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Investigating Moroccan EFL Doctoral Students' Perceptions of Critical Thinking as a Research Skill

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Abstract

The past few decades have seen a growing recognition of the importance of critical thinking as a crucial soft skill. Accordingly, its cultivation in education, more precisely at the tertiary level, is today widely endorsed. Yet, a body of research has shown that doctoral students display poor critical thinking skills. Adopting a qualitative approach and a case study design, the present study aims to investigate Moroccan EFL doctoral students' perceptions of critical thinking as a research skill. Hence, semi-structured interviews and focus groups are used to gather data from 15 EFL doctoral students in the context of The Faculty of Arts and Humanities, Moulay Ismail University of Meknes. Inductive thematic analysis has yielded compelling issues that are grounded in students' engagement in analytical activities and the quality of teaching they have received. The study adds to the literature on critical thinking, provides input towards pedagogical implications for research and teaching, and recommends future directions as well.

Keywords: Critical thinking, Doctoral students, Research, Research skills

1. Introduction

Critical thinking (CT) is not an easy concept to straightforwardly or consistently define (Harrell, 2011; Moore, 2013; Tsui, 2008). Yet, there is unanimous agreement that it is a strong indicator of student learning quality and has to be an integral part of several domains including tertiary education (Davies and Barnett, 2015; Franco et al., 2018; Moore, 2011; Paul, 1993). For Halpern (1993), CT is "almost always listed as one of the desirable outcomes of higher education" (p. 238). So, there is no surprise if college faculty and professors claim it as both relevant and essential (Arum & Roska, 2011; Bok, 2006; Janessen et al., 2019). Based on studies about its nature, application and relevance, the cultivation of CT at the tertiary level is now widely endorsed (Pithers & Soden, 2010; Wilson & Wagner, 1981). Part of the appeal of CT as key requirement for quality education is spurred not only by the need to produce market-ready graduates, but also by the increasing load of information to be absorbed (Ross, 2017) which is now more amplified with the unprecedented developments in digital technologies. All this has made the need for CT all the more necessary.

Undertaking a doctoral project is a knowledge-based endeavor. Accordingly, students need to look for and navigate through the mass of available material in order to find out the ideas that tie in with their own fields of study. To this end, they are expected to have the ability to skillfully perform certain intellectual skills as critically appraising, questioning, analyzing and interpreting resources (Smith,

2015). Those "constituent skills", as Fisher and Scriven (1997, p.87) label them, are the most powerful tools in students' arsenal that enable them to produce solid, well-argued academic papers (Almahrooqi & Denman, 2020). All this entails "[H]igh level of conceptual thinking within and across theories. Summative and formative evaluation of previous work on the problem" (Hart, 1998, p.15) that are symptomatic of valid reasoning and use of sufficiently relevant data.

If there is ever a place for CT to be showcased, it is in the process of doing research. Students need to challenge assumptions, test the quality and depth of evidence, evaluate the logic of conclusions, and consider multiple perspectives. This kind of evaluative thinking is equally emphasized by Kuhn (1993, 2001) as well as by Kuhn and Udell (2007). Yet, studies in different cultural contexts depict doctoral students as still unable to do so (Adekunle, 2022; Chana, 2022; Jafari et al., 2020). Questions and concerns about how to 'nudge' doctoral students' cognitive abilities to think more critically were continuously brought up. Likewise, research depicts Moroccan EFL graduate students' competency in CT as depressingly mediocre (Amrous & Nejmaoui, 2017; Chana, 2022; Hellalet, 2021). Students cannot engage in in-depth, careful consideration of previous work, nor critically appraise or integrate sources. As a result, academic productivity is accordingly low both in quality and in quantity which is ascribed to a weakness in thinking logically and making rational inferences.

Therefore, understanding EFL doctoral students' perceptions of CT is important so as to reveal what may impede any endeavor to put students in a more critical thinking mode. Those insights can also inform lecturers as well as supervisors on any inherent gaps or unwarranted misconceptions. Investigating students' perceptions may also aid to offer pathways in students' enculturation to the critical dimension in EFL doctoral writing. Any attempt to do so cannot be done without demystifying the use of the concept CT in scholarly work and explicitly framing academic benchmarks and expectations related to CT standards against which students' research output is evaluated.

