



Investigating the importance of critical thinking in enhancing student's understanding at Sudanese Universities A case study of White Nile state Universities

Abdelrahman Mohammedain Abdelrahman ^{1,*}, Salah E. I ², Sid. M.A ³, EL tayeb Ahmed EL tayeb EL faki ⁴ and Tarig El rayah Mohamed El tayeb ⁵

¹ Faculty of Arts and Humanities, White Nile University and El imam Elmahadi University -Kosti, Sudan.

² Faculty of Medicine and Health Sciences, Managil University and Bahrain College, Managil, Damazin, Sudan.

³ Department of Microbiology, Bhahrain College – Sudan.

⁴ Department of Islamic Studies, Blue Nile University –Sudan.

⁵ Kosti College of Science and Technology, Department of Biochemistry – Kosti -Sudan.

GSC Advanced Research and Reviews, 2025, 25(02), 001–008

Publication history: Received on 16 September 2025; revised on 30 October 2025; accepted on 01 November 2025

Article DOI: <https://doi.org/10.30574/gscarr.2025.25.2.0294>

Abstract

The aim of this study is to recognize the nature, the benefits, and stand points of university instructors towards critical thinking and to develop primarily their critical thinking moods. University instructors interview was used as a tool to collect data. A semi-structured interview form was used to obtain the qualitative data. It was recorded interview to some of the Sudanese university instructors. the interview was analyzed using textual analysis technique. It was determined that when encountered an event or a problem that the participants took cognizance of subjects such as paying attention to the data available and unavailable, being attentive seeking evidence, developing empathy, making reasonable conclusions, and making judgments through creating criteria when making decisions. These results have indicated that the education provided contributes positively to critical thinking and to the critical thinking disposition.

Key words: Critical Thinking; Critical Thinking Disposition; Higher Education; University Curriculum Teaching Perspectives

1. Introduction

In the international, diverse, and often information-flooded society, critical thinking is accepted as an important proficiency to be developed in higher education. It is well known fact that critical thinking is a cognitive process, consisting of a number of skills and dispositions, that, through purposeful, self-regulatory reflective judgment, increases the chances of producing a logical solution to a problem or a valid conclusion to an argument. we need to think carefully about what we read or hear or see before to accept it as a truth in our life. To do so we need information, knowledge, skills and experience to help us. This skill of doing so is called critical thinking. According to Watson and Glaser (2012) cited in Palavan, Özcan (2020,p:7) describes critical thinking as the ability to identify, analyze and evaluate what is necessary to achieve an accurate result. The basic aim of this study is to recognize the importance of critical thinking in enhancing student's understanding at Universities. It is very important to write about this topic because the researchers observes that Sudanese students and instructors at Sudanese universities don't concern the importance of critical thinking as one of the most important factors that contribute in enhancing and increasing students understanding and performance of what they have studied. The researchers hypnotize that Sudanese university students don't utilize and practice critical thinking skill in their study at university although it has a wonderful positive results, outputs and outcomes. So the researchers would like to deal with this assumption as the main reason the result in the weak performance of some of the Sudanese university students and weak outcomes and output of the researches in different

* Corresponding author: Abdelrahman Mohammedain Abdelrahman.

fields of knowledge. critical thinking must be developed and adopted for the university students. This development can be done via many methods such as, the teaching of critical thinking as a course at different universities and the combination of the activities that can be used in developing critical thinking into all courses.

It is very important for us as university instructors to know that teaching our students to think critically is a fundamental aim. The university Students' ability to think critically has become a major concern among educators and psychologists as they try to study the factors influencing the acquisition of thinking skills. Therefore, critical thinking skill is considered an important variable in the process of students' learning. This study attempts to examine the predictive relationships of student dispositions and their abilities to think critically. The ability to think critically is important among students in higher education as the content of education at this level requires higher order thinking such as the ability to apply critical evaluation and give evidence for their opinions. Students seem satisfied with their initial interpretations of what they have read and seem genuinely puzzled at requests to explain or defend their point of view. As a result, responses to assessment items requiring explanations of criteria, analysis of texts or defense of a judgmental point of view were disappointing. Few students could provide more than superficial responses to such tasks, and even the "better" responses showed little evidence of well problem-solving or critical thinking skills. However, critical thinking is often seen as a universal goal of higher education. So, the researchers think disposition of students to think critically as a prerequisite condition. Besides, providing the pedagogy of Critical Thinking, the writers attempted to provide the theoretical background of critical thinking.

