
RESEARCH ARTICLE

Critical Thinking Practice in Moroccan Higher Education: An Evaluation

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ABSTRACT

In this paper, the authors intend to evaluate the stand of critical thinking in Moroccan higher education. To delineate the basic issues surrounding critical thinking and its practice, this study went through a review of eighteen articles that took as their subject matter the teaching and learning of critical thinking in Moroccan higher education. This article diagnoses the state of the art, the challenges involved, the scope and the limitations. The authors sought to answer four research questions: (i) what place does CT occupy in Moroccan higher education? (ii) what is the scope of the teaching and learning of CT in Moroccan higher education? (iii) what limitations do published studies on the teaching and learning of CT in Morocco have? and (iv) how can we improve the practice of CT in Moroccan higher education? Findings show that the teaching and learning of critical thinking (1) is a recent endeavour in Moroccan academia, (2) is an under researched field, (3) is limited to two CT skills: argument evaluation and argument construction, (4) is restricted to two language skills: reading and writing, (5) is diagnostic and evaluative more than practical in nature, and (6) lacks scientific rigour. This article ends with a critique of present practice as being devoted solely to procedural, analytical skills, ignoring issues of power relations and ideologies beneath discourses. The authors put forward some suggestions and recommendations to move beyond critical thinking towards a critical consciousness. After reading this article, the reader would come to a broad picture of the state, the scope, the limitations, the deficiencies, and the needs regarding the teaching and learning of critical thinking in Moroccan Higher education.

KEYWORDS

Critical consciousness, critical thinking, Moroccan higher education

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1. Introduction

Typically, one can describe today's world as characterized by (1) a continuous, uncontrolled multimodal flow of information, (2) a multiplicity of convergent and divergent discourses, (3) an avalanche of technological inventions and innovations, rendering the world a small, fluid, the interconnected and interdependent arena of cross-transformations, (4) a stage of 'isms', ideologies, conflicts, competitions, and wars, and (5) a contested space of power, control, hegemony, inequalities, and legitimizations among individuals, groups and institutions alike. Taking these facts into consideration, it becomes a necessity for individuals to develop modes of critical thinking: (a) to be able to understand, analyse and synthesise information, (b) to assess and criticize arguments, (c) to come to terms with discourses from multiples perspectives, (d) to be able to situate oneself vis-à-vis given situations and to take decisions and (e) to take action, stand against inequalities and promote social justice. An important arena where critical thinking (henceforth CT) can be developed is education.

Thus, teaching CT becomes a necessity in every educational curriculum, given the multi-faceted nature of the world we live in today. It could be argued that in a globalized information-bound world, students need critical skills to process knowledge more than knowledge per se. The first function of educational systems is to equip students with the necessary knowledge, aptitudes,

and skills to make their way through life successfully. CT is a crucial competency that every student should possess to face the nuances of life. However, the Moroccan educational system is lagging behind in the area of CT. Several national and international reports made it clear that education in Morocco, on all its levels, is content-based, drilling-and-memorization-focused and exams-oriented. What the Moroccan education system produces is what we can call the parroting-student who excels at information recall but fails at information processing and evaluation. Students' CT abilities are largely neglected, if not marginalized and suppressed, given the fact that the successful, in the eyes of educational practitioners, is the one who gets the highest mark in exams, which, in turn, require mere regurgitation of knowledge.

This paper discusses the state of the teaching and learning of CT in Moroccan higher education by reviewing studies that have been conducted in this respect. Our search in different academic sites and databases, Moroccan and otherwise, shows that there is a total absence of studies that map the general status of the teaching and learning of CT in Moroccan higher education. Therefore, this study tries to fill this absence. By filling this void, the study would contribute greatly to the existing literature by providing a roadmap as to what has been achieved so far and what is to be done concerning the teaching and learning of CT.

2. Methodology

Evidence approves that Moroccan university students do not live up to average critical thinkers. This leads us to argue that there is a real crisis concerning the state of CT in Moroccan higher education. This is because of several issues related first to the educational system in general and second to the practice of the teaching and learning of CT in higher education in particular. The present study attempts to investigate these issues.

