

ARTS AND HUMANITIES AS A SOURCE OF CRITICAL THINKING DEVELOPMENT

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Abstract

The paper is a part of a larger effort converged within a research project funded by the European Commission (Critical Thinking across European Higher Education Curricula – CRITHINKEDU, which looks for evidence that Critical Thinking is a specific domain and if there are different opinions among experts (employers, teachers, researchers) on what Critical Thinking should bring to their domain.

Methodologically, the present research is an exploratory literature review, an attempt of systematicity, that tries to put together in one place the preoccupations and results of worldwide researchers in Humanities, Arts and Culture regarding the role of Critical Thinking in their domains.

The results showed an unexpected situation, the main research question in the analysed papers is not how critical thinking is making us better artists or Humanities experts, but how these fields make us better critical thinkers. Searching for generic key terms like Humanities, didn't return much relevant information, but searching for specific domains, like Literature, History, Linguistics, Philosophy had a better chance of finding papers concerning Critical Thinking.

It means that the topic is far more complex than it looked at first glance and it requires special attention on each case or sub-domain.

Keywords: Critical thinking, Critical thinking dispositions, Higher education, Humanities, Arts.

1 INTRODUCTION

The present article was the result of the decision taken by the research team from project Critical thinking across European higher education curricula – CRITHINKEDU (2016-2019). The team had in mind to draw from, but not limited to, the second research report, informally named O2 report, *A European review on critical thinking educational practices in higher education institutions* (Dominguez (coord.) 2018). This concerns a literature review of critical thinking (CT) practices, interventions to develop this ability in the European higher education space. The assumption of the research team of the project is that CT should be included in university classes, according to domains, adapted to the specificity of each subject. The reason is that we believe that CT should help students to be better in their field, and subsequently, a general class in CT is not helping at all, because the transfer of CT skills is problematic, and it is still lacking a whole body of research.

One of the strong points of the project was the fact that it will consider Arts, Culture and Humanities related to CT into the empirical research. The methodological design adopted in the CRITHINKEDU project is a

systematic literature review, and included three steps: databases and keywords identification, selection of papers for analysis, review, data extraction and analysis (Dominguez (coord.) 2018 11-13). However, the present paper cannot follow the same methodological strategy, because the results from the literature are poorly represented and all I could accomplish, given the findings, was an exploratory review. It is not possible to identify the categories assumed in CRITHINKEDU project or to find some CT definition that is currently in use among the experts, including myself.

The search of the keywords proved to be a challenge, because no relevant papers appeared when search for “Humanities”, “Culture” or “Arts” plus critical thinking. The search was fruitful when searching for “Literature”, “History”, “Acting”, “Philosophy” etc., each taken separately, avoiding global denominations of fields.

Briefly, I can conclude that each domain has “domains” and I shall provide an insight on this issue later, in the theoretical section. So critical thinking has differentiations in respect of its authors’ research preferences, and it was difficult to find an explanation for this scattered and counterintuitive landscape of topics and approaches. The article turned out to be just a review, without the pretense of systematicity. I named the article “an improbable review” because I cannot decide if it is a review or just an introduction to a vast realm that must be judged more thoroughly, studying each case separately (see Wittgenstein 1998).

2 THE CONCEPT OF CRITICAL THINKING

The definition of critical thinking requires an interdisciplinary perspective: philosophical (logical-philosophical), psychological and educational.

The newest and most influent views of today, are representing three domains: philosophy (the argumentation theory and epistemology – Dewey (1910, reprint 2012), Ennis (1989, 1990, 1991), Glaser (1984) and Paul (1998), psychology (critical disposition and attitude – Glaser, Ennis and Paul) and education sciences (Glaser, Ennis and Paul).

Therefore, we can state that thinking critically is a skill, a sum of psychological features, which allow their possessor to successfully carry out an educational, social or technical activity. The skills that form, compose or are included in the name of “critical thinking” are the object of this study.

