Rev. Innova Educ. (2020). Vol 2 No 1 pp. 60-77

Revista Innova Educación

www.revistainnovaeducacion.com

ISSN: 2664-1496 ISSN-L: 2664-1488

Edited by: Instituto Universitario de Innovación Ciencia y Tecnología Inudi Perú

Critical thinking: a reveal in virtual learning environments

Pensamiento crítico: una emergencia en los ambientes virtuales de aprendizaje.

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DOI: https://doi.org/10.35622/j.rie.2020.01.004

Received **20/12/2019**/ Accepted **24/01/2020** Published **30/01/2020**

ORIGINAL ARTICLE

KEYWORDS

Critical thinking, virtual learning environments, competencies of the teacher.

Think about critical thinking as one of the aims of education in Colombia is a major objective, but stablish it as a reveal in virtual learning environments is not just a challenge, it is a commitment to revigorate and establish strategies that make this objective feasible. The research "Show up/Appear of critical thinking in virtual learning environments" developed in an institution that develops its learning processes under the e-learning and b-learning modalities, was carried out under the qualitative - inductive approach that investigated the elements that allow the emergence of critical thinking in virtual environments and at the same time, determined the challenges that a teacher must assume to make this possible.

PALABRAS CLAVE

Pensamiento crítico, ambientes virtuales de aprendizaje, competencia del docente.

Plantear el pensamiento crítico como uno de los fines de la educación en Colombia es un objetivo mayúsculo, pero estipularlo como una emergencia en los ambientes virtuales de aprendizaje, no es solo un reto, es una apuesta por dinamizar y establecer estrategias que hagan factible este objetivo. La investigación "el pensamiento crítico como emergencia en los ambientes virtuales de aprendizaje" elaborada en una institución universitaria que desarrolla su aprendizaje bajo las modalidades e-learning y b-learning, se realizó bajo el enfoque cualitativo - inductivo que indagó sobre los elementos que permiten la emergencia del pensar

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crítico en ambientes virtuales y al mismo tiempo, determinó los retos que un docente debe asumir para que ello sea posible.

1. INTRODUCTION

Education is a process that is stocked up on the thinking of the subject that is being educated, and thinking is an act that allows weaving what one has, with what one feels and with what one perceives, generating new structures that influence the doing and the being of those who are in the processes of formation; however, education is not only referred to the thinking of the subject as a generator of ideas, but it leads to the recognition that this place of formation, alluding to the agreed space, should be worthy of producing critical thinking; This is how the formative process is permeated by various means, programs, changes, and needs of the communities themselves; in such a way that institutions go from the physical to the virtual, attempting to transfer, integrate, but also modify pedagogical practices, in accordance with the resources and possibilities generated by information and communication technologies, thus breaking the gaps of temporality and spatiality that appear in traditional learning models (Hernández, 2012).

In virtuality, that technological space and digital configuration, the meetings differ in time, the conversations are held from unrecognizable places and the teachers, professors or tutors who must be facilitators, feel intimidated when they question the student's learning and the possibility of developing their competencies through the abundance of computer resources; spaces that some in a mistaken vision use to "express the pure and simple absence of existence, presuming "reality" as a material realization, a tangible presence" (Lévy, 1998, p.10), that is why it is important to go deeper in the adequate usage of tools in virtual environments according to goals and needs of the XXI century (Zúñiga and Arnaéz, 2010; Loaiza and Osorio, 2018).

Critical thinking as a necessary skill in the students has become the most desired product of higher education, since it is part of many accreditation standards, as argued by Rosales and Gomez (2015) referencing Stewar and Dempsey; However, it seems to be a responsibility that is attributed to physical attendance, since the countless activities that take place in a classroom is widely criticized (debate, conversation, workshop, collaborative work, among others), so that it takes place in conditions where seeing, feeling and talking with the student in a synchronous and face-to-face manner is perhaps an act that is symbolically significant.

Even though many authors agree that Internet platforms and resources increase communication and knowledge production (Harasim, 2012; Guitert, Ornellas, Pérez, Rodríguez,

Romero, and Romeu, 2015), there are very few who can measure this efficiency with the precision they argue it is possible.