This paper provides a systematic review of published works on the teaching and learning of critical thinking in Moroccan higher education. The purpose is to investigate and evaluate the state of art with the hope that clear paths of action will be revealed to approach the problems pertaining to the teaching and learning of CT at the university level. There are four objectives underlying this study: (1) to provide the state of art of teaching and learning critical thinking in Moroccan higher education, (2) to delineate the issues at stake, (3) to identify the weaknesses, and (4) to suggest some solutions. Based on these objectives, the researcher used the following questions to guide the research: (1) what place does CT occupy in Moroccan higher education? (2) What is the scope of the teaching and learning of CT in Moroccan higher education? (3) What limitations do published studies on the teaching and learning of CT in Morocco have? (4) How can we improve the practice of CT in Moroccan higher education?

The articles reviewed in this paper were selected following four steps. First, a general search of different databases using keywords in three languages- English, Arabic and French- was conducted. The searched online databases include, but are not limited to, Web of Science, Science Direct, EBSCOhost, Google Scholar and IMIST E-resources Otrohati. The keywords used in the search were: critical thinking in Moroccan higher education, critical thinking in Moroccan university, analytic thinking in Moroccan higher education, teaching critical thinking in Morocco, critical thinking in Morocco, critical thinking in Moroccan education, and analytic thinking in Moroccan education. Second, the articles accumulated from the search were analysed for their relevance and scientific rigour. So, the articles that were published about the teaching and learning of critical thinking at primary and secondary levels of education in Morocco were excluded. Only articles about tertiary levels were retained and included in this study. The search then resulted in 18 final articles, which were thoroughly reviewed, analysed and evaluated. It is worth mentioning that most of these articles are based on conducted doctoral dissertations in the field of critical thinking in Moroccan higher education.

3. Results and Discussion

3.1. Summary of Published Works on CT in Moroccan Higher Education

Published articles on the teaching and learning of critical thinking in Moroccan higher education can be grouped under three categories: empirical studies, diagnosis studies, and theoretical studies, as follows:

Seven empirical studies: Khamlish (2018), Elmouhtarim (2018), Nejmaoui (2019), Hiba (2020), Hiba (2021), Rouijel, Bouziane & Zohri (2021), and Khartite & Hellalet (2021)

Ten diagnosis studies: Chouari (2016), Amrous & Nejmaoui (2016), Nadri & Azhar (2016), Chouari & Nachit (2016), Belghiti, El Kirat & Chana (2016), Ghazlane et al. (2020), Rouijel & Bouziane (2020), Hellalet (2021), Beniche, Larouz & Anasse (2021), and Chana, El Kirat & Belghiti (2021)

One theoretical study: Bouanani (2013)

The seven empirical studies tried to develop students' CT abilities in some ways. Elmouhtarim (2018) focused on inferential and evaluative skills in reading. Khamlish (2018) used journalistic skills to develop students' information analysis and evaluation skills. Nejmaoui (2019) focused on argument construction and argument evaluation. Rouijel, Bouziane & Zohri (2019) worked on the

skills of understanding, analysis and evaluation in reading. Hiba (2020, 2021) worked on argument evaluation and argument analysis for the revelation of manipulation, ideology and power. Khartite & Hellalet (2021) focused on argument evaluation through fallacies detection.

On the other hand, the ten diagnosis studies have examined the situation of the teaching and learning of CT in Moroccan higher education in different ways. These diagnosis studies can be divided into two sets: those that have diagnosed the stance of CT in preparatory classes of higher engineering schools (known as CPGE) and those that have evaluated the stance of CT in other higher education faculties and institutions.

Our search has resulted in three evaluative studies about CT in CPGE classes. Belghiti, El Kirat & Chana (2016) examined the importance of CT in English classes from teachers' and students' perspectives and the CT assessment practices in use. Rouijel, Bouziane & Zohri (2021) studied students' argumentative skills vis-à-vis their CT skills. Chana, El Kirat & Belghiti (2012) explored the manifestations of CT assessment in CPGE English classes' summative exams.