Most authors agree that thinking critically means to reason, to justify, to argue, not to take everything as definitive, static, immutable, to seek the foundations of some statements, to debate and ask, to ask for proofs and assess them. This fact inevitably leads us towards logics and especially argumentation, which, according to D. Stoianovici, is the central component of critical thinking: “... the availability to argue one’s own assertions and to ask others for arguments, together with the skill to weigh the relevance and value of these arguments represents the central component of critical thinking” (Stoianovici, 2005, p. 27). This focus on logics and argumentation, on the assessment of reasoning and proofs, on reasoning as key component, makes the majority of tests that measure critical thinking be centered on assessing the dimension of the reasoning and argumentation of critical thinking (Cornell Critical Thinking Test, Watson-Glaser Critical Thinking Appraisal, Law School Admission Test, California Critical Thinking Skills Test etc.).

In 1980, J. J. Michael, W. Michael and R. Devaney, in their article on the factorial validity of the Cornell Critical Thinking Test (Ennis and Millman, 1972), stated that there wasn’t any widely accepted definition of critical thinking and quoted some studies. Penfold and Abou-Hatab (1967) claimed that the ability to evaluate was critical thinking.

Over the last twenty years, American teachers and politicians have started national programs of introducing critical thinking as a general objective and as a final product of K-12. Among the initiators, there are: Facione, 1990, Kuhn, 1999, Lipman, 1987 and U.S. Department of Education, 1990 (Giancarlo et al., 2004, p. 348).

In 1988, the Delphi Project started. It was financed by the American Philosophical Association and gathered an interdisciplinary team of specialists (philosopher, teachers, psychologists, sociologists, critical thinking specialists, assessment specialists, an economist, a computer science specialist, a zoologist and a physician). Its aim was to conceptualize “critical thinking”. The official title of this project was Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction.

Here is the entire Delphi definition: critical thinking is purposeful, self-regulatory judgment, which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. The definition continues with: critical thinking is an essential tool of inquiry (which also has the meaning of

research, interrogation or question). It becomes more and more interesting, because it unfolds the implications in the personal and social plane of the critical thinking, stating that: critical thinking is a liberating force in education and a powerful resource in one's personal and civic life. The Delphi Project experts claim that thinking critically is not the equivalent of thinking correctly.

The Delphi Project experts believe that the following set of cognitive skills represents the main dimensions of critical thinking: Analysis, Interpretation, Evaluation, Inference, Explanation, Self-regulation.

According to these experts, all these cognitive dimensions represent the foundation and specific of the critical thinking. These skills are high order thinking skills.

Richard Paul (1993) makes an interesting distinction between the strong sense and the weak sense of critical thinking. He considers critical thinking in the weak sense that sophistic thinking used by a person to defend certain interests of his and to highlight the weak points in others', judgment, the opponents', without applying the same (rational) treatments to his own arguments. In other words, critical thinking in the weak sense represents an instrument pointed towards the exterior, an instrument used as a weapon.

The second dimension of critical thinking is the disposition toward critical thinking. This dimension requires especially to the psychological perspective on critical thinking, as it lays emphasis on complex psychological realities such as attitudes, motivations and affectivity and on the value, personal-characterial side.

There is why critical thinking is not only cognition or argumentation, but a complex psychological reality that can be described in terms of a personality dimension. In other words, we have a set of cognitive skills that we activate depending on our interests, attitudes, motivation and feelings toward an outer or inner reality. We have an energetic source through which we activate our cognitive skills in a certain moment.

After reaching a consensus through the Delphi method, here is how experts describe the dispositions or characteristics of a good critical thinker: he commits and encourages the others to commit to critical judgment; he is capable of such judgments in a wide area of contexts and a variety of purposes (Facione, 1990, p. 12). The experts make up a list of affective dispositions that define a good critical thinker, divided into two categories:

- I. Affective dispositions regarding life and the quotidian in general: inquisitiveness about a wide range of issues, concern to become and remain generally well-informed, etc.
- II. Affective dispositions regarding themes, matters and specific questions: the desire for clarity in stating the questions and considerations, the need for orderliness in approaching matters and complex subjects are among them.

