

Counterfactual Thinking as a Multifunctional Pedagogical Tool for Fostering Critical Thinking in the Civilization Course: An Exploratory Study

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Abstract

Although critical thinking has been recognized as one of the most significant contemporary competencies to develop in various educational contexts, its implementation in civilization courses remains scarce. At best, educators address critical thinking partially, neglecting its multidimensional nature. The current research aims at addressing this gap by proposing the integration of counterfactual thinking in civilization classes to foster learners' critical thinking skills holistically, i.e., to address its various components including the cognitive skills, mental processes, and affective dispositions. This study represents a preliminary investigation into the potential role of adopting counterfactual thinking as an instructional tool within the context of civilization. Therefore, a quantitative approach has been employed to examine learners' perceptions and receptiveness toward its promise. Hence, an online five-point Likert scale questionnaire was administered to 72 EFL learners enrolled in civilization courses during 2025-2026 from different Algerian universities. Statistics reveal learners' positive perceptions toward the potential of counterfactual thinking, with most items receiving high agreement, means ranging from 4.00 to 4.90, and standard deviations from 0.40 to 0.90.

Keywords: Critical thinking, Counterfactual thinking, Mental simulation, Civilization course.

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I. Introduction :

Today's postmodern world has created a compelling need to equip individuals with necessary tools to confront new world challenges. In an era that is characterized by misinformation, skepticism, sophistry, political demagoguery, fragmentation, in addition to AI-generated contents, developing critical thinking has emerged as a pressing necessity. Thus, the implementation of critical thinking in different educational curricula and syllabi has become a central point of discussion by scholars, academics, and educators. In this vein, the course of civilization has not been exempted from the ongoing scholarly discourse on the integration of critical thinking. Given the nature of civilization course, which addresses complex and multidimensional facets of human lives, it appears to be a suitable terrain to integrate critical thinking. The profound understanding of the intersected themes of civilization including history, politics, and culture, instead of remote memorization, has the potential to nurture learners' critical thinking skills and metacognitive abilities. Thus, civilization course represents a rich platform for cultivating learners' advanced cognitive abilities and higher order thinking skills.

Many researchers and educators have recognized the importance of civilization course in tertiary education. In addition, many scholars have contributed to enriching the pedagogical repertoire of the instruction of civilization course. A variety of teaching methods and pedagogies are put forward for the aim of nurturing critical thinking skills as well as enhancing the comprehension of civilization themes. For instance, educators have implemented teaching methods including the analysis of primary sources, debates, case studies, and oral presentations among others.

Although the previously mentioned teaching methods, among others, have proven to be significant, their impact on the cultivation of critical thinking skills appears to be limited. This claim can be attributed to the oversimplification of critical thinking as a conception. In other words, many educators deal with critical thinking partially neglecting its kaleidoscopic multifaceted nature. In this regard, Davies (2015) accentuates the amorphous and elusive nature of critical thinking stating: "despite more than four decades of dedicated scholarly work 'critical thinking' remains as elusive as ever" (p.41)¹. Therefore, designing a novel pedagogical tool that is sensitive to the themes of civilization and at the same time addresses the different components of critical thinking is challenging, yet, essential.

The current research represents a preliminary investigation addressing the potential role of counterfactual thinking as a pedagogical tool to foster critical thinking in civilization courses. Counterfactual thinking refers to the construction of alternatives scenarios to real world incidents

and events. For instance, asking “What if Britain had never issued the Balfour Declaration in 1917?”, here the listener will start thinking counterfactually by generating alternative scenarios. This research suggests that constructing mental simulations of past events has the potential to boost learners’ cognitive skills and increase their engagement in civilization classes. In this regard, this exploratory study has been conducted to examine learners’ perceptions toward the role of asking ‘what if...’ scenarios in enhancing learners’ analytical, reflective, interpretive, and evaluative skills in addition to enhancing positive affective factors. Furthermore, the study aims at drawing attention to the possibility of adopting counterfactual thinking as a novel methodology in the instruction of civilization course. Finally, the research aims at paving the way for further empirical investigation addressing counterfactual thinking potential in enhancing higher order thinking skills.

Although counterfactual thinking has been examined by many scholars, its educational potential has not been recognized explicitly and systematically. Furthermore, the tripartite of counterfactual thinking as a pedagogical tool, critical thinking as an outcome, and civilization as a context is an underexplored area of investigation. Therefore, this study aims at addressing these following research questions:

- How do learners of civilization course perceive the role of counterfactual thinking on their analytical, interpretive, and evaluative skills?
- What are learners’ perceptions regarding the role of counterfactual thinking on their positive affective factors?
- To what extent do learners agree on adopting counterfactual thinking as a pedagogy in the instruction of civilization?

II. Literature Review:

II. 1. Critical Thinking: an Expansive Concept:

Notwithstanding the plethora of academic discourse on critical thinking, there exists no widespread consensus on its conceptualization. This scholarly divergence can be attributed to the existence of different opposing philosophies regarding the nature of critical thinking. A rigorous scrutiny of the construct shows that definitions concerning critical thinking can be clustered into two categories: context-specific definitions and cross-disciplinary definitions (Sanders & Moulenbelt, 2011, p. 44)². The focal point of contention regarding the two perspectives revolves around the following legitimate and substantive question: Does critical thinking operate solely within specific disciplinary frameworks, or does it transcend context dependency to become a transferable skill across various disciplines?

