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From Critical Thinking to Reflective-critical Thinking: a Proposal of Categories for the Transition

Del pensamiento crítico al pensamiento crítico-reflexivo: una propuesta de cuerpo categorial para el tránsito

Do pensamento crítico ao pensamento crítico-reflexivo: uma proposta de um corpus categórico para a transição

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Abstract

The article socializes findings of a doctoral thesis on the development of reflective-critical thinking in university students. Specifically, it presents the categorical body that expresses the transition of thinking to a critical-reflective quality. For the study, an epistemological analysis of the theory on the development of critical thinking in higher education students was conducted, as well as a diagnosis of the initial state of development of critical thinking in students of the English Language Major at the University of Holguin. Consequently, research methods were implemented which allowed penetrating into the essences of the object of study, investigating the way in which these are manifested in practice, and finding answers for their transformation. The results obtained confirmed the necessity to transcend the state of the art to advance towards the development of reflective-critical-thinking in students as a new quality of thinking in contemporary society.

Keywords: critical thinking; language; communication; higher education

Resumen

En el artículo se socializan hallazgos de una tesis doctoral sobre el desarrollo del pensamiento crítico-reflexivo en estudiantes universitarios. Específicamente, se presenta el cuerpo categorial que expresa el tránsito del pensamiento hacia la cualidad crítico-reflexiva. Para el estudio, se condujo un análisis epistemológico de la teoría sobre el desarrollo el pensamiento crítico en estudiantes de enseñanza superior, así como un diagnóstico al estado inicial de desarrollo del pensamiento crítico en estudiantes de la carrera Lengua Inglesa con Segunda Lengua Extranjera en la Universidad de Holguín. Consecuentemente, se implementaron métodos de investigación que permitieron penetrar en las esencias del objeto de estudio, indagar el modo en que estas se manifiestan en la práctica y encontrar vías para su transformación. Los resultados obtenidos demostraron la necesidad de trascender el estado del arte para avanzar hacia el desarrollo en los estudiantes del pensamiento crítico-reflexivo como nueva cualidad del pensamiento en la sociedad contemporánea.

Palabras clave: pensamiento crítico; lenguaje; comunicación; enseñanza superior

Resumo

Autor 1
Autor 2
Autor 3

O artigo socializa os resultados de uma tese de doutoramento sobre o desenvolvimento do pensamento crítico-reflexivo em estudantes universitários. Especificamente, apresenta o corpo categórico que expressa a transição do pensamento para a qualidade crítico-reflexiva. Para o estudo, foi realizada uma análise epistemológica da teoria sobre o desenvolvimento do pensamento crítico nos estudantes do ensino superior, bem como um diagnóstico do estado inicial de desenvolvimento do pensamento crítico nos estudantes do curso de Inglês como Segunda Língua Estrangeira na Universidade de Holguín. Consequentemente, foram implementados métodos de investigação que tornaram possível penetrar na essência do objeto de estudo, investigar a forma como estes se manifestam na prática e encontrar formas para a sua transformação. Os resultados obtidos demonstraram a necessidade de transcender o estado da arte a fim de se avançar para o desenvolvimento do pensamento crítico-reflexivo nos estudantes como uma nova qualidade de pensamento na sociedade contemporânea.

Palavras-chave: pensamento crítico; língua; comunicação; ensino superior

Introduction

Scientific and technological advances in contemporary society impact all spheres of society. In their social side, this impact is more visible in the area of information and communication, what grants a more democratic access to knowledge and information. At the same time, it gives room for disinformation and disorientation based on fallacies, decontextualization and intentional silence. According to Moreno et al. (2021) "We are living in a global society of information, but also of disinformation" P. 154.

This reality contrasts with the curricular designs that still do not explicitly conceive the need to train students for the critical analysis of information. In the opinion of Prieto (2020) the school system focuses more on teaching what to think, than on how to think. Consequently, a leap in the improvement of curricula is required, which should be intended to educate students to elucidate the valuable and enriching contents within the immense amount of information available in the Internet. Therefore, the commitment must focus on training students to think critically, reflectively and contextually.