1.1. Statement of the Problem

The current study aims to investigate the cause of the weak outcomes due to the lack of using critical thinking. Although critical thinking has great influence on students performance and outcomes but it is not utilized by Sudanese university instructors and students. even Sudanese institution don't utilized this technique although they need to use it. It very important to utilize critical thinking in higher education institutions as well as other. As has been said by Elder & Elder, (2008) Critical thinking is purposeful, self-regulatory, judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteria logical, or contextual considerations upon which that judgment is based". The researchers observed this problem through their extended experience as university instructors at a lot universities in Sudan. There're a lot of researches and studies concerning critical thinking. But unfortunately they are rare in Sudan. So this study is an attempt to fill this gape.

1.2. The questions of the study

This study aims to answer the following questions

- What is the relationship between critical thinking and academic achievements ?
- To what extent do the lack of funds, outdated curricula, large student numbers, untrained instructors, limited research opportunities for professors, and institutional challenges led to ignorance of using critical thinking in Sudanese higher educational institutions?
- To what extent do Sudanese instructors and students in higher education recognize the importance of critical thinking?
- To what extent does critical thinking is a part of teaching process, program and curriculum ?

1.3. The Hypotheses of the study

This study aims to verify the following hypotheses

- Sudanese instructors and students in higher education don't recognize the importance of critical thinking.
- Some of the Sudanese university students don't use critical thinking.
- There is no program that help student to acquire critical thinking at Sudanese higher education institutions.
- Sudanese instructors aren't qualified to teach the critical thinking in higher education.
- Some of the Sudanese university students don't utilize critical thinking.

1.4. The Objectives of the study

This study aims to achieve the following objectives

- To ensure weather Sudanese instructors and students in higher education recognize the importance of critical thinking or not.
- 2. To recognize if Sudanese university students use critical thinking.

- To detect if there is a program that help student to acquire a program of critical thinking.
- To explore if instructors are qualified to teach the critical thinking in higher education.
- To probe if Sudanese university students use critical thinking.

2. Methodology

There searchers adopted the qualitative analytical approach alongside the case study as the design to conduct this study. The population of the study comprised all Sudanese staff member at higher educational institutions and research centers. The sampling method used was convenience sampling. 20 instructors were selected from four universities in White Nile State as a sample of the current study. An interview was utilized by the researchers to obtain their standpoints about the usage of critical thinking at Sudanese higher education institutions. Based on this, the instructors have been chosen due to their accumulated years of experience as well as longevity of their services in these same institutions. Face-to-face in-depth individual interviews were used to gather in-depth information from respondents and via telephone. Data were collected using telephone recording. The researcher established a report by first greeting and asking each interviewee and also by projecting a positive image of a sincere person engaged in a harmless but important task. Each interview lasted for 20 minutes. The contents analytical method was used to analyze the collected data. Through the process of coding, the researcher places the raw data that were transcribed into logical, meaningful categories and holistically examines them. Then the researchers re-examined the themes and classified and then interpreting and create the organized data into a general conclusion or understanding.

3. Literature Review

Critical thinking is best understood as the ability of thinkers to take charge of their own thinking. This requires that they develop sound criteria and standards for analyzing and assessing their own thinking and routinely use those criteria and standards to improve its quality (Ellis, 1997). Along the same line, critical thinking is a valuable skill that, once learned, can be applied in many different disciplines; however, researchers have contended that having mere skills doesn't guarantee critical thinking. Critical thinking is an attempt to make a distinction between facts and opinions. In fact, it is deciding rationally what to or what not to believe. Critical thinking involves, in part, the attitude of being disposed. In fact, the research indicated that there is a need for both skills and dispositions in curriculum models. Dispositions require students to be internally motivated or better to say be scaffold by their instructors so that they can think critically. The researchers believe educational and professional success require nurturing one's consistent internal willingness to think as well as developing one's thinking skills. To do this, the instructors must provide students with as many models, opportunities, exemplars, and explanations as possible in order to help them operationalize their skills. In fact, having mere skills in order to think critically is not enough. The instructors should find ways in order to make students willing and disposed to think critically. The researchers think if we want to enhance students' critical thinking we must adopt strategies of annotating, previewing and contextualizing.

