination to what the other feels). In turn, everything related to the social processes of imitative learning, given that in the very transmission of information there is emotional evaluation. As a construct it is relatively easy to describe, but it is not easy to separate it from 12 other theoretical constructions given its diffuse limits and its partial integration (Rodas, 2016). Hence, the school should be interested in developing quality environments in the interactions between students where the exercise of authority prevails from an authoritative model that helps families in the development of human beings committed to solidarity and fair actions, with a healthy adaptation to the social environment in which they live (McGill et al., 1992; Seufert, 2003).

The research is based on the constructivist philosophical paradigm, Current education aims to train the human being in an integral way and that is not only focused on the cognitive, but also involves other areas such as doing, and being. In search of integral education, constructivism has currently become an important axis in which to do education and it is about integrating other elements such as ethics and attitudinal that allow students not only to build knowledge but also to build themselves as integral human beings and that contribute to the development of a society with values (Moreno, 2014). Cognitive empathy refers to the constructivist paradigm, which allows children to see that they are constantly changing, and that scientific truth is not absolute. It has a social approach based on complex thought with a sense of totality within systematic theory, based on the theory of social constructivism with a humanistic approach. According to the investigation of reading levels according to (Guevara et al., 2015). argues that economic growth is increasingly based on people's qualifications, more specifically on the skills to implement technological innovations, insert themselves into dynamic networks, make organizational adaptations, and favors countries that have such capabilities. Faced with the requirement of a workforce capable of acquiring new qualifications and adapting to rapid technological changes. Educational vulnerability refers to those individuals who experience a series of marked difficulties throughout their school career that prevent them from taking advantage of the curriculum and teaching in the classroom. That is why it is important to investigate what happens in the influence of vulnerability on learning at the cognitive level in elementary school students (Pérez et al., 2018; Nur et al., 2021).

Method

The methods applied were the inductive-deductive method that starts from the particular and culminates in the general, and implies a process in which the generic peculiarities of a reality are observed, studied and known, to reflect on a problem and provide a logical result in the investigation; In addition, the analytical-synthetic one with which an analysis of the results obtained when applying the technical application instruments in relation to vulnerability in learning was carried out to analyze vulnerability in learning at the cognitive level in students. It was analyzed how the issue of vulnerability and the cognitive process influences the social, institutional, and pedagogical factors that involve all the members of the research (Vescio et al., 2008; Parker & Hess, 2001).

Discussion

Vulnerability in learning is a word used as an adjective to refer to a person or thing that can be damaged or receive injury, whether physical or moral. Vulnerable people are characterized by being fragile or unable to withstand any act. This word commonly denotes risk, fragility or helplessness (Dictionary of the Royal Spanish Academy, 2016). This concept is mostly used by socio-demographic sciences to establish the internal propensity of an ecosystem or any of its components to suffer damage in the presence of a certain force or potentially destructive energy and is associated with processes of social exclusion and inequality, which these units are subject (Vargas, 2002). The students present some difficulties that make them vulnerable in the teaching process in figure 1, some of these are shown.

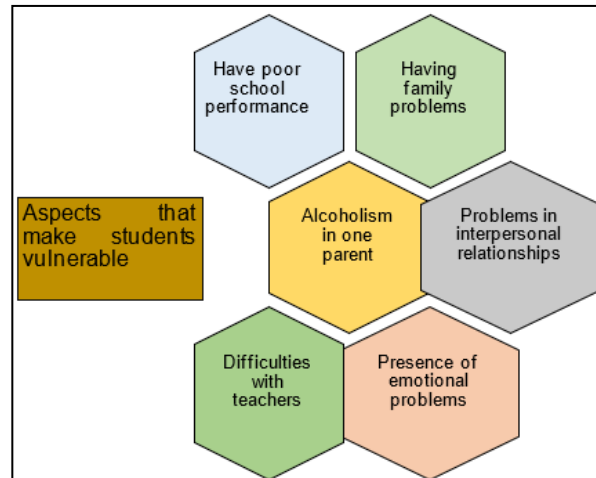


Figure 1. Difficulties of vulnerability of students
Source (Ruiz, 2020)

These difficulties can produce different conditions in students in the learning process, therefore, teachers must know each one of them and look for alternatives to try to know these problems and help adequately so that each of the students can achieve their adequate knowledge, mitigating these difficulties.