The lack of a conceptual uniformity regarding critical thinking is not attributed solely to the aforementioned debate. Various scholars in the fields of philosophy, cognitive psychology, and education have put forward a range of questions that address the essence of critical thinking. One fundamental question is to determine whether critical thinking is a set of skills, dispositions, processes, or procedures. According to Davies and Barnet (2015), critical thinking encompasses a set of cognitive skills that can be classified into four main categories: lower-level thinking skills, higher-level thinking skills, complex thinking skills, and metacognitive skills (p. 12)³. Other scholars elucidate the significance of the dispositional dimension, including personal habits, attitudes, and behaviors in shaping a critical mind. Many scholars argue that personality traits such as curiosity, open-mindedness, motivation, and intellectual humility, among others, are essential for constructing well-informed judgments and sound decisions, which lie at the heart of critical thinking. In this vein, Passmore emphasizes the significance of the dispositional dimension, describing it as “the critical spirit” (p. 1)⁴. These habits and attitudes are seen as a psychological readiness for individuals to be critical.

Other scholars advocate for the process-based definition in their attempts to demystify the concept of critical thinking. According to Kirby and Kuykendall, critical thinking is viewed as a set of mental processes that operate in coordination and synergy to produce accurate and reasonable outcomes (as cited in Bailin et al., 1999, p. 273)⁵. Processes, including problem-solving, reasoning, decision-formation, induction, and deduction, are often discussed in the scholarship on critical thinking. However, several scholars have critiqued outcome-focused conceptualizations. The crux of critique lies in overlooking the epistemological nature of thinking. Normile (2025) argues, “Critical thinking is a process of reason-evaluation, it is an epistemological enterprise.” (p. 290)⁶. Analogous to the essence of epistemology, which is knowledge about knowledge, the researcher argues that critical thinking involves thinking about thinking. Thus, he draws attention to the significance of evaluating reason itself, i.e., reflecting on and assessing one’s own thinking. In a similar vein, many scholars advocate for turning the reason inward to assess itself accurately and plausibly.

Reviewing the extensive body of literature on critical thinking reveals the elusiveness of the concept. The amorphous nature of critical thinking resists molding it into a specific, definitive, and static definition. Therefore, most definitions lack a careful treatment of the concept and often fail to capture its multidimensional nature. In this context, Ennis (1962) draws attention to what he calls “a significant gap” in conceptualizing critical thinking, describing some of the existing definitions as “hasty conceptions” (p. 82)⁷. Furthermore, the ontological debate surrounding critical thinking has expanded to investigating whether critical thinking is an

individual attribute or a social aspiration. Therefore, recent contributions on critical thinking attempt to take into consideration the multifaceted nature of the construct and adopt a holistic view emphasizing the inclusivity of all aspects and dimensions of critical thinking. Aspects including individuals' cognitive and metacognitive skills, mental processes, learners' profiles, personality traits, affective factors, socio-cultural and political contexts, have become the building blocks of the construct of critical thinking. Thus, the exclusion of one aspect results in presenting an incomplete reductive conceptualization of this expansive construct.

II. 2. The Significance of Critical Thinking in Tertiary Education:

While the definition of critical thinking has been the subject of debate for decades, scholars demonstrate a cross-disciplinary consensus on its significance, particularly in higher educational settings. The interest in developing critical thinking gained remarkable momentum in post-secondary education in the 1980s. Scholars and educators at California State University were among the early scholars who recognized the significance of incorporating and developing learners' critical thinking in higher educational spheres. Subsequently, several academics and practitioners engaged in a global discourse on mechanisms of integrating critical thinking in higher education curricula. The acceleration toward designing and applying critical thinking-based curricula was not a luxury but a pressing need to equip learners with the necessary tools and skills to confront the challenges of the new world.

The emphasis on cultivating students' critical thinking in higher education can be attributed to several factors, though not exhaustively. First, the multifaceted nature of the contemporary world requires advanced skills to solve complex issues and intricate problems. Issues, including climate change, biodiversity loss, fake news and propaganda, cybersecurity threats, and the misuse of artificial intelligence, among others, transcend the mere acquisition of facts and the rigid memorization of knowledge. Second, critical thinking plays a pivotal role in the success of individuals' personal and professional lives. According to Facione (2015), critical thinking is considered 'a liberating force and a powerful resource' in individuals' personal and social life (p. 2)⁸. The liberating potential of critical thinking can be manifested in warding off gullibility, examining blind dogmas, and questioning prejudices, resulting in enhancing individuals' quality of life. In this vein, Paul and Elder (2006) argue: "Shoddy thinking is costly, both in money and in quality of life. Excellence in thought, however, must be systematically cultivated" (p. 4)⁹. The scholars emphasize the importance of cultivating critical thinking in a systematic and structured manner to succeed both personally and professionally.

Third, many scholars accentuate the role of critical thinking in promoting world peace and social justice. In this vein, Brookfield (1987) states, "Critical thinking is about taking democracy seriously" (p. 15)¹⁰. According to many scholars, cognitive abilities, including questioning, analyzing, and evaluating, are considered vital in challenging inequality, injustice, and ethnocentrism. It is argued that promoting social equity, empathy, and cross-cultural tolerance can be achieved through nurturing open-minded and responsible individuals. Ultimately, it is due to the aforementioned factors, among others, that tertiary education worldwide has mobilized its resources to cultivate learners' critical thinking.