There are seven studies that targeted the stand of CT in Moroccan universities. Chouari (2016) explored undergraduates' perceptions and attitudes to the teaching and learning of CT. Amrous and Nejmaoui (2016) explored undergraduates' and graduates' abilities in argument evaluation and construction. Chouari and Nachit (2016) worked on the teaching and assessment of CT from the perspective of one teacher. Nadri & Azhar (2016) worked on Bloom's higher-order thinking skills, which are analysing, synthesizing and evaluating along with meta-cognitive strategies, namely, planning, self-regulating and self-evaluating. Ghazlane et al. (2020) focused on health sciences PhD. students' CT skills, namely, induction, deduction, analysis, inference and evaluation. Rouijel and Bouziane (2020) explored teachers' perceptions of CT instruction. Lastly, Hellalet (2021) examined students' ability to construct and develop arguments.

In addition to empirical and diagnosis studies, Bouanani (2013) provided a theoretical discussion of the relationship between CT skills and the epistemological aspects of knowledge. She concluded that having an understanding of the nature of knowledge help students to be more evaluative and more critical in approaching discourse and knowledge in general. So, what do these studies tell about the place of CT in Moroccan higher education?

3.2. The place of CT in Moroccan higher education.

The above-reviewed articles reveal a number of facts about the current situation of CT in Moroccan higher education. First, there is a paucity of research conducted on the teaching and learning of CT in higher education in Morocco. The above-reviewed articles were the result of an extensive search on several databases, including ERIC (Education Research Information Centre), Web of Science, Science Direct, EBSCOhost, Google Scholar, OATD (Open Access Theses and Dissertations), Education Research Complete, Academic Search Complete/ Ultimate, Scopus, Education Abstracts, and IMIST E-resources Otrohati. This indicates that CT, although a crucial substantial component, is an under-researched field in Moroccan higher education.

Second, research on the teaching and learning of CT in Moroccan higher education is a very recent endeavour. Of the 18 articles reviewed above, the first published one date back to 2013 (Bouanani 2013). The rest are in 2016 and above. This means that the field of CT is recent to academia in Morocco. CT has not received its due care in Moroccan universities yet.

Third, of the 18 published articles, eight of them have been published by professors belonging to Mohammed V University (Hiba, 2020, 2021; Bouanani, 2013; Nejmaoui, 2018, Nadri & Azhar, 2016; Amrous & Nejmaoui, 2016; Belghiti, El Kirat & Chana 2016; Chana, El Kirat & Belghiti, 2021), four articles by professors from Moulay Ismail University (Couari & Nachit 2016; Chouari, 2016; Khartite and Hellalet, 2021; Beniche, Larouz & Anasse, 2021), and three articles by professors from Hassan II University (Rouijel & Bouziane, 2020; Rouijel, Bouziane & Zohri, 2019; Ghazlane et al., 2020). The other three articles (Hellalet, 2021; Elmouhtarim, 2018; and Khamlich, 2018) have been published by professors belonging to Chouaib Doukkali University, Sultan Moulay Slimane University, and Sidi Mohamed Ben Abedallah University respectively. This shows that not only is CT in Moroccan higher education under-researched but also limited to certain universities and certain professors.

Fourth, all reviewed articles above agree that Moroccan universities fail to teach CT. They agree as well that universities give importance to quantity over quality and to content over skills. University teaching is characterized by lecturing and content delivery. This invokes Freire's notion of banking education, where professors are banks of knowledge and students are vessels to be filled with that knowledge. In this kind of education, critical reflection is always marginalized.

Fifth, Moroccan university students do not live up to average critical thinkers. This is a claim made by all authors of the reviewed articles. This claim can be explained by the fact that Moroccan students mostly get accustomed to memorization, rote learning

and drilling from their first day at school up to their graduation. Rote learning constitutes the rule; critical analysis and reflection make the exception.

Sixth, there is a total absence of contextualized materials on CT for Moroccan students. All CT textbooks are foreign to Moroccan culture. Professors design their own materials, which are, most of the time, patchwork collected from here and there. CT is a discipline that has among its components different skills, dispositions and strategies. To instil CT in students, there should be a levelled continuous approach that takes into account students' age, cultural background, educational background and other aspects. Approaching CT in a random and arbitrary way or focusing on a specific certain skill or skills, as most professors do, yields tiny results.