In such scenario, the formative process at universities should focus on empowering students to interact in a responsible way with the complex discourse of the media. Van Dijk (2019) posits that while discourse structures and their mental correlates are explained in increasingly sophisticated detail, the complex structures that define the communicative situation are ignored by people.

Following this logic, the design of the media is elevated to a complex discursive level, while people lack sufficient tools to interpret the messages implicit in these discourses. A considerable number of media users feel satisfied with the entertaining component of media products, and do not pay attention or cannot decode the intended content embedded there.

Consistent with this contradiction, curriculum designers should give room in their proposals to the development of reflective-critical thinking in students. According to Rivadeneira (2021), it is necessary to work for the creation of pedagogical conditions that foster critical thinking and its evaluation.

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This article presents a categorical body of the development of reflective-critical thinking as a partial result of the research. The proposal is intended to contribute to the improvement of the formative process of the English Language Major students at the University of Holguin.

Materials and methods

Considering the nature of the research object, the methodological approach used is predominantly qualitative. In order to accomplish the investigative tasks, an epistemological analysis on the development of critical thinking in university students was conducted, as well as a diagnosis of the initial state of development of critical thinking in the students.

The analysis and critique of data sources and the hermeneutic-dialectic methods were used, which allowed understanding the information and attaining coherent interpretations of results. This made it possible to determine the state of the art of the object of investigation and, based on it, to construct and explain new knowledge.

The use of the analysis-synthesis and induction-deduction methods made it possible to process information on the necessity to develop critical thinking in university students and to establish generalizations based on the critical analysis of the theoretical positions on the subject. All this permitted to reach conclusions about the need to transcend the state of the art to meet the demands posed by contemporary society to the formative process of university students.

For the diagnosis of the initial state of development of critical thinking in students, interviews were conducted with teachers, and surveys with students. Pedagogical observation and a pedagogical test were conducted, as well. In addition, mathematical statistical methods were used to tabulate the collected results.

The interview was applied to 11 professors, representing 34.3% of the staff. The surveys, the observation, and the pedagogical test were conducted in the second year (17 students) and in the fourth year (15 students); which together represent 35% of the students of the major.

Results and Discussion

The characterization of the state of the art revealed that there is an extensive and updated scientific production related to the need of developing critical thinking in higher education students. Thus, it provided crucial theoretical aspects to the study. Likewise, epistemological inconsistencies were evidenced which had to be overcome in order to fulfill the scientific objective of the research.

On the one hand, it was revealed that critical thinking contributes to the development of adequate self-assessment in students, as well as an appropriate self-regulation of behavior. It also helps to make timely decisions and to forge commitments towards the creative transformation of reality. Likewise, it contributes to the formation of a conception of the world derived from self-reflection.

Regarding to the inconsistencies of the theory consulted, the absence of principles and premises that guide effective critical thinking was verified. At the same time, the lack of dimensions that express the development of this type of thinking through behavior, activity and communication was also noticed.

The results provided by the diagnosis show that students manifest insufficiencies in the development of critical thinking, namely: 1) Limitations to identify objective and relevant arguments in the appropriate contexts to support their points of view; 2) Difficulties to identify implicit discursive intentions in the media discourse; 3) Poor cultural background knowledge to understand issues of medium and high discursive complexity, and to reflect about them.

By triangulating the evidence provided by the epistemological analysis and the results of the diagnosis, it was established that it is necessary to transcend the state of the art to meet the formative demands of higher level students imposed by contemporary society. Acero (2022) believes that the challenges posed to education for the formation of critical and reflective thinking deserve to develop an epistemological dialogue that helps to understand its importance.

Experts agree that in order to successfully face formation in this field, it is crucial to educate students as critical receivers of information. Barclay (2018) points out that what is most important is the information literacy of people to critically assess the credibility and authenticity of information sources, and to train them in skills to navigate the complex information landscape of the media that includes a wide range of fake news.