3.1. The Definition of Critical Thinking

There are many definitions of the term critical thinking but the researchers shall try to write some of them. According t\o Linda M. Murawski, EdD (2014,P: 30).The art of thinking about thinking (Ruggiero, V.R., 2012, p.5). Critical thinking focuses on deciding what to believe or do, (Ennis, p. 10). Critical thinking is a mode of thinking about any subject, content or problem in which the thinker improves the quality of his or her thinking by skillful analyzing, assessing and reconstructing it. (Elder & Elder, 2008) Critical thinking is purposeful, self-regulatory, judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteria logical, or contextual considerations upon which that judgment is based" (P. A. Facione, 2006, p. 21). Active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends. (Dewey, 1910, P. 9) Critical thinking is the ability to apply reasoning and logic to new or unfamiliar ideas, opinions, and situations. According to Jack C. Richards and Richard Schmidt(2002,p:134) critical thinking is a level of reading comprehension or discussion skills when the learner is able to question and evaluate what is read or heard. In language teaching this is said to engage students more actively with materials in the target language, encourage a deeper processing of it, and show respect for students as independent thinkers.

What Is Critical Thinking? What the Critical Thinking movement has emphasized is the idea that specific reasoning skills or strategies undergird the curriculum as a whole. In a sense, Critical Thinking refers to the use of cognitive skills or strategies that increase the probability of a desirable outcome. In fact, the idea of rationality is the corner stone of Critical Thinking. To Critical Thinking, the critical person is something like a critical consumer of information; he or she is driven to seek reasons and evidence. To do that, one must be mastered certain skills of thought in order to be able to scaffold his/her ideology. Halpern (1999) maintains, —The ability to judge the credibility of an information source has become

an indispensable Critical Thinking skill that needs to be deliberately and repeatedly taught in college and earlier|| (p. 71). Accordingly, Paul (1994) draws a distinction between weak and strong sense of Critical Thinking. For him, the former means that one has learned the skills, while the latter means that one has incorporated these skills into a way of living in which one's own assumptions are re-examined and questioned as well. Paul believes that, because Critical Thinking allows us to overcome the sway of our egocentric and sociocentric beliefs, —it is essential to our role as moral agents and as potential shapers of our own nature and destiny|| (Paul 1990, p. 67). It goes without saying that Critical Thinking is considered to be as reasonable reflective thinking focused on deciding what to believe or to do; the assumption is that logical deciding usually leads to affective doing. Wood (2002) says Critical Thinking is the process of using reasoning to discern what is true, and what is false. Accordingly, Critical Thinking is seen as an essential skill for success in our society and has been heralded as a need in achieving our goals in most curriculum analyses.

3.2. Applications of critical thinking

According to Christopher Dwyer, there are five applications that can be used in critical thinking field. They are as follow:

- Argumentation

It is the recognition of the structure of arguments and how to judge their strength or weakness.

- Verbal Reasoning

It means the identification of what follows what through the use of induction, deduction and fabrication.

- Hypothesis

Testing understanding the limits of correlational reasoning and how to know when causal claims cannot be made.

- Judging Likelihood & Uncertainty

Applying relevant principles of probability and avoiding overconfidence in certain situations.

- Problem-Solving

Identifying the problem goal; and generating and selecting solutions among alternatives

3.3. The features of a 'critical thinker'

According to Crebert (2011) the following are the list of features of critical thinking:

Inquisitiveness about a wide range of issues, Desire to become and remain well-informed, Alertness to opportunities to use critical thinking, Trust in the processes of reasoned inquiry, Self-confidence in own abilities to reason, Open-mindedness towards divergent world views, Flexibility in considering alternatives and opinions, Understanding of the opinions of other people, Fair-mindedness in appraising reasoning, Honesty in facing own biases, prejudices, stereotypes etc, Discretion in suspending, making or altering judgments, and Willingness to reconsider and revise views where necessary. (Crebert et al., 2011, p. 6).