II. 3. Critical thinking in the Civilization Course:

II. 3.1 Civilization Course as a Rich Terrain for Cultivating Critical Thinking:

Civilization courses in higher education are fertile soil for nurturing learners' critical thinking skills. The rich, complex, and multidimensional nature of the civilization course allows learners to engage in intellectually robust discourses addressing various themes. In his attempt to define the concept of civilization, Wei (2011) states, "It is a spatio-temporal continuum and a long-term dynamic structure" (p. 2)¹¹. Wei's conceptualization highlights the intricate nature of civilization as a subject matter. The duality of space and time, which alludes to geography and history, represents the contextual foundation within which civilization exists. In addition, the researcher accentuates the continuity and dynamism as key features of civilization. Hence, advanced skills, including critical thinking, are necessary to comprehend the intricate, non-static nature of civilization.

The examination of an extensive body of literature related to the essence of civilization reveals a broad consensus on its core constituents. Many scholars argue that civilization refers primarily to the history, politics, and culture of people in a specific geographic locus. Therefore, understanding the civilization of a particular group necessitates grasping the trilogy of history, culture, and politics of that group. However, several scholars highlight the intricacies of addressing the comprehension of each constituent, let alone comprehending the ramifications of their intersection. For instance, scholars argue that studying history is a challenging task due to the fabrication and falsification of many historical incidents and events. In his essay, *Looking Back on the Spanish War*, George Orwell (1943) states, "History is, for the most part, inaccurate and biased" (p. 7)¹². He further explains bias by stating, "A British and a German historian would disagree deeply on many things, even on fundamentals" (p. 7)¹². In a similar vein, Arribas et. Al (2023) discussed the concept of "historical revisionism and misinformation", stating, "historical revisionism emerges as a

manipulation tool at the service of authoritarianism, imperialist foreign policy goals and agendas” (p. 4)¹³. Ultimately, critical, analytical, interpretative, and evaluative skills are fundamental to distinguish between the accurate truths and the fabricated narratives, hence, constructing well-informed judgments addressing current global issues.

The political realm, an integral part of understanding civilizations, is a complicated area of investigation. This complexity can be attributed primarily to the objectives of politics, which are often driven by the subjective desires to gain power and dominance. To achieve this goal, many politicians utilize various deceptive and manipulative strategies to gain approval and support. In this vein, Arendt (2006) argues that truthfulness was never regarded as a political virtue; lies were seen as justifiable and necessary for politicians (p. 277)¹⁴. In a similar vein, the scholar highlights the politicians’ overreliance on eloquence rather than solid reasoning in their political discourse (p. 233)¹⁴. The politicians’ dependence on pathos (emotions) over logos (logic) can deceive the masses and manipulate public opinion. Therefore, critical thinking skills and higher-order thinking abilities are significant in decoding hidden intentions, deceptive propaganda, sophistry, and demagoguery.

Several scholars highlight the inextricable linkage between civilization and culture. Huntington (1996) states, “Civilization is culture writ large” (p. 41)¹⁵. This metaphor indicates the profound connection between the two concepts. Similarly, Wei accentuates this overlapping link by stating, “‘culture’ and ‘civilization’ are gravely entangled with one another” (p. 9)¹¹. Hence, teaching learners about a civilization requires delving into its cultural elements and patterns. However, it is a challenging task to grasp the cultural aspects and components of a particular civilization using surface-level thinking. In this context, Duff and Uchida (1997) argue that learning complex cultural entities such as religious systems, gender, and social classes is prone to misinterpretation and misunderstanding (as cited in Seddiki, 2018, p. 67)¹⁶. Therefore, learning a culture requires critical dispositional skills, including open-mindedness, curiosity, tolerance, and empathy, which lie at the heart of critical thinking.

As previously discussed, the complexity of understanding civilization as a subject matter is attributed to its multifaceted nature. The various intersecting civilizational themes, historical, political, and cultural, create an arduous task for learners to construct an in-depth analysis of their vicissitudes. Therefore, practitioners and educators have engaged in rigorous studies to design and develop pedagogical tools and methodological practices that foster critical thinking skills and promote the comprehension of civilization’s complex topics and profound themes.

II. 3.2 Pedagogical Tools to Foster Critical Thinking in the Civilization Course:

The growing awareness of the significance of critical thinking in higher education has encouraged practitioners and educators to design and develop pedagogical tools to nurture learners' critical thinking skills. Thus, a range of instructional methods and teaching techniques is proposed, equipping educators to incorporate critical thinking skills into their teaching process. Instructors of civilization courses have benefited from the recent pedagogical advancement by adopting methodologies to serve the course objectives and to boost learners' critical thinking abilities. Educational methods, including primary source analysis, debates, case studies, and students' oral presentations, are often utilized by civilization teachers.