Finally, there are technical and practical problems that hinder the teaching and learning of CT in Moroccan higher education institutions. First, large size classes constitute the norm in Moroccan universities. This makes lecturing the most suitable way for professors to teach. However, the nature of CT necessitates the adoption of interaction, problem posing, questioning and other dialogic modes of teaching. Second, summative assessment procedures constitute another major obstacle. Most universities opt for written standardized exams over a specific period of time. However, CT is better assessed over different points of time using a variety of assessment forms, tasks and activities that take into consideration its multidimensional nature. Other obstacles are manifested in time constraints and the absence of contextualized materials.

3.3. The Scope of CT Practice in Moroccan Higher Education

The literature on critical thinking in Moroccan higher education shows that different and various aspects of CT have been researched from different perspectives. However, there are some remarks about its scope. First, the teaching and learning of CT in Moroccan higher education, as shown by empirical studies, is limited to two CT skills: argument evaluation and argument construction. Although these two skills are core to CT, other skills have to be targeted.

Second, not only is the teaching and learning of CT limited to argument evaluation and construction but narrowly focused on two language skills as well: reading and writing. As the articles above indicate, most published studies have investigated the teaching and learning of CT only in reading and writing. These are Beniche, Larouz & Anasse, 2021; Hellalet, 2021; Hiba, 2020, 2021; Khartite & Hellalet, 2021; Elmouhtarim, 2018; Nejmaoui, 2019; Rouijel, Bouziane & Zohri, 2019; Amrous & Nejmaoui, 2016; and Nadri & Azhar, 2016. From here, we argue, then, that the teaching and learning of CT in Moroccan higher education are very limited in scope.

Lastly, the practice of CT in Moroccan higher education is diagnostic and evaluative in nature more than practical. Among the eighteen studies outlined above, only seven studies have tried to develop students' CT abilities. The rest diagnoses the status quo. More practical studies are needed.

3.4. Weaknesses of current CT practice in Moroccan higher education

Upon analysis of the literature, I argue that there are four weaknesses to the teaching and learning of CT in Moroccan higher education. These weaknesses are manifested in the level of approach, methods, area and skills coverage, and training. These weaknesses are further detailed in the following sections.

3.4.1. The approach weakness

According to Ennis (1989), there are four instructional approaches that could be adopted to teach CT: the general approach, the infusion approach, the immersion approach and the mixed approach. The general approach involves the explicit teaching of CT skills. The infusion and immersion approaches teach CT as part of a content course. The difference is that the infusion approach gives some space to the explicit teaching of CT in a content course, while the immersion approach never includes any explicit instruction on CT. The mixed approach mixes the general approach with the infusion or immersion approach.

Six of the seven empirical studies have adopted either the immersion approach (Elmouhtarim, 2018; Khamlish, 2018; Hiba, 2021) or the infusion approach (Nejmaoui, 2019; Hiba, 2021; Khartite and Hellalet, 2021). However, the development of students' CT is better achieved by adopting the general approach or at least devoting much space to the explicit teaching of CT within a content course. This argument is enforced by several studies, among which we mention Abrami et al., 2008; Case, 2005; and Halpern, 1998. These researchers argued that the development of CT in the absence of much explicit instruction is an unlikely endeavour. Therefore, it would be more effective to integrate CT as both a stand-alone subject and as immersed in different content courses in the Moroccan higher education curriculum.

3.4.2. Methods weakness

Five of the seven empirical studies summarized above have opted for convenience sampling without a control group, except for Nejmaoui (2019) and Khamlish (2018). Besides, they used only one tool to collect data, either a questionnaire or a test before and after the intervention. Only one study (Khartite and Hellalet, 2021) has used more than one tool for data collection. However, none of them used established standardized critical thinking measures such as Cornell Critical Thinking Test (CCTT), Watson-Glaser Critical Thinking Appraisal-FS (WGCTA-FS), and California Critical Thinking Skills Test (CCTST). Given this, the findings should be treated with caution in the absence of control groups and multiple tools for data collection. I would argue that the use of established standardized tests, in addition to other tools, would yield more valid and reliable data. Therefore, there is a deficiency in the level of methods used in the studies.