It is possible for someone to possess the logical and cognitive means to think critically and despite all these, to not do it. Contemporary studies on critical thinking admit the fact that any discussion about critical thinking must include cognitive skills as well as cognitive attitudes or dispositions (Ennis and Norris, 1990). The phrase "disposition toward critical thinking" refers to a person's inner motivation toward critical thinking when confronted with solving problems, evaluating ideas and making decisions (Facione et al., 1997, apud. Giancarlo, 2004).

Critical thinking implies an open spirit willing to evaluate as even-handedly as possible the grounds of the discussed opinions. J. Dewey said that the open spirit consists of the active desire to listen to all the parts of the dispute, to take into consideration the facts, regardless of the one who presents them, to provide maximum attention to the alternative possibilities, to acknowledge the possibility of error even when concerning beliefs we care about a lot. Of course, that changing one's own opinions too often is not a desirable thing, as it means that they were not supported by solid grounds. However, consistency at all costs is also to be avoided, as it does not signal rationality, but obstinacy, obtuseness and infatuation (Stoianovici, 2005). Critical spirit is opposed to radical skepticism, because it would be a position that cancels itself, because the radical skeptic, in order to be logical, must doubt even his own posture. It is also opposed to dogmatism, because it pretends to be the keeper of the ultimate truth and therefore, it is argumentation-proof.

Being defined as it is, the critical spirit makes a person to be open to new, alert, alive and dynamic in judgment approachable on different discussion themes, flexible and willing to improve. Eduard de Bono, in his *Thinking Course* (1982, reedited in 1995), is in opposition with critical thinking, stating that reasoning is not everything. By this, he understands that any practical course of critical thinking is sterile, unless reasoning or critical thinking are not put in the service of finding new possibilities, for supporting or founding new ideas, changing mentalities or alluring the "outside of the box" judgment. Nothing that was taught at that

class would be applied in everyday life if the argumentation habits learned during the course are not put in the service of finding new solutions and alternatives.

3 METHOD

The research question is to find if CT has a positive impact on artistic skills, or for Arts students in general, and if CT has a positive impact on Humanities and Culture Studies students.

The method employed had three phases: *Database and keywords identification*, *Selection of papers for analysis* and *Review, data-extraction and analysis* (Bennet et. al. 2005). See the Annex 1.

A. *Database and keywords identification*

- (1) **The first phase:** searching for the general terms of the domains (Humanities, Arts and Culture) plus critical thinking. It was not very successful in finding papers. Searching for the general terms of the domains (Humanities, Arts and Culture) plus critical thinking returned *Medical Humanities* for Humanities, so 0 (zero) relevant papers for this study. *Art classes*, which are “critical for the development”, for Arts plus CT, also 0 (zero) relevant papers. Culture plus CT returned papers containing also the word “studies” (cultural studies), and I kept two of them, which met the analysis criteria (see below).
- (2) **The second phase:** search for specific sub-domains of each field: Literature, Literature criticism, History, Philosophy, Ethics, Aesthetics, Visual art, Music, Musical criticism, Performing Arts, Theatre, Rhetoric.

Databases were the usual selected ones in this type of research: Web of Science, SCOPUS, EBSCO, and Google search engine.

B. *Selection of papers for analysis*

The following inclusion criteria were pursued: a) only peer-review articles concerning CT and Higher Education (HE); b) empirical-based and theoretical papers research were also included; c) articles which met quality criteria: explaining the methodological design, argued opinions, varied sources. I did not exclude papers based on the year of publication and also, I did not exclude other types of papers, other than articles. So, proceedings, book chapters, dissertations, etc. were taken into consideration because of the limited bibliographic resources, also for providing a more diverse literature input).

C. *Review, data-extraction and analysis*

The dimensions for paper analysis tried to identify (Dominguez (coord.) 2018, p. 12):

- (1) Type of study (quantitative, qualitative or mixed)
- (2) Type of program (bachelor, MA, PhD or post-doctoral)
- (3) Field
- (4) CT skills and dispositions (Facione, 1990)
- (5) CT instruction approach (Ennis, 1989)
- (6) Type of intervention (Abrami et. al., 2008)
- (7) Teaching strategies (Ennis, 1989)
- (8) Learning materials (Abrami et.al., 2008)
- (9) Evaluation of learning
- (10) Learning results and difficulties.