Although the previously mentioned methods have proven to be relatively successful, many scholars have addressed their limitations. For instance, on the use of primary source analysis, several scholars have highlighted their limited access. The scarcity of primary sources constitutes a challenge for educators to apply the document-based analysis strategies. Even with the spread of digitized primary sources today, the challenge persists. In this vein, Lyons (2002, as cited in Garcia et al., 2019) has identified multiple issues concerning the use of digital primary sources. According to the researcher, not all students have access to the internet and ICT devices. Moreover, the use of ICTs may not reveal the document's authentic features, which are necessary for the document analysis (p. 96)¹⁷ Several scholars, including Taylor (1972), have advocated for the "archival encounter," which refers to the learners' physical visit to libraries, museums, and government repositories. Although this approach appears to be engaging, it has serious practical issues. For instance, organizing classroom visits for each classroom during each course is impractical and unrealistic. Furthermore, a considerable amount of time, money, and effort is required.

The use of debate as an instructional method is also a common practice among educators in civilization courses. However, multiple questions have been raised addressing its limitations. First, it is argued that debate is not sufficient to capture the multidimensional nature of civilization themes. The binary thinking and dualistic reasoning promoted by debates are insufficient in addressing controversial issues. In this context, Tumposky (2004) argues that debates often present two opposing perspectives, eliminating the possibility of having various viewpoints or having one defensible and valid perspective (as cited in Kennedy, 2007, p. 185)¹⁸. Second, a study by Hess (2005) asserts that some teachers deny the existence of controversial issues and deal with them as simple themes during their courses (as cited in Alvé, 537)¹⁹. This results in reinforcing learners' simplified categorical thinking rather than reinforcing critical

thinking skills. Third, the debate on debate is not grounded solely on the teacher's role, but also on the learner's affective factors. For instance, Tumposky argues that debates may create a confrontational environment in classrooms. Hence, some students are likely to experience anxiety and stress (as cited in Kennedy, 2007, p. 185)¹⁸.

Another instructional tool that is commonly used by civilization course educators is the case study method. The use of this method involves constructing a thorough discussion based on a specific historical event, concept, or figure. This method offers an in-depth analysis and a comprehensive, detailed investigation of a precise contextual issue. For instance, during a civilization course, the teacher presents the French Revolution as a case study. The teacher and the learners focus their attention on this specific historical event, deconstructing its layers and analyzing its interrelated components. In this context, learners will address the chronological, ideological, economic, social, political, military, and psychological dimensions, among others, of the French Revolution. Hence, the discussion leads to a nuanced and profound internalization of this exact event.

Although this method, the case study, offers a careful treatment of complex issues, it exhibits critical limitations. Many scholars argue that the case study method is resistant to generalizability. The rationale behind this viewpoint lies in the specificity of each case being studied and analyzed. Each case is context-dependent; therefore, the knowledge acquired from one specific case study is not necessarily transferable and applicable to another case, even if they exhibit similarities. According to Rury (2014), "Case studies are bound by inherent limitations that must also be acknowledged in seeking to make more universal propositions" (p. 243)²⁰. Furthermore, some scholars address issues concerning learners' affective factors and case study analysis. According to Mostert (2007), it is rare for all learners in a classroom to feel excited about participating in a case study discussion. According to him, students often hesitate before stating their views (p. 438)²¹. Therefore, a compelling need for more engaging, motivating, and entertaining instructional pedagogies must be acknowledged to enhance the quality of learning.

The discourse on instructional methods used by educators in higher education remains partial without addressing students' oral presentations. This is attributable to the extensive adoption of oral presentations in diverse courses in different faculties. The primary aim of using oral presentations is to create a student-centered environment and enhance students' public speaking skills, which are necessary for both academic and professional success. However, several empirical studies have been conducted addressing the limitations of oral presentations. In this context, the scholarly

discourse has extensively investigated students' affective barriers while performing their oral presentations.

Many researchers argue that the fear of public speaking and social anxiety are among the major obstacles confronting students. In this regard, a survey was conducted by Russell and Topham (2012) addressing students from two different universities in the UK. The survey revealed that 80% of students reported that oral presentations are the primary source of stress and anxiety. Another study conducted by Ferreira Marinho et al. (2017) on US undergraduate students reveals that 64% of students feel fear from public speaking (as cited in Grieve et al., 2021, p. 1282)²². Furthermore, Elliot and Chong (2004) have also investigated the attitudes of first-year students at a university in Australia regarding oral presentations. The findings show that one-third of the sample had a very high rate of presentation anxiety (as cited in Al-Nouh et. al., p. 138)²³.

In their article, Al-Nouh et. al. summarized the reasons for the exacerbation of anxiety in three focal points. First, the scholars assert that the source of anxiety refers to students' personal traits. It is argued that some students, even if well-prepared, exhibit forms of nervousness and stress. According to the scholars, this may stem from shyness, passive personalities, or low self-confidence. In this regard, a correlational study was conducted by Al-Hebaish (2012) on the relation between Saudi students' self-confidence and their oral presentation performance. Results have shown a positive and a major correlation. Second, Al-Nouh et. al. argue that students' low skills in presentation may be the reason for their anxiety while presenting. Students usually prefer memorizing content or reading from their notes. The third major reason is related to the audience. The scholars argue that most students feel stress while presenting in front of an audience, affecting their overall performance and leading to a mere information delivery rather than a critical analysis (Al-Nouh et al., 2015, pp. 138–139)²³.

