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Developing critical thinking in higher education through the analysis of academic texts in a foreign language

Desenvolver o pensamento crítico no ensino superior através da análise de textos académicos em língua estrangeira

Desarrollo del pensamiento crítico en la educación superior a través del análisis de textos académicos en lengua extranjera

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ABSTRACT

The main task of contemporary higher education is to reveal the abilities of each student, to educate a person ready for life in a high-tech, competitive world. Modern society, and therefore modern education, needs a free, creative person with certain qualities of thinking. Freedom of thinking implies a critical approach, oriented towards creative and constructive activity, so the qualitative characteristic of thinking of a free person is critical thinking. The article considers the development of HE students' critical thinking in a VUCA world. The implications of FL academic reading for shaping critical thinking are analyzed within theoretical visions and existing practices. A combination of narrative review and grounded theory methodology allowed systematizing current patterns and trends, and ultimately suggested a conceptual vision (scheme) of the landscape of developing critical thinking in HE students through the analysis of academic texts in FL.

Keywords: VUCA world education, Gen Z students, motivation, academic reading and writing, FL learning, adaptive reasoning.

RESUMO

A principal tarefa do ensino superior contemporâneo é revelar as competências de cada aluno, educar uma pessoa preparada para a vida num mundo competitivo e de alta tecnologia. A sociedade moderna e, por conseguinte, a educação moderna, necessita de uma pessoa livre e criativa, com determinadas qualidades de pensamento. A liberdade de pensamento implica a sua orientação crítica, orientada para a atividade criativa e construtiva; portanto, a característica qualitativa do pensamento de uma pessoa livre é o pensamento crítico. O artigo considera o desenvolvimento do pensamento crítico dos estudantes do ensino superior num mundo VUCA. As implicações da leitura académica em LE para a formação do pensamento crítico são analisadas dentro das visões teóricas e práticas existentes. A combinação da revisão narrativa e da metodologia da teoria fundamentada permitiu sistematizar os padrões e tendências atuais e, por fim, sugerir uma visão conceptual (esquema) do panorama do desenvolvimento do pensamento crítico nos estudantes do ensino superior através da análise de textos académicos em LE.

Palavras-chave: educação no mundo VUCA. Alunos da Geração Z, motivação, leitura e escrita académica, aprendizagem em LE, raciocínio adaptativo.

RESUMEN

La principal tarea de la educación superior contemporánea es revelar las capacidades de cada estudiante y formar una persona preparada para la vida en un mundo competitivo y altamente tecnológico. La sociedad moderna, y por ende la educación moderna, requiere una persona libre y creativa con ciertas cualidades de pensamiento. La libertad de pensamiento implica una orientación crítica, orientada hacia la actividad creativa y constructiva; por lo tanto, la característica cualitativa del pensamiento de una persona libre es el pensamiento crítico. El artículo considera el desarrollo del pensamiento crítico en estudiantes de educación superior en un mundo VUCA. Se analizan las implicaciones de la lectura académica en lenguas extranjeras (LE) para la formación del pensamiento crítico desde la perspectiva de las visiones teóricas y las prácticas existentes. La combinación de la revisión narrativa y la metodología de la teoría fundamentada permitió sistematizar los patrones y tendencias actuales y, en última instancia, sugerir una visión conceptual (esquema) del panorama del desarrollo del pensamiento crítico en estudiantes de educación superior mediante el análisis de textos académicos en LE.

Palabras clave: Educación en un mundo VUCA. Estudiantes de la Generación Z, motivación, lectura y escritura académicas, aprendizaje de LE, razonamiento adaptativo.

INTRODUCTION

In higher education, cultivating critical thinking skills is essential for equipping students to evaluate data, resolve challenging issues, and reach well-informed conclusions. This entails developing the capacity to examine, assess, and integrate data from multiple sources, challenge presumptions, and consider other viewpoints. Using multidisciplinary approaches, encouraging metacognitive abilities, and implementing active learning methodologies are some ways to foster critical thinking in higher education. Critical thinking skills are particularly important in higher education because of the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) environment. Universities must give students the skills they need to handle difficult, unclear circumstances and make wise choices even when they don't have all the facts (Ciolacu et al., 2023). This entails encouraging active learning strategies, cultivating an entrepreneurial mindset, and using technology to improve critical thinking and analytical skills.