And although the above is true, it should be emphasized that the teacher formative process in Colombia is full of attributes that make teacher professionalism a challenge, and this makes reference to the dynamics of the territories where teaching takes place, to the lack of tools (digital, physical, among others) and to the multiplicity of understandings for learning. Thus, it is important to ask what elements are necessary for critical thinking to be possible in a territory, and how teachers, traditionally seen as the center of the learning process (Rosario, Alvarado, and Robles, 2018) guarantee that critical thinking is possible, but not only in the classroom, also in the virtual world, since this is the formative promise in Colombia.

Alliaude and Antelo (2009) express that, when educators hesitate to provide content to something other than pure instruction, appealing to expressions such as wanting to change something in students, contribute to the formation of critical subjects and establish links, among others, they do nothing more than desperately seek signs to grasp that which, as irreducible, gives existence to the disproportionate educational operation, so that each technological advance should provide tools and allow the subject to learn that contribute to the society of which it is part (Ortiz, 2010).

Thus, to be concerned about the ways of reaching critical thinking in Colombia, must be a need that makes it possible to reach states of differential thought, which admit to make an analysis of the role that higher education institutions have to form people capable of learning to learn, To discern the junctures of current society and judge the ways of "being", in such a way that society can be, as Magallón proposes (2014), reflective, analytical and ethically responsible and not fall into the incapacity of correlation between what is captured on paper and real life (Rockwell, 2018).

This research work was carried out at the Faculty of Education of the Minuto de Dios University, specifically in the Occupational Health Management program, which, in addition to answering the original question, considers critical thinking as a fundamental value for professional development; and with the clear hypothesis that this is a competence that can be developed in virtual learning environments. Thus, the research exercise is a reading of the various tools that include virtuality, but also an approach to the new definition of the role and challenges of teachers in virtual learning environments so that they may facilitate the rise of critical thinking and make it possible for it to mesh with the ubiquity and other attributes of information and communication technologies.

2. METHODS AND MATERIALS

The research developed in the context of virtual university training, used as a resource for analysis, forums or debates prepared by the teachers of the Minuto de Dios University, during an academic semester. It is necessary to clarify that the development of the debates are part of the obligatory activities and that each professor per academic subject must have at least two debates. The research is qualitative, which, according to Sampieri (2014), is based on a logic and inductive process and goes from the particular to the general.

For this purpose, a phenomenological design was made and the observation of discourses was used as a technique. There, priority was given to the discourse issued, narrated and placed on the platform to be analyzed in the light of some elements of critical thinking. In such a way that the observation was oriented to revise, organize and direct the look towards the object with the purpose of obtaining the information that allowed to evidence the elements that propitiated the emergence (De Ketele, 1984).

Thus, 53 forums/debates were taken from the Occupational Health Administration training program; however, in each of the forums there were about 40 responses averaged between initial threads and replies to the forum; the thread, for this case, is the initial generation of a debate and the reply, are the responses to that thread. In both, the following elements were reviewed before doing the analysis:

- The existence of one or two forums or debates
- The composition of the forums or debates
- The replicas given between students - teachers and between students
- The way he opened the exercise
- The teacher's interaction during the time he was open
- The closure of the forum, as a mechanism for the chaining of concepts.

In accordance with this, interventions in the forums between teachers and students were separated. In the former, an attempt was made to identify discursive and constitutive elements that would allow for evidence: the question, the argument and the refutation. And in the latter, the skills described by Facione for the understanding of critical thinking were recognized, such as: interpretation, analysis, evaluation, inference, explanation and self-regulation.

3. RESULTS

Is it possible to have a rising of critical thinking?

In the approach elaborated by the teachers, in response to the development of the academic course or complying with the requirement of the forum, that is to say, the question formulated as an important part of the development of the forum or debate is evident; however, the information in the argumentation and in the refutation is diminished. Teachers open up the debate or forum, but it is not properly argued and when it is properly said, it does not comply with the parameters of an argument. Besides there are not many refutations that guarantee the dynamic fluency of the dialogue.