3.4. The basic skills of a critical thinker

Almost everyone who has worked in the critical thinking tradition has produced a list of thinking skills which they see as basic to critical thinking. For example, Edward Glaser (1941) listed the abilities:

- To recognize problems
- To find workable means for meeting those problems
- To gather and marshal pertinent information
- To recognize unstated assumptions and values
- To comprehend and use language with accuracy, clarity, and discrimination
- To interpret data
- To appraise evidence and evaluate statements;
- To recognize the existence of logical relationship between propositions

- To draw warranted conclusions and generalizations. (Fisher, 2001, p. 6)

According to Willison & O'Reagan (2006), they argued these abilities of critical thinker

- determine the need for knowledge
- find and generate the information
- critically evaluate the information
- organize the information
- synthesise, analyse and apply the new knowledge; and
- communicate the knowledge. (Crebert et al., 2011, p. 13)

3.5. The Importance of Developing Critical Thinking in Higher Education

According to Bezanilla, M.J., Galindo-Domínguez, H., & Poblete, M. (2021,P:4-7) The importance of developing students' critical thinking in higher education has been widely recognized. Experts have pointed to various reasons for this. A group of authors have highlighted its importance in the development of higher order cognitive skills (reflection, self-awareness, among others), because they consider that it will contribute to the analysis and solution of social problems in the future, when students become professionals (Ennis, 2016; Velásquez & Figueroa, 2012; Villarini, 2003). Choy and Cheah (2009) have also noted the importance of critical thinking as an intellectual stimulus that can facilitate student learning. Other authors justify its importance from the reality in which we live in. In a world where change and complexity seem to be part of people's daily lives, key competences are necessary to face new challenges, including critical thinking (Franco & Almeida, 2015). According to Tenías (2013), the current world demands fostering the habit of being well informed, of expressing one's opinions correctly and appropriately, and having, defending and arguing one's ideas and opinions as well as being able to understand, analyse and evaluate others' views. To Flores (2016), critical thinking skills are indispensable for the professional development of students in the REMIE – Multidisciplinary Journal of Educational Research, 11(1)23 knowledge society, as they contribute to face the challenges of a globalised world. This is a world that, in the words of Hervás and Miralles (2000), demands new skills, such as organising, processing, evaluating and transmitting increasingly abundant information, as well as having the skills to solve problems and make decisions, to understand the vast scientific literature available and to comprehend the technological world that grows around us. All of this requires that university students develop critical skills. Moreover, in the professional field, critical thinking is not only considered an essential competence when recruiting employees, but it is the most difficult to find according to employers (Committee for Economic Development, 2015; World Economic Forum, 2016). In this regard, Tenías (2013) stated that the development of critical thinking is a socio-educational demand across the world and an undeniable condition for university education. The development of critical thinking is often linked to other key competences in 21st century living. Hervás and Miralles (2000) pointed out that processing information, learning to learn, generating knowledge, meta cognition, decision making, creativity and creative thinking, problem solving, and critical thinking are crucial elements in any current teaching learning process. Other authors have emphasised the importance of working on this competence in all curricular areas of higher education, being the arts and humanities an excellent domain in which to promote critical thinking and the articulation of meanings (Dimitru, 2019). For other authors, critical thinking is essential for students' overall development and for the social transformation of their environment, since universities should not only be certificate-granting institutions, but should also aim to educate people to engage in ethical and socially responsible behaviour, capable to solve complex problems, thus transforming, improving and building the societies of the future, through processes of analysis, reflection and decision making (Agredo Tobar & Burbano Mulcue, 2012; González, 2008; Indrasiene et al., 2019). Moreover, Marques Vieira et al. (2011) consider critical thinking to be a necessary competence to live in a plural society and to develop the competence of citizenship. For Franco (2016), it is essential in daily life, where multiple decisions are to be made. 24 Bezanilla, Galindo-Domínguez, & Poblete –Critical Thinking In her words, critical thinking is the door to freedom, and higher education is the key. While it is very important for higher education students to develop this competence from the very first years, the 'other side' should not be forgotten, that is, the major role that critical thinking plays in the professionalism of university teachers (González, 2008). It would be paradoxical for a teacher to aim to teach critical thinking skills without having sufficiently experienced reflexive-critical processes (Cárdenas Becerril et al, 2015; Oz & Balyer, 2018). At this respect, Bezanilla et al. (2018) found that teachers have different understandings of what critical thinking is. One of the main problems in teaching competences related to critical thinking, according to Ketabi et al. (2013), is that the vast majority of teachers have very simplistic and general conceptions and lack details about what critical thinking actually is. Some members of the teaching profession may think that they are teaching their students to think critically when in fact they are only helping them to understand a given subject (Choy & Cheah, 2009). It is therefore essential that teachers analyse their own beliefs, compare them against the academic demands of the university and reflect upon, and adapt their timing and teaching methods before they start teaching their students to think critically (Choy & Cheah, 2009). This should be applied in practical terms through appropriate teacher training,