According to (Laiton, 2010; and Moore 2013) the critical thinker must meet requirements in terms of assessing the credibility of sources, analyzing arguments, problem solving, making judgments, and producing knowledge; all from an ethical and activist stance.

In the opinion of (Kuhn et al., 2000; and Paul & Elder 2003) critical thinking is an intellectually disciplined process that fosters standards that allow the student to make epistemological evaluations in order to think about what they think about. For Kahlke & White (2013) the key to critical thinking lies in analyzing, articulating, and transforming the basis for the ideas and decisions that are made.

These evidences permitted to provide a pedagogical conception of the development of reflective-critical thinking that contributes a categorical body aimed at empowering students to face in a critical, reflective and contextualized manner both the communicational challenges of media discourse and the complex events of everyday life. Likewise, it allows them to broaden their cultural background knowledge, their aesthetic vision and their axiological arsenal.

In order to shape the categorical body of reflective-critical thinking, it was necessary to intervene key theoretical aspects. In this sense, the classification of contexts provided by Cutting (2000) was

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updated and expanded, and thus four types of contexts were declared. In summary: the cultural context expressed by the general background knowledge possessed by the students; the cotextual context consisting of the specific topic dealt with in a given socio-communicative situation; the situational context, which covers the spatial-temporal component (real or virtual) in which that socio-communicative situation is established; and the psychological context, which includes the complex of psychological features that characterizes a student as an individual. Betancourt & Rodríguez (2022).

Based on van Dijk's (2008) approach who considers contexts as subjective constructions made by individuals about the objective situations they face, in this research contexts are assumed as defined by Betancourt & Rodriguez (2022).

> …contexts are defined as subjective representations that individuals elaborate and personalize from their interaction in face-to-face or virtual socio-communicative situations and from the information and the participants linked to those situations, from the acquired culture, and from the personological resources they possess; such representations carry the objective and relevant arguments which are valid for the effective exercise of reflective-critical thinking. (p.117)

This definition establishes the function of contexts in the theory of reflective-critical thinking. According to Betancourt & Rodríguez 2022, contexts fulfill the function of being the carriers of the arguments that support the effective development of reflective-critical thinking. The relevance of arguments is also considered by Jing (2021) when he states that most of the arguments that people encounter in everyday life are not really effective arguments.

Reflection is another crucial aspect of the theory underpinning the essences of the categorical body of reflective-critical thinking. Several authors refer to the medullar role of reflection. In that sense, Botero et al. (2017) state the need to form individuals with reflective and critical criteria, which facilitate assertive decision-making. Argüelles & González (2018) state that students should develop a critical, reflective, responsible and transformative attitude towards the problems of humanity. Rué (2019) states that thinking is a reflective and critical activity, which enables us to understand ourselves, and to understand better with others.

Reflection also allows the exhaustive analysis of reality based on objective and relevant arguments provided by the contexts, and the arrival at critical judgments for decision and party making. In short, reflection becomes an essential cognitive process in the theoretical configuration of reflective-critical thinking.

The study also pays special attention to the relationship between communication and reflective-critical thinking. The close interdependence between thought and language is well established in

theory. For Vigotsky (1998), communication based on rational understanding and premeditated transmission of thought necessarily requires a system of means, which is human language.

However, the scientific, technological and communicational advances of contemporary society have raised the thought-language relationship to another level. In the second decade of the 21st century, the relationship is established between reflective-critical thinking and language at discursive level. This new quality of the relation is the one that establishes the formative standards of professionals in this century.

Another aspect that is central to this research is related to the place of metacognition in the conceptualization of critical thinking. For Villarini (2003) metacognition is "the capacity of thinking to examine, criticize and adjust the thinking process both in its skills, concepts and attitudes" (p. 37). Mevarech & Kramarski (2014) state that metacognition is a higher-order process that involves active control over cognitive processes.