2. Review of Literature

This section provides a brief review of literature around the conceptualizations of CT as the ability to evaluate, analyze, and synthesize the data or information. Focusing on its prominent role in educational settings, this review highlights the central role CT skills play in scholarly research and how it has merits to improve it.

2.1. Critical Thinking: Definition and Core Concepts

Although the foundation of CT owes its origin to the ancient times, contemporary discussions around this skill gained immense impetus with Dewey (1933). Underpinned by a belief in empowering students' cognitive abilities, learner-centered educational movements laid strong emphasis on teaching critical thought processes, problem-solving and rational reasoning so that students could effectively find, consider, interpret and challenge information.

The concept of CT is viewed as a trans-disciplinary one since its investigation has become of priority in several disciplines like philosophy, education, and psychology. However, at its core, what it means to be critical refers to being able to actively use a high standard way of thinking that draws on a set of higher order thinking skills or mental operations to question assumptions, consider evidence with a view to arriving at well informed decisions (Ennis, 2018; Halpern, 1998). In order to make reasoned judgments and give reasons for what one believes, the focus is on the ability to engage with information in a constructive and meaningful way through objective evaluation and synthesis of ideas and arguments (Ennis, 1991).

The central perspective underlying the implementation of CT is the idea that criticality is based on the use of criteria that are attended to when evaluating others' assertions. Critical thinkers should resort to a set of "standards of thought for judging the adequacy of claims about meaning; the credibility of statements made by authorities; the strength of inductive arguments; and the adequacy of moral legal and aesthetic reasons" (Bailin et al., 1999, p.291). The practical and rigorous application of these key mental processes contributes to the emergence of a more consistent and profound way of thinking.

In addition to the cognitive skills mentioned above, CT involves also a set of dispositions seen as attitudes or habits of the mind (Baillin, 1999; Dewey, 1933; Halpern, 1998; Ennis, 1991). Among the characteristics that predispose one to think critically is being ready to reconsider one's thinking in light of new information or viewpoints. This dispositional dimension reflects the widespread recognition that being inquisitive is a propensity that contributes to being well-informed.

2.2. Critical Thinking in the Moroccan Educational Setting

In Morocco, as elsewhere in the world, CT has recently become a core element of education and a core graduate competency as well (Chouari, 2016; Hiba, 2024; Nejmaoui, 2019). Moreover, more recent education reforms in the country have responded to incessant calls to increase the quality of higher education so as to meet and cope with the demands of today's job market and society. Hence, stakeholders are making endeavors to raise the profile of Moroccan university graduates through educating 21st century skills: communication, collaboration, creativity and critical thinking (ELouaali et al., 2024). Among those skills CT is highly prioritized since inculcating and fostering critical thought allows students to be attentive, clear, logical, and capable of evaluating and interpreting data, discerning and understanding connections between ideas so as to integrate and synthesize them.

EFL teaching is not excluded from this commitment too. The concern shifted from the transmission of the subject content to a focus on CT development. The integration of CT in the language classroom is highly valued (Marin & De La Pava, 2017). Being adept critical thinkers will help students not only apply English in real-life situations but improve their ability to understand relationships among ideas, evaluate evidence, develop coherent arguments, and eventually reason well.

2.3. Critical Thinking and Doctoral Students' Research Capabilities

Within the context of the knowledge-based economy, the modern paradigm of learning in higher education has started to put more emphasis on knowledge production (Moravec, 2008). Accordingly, doctoral students, as early career researchers, are expected to engage in scholarly writing, conduct research, publish, and present findings (Caffarella & Barnett, 2000). They are required to show unwavering commitment to push the boundaries of knowledge and make a real impact in the industry of knowledge.