The search for these components of critical thinking in the discourse, the revision of the learning forum and the possibilities given by virtuality as a means for the fulfillment of ends, serves for the understanding and true uses of the tools, in addition to the confirmation of the emergence of critical thinking as a result of the diverse interactions. In such a way that the role of the teacher is revealed if virtuality is considered, the ends of education are not transformed, changed, diminished or increased and that, therefore, a teacher must be prepared not only to learn about information and communication tools, but also about strategies for bringing what seems useful within the traditional classroom to the virtual space.

Among the findings, once the analysis was made there are elements such as: lack of clarity in the questions: "Discipline will sooner or later overcome intelligence. Each student must publish both a personal and professional reflection based on the video. Their participation in the forum must have a minimum of 400 words and they must also give feedback to one (1) of their classmates, giving their opinion about their contribution." This fragment, which is extracted from the platform, lacks coherent reaction, does not pay for concepts that are part of the student's search for information and does not evidence the teacher's educational intention.

Teacher participation: follow-up (feedback and closures) is almost non-existent, the few forums that had other interactions were subject to the evaluation grade described in the grading route. Teachers do not participate continuously in open discussion, nor do they ask questions, nor do they refute or close the space with conclusions that would allow them to recognize whether the discussion held was part of their training intentions.

Students' discussions: students place information out of context, that is, they do not frame their comments within a specific fact, they incorporate phrases such as "I think Colombia is going badly" "Colombians are undisciplined", phrases that also do not show a position that indicates inference, evaluation, argument, or analysis.

Figure 1 Relationship between the elements of critical thinking and skills in virtual forums

According to the above and in context with the concepts addressed throughout the text, the question is the basis of the forum, there are some answers to the guiding question or to the (intentional) judgment issued; once the answers are read, the teacher and other colleagues must continue to intervene from more questions (without good or bad argument assessments).

All of this may origin to new thematic items, but the teacher –driver- should guide the discussion so that it does not move to a place that perhaps is not of interest for directing learning; group members should be aware of the questions and comments to be debated. Finally, the teacher makes a closing, bringing up the objective of the debate and the lessons to be remembered. At this point, it should be said that the topic should be broadly contextualized, should be shown to be important, and should be accompanied by readings that facilitate inference, assessment, and other skills.

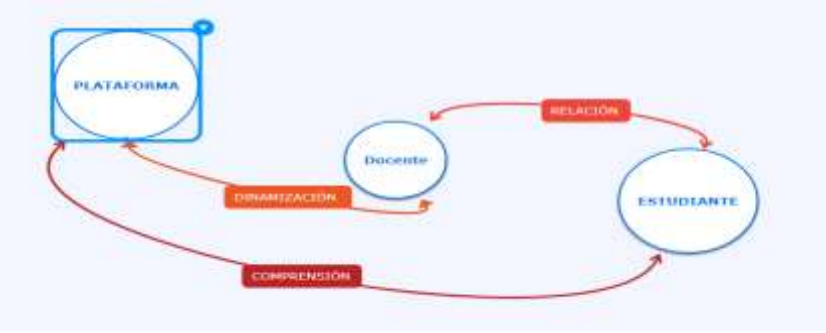

Figure 2: vitalizing of learning process

Figure 2 reflects how the three basic components, not only in a learning process mediated by platforms, requires synergistic relationships between the student and teacher as the student needs a person to guide the process, manifest situations that are leading him through not indicated paths; a dynamic platform with activities and resources that break with the scheme of the repository, so that it generates value to learning, and finally, the student requires clarity in order

to address the platform as a timely, efficient and ensuring activities consistent with educational purposes.

4. DISCUSSION

Critical thinking is a polysemic concept (Vélez, 2013) and is subject to a number of definitions that are somehow related to the disciplinary contexts from which it emerges, i.e. critical philosophy, metacognition, emancipatory theories. Acosta (2011), with a simpler look, maintains that thinking critically is a social responsibility, and that thought itself instead of pretending to know how reality is, how it is explained and how it behaves, is characterized by trying to find, recreate or produce the meaning of human life in its concrete conditions of existence.