While the previously mentioned instructional pedagogies, among others, are widely used by educators, their limitations necessitate the quest for more innovative and engaging methods. The expansive nature of critical thinking and the complex, multifaceted themes of the civilization course require developing a method that transcends the limited access of primary sources, the dualistic reasoning of debates, the lack of generalizability of case studies, and affective barriers stemming from oral presentations. Therefore, this research aims to explore the pedagogical potential of counterfactual thinking in fostering learners' critical thinking in civilization courses.

This study does not claim the failure of previously discussed methods, nor does it claim to design an alternative pedagogical method, but it accentuates the expansive nature of critical thinking (skills, processes,

dispositions) and highlights the need for developing a multifunctional tool that fosters critical thinking holistically, addressing its diverse angles and dimensions. The research also highlights the complex nature of civilization courses and addresses the need for developing pedagogies that facilitate the internalization of its concepts and themes in an engaging learning environment. Therefore, the study explores the potential of counterfactual thinking in enhancing learners' critical thinking in civilization courses. The study aims to contribute to enriching the repertoire of pedagogical tools, equipping educators and instructors with effective strategies to enhance critical thinking skills to meet the challenges of the 21st century.

II. 4. Counterfactual Thinking:

II. 4. 1. Defining Counterfactual Thinking:

Counterfactual thinking is a feature, a trait, and a “hallmark of human thought” (Van Hoeck et al., 2015, p. 1)²⁴. According to Roese (1997), “The term counterfactual means, literally, contrary to the facts.” (p. 133)²⁵. The concept refers to the mental construction and the cognitive generation of alternative scenarios to past events. According to Byrne (2005) and Roese (1997), counterfactual thoughts are mental representations of alternatives to prior events and past occurrences (As cited in Epstude & Roese, 2008, p. 168)²⁶. These counterfactuals are conditional propositions composed of a false antecedent and a consequent. For instance, an individual states: “If I woke up earlier, I would not have missed the train”. In this example, the individual creates a false reality, an alternative to the fact that is “waking up early,” and then he/she forms a logical deduction that is “not missing the train”.

Counterfactual thinking has been examined in various fields, including philosophy, cognitive and social psychology, epistemology, and neuroscience. Therefore, reviewing the existing body of literature on counterfactual thinking provides an in-depth explanation of its essence and the mechanisms that govern the process of constructing a counterfactual thought. Several scholars accentuate the systematic nature of counterfactual thinking. Scholarly works on counterfactual thinking have revealed that creating alternative and imaginative scenarios of past events is not random; rather, it is a systematic, organized mental process governed by reason.

II. 4. 2. The Nexus of Mental Simulations and Rationality:

Although counterfactual thinking appears to be an imaginative mental simulation, as it relies largely on creating hypothetical scenarios, some scholars have argued that rational principles are the governing mechanism in constructing a counterfactual thought. Traditionally, scholars used to differentiate between imagination and rationality, considering them

as opposites. However, some scholars have argued that imagination, in essence, is a rational process. In her book, *The Rational Imagination*, M. J. Ruth Byrne (2005) argues for the linkage between rational thought and imaginative thought. Byrne emphasizes the nexus between the two seemingly opposite modes of thinking through counterfactual conditionals (p. 30)²⁷. In this vein, Epstude and Roese define counterfactual conditionals as: “an inference that relates an antecedent with a consequent” (p. 170)²⁶. The researchers’ use of “inference” indicates the systematic, rational, structured nature of counterfactuals.

II. 4. 3. Causal Inference:

As already mentioned earlier, the construction of a counterfactual thought is a rational, systematic process of generating inferences. Different types of inferences can be traced when mentally simulating alternatives to past occurrences. Deductive, abductive, and causal inferences are the sine qua non of generating counterfactuals. It is significant, however, to highlight the causal inference as a primary type of inference in the context of counterfactual conditionals. Thus, the cause-and-effect relation accentuates the interference of rationality when formulating counterfactuals. This claim can be justified since the cause-and-effect relation is inherently rational and does not operate randomly and superficially. In this vein, consider the following example: “If Britain had lost the war, the Nazi regime would have dominated Europe.” In this example, we construct an alternative scenario, “Britain losing the war,” and then generate a consequence: the “Nazi regime would have dominated Europe.” The choice of this consequence was not random but rather was generated as a result of a logical, rational, and reason-based process. In simpler words, the speaker cannot use “people will boycott African products” or “Electricity will be free for everyone” as a conclusion for “If Britain had lost the war”, because these conclusions are irrelevant to the antecedent, i.e., there is no logical connection between the clauses, which proves the rationality underlying the creation of counterfactuals.

II. 5. The Intersection of Counterfactual Thinking and Critical Thinking:

Notwithstanding the scarcity of research explicitly addressing the linkage between counterfactual thinking and critical thinking, there exists a considerable body of research linking counterfactual thinking to the components of critical thinking: skills, processes, and dispositions. In this context, counterfactual thinking is often related to individuals’ analytical skills, problem-solving, decision-making, self-reflection, open-mindedness, and humility. For instance, Epstude and Roese argue that there are two distinct types of counterfactuals, and each one enhances a distinct cognitive ability.