At this point, taking the previous theoretical aspects as epistemological basis, in this research reflective-critical thinking is defined as a metacognitive process that favors the foundation of criteria of truth via reflection-based epistemological evaluations on the objective and relevant arguments provided by the contexts related to the reality object of criticism; which allows the assertive assumption of decisions, the conscious taking of a stand, the creative transformation of reality, as well as the effective and intentional communication of such results from an ethical position.

> Categorical body of reflective-critical thinking: a proposal

Finally, the categorical body of reflective-critical thinking proposed below expresses the transition from critical and reflective experience to its effective communication and, in turn, to the configuration of behavior. It is the bearer of the epistemological, praxeological, psychological and axiological pivots that sustain this transition.

The categorical body is presided over by principles that guide the effective development of reflective-critical thinking. Based on this notion, the principles comprised in this categorical body stand as guidelines carrying the foundations that channel the link between theory and practice to guide the effective development of reflective-critical thinking.

- Principle of reflection in contexts for the development of reflective-critical thinking

This is the principle that contextualizes criticism and orients its meaning. It embraces several demands. 1) Critical analysis is developed in the contexts linked to the reality being criticized: That is, reflection must be based on the arguments provided by the contexts related to the reality or phenomenon being criticized. This guarantees the coherence of the scenario of reflection. It also avoids probable decontextualizations introduced in discourse. 2) The constant updating of the

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contexts in operation: This requirement refers to the fact that reflection in contexts is impacted by the dynamics of scientific and technological advances, and their impact on social and cultural events. Such dynamics provoke that theoretical contributions are sometimes late and appear extemporaneous in relation to social practice.

For this reason, it is necessary to make students conscious of the necessity of constantly updating the contexts they operate so that the result of reflection in contexts is coherent with the impacts scientific and technological advances cause in their socio-communicative praxis. 3) The recontextualization of the results of reflection in contexts: The ability to extrapolate the results of reflection to other contexts is essential in the training of professionals of this century. The requirement establishes that the student must be able to recontextualize reflective experiences and update them according to the arguments provided by new contexts, and resignify knowledge accordingly.

These requirements enable the student to comply with the principle of reflection in contexts for the effective development of reflective-critical thinking. That is to say, they allow the student to deconstruct and decode complex discursive intentions properly; to clear decontextualizations; to identify intertextualities, generalizations, false positives, fallacies, and intended silence which are frequent in media discourse.

- Principle of the objectivity and relevance of arguments for the development of reflective-critical thinking

The philosophical basis of this principle is found in the principle of objectivity postulated by dialectical materialism. The principle of the objectivity and relevance of arguments for the development of reflective-critical thinking is also related to the function of contexts as depositaries of valid argumentation. The validity of the arguments is sustained by the requirements of objectivity and relevance stated by the principle.

The requirement of objectivity is confirmed by the relation of the arguments to objective reality. In this sense, the parameters considered are the truthfulness and the verifiability of the information. To satisfy these parameters, it is necessary to corroborate the link of the arguments with objective reality. Likewise, it is necessary to validate the authenticity and authority of the sources. The triangulation of the information by consulting other sources is also required.

The requirement of relevance is verified on the basis of the relation of the arguments to the contexts linked to the reality under analysis, and the level of impact and contribution these arguments provide to each of these contexts. It is, if the arguments belong to the contexts of the reality being criticized, they manifest themselves in a transcendental manner in each of those contexts, and their contribution to them is considerable; they are considered relevant arguments.

- Principle of impartiality in the communication of the product of reflective-critical thinking

This principle refers to the correspondence or not of the results of reflection in contexts with the axiological positioning of the student that reflects. This principle guarantees the coherent relationship between the result of reflection in contexts and the communication of that result. This principle imposes a requirement.