This is how the Greeks referred to the action of thinking and its correct ways of doing it. Socrates, Aristotle and Plato proposed precise ways to approach the truth. In the Middle Ages, theorists such as Duns (2014) and Ockham (1997) appeared who rethought the existing ideas with which the world was conceived and recognized a thinking subject that could be free. Kant, on his part, called three of his great works Critics, with which he wanted to establish the limits of thought in the knowledge of the world; this is how criticism implied distinction or delimitation between the proven knowledge and the uncertain notion between the correct and incorrect action, and on the scopes of the aesthetic judgment (Vargas, 2006).

Therefore, critical thinking is a category of analysis that is based on and interrelated with terms such as Criticism, a term proposed by Kant and which alludes to judgments (Scheck, 2012); critical theory, a school of thought that highlights the need to evaluate society and culture and has as great exponents Adorno and Horkheimer (1974); and Critical Pedagogy, which points out the set of practices that allow students to develop skills for the awareness of freedom, conceiving education as "the possibility for the identification of problems and for the search for alternative solutions from the possibilities of one's own culture" (Ramírez, 2008, p. 28).

Dussel (2009) and Mignolo (2008) approach the critical thought from the framework of the philosophy of liberation and the anti-colonial praxis, this is, a critical thought with a sense clearly framed in the Latin American left. The American psychological community led by Robert Ennis (1989), Facione (1990) and Paul and Elder (2003), reflect on critical thinking from the perspective of positivist psychology, a current that starts from the evaluation and measurement of the particular situation in which the individuals under study find themselves, and as a result of these reflections have generated the "Consensus statement regarding critical think and the ideal critical thinker", which states that:

> Critical thinking is the self-regulated and purposeful judgement that results in interpretation, analysis, evaluation and inference, as well as the explanation of the evidence, conceptual, methodological, criteria or contextual considerations on which that judgement is based (Facione, 1990, p.5).

And he argues that the ideal critical thinker is an inquisitive person, who trusts in reason; open-minded; flexible; fair when it comes to evaluation; honest when confronting personal biases; prudent when making judgments; willing to reconsider and if necessary to retract; clear about the problems or situations requiring judgment; orderly when faced with complex situations; diligent in seeking relevant information; reasonable in selecting criteria; focused on asking, probing, investigating; persistent in seeking accurate results with the problem and circumstances (Facione, 1990).

Thus, the consensus statement regarding critical think and the ideal critical thinker concludes that educating a critical thinker means working in the construction of a rational and democratic society, one that is able to propose useful ideas that serve the subject and society in general. Nevertheless, from the point of view of human emancipation and in this sense, it is the point of view of the humanization of human relations themselves and of the relation with the entire nature (Hinkelammert, 2007). It is possible to state that the teacher must be permeated by a series of characteristics that reveal him as emancipatory or reflective, which facilitates the rise of critical thinking in students that, in a virtual, face to face or distance way accompanies.

In response to the above, the construction of emancipatory knowledge starts from: recognizing the formative process as a communicative and relational event, designing different pedagogical strategies that seek to revitalize the strength of the word, the renewing power of testimony, and constitute a revealing event of otherness in the subject itself and in others; in such a way that formation practices highlight the value that experience, feelings and emotions contain (Delgado, 2009), in such a way that: An emancipatory knowledge must start from the contingency and, therefore, must assume the responsibility of facing the oblivion, from a work of the memory, since the lack of this one is one of the causes of which history (...). Hence, the demand that fascisms are not repeated in their various versions and expressions is the first of all for education and especially for teacher training processes (Delgado, 2009, p.231).

Critical thinking also refers to thinking clearly and rationally with the purpose of fostering the development of reflective and independent thinking that allows everyone to make reliable judgments on the credibility of an affirmation or the appropriateness of a particular action

(Campos, 2007); that is, based on reality itself, processes of analysis are developed on what exists and rethink the way to understand certain social phenomena. The critical theory insists that knowledge is mediated as much by experience -praxis- as by theoretical and extra-theoretical interests that move within it (Osorio, 2007; Vargas, 2006).

For its part, the Colombian Ministry of National Education -MEN (2012) supports critical thinking as: the ability to investigate critically and reflectively and from different perspectives the problems of social, cultural and physical interactions in specific contexts.