Therefore, the need to help students capture and leverage knowledge has significantly invigorated interest in doctoral students' research capability development (Neihaus et al., 2018). The most extensive and influential application of CT skills occurs in scholarly work as it depends on thinking abilities and analytic knowledge (Fitzmaurice, 2011). Astin (1993), as cited in Tsui (1998), also stressed that undertaking independent research is related to a high level growth in CT. In the same vein, Robertson and Blackler (2006) have pointed out to the existence of a positive correlation between students' CT and research engagement. This close connection has engendered a substantial body of work on how to develop specific skills to build and strengthen students' research capacity and engage them in this academic process successfully as independent learners (Gardner, 2008; Brodin, 2016). To achieve this

end, presumes doctoral students' full and accurate understanding of the crucial relevance of CT to conducting academic work.

2.3.1. Research Skills Development

Academic research and writing is more than rummaging for information then documenting facts (Paltridge, 2004). On the contrary, it is a form of evaluation that requires students to demonstrate knowledge and show proficiency with certain disciplinary skills of thinking mainly interpreting and evaluating data (Healy & Jenkins, 2009). Analogously, students' success at the doctoral level is closely related to the mastery of specific competencies. Doctoral students not only need "more independent study and more self-motivation" (Murray, 2011,p.2), but more importantly, their work necessitates a set of critical research skills that enables them to think critically and in a more profound way while looking for, observing, collecting, documenting and reacting to data. This process, if done methodically, will not only allow researchers to gather facts and identify biases, but will also enable them to reach solid conclusions and derive solutions to issues.

In Morocco, which is the context of this study, higher education is stepping up for the challenge of research quality enhancement. Thus, in 2022, the ministry issued a national plan, (ESRI Pact-2030), with a view to speeding up transformation of the higher education ecosystem and improving scientific research and innovation (Laassili & Ejbari, 2023). This indicates that a massive shift is underway not only to promote scientific research but to establish strong foundations for a thriving Moroccan university that equips its graduates with the necessary skills to contribute to knowledge production. Educational stakeholders in the country are aware that in order to integrate the country in the knowledge society, scientific research has to be conducted in line with international standards.

Under this perspective, the launch of the latest reforms in the Moroccan higher education was a bold move geared towards several objectives among which a commitment to the advancement of research both in quality and quantity. Hence, to achieve excellent research, researchers need to be equipped with a set of excellent thinking skills. Capitalizing on students' capabilities to wield their critical abilities relies on instilling higher order skills that include critical thinking operations. Therefore, the premise is that the utilization of CT would certainly help Moroccan doctoral students achieve research excellence by writing impactful papers that meet higher global standards.

2.3.2. Critical Reading and Research Productivity

At the heart of thesis writing lies the profound responsibility of not just writing but actively reading as well. Tenopir et al. (2015) found out that research work is closely connected to reading journal articles. Therefore, since critical, close reading is a prerequisite to scholarly work, doctoral students need tools to navigate through the overwhelming mass of available information (Wilson, 2016). Hence, the need for CT skills as key for quality work has become more than necessary.

Therefore, the cumulative nature of knowledge compels students to be selective in order to find out the ideas that tie in with their own fields of study in order to write with a sufficient critical focus. Therefore, students are expected to evince the ability to scrutinize the data or information, refute irrational premises as well as unveil the different underlying methodologies and theoretical approaches. Critical reading is to understand such complex material, select what fits in with the overarching argument, analyze information, and question assumptions.

However, the practice falls short of the ideal in both quantity and quality. Doctoral students' critical capability is depressingly low; they are reported to be unable to consider alternative possibilities, display evidence of a more than superficial understanding of concepts and relationships fundamental to their

subject of study (Caffarella & Barnett, 2000). Their ability of interpreting, analyzing, concluding and evaluating is less than satisfactory. For Paltridge (2004), these difficulties are attributable to students' limited knowledge about the thesis research genre. Swales (2004) holds the same view. However, Jenkins et al. (1993) attribute this to lack of reasoning and critical thinking. Being deficient in the ability to consider critical perspectives, it is hardly a surprise that doctoral students find the discussion of results section most challenging (Bitchner & Basturkmen, 2006).