which would enable teachers to incorporate critical thinking into their teaching plans (Ketabi et al., 2013). Finally, Paul and Elder (2008) proposed some objectives that teachers should take into account when preparing their student-centered teaching plans. These include raising and formulating vital questions and problems; gathering and evaluating information that may be relevant to a particular event; reaching conclusions and reasoned solutions by testing criteria and standards; having an open mind to consider different alternatives; recognising and valuing the assumptions, implications and practical consequences for each case; and appropriately communicating with others in the search for solutions to complex problems. Moreover, Bezanilla et al. (2019) presented a comprehensive analysis of the methodologies university teachers use for teaching critical thinking in the classroom, such as oral and written reflection and argumentation, case studies or problem/project based learning, among others. REMIE – Multidisciplinary Journal of Educational Research, 11(1)25 As seen above, many previous studies have highlighted the importance of developing critical thinking at university education, but there are hardly any empirical studies that analyse the reasons why it is so important and even less so from the perspective of the teacher. This is one of the main objectives of this study.

3.6. Challenges to Developing Critical Thinking in Higher Education

According to Bezanilla, M.J., Galindo-Domínguez, H., & Poblete, M. (2021,P:7-8)After asking 100 university teachers about the barriers they perceived to teaching critical thinking in their classes, Aliakbari and Sadeghdaghighi (2013) identified that the most important barrier was related to the characteristics, attitudes and expectations of students, such as lack of motivation, concern for their marks, resistance to active learning, preference for activities and tasks requiring a simple response, and inability to tolerate difficult thinking. The second barrier (in order of importance) they found concerned the poor skills and preparation of teachers to teach students to think critically; in fact, they expressed their need for professional development and training. The third major barrier referred to teachers' lack of knowledge about the real meaning of critical thinking and the difficulty of evaluating it. In the same line, Schendel (2016) in another study on the barriers to helping university students to develop critical thinking (from the teachers' perspective), found that on many occasions, the teaching staff had a limited understanding of the reasons and purposes of the pedagogical changes that were required from them, such as working on critical thinking with students. They also showed little motivation in implementing teaching methods that increased their workload. Schendel (2016) highlighted the importance of ensuring that higher education institutions become involved and offer permanent support to teachers in their professional development. Fraker (1995) (as cited in López, 2012) listed the main causes that could make it difficult to develop critical thinking as a competence in academic contexts. These include students' preference for socialising rather than for learning; how subjects taken by students lack of utility for their daily lives; how students are not given the opportunity to reflect and explain their views for themselves; or how students show apathy towards certain courses. 26 Bezanilla, Galindo-Domínguez, & Poblete –Critical Thinking However, according to Fraker (1995), these shortcomings can be improved as long as teaching methods are varied according to the area of knowledge, the teaching context is taken into account, programmes are planned according to students' age and interests, and students are the key players in their own learning process. It is important to highlight also the importance of ideology and politics biased curriculum as an obstacle preventing students to develop independent and critical thinking as Zhang (2017) states, in relation to Chinese curriculum, marked by political and ideological factors.

3.7. General Tips for Presenting Critical

Thinking Instruction

- Be Personable – Be Funny
- Utilize Active Learning
- Know your Audience Size
- Be Intellectually Honest with yourself and your students You cannot always be PC if you want to think critically
- Mode of Delivery – Traditional, e-Learning, Blended Learning
- Apply Argument Mapping
- To teach critical thinking, you must think critically.