Say, the correspondence between the results of reflection in contexts and their communication: Here the ethical result-communication correspondence is essential. The non-coincidence between the results of reflection in contexts and the axiological positioning of the reflecting student is the manifestation in practice of a contradiction between objective and relevant arguments of the psychological context of that student, and objective and relevant arguments provided by the rest of the contexts associated with the reality under reflection. In such a case, the understanding of such contradiction by the subject is a manifestation of reflective maturity, which is inherent to reflective-critical thinkers.

To move on to other categories of reflective-critical thinking, it should be pointed out that the transition to this new quality of thinking presupposes a comprehensive approach that covers the communicational demands of contemporary society. In media discourse, information is presented with a high level of integration where texts, intertexts, images, sounds and illocutionary intentions are combined. This complex semantic arrangement transcends the traditional codes of verbal language.

In the elaboration of media discourse, knowledge from various disciplines is combined. This wise combination is intended to provoke precise perlocutionary effects in the audiences for which they are elaborated. Consequently, any effort to deconstruct these discourses and decode their illocutionary intentions must be made from a comprehensive viewpoint. That is to say, it must be faced with a transdisciplinary approach.

- Premise of the transdisciplinary approach for the development of reflective-critical thinking

The premise of the transdisciplinary approach is understood as a necessary condition that establishes the depth and scope in the exercise of reflective-critical thinking. This premise postulates that the development of reflective-critical thinking presupposes the use of theoretical supports provided by the disciplines involved in the elaboration of discourses. At the same time, these supports serve as a gnoseological platform for their deconstruction and decoding. This does not mean that the student must master all that theory in depth; however, the student must operate the basic notions that allow him or her to interact reflectively with those discourses.

The compliance with the premise of the transdisciplinary approach becomes an attainable standard as long as the appropriate strategies are considered by curriculum. Students who manifest insufficiencies for the full satisfaction of this premise are not totally or permanently limited from

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developing reflective-critical thinking. However, deficiencies in this sense do cause difficulties in dealing with messages that exhibit high discursive complexities.

Finally, dimensions are the elements that complete the categorical body of reflective-critical thinking. The dimensions contributed here are manifestations of personality, and are expressed as categorical pairs that are externalized by students through behavior, activity and communication.

- Affective-cognitive dimension of the development of reflective-critical thinking

This dimension expresses the affective link established by the student who reflects with the socio-communicative situations he or she faces, with the participants involved in them, and with the information they contribute. This affective link is determined by the level of acceptance, understanding and contribution that the student achieves in his or her relationship with the situational and cotextual contexts of interaction.

In the affective aspect of the dimension, the psychological context acquires a determining role. This is the one that regulates the levels of satisfaction, comfort, security, and emotional stability the student experiences in the various situational and cotextual contexts faced. In this sense, students who have a well-compensated psychological context cope more successfully with adverse situational and cotextual contexts. In turn, they contribute to reinforce the psychological context of the people with whom they interact through the interpsychological relationships they establish with them.

The cognitive aspect of this dimension is conditioned by the richness of the cultural context deployed by the student, and it is expressed through the extent to which the student is able to unfold the premise of the transdisciplinary approach. The formative process should become the major source of nourishment for this dimension. However, it has been verified that students with broad cognitive concerns also enrich this dimension from their individual practices of cultural consumption.

- Ethical-axiological dimension of the development of reflective-critical thinking

This dimension is fundamentally expressed through the system of values that guides the student's thinking and behavior. The development of this dimension is forged throughout the student's life history. Families, educational institutions, society play a fundamental role in the formation of those values. This presupposes that the formative actions at the university should be intended to adjust and foster those values the student has already acquired.

This dimension is visible through the student's positioning and taking of stands in the scope of situations he or she faces. The degree of maturity reached by this dimension is evaluated via the verifiable student's behavior and its coincidence with the regulations established by the institutions, the laws, and the norms universally accepted by society.

- Aesthetic-cultural dimension of the development of reflective-critical thinking

This dimension is associated with the aesthetic contributions made by contexts, and the way those contributions are apprehended by the student. It is expressed through the assimilation of the best aesthetic values created by humanity in the fields of arts and culture. These values enrich the cultural context of the student, and are assimilated in the interaction with diverse and enriching situational and cotextual contexts.