This state of affairs would suggest that CT is at the base if doctoral research, otherwise students would be prone to adopt knowledge uncritically which would hamper their intellectual ability to generate new knowledge. By developing doctoral students' CT potential, their power of critical thinking will enhance their intellectual growth and development as scholars.

If doctoral students intend to become scholars, they will understand that good scholarly production and an appreciation of criticality in research are not mutually exclusive. Equally important, if they intend to produce quality papers, they will understand that research is not merely a matter of technique; rather it is rooted in an attitude toward evidence and interpretation, an attitude that requires CT at every stage of the process. The discussion about all those issues and more can be enriched if the way CT is conceived of, implemented and practiced is explored from the vantage point of doctoral students not only from teachers' or assessors' perspectives.

3. Research Method

Given the prominent place it has in education, CT is an integral component of doctoral research as well. Doctoral students are expected to use it so as to engage in productive research and successfully carry out the steps that constitute this process. This study aims to investigate Moroccan EFL doctoral students' perceptions of CT as a research skill. Addressing and probing the meanings and relevance of CT to doctoral research projects from the perspective of doctoral students themselves is a promising endeavor that will identify inherent gaps and push students to develop deeper conceptualizations and real engagement with this skill.

4. Research Design

This research employed a qualitative case study approach to investigate and gain insights into the beliefs and assumptions that Moroccan EFL doctoral students at the Faculty of Arts of Moulay Ismail University hold about CT as a research skill. The case-based design, as commonly used in educational research settings, facilitates the exploration of a phenomenon in its context (Merriam, 1997; Stake, 1995). Hence, this research method is deemed consistent with the purpose of the study which is to investigate and understand the perceptions of Moroccan EFL students regarding CT as a research skill associated with the specificity of the academic discipline.

5. Instrument and Participants

To ensure that the issue is explored from multiple perspectives, the data came from two different data sources: semi-structured interviews and focus groups. In-depth semi-structured interviews were employed to collect data from 15 PhD students who are still on the process of working on their research projects. This method of data collection proved useful as it allowed unveiling how they perceive CT in practical terms. An interview protocol was developed and participants were conveniently recruited and individually interviewed. More than that, since "qualitative data analysis is inductive and comparative in

the service of developing common themes or patterns or categories that cut across the data" (Merriam & Tisdrell, 2016, p.297), inductive thematic analysis was made use of. This case-based exploration of Moroccan EFL doctoral students' perceptions of CT as a research skill gained more insights through focus group discussions. Engaging 7 participants in dynamic discussions yielded richer collective views. Thus, combining the two methods, semi-structured interviews and focus groups, has not only allowed for the triangulation of the data, but has led to a comprehensive understanding of participants' perceptions of CT as a skill needed for quality, scholarly research.

6. Findings and Discussion

Regarding students' perceptions of CT as a research skill at the doctoral level, the analysis of the transcribed interviews has resulted in the emergence of four main themes that constitute the outcomes of the study. The analysis of focus group data has also yielded relevant and beneficial results that aligned with the predominant core themes gleaned from the semi-structured interviews. Eliminating the redundancies and placing similar categories under the same label helped to discern four salient umbrella themes related to students' conceptualizations of critical thinking and its crucial use as a research skill.

6.1. The Perceived Merits of CT Abilities

Assuming that research at the doctoral level is a student-led journey sets the expectation that students evince a fundamental propensity to use strategic thinking to move through their work. Accordingly, it came as no surprise that all the participants confessed their own awareness of thesis writing as a rich academic journey full of chaos and turbulence. They view it also as a demanding and complex task that calls for smart deep thinking to structure consistent arguments, report results, and they equate CT with the management of the research process. Students understand that criticality in doctoral research is a core aspect of examination expectations. They stress the real-world relevance of this skill as key requirement for a successful research career. Yet, they seemed to lack professional knowledge of what it means to think critically, and how to implement it in their research. This enactment is not fully grasped by students in the sense defined by CT experts who stipulate that to engage in an academic research process successfully, doctoral students must possess intellectual high order thinking skills to locate, access, analyze, interpret and assess the merits or relevance of information. Adding to that, the ability to draw inferences and manage the research flow effectively.