Critical thinking, according to Vargas (2006) and Saiz (2002) is any reflection that implies the search of a new knowledge of reality, in such a way that it encourages a new ethical and political conduct, or proposes a new type of society; for Herrero (2016) critical thinking has a constructive, cooperative attitude "Thinking critically supposes, fundamentally, ask questions and get reasoned answers" (Herrero, 2016, p. 20) and for Lipman (2014) this is the benchmark against uncritical thinking and thoughtless action.

Despite so many conceptions, for this project critical thinking is seen as that process that is perfected in the university space and that is seen as the capacity to reflect on diverse aspects of reality through a logical, coherent and interesting process; that is why the critical thinker is considered as a subject who has a sense of life, who can apply those skills (reflecting, evaluating, solving problems and making decisions), in real situations and who impacts positively on his human relations and with the environment (Álvarez, 2014).

There are some isolated positions on the levels of thinking, and they credit to this discussion the perspective on a process of perfecting thinking, in such a way that it is necessary to clarify that it is not the same to think, as to have the capacity to think and that there are basic elements, actions and skills necessary for this to be possible. Siegel (2003) mentions that aspects such as respect, self-sufficiency, preparation for adulthood, and democratic life are aspects that explain why critical thinking is necessary in education.

For this case, the elements will be understood as those resources that allow for the initial alteration of the senses; actions such as those basic mental processes that appear with the activation of the learned, that is, attending, reading, understanding, and skills such as those processes of higher order that are those that allow a student to be pigeonholed within the line of critical thinking, as observed below:

Figure 1: critical thinking and its relationship with skills and actions in a virtual or face to face context.

Thus, critical thinking as a higher order skill contains other skills and these in turn actions that can be common to anyone; however, this requires activities in the classroom or virtual environment that weave the processes. This has to be expressed in turn in: rationality, self-awareness, honesty, open mind, discipline and judgment, as stated by Campos (2007).

Training through virtual learning environments

Although critical thinking is a possibility named in the academic components, and according to the bibliographical review it is intimately linked to the classroom formation, to detail it in a Virtual Learning Environment does not seem a simple task, because by virtue of a quick glance, it deepens in the means and loses sight of the end and its commitment with the development of a society that in terms of Cortina (1995), must be committed with the needs of its territory.

In accordance with the above, it is important to specify that attendance in academic training processes is linked to key elements such as the place where learning takes place, the mechanisms that energize it, time, and the relationship between student and teacher.

For its part, virtual education consists of planned learning that normally occurs in a different place, asynchronous, ubiquitous and requires techniques for the design of courses, instructional techniques, electronic communication methods, as described by Morantes and Acuña (2013); This training process requires the student to work autonomously and independently, since the physical distance between him/her, the teacher and classmates is perhaps zero.

Some additional definitions set forth by García (1987) and other more contemporary authors allow us to understand that: distance education is an intermediate point in a continuous line; it is a multimedia system of two-way communication with the student away from the teaching center, and facilitated by a support organization; and the set of forms of study that are not guided or controlled directly by the presence of the teacher in the classroom.

The eagerness of the institutions to integrate into their training processes, virtual tools that favor the common flexibility in the non-presence of the student in the classroom, affects the development of educational practices and although academic practices have always required the existence of mediating elements between the teacher and the student, these are merged with new needs and skills that reconfigure the observation that is made of their effects. Sangrá (2001) states that there are three common elements in virtual training, elements that are not alien to face-to-face education, although their names and interpretations vary: the student, the teacher and the resources, the latter in the context of virtuality tending towards transversality and globality.

Virtual Learning Environments are "interactive computer programs of a pedagogical nature that possess an integrated communication capacity, that is, they are associated with new technologies" (UNESCO, 1999), in such a way that teachers can make use of the elements that allow for the configuration of the pedagogical and facilitate the achievement of objectives. In other words, and as Marzano and Pickering (2005) could propose, the institution that integrates Virtual Environments must adapt the whole system towards autonomy, independence, interaction and communication, in such a way that teaching, resources and strategies are coherent with the objective of training people with critical thinking relevant to social needs.

However, there is a common sphere between classroom activities and virtuality and that is the search for a way of thinking that allows for mobility in the world of life, for which the attitude of the educational actors. The importance of pedagogical approaches seems to be of great importance, as virtual education or education mediated by virtual learning platforms, which is not at a distance from a reconfiguration of the term, makes possible different achievements and competences in the student.