The first three dimensions were easy to follow into the analysis, but the rest are scarce, only a few papers displaying them, as you will see in the following chapters. The analysis follows an exploratory pathway, I have referred to the criteria stated above, and I have mainly presented the key points in every article, exploring and explaining how the authors demonstrate that Arts, Humanities and Cultures contribute to the development of critical thinking.

4 RESULTS

A total of 35 papers were found. All medical humanities papers were excluded, all four were interventions

and empirical studies. Three papers from the Humanities were also excluded, being about pre-university education. The rest of 28 papers were analyzed, and they are grouped, to keep the coherence, into the three categories referred throughout the paper: Humanities 11, Arts 15 and Culture 3.

A lot of literature is referring to 'medical or health humanities' (Kookan and Kerr 2018, McCaffrey 2016, Macneill 2017, Liao and Wang 2016). The reason of the recent development of this domain is 'to provide more humanizing medical care' (Liao and Wang 2016). I shall not develop further discussion about this domain, although very interesting, because it involves Biomedical Sciences, which is not our topic. These papers were excluded. Three other papers (Eldridge 2016, Silvers 2001 and Tomlison 1998) contained the searched terms, but the content had nothing to do with the searched topic, meaning, the relationship between Humanities and CT. Also, they have been excluded.

Table 1. Number of papers on domains and sub-domains

Domain	Sub-domain	No. of Papers		
		Analyzed	Excluded	Total
Arts	Art / Art education	7	0	7
	Art Critics / Aesthetics	4	0	1
	Performing Arts	1	0	1
	Painting	1	0	1
	Sculpture	1	0	1
	Music	2	0	2
Humanities	Literature	6	7	13
	Critics	1	0	1
	Digital Literature	1	0	1
	History	1	0	1
	Philosophy	2	0	2
Culture		3	0	3

Table 2: List of analyzed papers

Domain	Sub-domain	Analyzed	Observations
Arts	Art / Art education	1. Halpern, D. 2013.	Book
		2. Hogarth W. 1909.	Book
		3. Lampert, N. 2006.	Article
		4. Lampert, N. 2011.	Article
		5. Ulger, K. 2018.	Article
		6. Knight, H. 2014.	Article
	Art Critics / Aesthetics	7. Noor, H. and Samsudin, Z. 2016.	Article
		8. Subramaniam, M., Hanafi, J. and Putih, A. T. 2016	Article
		9. Tucker, J. L. 2007	Article
		10. Hurwitz, A. 1994	Article
	Performing Arts	11. Chappell S.V. and Chappell D. 2016.	Article
	Painting	12. Velde, B. P.2008.	Book chapter
	Sculpture	13. Lampert, N. 2011.	Article. Also in Art Education
	Music	14. Pogonowski, L. 1989.	Article
		15. Kilic, I., Yazici, T. and Topalak, S.I. 2017.	Article

Humanities	Literature	1. Lyubomirov, S. 2017	Article
		2. Gilroy, M. and Parkinson, B. 1997.	Article
		3. Ruggerio, V.R. 2001.	Article
		4. Paul, R. 1998.	Article
		5. Prinsloo, C. 2018.	Article
		6. Daud, N.M and Husin, Z. 2004.	Article
	Critics	7. Rubin, S. 2013.	Article
	Digital Literature	8. Yang, Y. C. and Wu, W., I.2012.	Article
	History	9. McLaughlin, A. C and McGill, A. E. 2017.	Article
	Philosophy	10. Huber C. and Kuncel N. R. 2016.	Article
		11. Ortiz, C.M.A. 2007.	Article
Culture	Cultural Studies	1. Lun, M. V., Fischer R. and Ward, C. 2010.	Article
		2. Chiu, Y. J. 2009.	Article
		3. Tiwari, A., Avery, A. and Lai, P. 2003.	Article

5 DISCUSSION

In the following I shall discuss and interpret the content of the papers selected for the analysis, presented in three sub-chapters, Critical thinking and the Arts, Critical thinking and Humanities, and Critical thinking and Culture. It is necessary to mention that in the Discussion chapter I refer to other papers also, that are not selected for analysis, but as tools for interpretation.