Content development of teachers

The teacher's job is to teach, educate, transmit knowledge to students so that they learn and transcend, they must even learn the material obstacles and lag that they must face, they must develop skills to be able to develop materials related to the technologies. At present, many teachers are anxious about having to incorporate new technologies in the classroom; they must face the challenge and evolve to the challenges that education faces, for this attitude, time, patience and will are needed. Training is a necessary process within any organization, company and institution regardless of the business or sector to which they belong, as this improves the quality of the products and services they offer to the market, reduces the production cycle of these, the training time, the accident rate, reduction of technology and machinery maintenance, among other aspects. Education is immersed in a digital age, today's society is a technological society, where habits and lifestyles have been transformed by the constant and unstoppable development of ICTs. Technological tools and the virtual space have given rise to new ways of communicating, working, getting information, having fun and, in general, participating and living in a networked society (Adger, 2006; Proag, 2014).

Contribution of parents to the educational process

The important roles of the family in education during the development of children there are two fundamental spaces for growth and socialization. The first of these is the family, a place where basic functions are learned, such as speaking and eating, in addition to learning the values and rules of conduct that will guide their future. The second is school. In it they "come out" to the private world where they live with their peers and adults, assimilating new knowledge that allows them to be tolerant of "difference". However, these two elements that begin their formation should not act separately, but the best results are achieved when the family and the schoolwork closely for the education of children. It could be argued that the family has two characteristics of its own: it is a community of belonging Morandé (1999), which forges personal identity and in which powerful socio-affective bonds are developed among its members; and it is an educational community (Santelices and Scagliotti, 2005) that trains people throughout their lives and enhances their comprehensive development.

Methodological Strategies Methodological

strategies are those that allow identifying principles and criteria, through methods, techniques and procedures that constitute an ordered and planned sequence allowing the construction of knowledge during the teaching-learning process. There are 8 methodologies that teachers must know, which have been called 21st century methodologies,

these greatly help the teaching process and teachers must know and know how to apply in figure 2, some of them are shown.

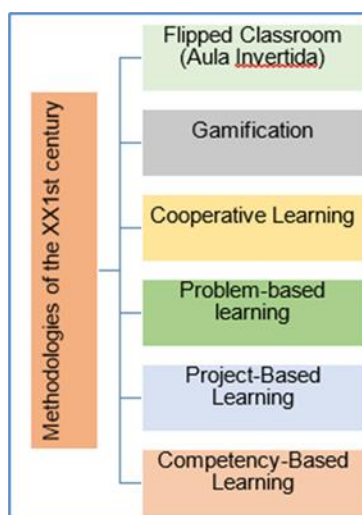


Figure 2. Some methodologies that the teacher should know

Source: [Realinfluencer, 2021](#)

These methodologies help teachers, first of all, get students to link to the content they teach, in addition to allowing them to know the individual differences of their students, where his skills, knowledge, difficulties that limit him to learn, as well as his future projections are included.

Complexity of the contents

The complexity approach, from the perspective of education, includes a vision about the process of knowledge formation that starts from the elimination of a certain knowledge and that can be uncritical, objective, linear and structured, to make emerge multidimensional knowledge, complexity can be defined as a fabric of events, actions, interactions, feedbacks, determinations, chances that make up the world of the phenomenal, and its features are those of ordering the inextricable, disorder, ambiguity and uncertainty , strategies to achieve intelligibility ([Gonzalez, 2009](#)).

The cognitive development of the human being

Cognitive abilities such as memory, attention, language, perception, problem solving or intelligence and planning involve sophisticated and unique brain functions. In addition, they involve control processes, such as those used when a goal is pursued, and it is required to prevent the differences of the human being. We owe the theory of cognitive development to Jean Piaget (1896-1980). After years of empirical research, the Swiss psychologist formulated an explanatory model of learning based on the concept of action, of experience. In other words: in how the child adds and restructures knowledge and skills thanks to the active interaction with the world around him, through this interaction, Piaget explained that cognitive structures become more complex until the child gives meaning (or meaning) to reality and constructing their own knowledge.

Cognitive level in learning

In this type of learning, the individual only receives the information that must be learned. A clear example is a school: the teacher plans activities, dictates his class and the student listens to a different topic every day. As mentioned above, according to several authors [Tapia & Luna \(2008\)](#), cognitive processes are the way through which knowledge is acquired, the mental abilities that the human being necessarily develops when performing any activity.

Development of curricular and extracurricular tasks

These reasons are the ones that have influenced the reflection to highlight the importance of extracurricular activities in the world of education and more specifically from the point of view of a state school, where the challenge is higher, because in a private educational institution it is easier to promote structural changes by producing programs with impact and benefit for the institution, in a monetary sense, as well as educational. The field of the curriculum begins, therefore, to become aware that school institutions are embedded in society and that the problems that are called educational are not only the responsibility of these institutions, but are crossed by other types of structural variables, social, political and cultural (Hidalgo, 2011).