The MEN (2012) in the "Guide of teaching orientation for the evaluation of competences", proposes that a teacher must have the capacity to take the contents to real situations of teaching-learning with his students, this puts the teacher not only as a repeater of programmed contents in the academic microcurriculum but in the manager of new ways of interpreting reality and making readings of it. Sosa (2009) states that recovering sovereignty should be a fundamental task of critical thinking and in that order, educational institutions should contribute to define and favor the direction that society should take. To this end, it is important that there should be an academic concern about the meaning of sovereignty in the present and towards the future of Latin America that determines how we project our own thinking about what will become of America and where it is headed (Sosa, 2009; Simone, 2000).

Law 30 of December 28, 1992, which regulates education in Colombia, defines in Article 4 that Higher Education, without prejudice to the specific purposes of each field of knowledge, must awaken in students a reflective spirit aimed at achieving personal autonomy, within a framework of freedom of thought and ideological pluralism that takes into account the universality of knowledge and the particularity of cultural forms existing in the country (Law No. 30, 1992); In this way, higher education will be developed within a framework of freedom of teaching, learning, research and teaching.

For its part, the Minuto de Dios University, a higher level formative institution that is the object of this research project, in its Institutional Educational Project (PEI) includes education from a praxiological approach as "the interactive and dynamic process of socialization (learning to insert oneself into society) and automation (...) of people and communities, so that they become autonomous, integral, critical, responsible and innovative individuals and groups" (PEI, 2014, p. 9). This is how the main task of the educational institution, through the teaching staff, is to generate sufficient pedagogical and didactic conditions for students to develop their thinking and intellectual autonomy, to be constantly transformed into knowledge and to be strengthened in their relationship with the contexts in which they are located (Vélez, 2013).

However, in spite of converging with traditional education in educational purposes, the use of different technological tools and the culture in the use of NICTs for students and teachers, makes it difficult to understand the results and there is a feeling of leakage of contents and skills. This is real when the teacher is unaware of the possibilities of thought provided by the New Information and Communication Technologies (NICTs) and when the student does not expect to become a skilled knowledge manager in the area of training (Martínez, 2009).

In a virtual development, the tutor structures the course and through the sharing of videos and texts, guides the readings and other activities to the student; without a doubt, the teacher in the virtual world must, in addition to favoring learning as proposed by Sevillano (2009), get to know the students, applying, designing and producing technological tools, which include meaningful and innovative activities, that motivate the student towards the development of his own academic process. This should correspond with the purposes of education and should be a facilitator of the curriculum; however, it is possible that some, not very expert in the purposes and very skilled in handling web tools, achieve, as the system wishes, to sustain a number of students who guarantee the economic items and remain within the neo-capitalist perspective betting on efficiency and effectiveness (Colado, 2003).

The teacher is not the only one responsible for the process, the student must not only have the technological resources, but also the motivation and the disposition to make the emergency happen. Paul and Elder (2003) in The Mini-Guide to Critical Thinking, Concepts and Tools, determine the characteristics of a critical student:

- Formulates problems and vital questions, with clarity and precision.
- He accumulates and evaluates relevant information and uses abstract ideas to interpret that information effectively.
- Carries out conclusions and solutions, testing them against relevant criteria and standards.
- Thinks with an open mind within alternate systems of thought; recognizes and evaluates, as necessary, assumptions, implications and practical consequences.

Identifying the way in which different mechanisms converge in the consolidation of critical thinking as one of the main objectives of higher education institutions is not only a necessity but also an obligation that goes beyond the lines of the school and becomes a social responsibility. Although the term is commonly used in pedagogical discourses, it can only be addressed to the extent that the uses and mechanisms that establish it are discovered as an emerging quality of training.

Critical thinking can be understood by Herrero (2016) in two ways: as analytical thinking that allows us to know what to think or what to do and what to believe; and the ability to evaluate, analyze and refute arguments. Therefore, he proposes the following elements as necessary aspects for the rise of critical thinking:

The question: refers to the question, proposition, sentence that judges, invites to re insure or deny situations. The question is also expressed in grammatical forms: what, to whom, how, where, when, or why. In the question it is important to determine aspects such as: what is being discussed, from what perspective it is done not only in the statement or question, but also in relation to the terms used, and whether or not it can be verified empirically or theoretically.