5.1 Critical Thinking and the Arts

I find that the most challenging part of this article is critical thinking and the Arts. Well, there are no “Arts” like there are no “people” as an item. So, I had to split my search in domains referring to specific artistic manifestations (the ones I could think): Music, Painting, Performing arts, Sculpture, Art education, Art education adding ‘critics’ to all domains.

The missing link between Arts and CT is, probably, creativity (or creative thinking). As we can find in Diane’s Halpern book (2013), creative thinking has to be a part of extensive CT papers, like books and monographs. The art theory is discussing whether artistic emotions are related to subjective or objective facts, meaning that the beauty is ontological or is fictitious? Is this a reality to which we all agree upon? Or there is an objective fact that produces beauty and everybody can see this objective beauty into painting, cf. W. Hogarth (1909, retrieved from <https://ia902706.us.archive.org/6/items/analysisbeauty00hogagoog/analysisbeauty00hogagoog.pdf>). This is the breaking point of CT and Art. Is fact-checking, truth-loving critical thinking relevant for an artistic mind?

However, a paper showed that there is a link between CT and Art, but as Art critics or Aesthetics. Findings from a survey conducted in three Malaysian public universities revealed that less than 30 % of the undergraduate art students are able to analyse works of art critically. Studies show how art criticism improves CT skills, but it is also a tool for improving artistic criticism, so there is no clear demarcation of which influences which (Noor and Samsudin 2016).

In an interesting study, we find out that the dispositions of critical thinking are an outcome of art education, meaning that undergraduate students in Arts have increased scores on CCTDI (California Critical Thinking Disposition Inventory, Facione 1992) in comparison to non-Arts students on truth-seeking, maturity, and open-mindedness. (Lampert 2006, 215-228). No mention of teaching methods or the fact that CT may improve artistic skills. She says that in the literature on education and critical thinking indicates that an inquiry-based curriculum positively influences gains in critical thinking. Similarly, learning in the arts is largely inquiry-based. The results showed that the exposure to learning in the arts positively influences students’ disposition to think critically. I want to emphasize the fact that most of papers that link CT and Arts are in educational field and, no surprise there, modern HE teaching should be preoccupied to teach critically in order to educate for the 21st Century needs (World Economic Forum 2016). Lampert (2011) proposes an experimental design where eight undergraduate, three art education students, a student from the sculpture department, one from social work, and three students from humanities and sciences, developed and taught a community arts program, for ten children, age between 8 and 10. Concept and definitions used by the author

were Facione's, Paul's, Ennis's CT definitions and frameworks. The program aimed to enhance the critical thinking skills of ten urban elementary children by engaging them in enquiry-based art lessons. The CT skill assessment was Test of Critical Thinking (Bracken et al., 2003). The results showed a pre-posttest significant difference ($p = .020$) concerning CT skills level of the children enrolled in the class. The students were trained to design and teach an enquiry-based program and after their training the children were involved in art classes. A critique to this paper is that the students were not tested for their CT level, and we can only speculate that it should be sufficiently higher in order to teach using enquiry-based teaching methods.

Ulger (2018) conducted an experiment with art students, testing a problem-based learning (PBL) program for the development of creative thinking and critical thinking dispositions. PBL had a significant effect on creative thinking, but critical thinking disposition had lower levels of improvement. One possible explanation, says the author, is that in this study, open structures were used for learning activities as a nonroutine problem-solving process to develop creative thinking (Ulger, 2018, pg. 1). So, the program was not calibrated for CT dispositions development. One straightforward answer why we cannot find CT into Arts is in the essay written by Laurie Fendrich (2016), *How Critical Thinking Sabotages Painting* (not part of the selected papers). The author calls CT "a disaster when used to teach painting, whether to college art majors who want to become painters, to students who want to go into neighbouring fields like graphic design or photography, or to biology students who decide to give painting a try" (Fendrich, 2016, p. 1). Hence, Art and CT might not be best friends, as painter Wayne Thiebaud (in Fendrich 2016, p. 2) explains: "To call everything art is an obfuscation for the students and fails to clarify what we're trying to get at as painters. Painting is concrete, but art is abstract. I don't think we know what art is. But we know a lot about painting."