6.2. The Peculiarities of the Critical Thinking Process

A key finding worth noticing here is that nearly all students conceive of CT mainly as a set of specific traits but not as a set of cognitive skills. Some students are unable to articulate a clear conceptualization of the term. They do not attach great importance to the occurrence of the thinking procedures as interpretation or inference. Thinking critically is viewed as both complex and mysterious reserved to some disciplines like math or only to smart students.

Others add that to display CT, it has to be learned earlier, otherwise it will be too late to study any form of higher order thinking. For many of the participants, criticality is nurtured by a culture that values and fosters using one's own judgment and ability to resist information coming from authority or viewed as indisputable. The results reflect the multifaceted nature of the concept and highlight the interplay between different factors in shaping perceptions and applications of critical thinking.

6.3. CT as a Tool for Intellectual Curiosity and Knowledge Production

Equally important, the interviewees recognize that in research they need to showcase profound knowledge and expertise in their chosen field of study. They have to exhibit an ability to think about and

discuss their subjects in a detailed and intelligent way. Their argument and its logical progression have to be framed in a way to make them engage in intellectual discourse and ultimately contribute to the advancement of their field. All the interviewees stressed that the only knowledge of authority is knowledge that emanates from "**v**alue for truth and respect for knowledge so as to delve deeper into understanding complex issues" as one student said. All this, according to the participants necessitates both higher level thinking coupled with intellectual perseverance so as to avoid superficial engagement with material that leads to hasty generalizations. For those students, inquiry and tenacity to persist are identified as key drivers for academic achievement. However, not all of the participants seems to understand that this is not enough. Spending years to earn a PhD uncritically, accepting readily available and accessible information without deliberately utilizing one's sound thinking, is a wasted time.

6.4. Limited Conceptualizations of CT as Utilized in Academic Research

Talking with students about their actual understanding of the meaning and relevance of critical thinking to academic research, they seemed to have insufficient conceptualizations of the concept and even some of their ideas did not align with those of the academics. This was more apparent in the focus group discussions. Also, when interviewed on their beliefs about the meaning of CT, most of them were unable to discern the boundaries between the concept and other interpretive tools like logic, reason, and hermeneutics. More than this, precise understanding of the multiplicity of sub-skills subsumed under CT is lacking. Students' representation of the critical thinker as possessing a set of capacities is mainly associated with being curious, inquisitive and passionate about one's topic which is a narrow one. Students appear to be unfamiliar with the importance of using their own personal voice and keeping their own identity and critical stance to produce authentic scholarly papers. They appear to overlook such dimensions that help them consider the direction of their argument, become logically persuasive communicators and articulate ideas with great precision and clarity. In a nutshell, students tend to display narrow understanding of CT though they are aware of its value as an analytical skill.

7. Conclusion

Over all, the discussion above suggests that students seem to fully understand the importance of CT as highly central to researching and developing efficient researchers. They also hold positive attitudes towards its use during doctoral research to engage with information. They reckon that CT, along with competence in written English and academic style, facilitate critical engagement with academic texts and the construction of knowledge. However, there is a perceived gap between reckoning CT as a valuable academic skill in research and how to best make use of one's critical potential. All students report a dire need for more opportunities to practice and be proficient in using CT abilities. Another key result is that their conceptualizations of the concept are very limited as the term is a broad one. Their focus is only on some fragmented sub-skills and they tend to neglect the bigger picture of what this skill really entails in the academic context. This study has not only valued doctoral students' perspectives by offering them an opportunity to voice their beliefs and views about the use of CT as a research skill, but it has engendered an enhanced understanding that can enrich the discussion around the issue and inspire innovative educational strategies. Therefore, these findings clearly support the importance of instruction in CT skills to facilitate and increase the probability of EFL students' success in doctoral research and beyond. To this end, more precise definitions of and training in CT are needed to challenge preconceived notions by elucidating the specific features of academic CT and clarifying the steps required to implement it in research.

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