The first type is called the subtractive counterfactual; it refers to generating alternative scenarios by removing elements from the real scenario. The scholars argue that breaking down a factual situation and deleting some of its real elements would enhance the analytical skills and problem-solving abilities (Epstude & Roese, 2008, p. 175)²⁶. For instance, a novice trader states: "If I had not neglected studying the market, I would have avoided falling into bankruptcy." The speaker generates an alternative scenario to reality by subtracting his neglect of the market. By removing "his lack of attention", the speaker is now faced with multiple questions analyzing the situation. Questions including what was neglected exactly, and why it was neglected. These types of questions are analytical by nature, aiming at deconstructing a problem and forming a better understanding of the situation. Thus, providing solutions to the problem.

The second type is called additive counterfactuals. This type refers to forming mental simulations of real-world events by adding elements that do not exist in the real-life scenario. For instance, the same previous novice trader states: "If I had used attractive packaging for my products, I would have gained more." In this example, the speaker does not create an alternative scenario by deleting a real element; instead, he/she creates a hypothetical scenario by adding an element that is not real, "the use of an attractive packaging". The speaker is no longer limited to what actually happened or with what already exists; rather, his/her mind is open for generating diverse new possibilities. In this regard, Epstude and Roese argue, "the additive mind-set enhances performance in creative idea generation tasks" (p.175)²⁶. In simpler words, additive counterfactuals have the potential to increase creativity and innovation by adding new elements into real-life scenarios. Hence, improving future performance.

One of the most essential components of critical thinking is decision-making. The ability to form accurate, logical, and rational decisions requires higher-order thinking skills. Decision-making was associated with counterfactual thinking in various scholarly works. Researchers have investigated the role of counterfactual thinking in behavior regulation, performance enhancement, and future planning, all of which require making informed and sound decisions. The logic of the argument rests on the idea that generating counterfactuals yields a variety of alternative consequences of an action. Thus, deciding and selecting the most appropriate action to gain better outcomes in the future. In this vein, Van Hoeck et. al., support this idea by stating: "We employ such counterfactual reasoning to make sense of the past, plan courses of action, make emotional and social judgments, and guide adaptive behavior" (p. 1)²⁴. In a similar vein, Epstude and Roese emphasize the corrective function of counterfactual thinking by stating, "Counterfactual thinking connects directly to course correction, to goal cognition, and to behavior regulation" (p. 186)²⁶. In this

regard, it is significant to accentuate the profound link between regulating behavior and making sound decisions. The former does not operate in isolation from the latter. i.e., regulating behavior involves making sound and informed decisions. Therefore, the argument that counterfactuals enhance the quality of decisions appears to be valid.

Another facet of critical thinking is self-reflection. Many scholars argue that a critical thinker can reflect on his/her own way of thinking, judgments, decisions, and behaviors. Self-examination and self-assessment are significant components of a critical mind. Interestingly, self-reflection is also the crux of counterfactual thinking. As indicated earlier, the functional theory of counterfactual thinking advocates for the corrective and regulative role of counterfactuals. To correct, regulate, and adjust behavior requires primarily constructing mental processes of self-reflection. For instance, analyzing real-world scenarios by creating alternatives, forming new possibilities, and assessing the negative outcomes is the essence of the self-reflective process. In simpler words, it is turning the reason inward to examine and assess what went wrong and how it can be enhanced. Therefore, self-reflection is another shared ground that reveals the intersection of critical thinking and counterfactual thinking.

The argument on counterfactual thinking and self-reflection elevates the discussion even further to address the dispositional dimension of critical thinking. Self-reflection and self-assessment indicate humility and open-mindedness, which are key features of critical thinking. For instance, creating alternative scenarios for actions indicates an openness to different possible worlds. In addition, analyzing what went right and what went wrong indicates an awareness of the limitations of one's own knowledge and experiences, thus exhibiting flexibility and epistemic humility. Hence, the result will be manifested in regulating behaviors, learning from the past, and enhancing future performance.

II. 6. The Educational Potential of Counterfactual Thinking in the Civilization Course:

The civilization course represents one of the most significant classes in higher education. The course does not only provide descriptions of cultural elements, political decisions, and historical narratives, but also provides a platform for advancing learners' cognitive skills and equipping them with the necessary skills to be global citizens. Nevertheless, many educators and students engage with themes of civilization passively. For instance, Huijgen and Holthuis (2014), assert that many students engage with history as a fixed, rigid chain of chronological events, eliminating any possible alternatives to these past events. The scholars refer to this view as "creeping determinism" (p. 106)²⁸. In simpler words, to deal with history as something that could not have unfolded differently, and those past events

are deterministic in nature. The view of historical inevitability contradicts the nature of history that is distinguished by continuity and change.

Recently, researchers and civilization educators have recognized the importance of the civilization course. Therefore, the scholarly discourse on the significance of civilization themes, in addition to the quest for optimal instructional pedagogies and strategies, have been accelerated. This present research is another scholarly discourse that aims to enrich the pedagogical repertoire of the civilization course. The research suggests counterfactual thinking as a teaching strategy that is sensitive and suitable to civilization themes. Unlike previous studies on counterfactual thinking that dealt with the concept from a theoretical perspective, this research suggests applying counterfactual thinking to boost critical thinking skills and to meet the expected objectives of the civilization course.