Painting can help health sciences students to improve their critical thinking skills linked to the fact creative artists use critical thinking when they paint (Velde 2008). The assumption is that all students, no matter of their subject, can improve their CT skills by taking art lessons in a certain manner (analytical discussion, self-reflection). The 'method' is very unusual, Ethnography. The author says that the students had a text about Ethnography and a text using ethnographical method. The students supposed to read them critically following a list of questions. Then, together with the professor, draw of what their inner self looks like as they reflect on the chapter content. Another technique of enhancing CT was by writing a haiku. So, through poetry. However, Velde doesn't assess students' CT skills, the article being a good practice example. She takes Facione's framework into consideration as CT conceptualization.

An approximation of CT is critical dialog or analytical thinking. In a study that involves Arts and critical dialogue Knight argues that the Arts 'can complement verbal dialogue through their ability to transcend verbal language barriers, allow previously silenced narratives to be articulated and encourage people to think critically about themselves, humanity and the world' (Knight 2014, 77).

Shifting just a little the discussion and adding performing arts together with humanities and HE, we can quote S.V. Chappell and D. Chappell (2016) that describe how a counter-narrative arts-based inquiry projects build critical thought and social inclusion. They prove that 'public performance installations created by graduate students in elementary and bilingual education on needs-based and dignity-based rights of bilingual families at schools' and 'visual and performance art pieces on historical colonial practices in world history, created by undergraduate theatre students' are good for developing critical thought (which we can consider equivalent to CT). About music, Lenore Pogonowski (1989) thinks that dialogues that involve students in analysis can help them become better listeners and musicians. In an exploratory study by Kilic, Yazici, and Topalak the critical thinking dispositions of music teacher candidates using variables such as age, gender, secondary school type, daily TV viewing frequency, parental attitudes, and frequency of book and newspaper reading. The researchers used the California Critical Thinking Disposition Inventory (CCTDI-T) Facione (1992) to determine the study group's critical thinking disposition. The only information we obtain from this paper is that 'the critical thinking disposition of the study group varied considerably based on book and newspaper reading frequency' (Kilic, Yazici, and Topalak 2017, 185). Plus, female students' self-efficacy scores were significantly higher than those of their male colleagues.

All the artistic domains have the part called 'critics'. In the Arts, there is not a preoccupation about CT as we defined it in the first part of the article and it is called 'critical analysis' (Subramaniam, Hanafi and Putih 2016) or 'critical inquiry' (Tucker 2007), or 'art appreciation' (Hurwitz 1994). During this research, I could not identify any intervention regarding CT and Art Critics.

5.2 Critical Thinking and Humanities

The domain called the Humanities is vast. As I have said, searching for CT and Humanities had no fruitful result. For example, a lot of literature is referring to 'medical or health humanities' (Kookken and Kerr 2018,

McCaffrey 2016, Macneill 2017, Liao and Wang 2016). The reason of the recent development of this domain is 'to provide more humanizing medical care' (Liao and Wang 2016). I shall not develop further discussion about this domain, although very interesting, because it involves Biomedical Sciences, which is not our topic. Three other papers (Eldridge 2016, Silvers 2001 or Tomlison 1998) contained the searched terms, but the content had nothing to do with the searched topic, meaning, the relationship between Humanities and CT. However, many of the humanistic approaches claim to enhance critical thinking skills, like the quasi-experimental study of Liao and Wang (2016) which demonstrated that the application of heterogeneous cluster grouping to reflective writing for medical humanities literature study enhances students' empathy, critical thinking, and reflective writing.