This dimension extends unlimitedly in the fields of arts and literature, from the most deeply rooted popular expressions to the highest creations of the fine arts. This dimension is negatively affected by manifestations of vulgarity, banality and obscenity.

Students who develop a rich aesthetic-cultural dimension can identify intertextualities from the arts, literature, and other fields of knowledge. At the same time, they enhance the mastery and contextualized use of language registers and the acquisition of a wide lexical-syntactic wealth, aspects that empower them for professional success, social adaptation, and spiritual growth.

- Transformative-creative dimension of the development of reflective-critical thinking

This constitutes the operative dimension of reflective-critical thinking and is stimulated by elements of the psychological context such as needs, motives, and aspirations. It is directed to the creative transformation of reality for the improvement of individual and social well-being. From this function, it contributes to solution of problems of professional practice and daily life.

Students who enhance this dimension are characterized by an innovative spirit and a nonconformity attitude towards conservative and indolent positions. At the same time, they assume a strong mobilizing and creative stand that turns them into positive leaders in the eyes of others. Generally, they show a reinforced psychological context that stimulates the development of creativity and collaborative spirit in other students.

- Discursive-communicative dimension of the development of reflective-critical thinking

This dimension is manifested through the relationship between thinking at the reflective-critical level and language at discursive level. Thus, it hovers at the new stage reached by communication of thought in contemporary society. Such a relationship is essential in the training of professionals of the 21st century, since it is the one that guarantees the development of competences to elaborate discourses aimed at the effective and intentional communication of the product of reflective-critical thinking. In the substantiation of such communication, objective and relevant arguments extracted from the contexts they operate are used.

Discourses produced from this dimension adjust their construction and their illocutionary intentions to target audiences. To achieve this goal, the student must master and effectively use the codes of language registers and modulate them accordingly. The objective of such discourses is the search for precise perlocutionary effects in the audience. Those effects must be respectful and coherent

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with the principle of impartiality in the communication of the product of reflective-critical thinking, and the ethical-axiological dimension.

The fundamental function of the discursive-communicative dimension is to communicate the student's decisions, points of view and positioning regarding the subjects on which he or she reflects. However, due to the bidirectional nature of communication, this dimension also participates in the process of deconstruction and interpretation of the illocutionary intentions implicit in the discourse of the media. This occurs because this dimension is also the repository of the theoretical underpinnings necessary for such an intellectual exercise.

Conclusions

Scientific and technological advances in contemporary society impose communicational challenges that generate new formative needs in university students. Findings of this research show that the development of reflective-critical thinking empowers students to face these challenges, and their representation in the media, from a critical, reflective and contextualized position.

In this sense, the categorical body of the development of reflective-critical thinking proposed introduces categories that broaden the formative horizon of university students. Such categorical body is directed to the development of a critical-reflexive-contextual association in students' thinking process. This new association is an expression of the process of transition from critical thinking to reflective-critical thinking. Reaching this new quality of thinking empowers them for a better professional and citizen performance. At the same time, it contributes to compel their personal growth, to maximize their social contribution, and to raise their life quality.

The ultimate step of reflective-critical thinking materializes in the development of a critical conscience that manifests through conduct, communication and activity, and is based on the coherent relationship between what the student thinks, what the student communicates and what the student does; and that conduct is consistent with social norms and with the highest values created by humanity.