II. 6. 1. Counterfactual Historical Reasoning (CHR):

Counterfactual historical reasoning refers to generating alternative scenarios about historical facts and events. In this regard, Huijgen and Holthuis argue, “CHR concerns itself with asking the what-if questions about history, such as: would the Holocaust have taken place if Hitler had been killed in 1938?” (p. 104)²⁸. Posing such questions in civilization classes engages learners in critical analysis of historical narratives. These questions place learners in a historian's stance, where historical knowledge is not to be memorized but investigated, deconstructed, and reimagined. However, despite the promising potential of CHR, educators do not recognize it as a pedagogical tool that can contribute to the depth and comprehension of civilization themes. Or, in best-case scenarios, educators do not use counterfactual thinking explicitly and systematically. Therefore, this research aims to draw attention to the potential of counterfactual thinking in teaching civilization themes and also in enhancing critical thinking skills.

III. Methodology:

III. 1. Participants:

A non-probability convenience sampling method is used due to the exploratory nature of the research. An online questionnaire was administered to 72 EFL learners enrolled in civilization courses during the academic year of 2025-2026 from multiple Algerian universities to gather diverse insights. The choice of this sampling method is justified by its practical advantages: easy and convenient access to participants through email and different online platforms, in addition to their willingness and readiness to participate.

III. 2. Research Instruments:

This exploratory research has been conducted using a quantitative approach, employing a descriptive method through the use of an online structured questionnaire as a data collection tool. The questionnaire was designed using five-point Likert scale containing sixteen (16) items aiming at investigating learners’ perceptions toward the use of counterfactual thinking to enhance critical thinking skills in civilization course. The questionnaire was designed and developed using Google Forms.

III. 3. Research Procedures:

The current study aims at exploring learners’ viewpoints on the integration of counterfactual thinking as an innovative pedagogical tool to foster critical thinking in civilization classes. The research procedures can be organized into three main steps. Firstly, the researchers used Google Forms to develop the online questionnaire after reviewing an extensive body of literature concerning the research variables. Secondly, the questionnaire was administered online via email and online platforms of Algerian EFL learners from different universities. Thirdly, the collected data were analyzed using Statistical Package for the Social Sciences (SPSS) software.

III. 4. Psychometric Properties:

It is significant to highlight that the questionnaire employed in this study was revised by three experts in the field of English Language and Culture to maintain the validity of the research. Moreover, the questionnaire was administered to a pilot sample of 10 EFL students in order to check its reliability before administering it to the sample of the study.

IV. Results and Discussion :

Before discussing the participants’ responses, it is significant to denote that the questionnaire used in this study contained a conceptual introduction explaining briefly the variables of the study; critical thinking and counterfactual thinking. The definitional preamble is vital to foster the comprehension of the statements of the questionnaire. Thus, enhancing the validity of the research. The responses of the questionnaire are presented in the following table:

Table 1. The Mean and the Standard Deviation of Questionnaire’s Items

N	Statement	Mean	SD
1	Rethinking alternative scenarios for real-life events and incidents is important for building a better understanding of the situation and improving future encounters.	4.25	0.82
2	Thinking counterfactually is a trait of human thought	4.81	0.45

that is highly grounded in reason.

3	Counterfactual thinking enhances analytical, interpretive, and evaluative skills.	4.47	0.71
4	Counterfactual thinking improves various mental processes, including decision-making and problem-solving.	4.00	0.90
5	Counterfactual thinking is a complex process that requires logic, plausibility, and reason.	3.55	1.10
6	Counterfactual thinking enhances critical thinking skills by creating plausible mental simulations of past occurrences.	4.15	0.85
7	Counterfactual thinking enhances learners' open-mindedness and cognitive flexibility by exposing them to new possibilities.	4.70	0.52
8	Thinking counterfactually fosters learners' curiosity to think differently and to ask "what might have happened if?"	4.90	0.40
9	Thinking counterfactually fosters learners' motivation and willingness to engage, to participate, to share the worlds they have created, and to reason about them.	4.85	0.43
10	The Civilization course contains different complex intersecting themes that require advanced cognitive and metacognitive skills for their internalization.	3.55	1.10
11	The Civilization course is an intellectually rigorous course that requires critical thinking.	3.50	1.15
12	Counterfactual thought is naturally suitable for the civilizational themes.	4.00	0.90
13	Counterfactual thinking has the ability to enhance historical thinking and reasoning.	4.90	0.40
14	Counterfactual thinking has the potential to contribute in fostering political thinking.	2.50	1.25
15	Counterfactual thinking contributes in understanding different cultural elements.	2.73	1.18
16	Counterfactual thinking as a pedagogical tool in the civilization course has the potential to enhance learners' comprehension of civilizational themes in addition to their critical thinking abilities.	4.50	0.65

Table (1) shows the mean and the standard deviation of participants' responses of each statement. The significance of calculating the mean is to examine the degree of agreement and disagreement regarding each statement. Numerical values were allocated as follows: Strongly agree =5; agree =4; neither agree nor disagree =3; disagree =2; strongly disagree =1. As the table shows, the first and the second statements received high means (4.25, 4.81) which indicates the participants' familiarity with counterfactual thinking as a type of thinking and its use it in their daily lives.

Statements 3,4,5, and 6 have also received high means (4.47, 4, 3.55, 4.15) which indicates learners' agreement regarding the role of counterfactual thinking in enhancing critical thinking whether on the level of skills or processes. The mean of statement 6 (4.15) reveals participants' high awareness regarding the rationality of counterfactual thought. In other words, the participants are aware that counterfactual thinking is not a mere hypothetical and superficial thinking, instead, it is a reason driven process which is compatible with Byrne's view of the rationality of counterfactual conditionals.