Humanities include Literature, Linguistics, Communication, Digital or online communication, and some correlates – e.g. digital storytelling. In the following, I will discuss the relationship of this domains with CT.

Humanities and critical thinking are called together to make a better HE curriculum (Rubin 2013).

Although the syntagma 'critical thinking' appears in the same paper with Literature, we see that there is little connection and little understanding of the CT in the terms we put it in the description of the concept. For example, in an article (Lyubomirov, 2017) where is considered the poet as a critic and the problem of the place of literary criticism, history and theory in literary studies, it is developed the thesis that we should follow the principle 'from author to author', so we can differentiate thematic-problematic circle: biography - critics arguments of the author - literary text. And the author gives a meaning to the anthological and critical thinking of Pencho Slaveykov in 'On the Isle of the Blessed' and in the essay of Dimcho Debelyanov 'About an old song' (at least he claims to give a meaning to critical thinking). But not even close to the definition to which we refer when we speak about CT.

We cannot say definitively if Literature is enhancing CT, but we can say that the use of literary texts may not only be useful in developing reading skills but also in encouraging learners to become more critical (Gilroy and Parkinson, 1997). For example, in analyzing characters, students become more critical not only in the way they perceive the characters in the texts they read but also, more critical of themselves at the same time. The process of negotiation of meaning in which students learn to view and understand others' perspectives may assist them to become critical thinkers (Paul, 1998; Ruggerio, 2001).

In his article, Prinsloo (2018) aimed to determine how four disciplinary groups of students responded to literature when no apparent pedagogic purpose was explicitly assigned to short stories as supplementary reading. The literature is viewed as catalyst for homogenous and heterogeneous patterns of disciplinary thinking. The study is exploratory, with a volume of 55 students from arts, music, engineering and science. The results have implications for the transferability of CT skills and for the distinction among different patterns of thinking related to the disciplines. The students from all disciplines demonstrated homogenous thinking patterns when positive critical evaluations were made. Cross-disciplinary homogenous thinking paring occurred when disciplines conducted negative critical evaluations (Prinsloo, 2018, pp. 147-159). It means that hard pure and applied and soft pure disciplines seem to make a positive evaluation based on similar thinking patterns (Prinsloo 2018, 155). The consequence is that the medieval distinctions between mechanical and liberal arts and our contemporary typology of hard and soft disciplines are challenged by the patterns of thinking that were identified in this study. Hence, the comparison between art and music, on one hand, and science and engineering students, on the other hand, through literature, revealed similar critical thinking patterns between them.

In an experimental study that was carried out at International Islamic University in Malaysia, the experimental group was exposed to text analysis using a concordancer, while the control group analyzed the text manually (the play Othello). The Cornell Critical Thinking Test was used as assessment instrument. The assumption was that the background, characters and their motives are among those that invite critical inquiry and interpretation (Daud and Husin 2004, p. 477).

Digital storytelling is a new field of Literature, and we owe the birth of this domain to the omnipresence of information technology. A very good study (Yang and Wu 2012) is demonstrating the relationship with CT, shows through and experimental design that the critical thinking is better if it benefits from a digital storytelling course, in comparison to a lecture-type course, with textbooks and power-point presentations.

History is another field in the Humanities and I found an experimental paper 'Explicitly teaching critical thinking skills in a History course' (McLaughlin and McGill 2017) where a pre- posttest research was conducted. The authors investigated the effects of a history course on epistemically unwarranted beliefs in two class sections. Beliefs declined for history students compared to a control class and the effect was strongest for the honors section. The study claims to prove that humanistic education is beneficial for CT

development.