Save your critical thinking for things that matter 2. Do it in the morning 3. Take a step back 4. Play Devil's Advocate 5. Leave emotion at the door

4. Results

The responses of the instructors' interview reveals the following results: Sudanese instructors and students in higher education don't recognize the importance of critical thinking. Some of the Sudanese university students don't use critical

thinking. There is no program that help student to acquire critical thinking at Sudanese higher education institutions. Sudanese instructors aren't qualified to teach the critical thinking in higher education. Finally, Some of the Sudanese university students don't utilize critical thinking.

5. Discussion

Throughout of the interviewees standpoint about the first question which is, What is the relationship between critical thinking and academic achievements. 95% think that there is strong relation between critical thinking and academic achievement. In spite of its importance in academic achievement Sudanese instructors and students in higher education don't recognize the importance of critical thinking. Some of the Sudanese university students don't use critical thinking. Question two that is, To what extent do the lack of funds, outdated curricula, large student numbers, untrained instructors, limited research opportunities for professors, and institutional challenges led to ignorance of using critical thinking in Sudanese higher educational institutions. 91% show that the above mention items are absent. so they have negative results in applying critical thing at Sudanese higher education institution. Question three is that, To what extent do Sudanese instructors and students in higher education recognize the importance of critical thinking. 85% of the instructors believe that the students and instructors don't know the meaning of critical thinking and its significance in higher education. Question four that is, To what extent does critical thinking is a part of teaching process, program and curriculum. 98% of the interviewees think that there is no program that help student to acquire critical thinking at Sudanese higher education institutions. So, it not a part of curriculum at Sudanese higher education.

6. Conclusion

To conclude this study, one could say that Sudanese instructors and students in higher education don't recognize the importance of critical thinking due to many different factors. Some of the Sudanese university students don't use critical thinking. There is no program that help student to acquire critical thinking at Sudanese higher education institutions. Sudanese instructors aren't qualified to teach the critical thinking in higher education. Finally, Some of the Sudanese university students don't utilize critical thinking. This study will benefit the society in giving some ideas about the importance and the use of critical thinking that is very important for redeveloping higher education out put and outcomes.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] Christopher Dwyer Integrating Critical Thinking into Educational Settings, cdwyer@nuigalway.ie @CogitoErgoDwyer 'Thoughts on Thinking' at psychologytoday.com
- [2] Jack C. Richards and Richard Schmidt (2002) Longman Dictionary of Language Teaching and Applied Linguistics, Pearson Education Limited (Third Edition)
- [3] Palavan, Özcan (2020) The effect of critical thinking education on the critical thinking skills and the critical thinking dispositions of preservice teachers, Department of Classroom Teaching, Faculty of Education, European University of Lefke, Lefke, TRNC Mersin 10, Turkey. Vol. 15(10), pp. 606-627, October, 2020, DOI: 10.5897/ERR2020.4035, Article Number: 3EF9DD765146 ISSN: 1990-3839 Copyright ©2020 Author(s) retain the copyright of this article <http://www.academicjournals.org/ERR>
- [4] Linda M. Murawski, EdD (2014) Critical Thinking in the Classroom...and Beyond, Journal of Learning in Higher Education.
- [5] Bezanilla, M.J., Galindo-Domínguez, H., & Poblete, M. (2021). Importance of Teaching Critical Thinking in Higher Education and Existing Difficulties According to Teacher's Views. Multidisciplinary Journal of Educational Research, 11(1), 20-48. doi: 10.4471/remie.2021.6159

Appendix

Instructors' Interview

Dear, professor

Please answer these questions about the usefulness of critical thinking for Sudanese students. Your answer are highly appreciated.

1. According to your experience, what is the relationship between critical thinking and academic achievements ?
2. To what extent do the lack of funds, outdated curricula, large student numbers, untrained instructors, limited research opportunities for professors, and institutional challenges led to ignorance of using critical thinking in Sudanese higher educational institutions?
3. To what extent do Sudanese instructors and students in higher education recognize the importance of critical thinking?
4. To what extent Does critical thinking is a part of teaching process, program and curriculum ?