Reference List

Acero Ordoñez O., Gómez, J., & Orduz M. (2022). La formación en pensamiento crítico-reflexivo en los posgrados en educación de América Latina en tiempos de covid. *InterNaciones*, 22, 197-212.
https://DOI:10.32870/in.vi22.7216

Argüelles Mancebo H. C. & González Cruz, M. (2018). La formación del pensamiento crítico y creativo desde los procesos de enseñanza-aprendizaje en la clase de lengua y literatura. *Revista Cognosis*, 3 (2), 65-76.
https://bit.ly/3AbT6ip

Barclay D. (2018). Fake News, Propaganda, and Plain Old Lies. Rowman & Littlefield.

https://bit.ly/3dPluPR

Betancourt Campaña R. and Rodríguez Chavez V. M. (2022). Los contextos: su lugar en la configuración teórica del pensamiento crítico-reflexivo. *Opuntia Brava*, 14 (3), 109-119. https://bit.ly/3CnnAk4

Botero Carvajal A., Alarcón D. I., Palomino Angarita D. M., & Jiménez Urrego A. M. (2017). Pensamiento crítico, metacognición y aspectos motivacionales: una educación de calidad. *Poiésis*, 33, 85-103. https://doi.org/10.21501/16920945.2499

Cutting, J. (2002). *Pragmatics and Discourse*. Routledge.

Jing S. (2021). Discussion on the Logical Basis of Critical Thinking. International Journal of *Philosophy*, 9(2), 100-105. https://DOI.org/10.11648/j.ijp.20210902.14

Kahlke R. and White J. (2013). Critical Thinking in Health Services Education: Considering 'three waves'. *Creative Education*, 4 (12A), 21-29. https://dx.doi.org/10.4236/ce.3013.412A1004

Kuhn, D. et al. The development of epistemological Understanding. Cognitive Development, 15: 309-328. https://DOI.org/10.1016/S0885-2014(00)00030-7

Laiton P. I. (2010). Formación de pensamiento crítico en estudiantes de primeros semestres de educación superior". *Revista Iberoamericana de Educación,* 53 (3), 1-7. https://doi.org/10.35362/rie5331730

Mevarech, Z. & Bracha K.(2014). Critical Maths for Innovative Societies. The Role of Metacognitive Pedagogies. *OECD Publishing*. http://dx.doi.org/10.1787/9789264223561-en

Moore, T. (2013). Critical thinking: Seven definitions in search of a concept. *Studies in Higher Education,* 38 (4), 506-522. https://doi.org/10.1080/03075079.2011.586995

Moreno E., Contreras Orozco P., & Aránzazu R. (2021). Medios de comunicación, redes sociales y virus del miedo, durante la pandemia de COVID-19. *Ámbitos*. *Revista Internacional De Comunicación*, 53, 148-160. https://doi.org/10.12795/Ambitos.2021.i53.08

Paul, R. & Elder L. The Mini-Guide to Critical Thinking Concepts and Tools. (2003). Foundation for Critical Thinking. www.criticalthinking.org

Prieto, R. (2020). Critical thinking in times of pandemic. *Laboratoria*. https://bit.ly/3QKvpoq.

Rivadeneira, B., Boris, M. P., Hernández Velásquez, I., Loor Colamarco, I., Mendoza Bravo, K.L., Rivadeneira Barreiro, J., Rivadeneira, L. (2021). El pensamiento crítico y su evaluación en

Luz.

la educación universitaria. *Research, Society and Development*, 10 (3), 1-6. 29. http://dx.doi.org/10.33448/rsd-v10i3.13748

Rué Domingo, J. (2019). Re-aprender a pensar. La urgencia de formarse en el pensamiento crítico como profesionales y como ciudadanos. *Folia Humanística*, 11, 6-28. https://doi.org/10.30860/0047

van Dijk, T. (2019). Some observations on the role of knowledge in discourse processing. *Árboles y Rizomas*, 1 (1), 10-23. https://doi.org/10.35588/ayr.v1i1.3632

_____. (2008). Discourse and Context: A sociocognitive approach. Cambridge: *Cambridge University Press.*

Villarini Jusino, A. (2003). Teoría y pedagogía del pensamiento crítico. *Perspectivas Psicológica,* 3 (4), 35-42. https://bit.ly/3ebS2n9

Vigotsky, L. 1998. *Pensamiento y lenguaje*. Fausto.