For example, Elmouhtarim (2018) used a pre-experimental design (without a control group and sampling is not random), "a sort of experiment," as he stated, with first-year English studies students to investigate the impact of implicitly integrating critical thinking skills in a reading course on the development of students CT. He used a questionnaire before and after the experiment to document changes. Students' answers show that they have developed their CT abilities by moving from factual comprehension of texts to inferential and evaluative comprehension. The fact that the author used a pre-experimental design without a control group and only one tool (a questionnaire) to collect data and evaluate the course puts the validity and reliability of the study in jeopardy. The study would have more credibility if the author used, in addition to the questionnaire, a reading test with questions that target CT skills before and after the intervention and one or more of the standardized CT tests.

By the same token, among the diagnosis studies, only three studies (Amrous & Nejmaoui, 2016; Ghazlane et al., 2019) have used standardized tests- Ennis-Weir Critical Thinking Essay (E-WCTE) and Health Sciences Reasoning Test (HSRT) respectively- whose validity and reliability have been tested and established. Except for Belghiti, El Kirat & Chana (2016), the other studies have used just one tool to collect data, either a questionnaire, a semi-structured interview or an essay. As for sampling, only one study (Ghazlane et al., 2019) used random sampling. This again calls for caution in the treatment of findings.

3.4.3. Skills and area coverage weakness

As has been noted above, the teaching and learning of CT in Moroccan higher education are limited to two skills and two areas. For skills, as manifested by the seven empirical studies, only argument evaluation and argument construction have been targeted. However, although of paramount importance, these are only two skills among various others such as explaining, envisioning, synthesizing, interpreting, making conclusions, problem-solving, making decisions and perspective taking. This is a weakness of the current CT practice in Moroccan higher education.

Another weakness is related to areas where CT is worked on. As the literature shows, reading and writing are the two areas within which CT has been integrated. This leads us to ask: would it be sufficient to limit the teaching of CT to reading and writing? Would students be able to transfer what they learn to other modes of discourse, such as visuals, podcasts, speeches, and debates? As has been noted by Lai (2011, p. 14), the transfer of CT skills across domains is regarded by different researchers as unlikely unless students are provided with a great amount of practice in a variety of situations and domains.

3.4.4. Training weakness

There is a total absence of training on the teaching of CT in Morocco. As has been argued by Rouijel and Bouziane (2020), professors take it for granted that they are competent teachers of CT and that they can teach CT without any training. This is a baseless pretension. Abrami et al. (2008) conducted a meta-analysis study of 117 articles on the effect of interventions on the development of students' CT abilities and dispositions. Abrami et al. reported that interventions that are conducted by educators who have received some sort of special training in the teaching of CT had the largest effect sizes on the development of students' CT than interventions whose instructors had no training in the area. Abrami et al. concluded that successful interventions require that instructors receive CT-focused professional development and training.

4. Improving the practice of CT

To improve the practice of CT in Moroccan higher education, we should first address the weaknesses delineated above. Second, we should make that practice purposive by moving from teaching what I would call *a neutral form of critical thinking* to the teaching of *an engaged form of critical thinking* or what Freire calls *critical consciousness*.

First, we should give much room to explicit instruction in CT along with a variety of materials and activities borrowed from different domains. CT has to be taught as a stand-alone course, probably across all departments. Second, to ensure research rigour, validity, and reliability, researchers have to vary their methods of data collection when it comes to the measurement of the effectiveness of interventions or the assessment of students' abilities concerning CT. Third, in order to develop students' CT, instructors should

target different CT skills along various modes of discourse. Finally, there is a need for trained CT instructors to be able to arrive at students with strong CT abilities, which is the ultimate objective. Therefore, training is a must.

What I call the neutral form of CT is primarily concerned with the skills of logical, procedural, and conceptual analysis of arguments so as to recognize “faulty arguments, hasty generalizations, assertions lacking evidence, truth claims based on unreliable authority, and ambiguous or obscure concepts” (Burbules and Berk, 1999). In this way, the main aim of critical thinking is self-sufficiency, the development of rationality and the establishment of a critical spirit within learners (Siegel, 1988).