The VUCA reality of today makes things more complicated for enterprises and makes it almost impossible to find creative ways to manage change and build agile organizations (Groysberg & Abbott, 2020). In response, employing sometimes faulty and insufficient information, quality thinking is required to assist leaders, teams, and individual contributors in becoming more flexible, adaptive, and capable of handling quickly changing circumstances. For example, the structures established prior to the onset of chaos play a major role in the ability to handle a crisis situation. In some aspects, the incident might be compared to a sudden and harsh audit: everything that was not planned for suddenly becomes complicated, and all of the weaknesses are brought to light. There is a kind of void created by the breach in the defenses caused by the crisis (Duignan, 2022). Adaptive critical thinking becomes crucial under these circumstances.

The function of education has changed and grown in the modern era. Merely concentrating on gaining knowledge is insufficient. We place more emphasis on how students may use what they have learned in novel and creative ways, thereby equipping them to tackle problems that we have not yet anticipated. In a world where flexibility is equally as vital as academic achievement, students should work together, practice interdisciplinary thinking, and build resilience. Experts now stress that education needs to change from only teaching knowledge to encouraging creativity, critical thinking, and problem-solving skills so that students can confidently negotiate ambiguity in today's unpredictable environment (Dulignan, 2022).

The quick and erratic changes we observe in economies, technology, and sectors are referred to as volatility. In order to combat this, education must emphasize building resilience and adaptability to help students become lifelong learners who can change course and adapt to new situations without becoming overwhelmed. Students are better able to view change as an opportunity for innovation rather than a danger when the curriculum places a strong emphasis on creativity and problem-solving. Students face uncertainty since their futures are uncertain and may not be as stable as they formerly were due to societal norms and established professional choices. As a result, educational institutions must foster critical thinking and decision-making abilities, enabling students to deal with uncertainty with assurance and adaptability. This involves cultivating an entrepreneurial attitude in which students are urged to consider several approaches to issues and make defensible choices in the face of insufficient information.

The interconnection of global systems, where seemingly straightforward problems frequently have complex origins and effects, is reflected in complexity. Education must embrace interdisciplinary learning to prepare for this, dismantling old academic silos and enabling students to understand the wider picture. In order to work in a variety of disciplines, students must be able to collaborate with others and comprehend the interplay between political, social, technological, and environmental issues. Adopting systems thinking is a key component of education for complexity, which teaches students to recognize cross-disciplinary linkages and comprehend the larger context of information (Schleicher, 2019).

Finally, ambiguity draws attention to the problem of conflicting or ambiguous information, which calls for education to concentrate on helping students become more flexible and ethical thinkers. Students need to be able to think critically, challenge presumptions, and assess many viewpoints in a world where there are frequently no obvious right or wrong answers. To prepare students for leadership in an uncertain world, universities must promote empathy, open communication, and a diversity of perspectives. Education may produce well-rounded people who are not only equipped to handle the difficulties of the future but also capable of influencing it with assurance, ingenuity, and purpose by addressing each of these VUCA components.

Foreign languages and critical thinking

Research indicates that teaching foreign languages can be an effective strategy for fostering critical thinking abilities in college students. Students can improve their critical thinking skills by participating in discussions, studying diverse languages, and assessing data from multiple sources (Yaccob et al., 2023). English is particularly a medium of interconnectedness in the so-called global age we live in today. Language proficiency has a significant impact on people and communities all around the world (Lin, 2020). The English language is taught in today's global educational environment using

effective methods including project-based learning, problem-based learning, and the incorporation of real-world contexts to improve students' English language proficiency. In general, it is linked to the goal of education, which is to give students meaningful English instruction so they can achieve successful learning outcomes and develop future thinkers who are adaptable (Mansilla & Wilson, 2020).

The academy and praxis should place a high priority on developing students' employability and preparing them to work in a multifaceted environment by giving them the right transferable skills (Azionya & Oksiutycz, 2019). Along with critical thinking, self-motivation and self-discipline, (learning) agility and autonomy, resilience, and teamwork and communication skills, these abilities are especially helpful in a VUCA context. Given the numerous advantages that multilingualism generally offers, a language course would seem to be a good fit for fostering these abilities. Over the past 20 years, researchers have emphasized the benefits of multilingualism, demonstrating that knowing multiple languages can enhance cognition, which is the foundation of critical thinking, among other things.