The last, but not least of Humanities domains is Philosophy. And Philosophy is critical thinking. Most of CT theoretical papers or books are written by philosophers and we have seen in the conceptual part of this paper why this is justifiable. Philosophy is the origin of CT and from there it has its identity. But we don't have empirical researches that puts together CT and Philosophy, except one paper 'Does College Teach Critical Thinking? A Meta-Analysis' (2016) where Christopher Huber and Nathan R. Kuncel conclude that there is no difference among majors regarding CT skill after college, including Philosophy. But in an unpublished master dissertation by Ortiz (2007) the Philosophy students have the biggest gain in CT skills after college, but the sample size is small (6). And I want to finish giving a quote from Ortiz's paper:

There are also some indications in the findings of the thesis that both specifically what is taught (Logic, for instance, as compared with philosophy subjects less directly concerned with reasoning skills in themselves) and how it is taught (Keller Plan or LAMP) are the crucial considerations. This should not seem at all surprising, of course. Its implications, however, are that claims for efficacy in teaching CTS should be confined to very specific subject content and teaching methods, not to broad disciplines or, indeed, disciplines as such, independent of the approach to teaching them. (Ortiz, 2007, pp. 90-91)

Regarding Culture, the search always added 'studies' when returning the results. CT is linked to Cultural Studies and we can mention the paper of Miu-Chi Lun, Fischer and Ward (2010). It starts from the idea that cultural differences affect critical thinking performance. The study compares between Asian and Western enrolled in New Zealand universities. The results showed that New Zealand European students performed better on two objective measures of critical thinking skills than Asian students. English proficiency, but not dialectical thinking style, could at least partially if not fully explain these differences. The results also indicated that Asian students tended to rely more on dialectical thinking to solve critical thinking problems than their Western colleagues. In a follow-up data analysis, authors showed that students' critical thinking predicted their academic performance, after controlling for the effects of English proficiency and general intellectual ability, but the relationship does not vary as a function of students' cultural backgrounds or cultural adoption.

These results of the above-mentioned study contribute to the understanding of the influence of culture on critical thinking in international education contexts.

Exploring the same pathway, other paper (Chiu 2009) tries to enhance Asians students CT skills, about which it has been revealed that have a negative disposition towards critical thinking compared with Australian university students (Tiwari, Avery and Lai 2003).

6 LIMITATIONS

The main research limitation is the theoretical and terminological barrier between CT experts and academics from another fields. The later do not have the same preoccupation for the definition and conceptualization of CT and often we can find elements of critical thinking in digital storytelling or we can find equivalency between CT and analytical thinking or critical dialogue.

If I would have kept putting in the search engine keywords like "critical thinking", "Humanities", "the Arts", this paper could not exist, because no relevant papers emerge.

In order to have a review of how critical thinking is viewed in Humanities, for example, the researcher should be a specialist in this domain so he/she be knowledgeable in what to look for (which terms) to find the CT and the Humanities related.

Maybe it is a good idea to have a paper on Arts, another in Humanities, other in Culture, because these domains are so vast and diverse, that one paper cannot comprise all the sub-domains in which CT contributes to or it benefits from them. More research is needed to show that when it comes to link CT, Arts, Humanities and Culture the beneficiary is CT, and not vice-versa, as we can find in other domains.

Conclusions of what might be a literature review on Critical Thinking in Arts, Humanities and Culture

As observed from this article, the literature combining the four domains overwhelmingly asserts that Humanities, Arts and somehow Cultural Studies have a good effect on the development of critical thinking skills. So the research question was not confirmed. The presupposition was that CT has a good effect on Arts, Humanities and Culture and we discovered that the experts argue that Arts and Humanities have a positive impact on CT.

But we should not commit a fallacy and conclude that if Humanities have an impact on CT, the other

domains don't have it. In his article "Critical thinking. Why is it so hard to teach?", D. T. Willingham (2008) explores why it is so hard to teach CT and explores how students acquire a specific type of critical thinking - thinking scientifically: "critical thinking is not a set of skills that can be deployed at any time, in any context. It is a type of thought that even 3-year-olds can engage in - and even trained scientists can fail in. And it is very much dependent on domain knowledge and practice". (Willingham, 2008, p. 22)

This can be very much our conclusion, namely that critical thinking is such a complex reality that it is not a general domain called Critical Thinking which is impacting upon the specific domains, but the other way around. In the Arts, the Humanities and Culture, the critical attitude which is specific to each of those domains, builds up to a more general Critical Thinking skill.

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