Many scholars have criticized this view of CT. Giroux (1994) argued that this version suffers from what he called the “Internal Consistency position”, stating that according to the adherents of this position “, critical thinking refers primarily to teaching students how to analyse and develop reading and writing assignments from the perspective of formal, logical patterns of consistency” (p. 200). The problem here, Giroux maintained, is that while all the skills that emanate from formal logic and patterns of consistency are undeniably important, “their limitations as a whole lie in what is excluded, and it is with respect to what is missing that the ideology of such an approach is revealed (p. 201). Aronowitz (as cited in Giroux, 1997, p. 26) contended that CT “has been debased to the level of technical intelligence, subordinate to meeting operational problems”.

By the same token, Kincheloe (2011) argued that the kind of CT promoted by schools is too often “a diluted form of analytical thought, presented without social or historical context emphasizing only technical academic skills...with pre-determined outcomes”. Within this form of CT, “political and socio-economic power relationships are undisturbed, and the larger assumptions of the technocracy are unchallenged” (p. 15). Similarly, Burbules and Berk (1999) criticized this form of CT as being artificial, abstract and non-relational as it adopts an impartial, analytical item-by-item mode of critique.

What we notice from the reviewed studies above is that the practice of CT in Moroccan higher education is limited to its neutral form. This is another weakness in the present practice. The only exception in this respect is Hiba (2020, 2021), who linked the practice of argument analysis and evaluation to power analysis, manipulation and ideology critique. I argue here that we should orient the practice of CT to serve the purposes of emancipation, justice and equality. We need an engaged form of CT that would enable students to come to terms with the ideologies of ‘big’ discourses to uncover and analyse issues of power and control beneath discourse. This could be achieved if we situate CT within the critical pedagogy tradition advanced by Paulo Friere and others.

Within the framework of critical pedagogy, CT has the primary purpose of “denouncing and exposing the deceitful and dominant forms of ideology that hide behind a false principle of objectivity and neutrality” (Maviglia, 2015, p. 19). CT here is “specifically concerned with issues of power and ideology ... to critique not just micro features of specific texts but attend to wider implications which relate to the circulation of dominant discourses within texts and so ultimately to the power bases of society” (Wallace, 2003, p. 27). For Giroux (1997), CT “demands a form of hermeneutic understanding that is historically grounded” (p. 27), that has the ability to “illuminate the interaction of the social and the personal, on the one hand, and history and private experience on the other” (p. 62). This kind of critical thought replaces the logic of predictability and verifiability by a “dialectical mode of thinking that stresses the historical, relational and normative dimensions of social inquiry and school knowledge” (p. 62). This kind of CT is rooted in a moral vision of education as the practice of freedom.

5. Conclusion

This paper has investigated and evaluated the practice of CT in Moroccan higher education through a review of eighteen published studies in this respect. Investigation revealed that CT practice in Moroccan higher education (a) is an under researched field, (b) is a recent endeavour in Moroccan academia, not more than a decade old, (c) is limited to certain universities and certain professors, (d) is limited to two CT skills: argument evaluation and argument construction, and two language skills: reading and writing, and (e) is diagnostic and evaluative more than practical in nature. Analysis shows as well that there are four weaknesses to current CT practice in Moroccan higher education. These weaknesses are related to the approaches used to teach or investigate CT, the methods used to collect data, the areas and skills targeted, and the lack of training in CT instruction. Further, the analysis showed that CT in Moroccan higher education is devoted solely to procedural and analytical skills, ignoring issues of power relations and ideologies beneath discourses. Following, we recommend that future CT practice in Moroccan higher education should be engaged in analysing ideology, power, control and manipulation to serve the purposes of emancipation, equality and justice. By providing a general picture of CT practice in Moroccan higher education, this paper would serve as a road map designating what has been achieved so far and where to ahead for future practice. Finally, as a researcher, I have focused only on reviewing online published articles on CT, and this constitutes a limitation of this study. Thus, a suggestion for similar future research is to consider developing other research tools, such as questionnaires and focus groups, to integrate university professors’ and students’ opinions and evaluations of the practice of CT in Moroccan higher education.

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