The argument: according to Herrero (2016) an argument is the sum of conclusions, reasons, premises and evidence that support the question. Thus, in order to argue, a person must not only be able to generate conclusions from the data he or she has, but also make a precise search for experts, analyses and resources that will evidence his or her discourse. When an argument has no evidence Herrero (2016) calls it a fallacy, which is defined as a weakness in the argument, in which the individual can generate conclusions without having enough data or justification.

Refutation: not always is someone else's argument true based on certain criteria, it can be exposed by finding new evidence that is in contrast to the initial argument. According to Herrero (2016) "before discussing an argument it is essential to analyze it. Only in this way is it possible to determine where the weakness or weaknesses are that allow the refutation" This is how the author proposes: to determine the conclusion, to examine the evidence that supports the conclusion, to evaluate the language used (that there is no bias, manipulation, partiality or prejudice).

With these elements it could be determined: if the argument is weak because the evidence is true but irrelevant, it is not true, it does not fit the initial indications or parameters of analysis, or because the conclusions drawn are not consistent with the premises. And although Herrero poses these elements, Facione (2007) determines the skills of a critical thinker, among which he establishes: analysis, explanation, inference, self-regulation and evaluation. Thus, critical thinking refers to a rigorous, complex, disciplined and continuous exercise for students, but one that is thought out and aligned by the teachers who accompany a process, in such a way that it is possible for the skills to be developed and to strengthen the student as a reflective subject, and capable of giving meaning to the events that surround him or her.

In the theory of complexity Morin (1994) alludes to the complex as that which is composed of multiple particles that individually could not be highly representative, but which in consonance with others form and articulate new objects. Critical thinking as emergence is almost an indeterminism linked to human thought that differs from a fact that leads to linear thinking and runs between what is believed, what is denied, what appears and what is scarce.

That is, the idea of thinking focused on a purpose such as the critical could be multiple and varied, therefore, there would not be a unique way of thinking and thinking critically would not have a single path, but several places to approach it and diverse fusions.

5. CONCLUSSIONS

Learning is an encounter of meanings and meanings that the subject makes in environments generally co-created with the teacher and may arise as an emergency, the result of the relations between a system of components that intend it and, in the substantial change in the roles of the actors, which begins by re-emphasizing the scope of the purposes of singularization and collectivization of the learning subject. As mentioned by Núñez, Ávila and Olivares (2017), in a training scenario, not only is teacher preparation sufficient for the development of skills, but it is also necessary for the student to be disciplined, coherent, and have the intention of becoming competent.

The capacity to think critically is not a result of the educational process that is developed in virtuality; it is an emergence as a novelty that arises from the relationships between the components of this process. The presence of other actors in the virtual classroom makes possible tensions and disruptions that mobilize critical thinking, a mode that emerges from the encounter offered by the learning scenario.

The rising understood as a possibility, a reality that is manifested through different interactions, can generate in this section of the text, a respectful but critical interpretation of the work of teachers in Virtual Environments, not as a scenario for the sharing of technical skills, but for the recognition of the work as a necessary activity and emancipatory commitment.

Finally, critical thinking attributed to other professions such as administrators is necessary and relevant not only because it is fully consistent with work and social skills, but also because it makes subjects more capable of facing and mediating global dynamics.

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Agradecimientos / Acknowledgments:
Expresamos el agradecimiento a la Facultad de Trabajo Social de la Corporación Universitaria Minuto de Dios, Antioquia – Colombia.

Conflicto de intereses / Competing interests:
Las autoras declaran que no incurre en conflictos de intereses.

Rol de los autores / Authors Roles:
Yarmin Taborda: conceptualización, curación de datos, análisis formal, adquisición de fondos, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & amp; edición.

Laura López: conceptualización, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & amp; edición.

Fuentes de financiamiento / Funding:
Las autoras declaran que no recibió un fondo específico para esta investigación.

Aspectos éticos / legales; Ethics / legals:
Las autoras declaran no haber incurrido en aspectos antiéticos, ni haber omitido aspectos legales en la realización de la investigación.