Statements 7, 8, and 9 can be summarized in learners' dispositional dimension (open mindedness, cognitive flexibility, curiosity, and motivation) which is an integral part of critical thinking. The findings show very high means for each statement (4.70, 4.90, 4.85). The statistics indicate the participants' agreement on the role of counterfactual thinking in triggering learners' curiosity, boosting their motivation, and creating cognitive flexibility. According to many scholars, as discussed in the literature review, these facilitative factors are of a paramount significance in creating critical minds.

Statements 10 and 11 express the complex nature of civilization course and the need for advanced skills including critical thinking skills to internalize its intersected themes. These two statements have received high agreements among participants which indicates their awareness regarding the seriousness of the course, its challenges, needs, and requirements (3.55, 3.54).

Statements 12, 13, and 16 have also received high means (4, 4.90, 4.5). These results can be analyzed and discussed as follow: the participants distinguish counterfactual thinking as a type of thinking that is suitable to implement in civilization classes, especially when dealing with historical events and incidents. The participants agree that counterfactual thinking is

naturally suitable and can be an effective pedagogical tool that is sensitive for the themes of civilization course and at the same time has the ability to foster critical thinking abilities.

Finally, the statements 14 and 15 draw attention to two more essential facets and integral dimensions of civilization which are: politics and culture. The statements express the potential role of counterfactual thinking in enhancing the comprehension of these two distinctive yet intersected areas. The statements have received from low to moderate means (2.5 and 2.73). The low and moderate average levels of agreement can be attributed to participants' lack of awareness of politics and culture as integral components of the civilization course. In this vein, several scholars have argued that educators of civilization rely exclusively on teaching history, neglecting other dimensions of civilization. In this vein, Bouaita (2026) argues, "the civilization module remains largely history-oriented." (p. 194)²⁹. Hence, learners are not certain about the role of counterfactual thinking in reinforcing critical thinking in the political and cultural dimensions.

The findings also show the standard deviation of each statement. The significance of calculating the standard deviation is to reveal the responses' variability and spread. The aim of calculating the SD is to reveal whether there is a consistency and an agreement in responding. For instance, the statements (1,2,3,4,6,7,8,9,12,13 and 16) show low SD which indicates low spread of answers and low inconsistency. This reveals that most answers were close to each other around the mean and that the respondents highly agree on these statements. However, statements (5,10,11,14, and 15) show moderate spread of answers which means a moderate agreement.

To sum up, the findings indicate that counterfactual thinking is familiar for most of the participants. In addition, the respondents are aware of its potential role in enhancing critical thinking abilities from its various angles. For instances, respondents agree that thinking counterfactually has the ability to foster mental skills including, interpreting, analyzing, and evaluating. Furthermore, the respondents also agree on counterfactual thinking ability to ameliorate the mechanisms governing advanced mental processes including decision making and problem solving. Moreover, the participants also recognize the potential role of this type of thinking in boosting learners' positive affective factors, especially curiosity, motivation, and cognitive flexibility. Hence, the participants are able to recognize the

multifunctional role of counterfactual thinking in fostering the multidimensional nature of critical thinking.

Furthermore, the findings have shown the participants' awareness of the complex nature of civilization course. Findings reveal a general consensus regarding the use of counterfactual thinking as a pedagogical tool to transcend the challenges of civilization themes as well as to foster critical thinking skills.

Finally, the results also show participants' awareness of the potential role of counterfactual thinking in enhancing historical reasoning. However, the results have shown low agreements and inconsistency as far as politics and culture are concerned. This can be attributed to the conventional and traditional methods of civilization course-instruction which rely largely on history as a central focus of the course, neglecting other dimensions of civilization, and oversimplifying its complex nature.

V. Conclusion :

This study represents an exploratory investigation regarding the promise of counterfactual thinking in addressing the multifaceted nature of critical thinking. The research suggests harnessing the multifunctionality of counterfactual thinking for transcending the multidimensionality of critical thinking as an expansive conception. More explicitly, the research aims at proposing the adoption of counterfactual thinking as an organized and systematic pedagogy to foster the different components of critical thinking including cognitive skills, mental processes and the facilitative affective factors. Furthermore, the research draws attention to the suitability of counterfactual thinking exhibiting a congruence with civilization themes.

The descriptive statistical analysis has revealed learners' receptivity toward the adoption of counterfactual thinking as an instructional tool to nurture critical thinking in civilization courses. Furthermore, the findings show learners' high agreement regarding the positive impact of generating mental simulations to past events on learners' cognitive skills and mental processes. Moreover, according learners, asking: "what could have unfolded differently" has the potential to enhance their curiosity, to draw novel conclusions, to construct deductions, and to enhance their open-mindedness on different new possible worlds.

Finally, the study paves the way to future empirical researches on the essence of counterfactual thinking and its promise in educational settings. It also draws attention to the significance of emphasizing the instruction of how to think rather than what to think. It delves into the depth of cognitive psychology to contribute in creating a more optimal teaching and learning environment. Hence, contributing to the global discourse on enhancing the intellectual citizenry.

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