Comprehension of pedagogical content

Jean Piaget's theory states that children learn and develop their knowledge in 4 clearly defined stages. It is a specific vision on how they obtain knowledge of the world that surrounds them; it also offers a clear picture regarding the development of human intelligence. According to Vygotsky, children who are in the Zone of Proximal Development (ZPD), for a specific task, are close to achieving it autonomously, but they still need to integrate some thought key. However, with the proper support and guidance, they are able to perform the task successfully. To the extent that collaboration, supervision and responsibility for learning are covered, the child progresses adequately in the formation and consolidation of their new knowledge and learning (WebdelMaestro, 2022).

Student learning

The teaching-learning process is made up of four elements: the teacher, the student, the content and the environmental variables (characteristics of the school/classroom). Each of these elements influences to a greater or lesser degree, depending on the way they are related in a given context. When analyzing each of these four elements, the main variables that influence the teaching-learning process are identified:

1. Student: ability (intelligence, learning speed);
2. Motivation to learn; previous experience (prior knowledge); provision; interest and; socioeconomic structure Knowledge: meaning/value, practical applicability;
3. School/classroom: understanding of the essence of the educational process;
4. Teacher: teacher-student relationship; cognitive dimension (intellectual and technical-didactic aspects); teacher's attitude; innovative capacity; commitment to the teaching-learning process.

Legal

basis This research was based on: Code of childhood and adolescence Art. 37.- Right to education. - Children and adolescents have the right to a quality education. This right demands an educational system that: 4. Guarantees that children and adolescents have adequate teachers, teaching materials, laboratories, premises, facilities and resources and enjoy a favorable environment for learning. This right includes effective access to initial education from zero to five years, and therefore flexible and open programs and projects will be developed, appropriate to the cultural needs of the students; Art. 38.- Objectives of education programs (National Congress, 2014). Basic and secondary education will ensure the essential knowledge, values and attitudes to: g) Develop autonomous, critical and creative thinking; Constitution of the Republic of Ecuador Eighth Section Education Art. 66. Education is an inalienable right of people, an inexcusable duty of the State, society and the family; priority area of public investment, requirement of national development and guarantee of social equity. It is the responsibility of the State to define and execute policies that allow these purposes to be achieved. Art. 68.- The national education system will include teaching programs in accordance with the country's diversity. It will incorporate administrative, financial and pedagogical decentralization and deconcentration strategies into its management. Parents, the community, teachers and students will participate in the development of educational processes. Art. 70.- The law will establish bodies and procedures so that the national education system periodically reports to society on the quality of education and its relationship with the needs of national development (National Council, 2014).

In such a way that all the relevant authorities that regulate with respect to education in our country, guide the individual as the primary platform and therefore guarantee all rights in terms of their cognitive development, emotional and affective offering the balance of your enjoyment of a stable life so that you can enjoy in a free space

and where your assets are promoted and disseminated which will expand your content and skills in your individual and collective context to create people capable of coping the obstacles that arise in the course of life. In many cases there is little interest from parents in encouraging and controlling their children in the learning process, now values have been lost since these influence society, culture and the economy, etc. This deficit occurs because there are many children with parents who do not know how to read or write, cared for by grandparents or other relatives. Vulnerability affects learning at the cognitive level in elementary school students in the Ibarra No. 2 educational unit of Canton Chone, in the 2021-2022 school period, there are clear factors that it affects the educational community by what the present investigation was developed in order to know the factors that influence the vulnerability that the students have and how to reduce it and strengthen the cognitive level of the students.

One of the difficulties that influence the vulnerability for student learning is that parents must be included as part of the development, they must get involved, contributing with ideas and opinions that allow optimal results, also creating adequate environments, that as a family they feel part of the educational process by promoting learning environments from home. Another detail that harms learning is when students do not have a home near the educational institution or there are economic problems that greatly influence cognitive development. The lack of technological resources is another problem since it is currently a tool that is applied in education. Teachers also indicate that evaluating students is a process within the teaching-learning system to know the student's level of knowledge and, if necessary, adopt reinforcement measures that guarantee educational requirements, applying evaluation instruments such as questionnaires, which demonstrates with more precision the knowledge acquired, applying diagnostic evaluations is considered a feasible tool since it shows up to what level of learning the student is and conditions what he really knows, for this reason the teacher uses the most feasible techniques. Considering that the educational vulnerability of the students of the elementary school in the Ibarra Educational Unit No. 2 affects cognitive development and fails to develop their creativity with motivation and thus promote greater possibilities in the formulation of knowledge. This research aims to provide relevant information to the teacher on how to use these resources for meaningful learning

Conclusion

Teachers and students must be linked in order to mitigate vulnerability, proposing interaction between both parties, obtaining achievements with academic objectives within the classroom. Once the techniques applied to all those involved in this case, teachers, students and parents, it was possible to have a clearer idea of reality and because this vulnerability occurs in the students of the elementary school of the educational institution, it is necessary to taking into account the didactic interaction is a conversational appearance that analyzes the process of teaching and learning in the classroom

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