Critical thinking abilities are naturally developed through language study. Analyzing a new language's structure, comprehending its context, and interpreting its meaning are all essential elements of critical thinking. Teachers can improve students' critical thinking skills and language competency by introducing critical thinking exercises like debates, discussions, and problem-solving into language classes. Context is fundamental to language. To correctly understand meaning, learners need to take the speaker, audience, and circumstance into account. Critical thinking requires the ability to analyze context. It takes rigorous analysis and interpretation to determine a message's intended meaning, particularly when speaking a foreign language. This ability can be applied to the analysis of data and arguments in any setting.

One of the important domains for critical thinking development is working with academic texts in a foreign language. This is one of the highest forms of intellectual activity, inherent overall in the activities of scientists, experts, innovators, etc., and thus it can be considered extremely expedient for integration into higher education curricula. Watson Glaser (cited in Zulmaulida et al. (2018)) developed a critical thinking program that includes tests to check the ability to reason, draw conclusions, recognize assumptions, evaluate the findings and the strength of arguments. Critical thinking, in his opinion, is the validity of judgments, statements of actions, and the ability to assess the degree of their validity (rationality, reasonableness), to find a kind of boundary of applicability. This characteristic of thinking is based on knowledge and social stereotypes; in more detail, one can talk about critical analysis, the ability to interpret and explain, draw conclusions and inferences, evaluate in order to make judgments about "what to believe and what to do". In addition, the phrase "think critically" also implies the ability to apply the above skills in relation to oneself, as well as to the problem. Critical analysis is understood as the ability to restore missing premises, to examine them from the point of view of logical correctness. This, in essence, is the basis for working with academic texts.

However, the dynamics of social development leaves its mark on the effectiveness of methods used in education, including higher education. The determinants of the level of this effectiveness are, in particular, changes in the "profile" of students.

Navigating the critical thinking domain: Generation Z, technology and current dynamics

Born between 1995 and 2010, Generation Z is the demographic that will dominate college courses until roughly 2030. Generation Z can be viewed as the first generation of true digital natives, who are comfortable with technology from a young age. The generation is highly connected, with up to five screens on several devices at once (Łanucha & Bleistein, 2022), spending over ten hours per day on internet material (Hebblethwaite, 2018), and participating with various social media platforms. Online learning can be beneficial, but the abundance of information can lead to decreased attention span and a desire for instant gratification (Łanucha & Bleistein, 2022). Streaming platforms, delivery services, and search engines make it easy to fulfill most needs with a single click or tap.

The availability of different online content platforms and technical gadgets influences learning preferences. Generation Z places a higher focus on independent learning than previous generations of Millennials, who valued collaboration. While learner autonomy is not a novel concept, it is clear that technological advancements and the availability of language learning tools and content have significantly improved the conditions for individual progress at an appropriate pace, contributing to the popularity of independent learning among Generation Z. With a new generation of students entering university courses, teachers are challenged with shifting student learning patterns and preferences, which often differ from the teachers' own. The features of the Generation Z cohort, including their learning preferences and views toward technology and society, influence how these students approach language acquisition and the obstacles they face.

The process of learning a language allows students to build VUCA skills, such as critical thinking, which go well beyond language ability. To adapt to the rapid rate of change, one must develop agility, or the ability to consider alternative ways to problems as they arise. According to research, multilinguals are better equipped to find new directions in thinking because mastering a foreign language in a classroom context significantly increases the four components of divergent

thinking ability, i.e., fluency, elaboration, originality, and flexibility (Ghonsooly & Showqi, 2012). Independent learning, or the ability to develop abilities autonomously with instruction as needed, is an important component of learning agility. "Synergy" of potentials of language learning and academic texts analysis creates excellent opportunities for critical thinking development.

However, today's HE students, particularly Generation Z students, confront distinct problems while engaging with academic materials due to their digital native status and learning preferences. These issues include shorter attention spans, a preference for brief and visually appealing content, and a desire for instant answers rather than in-depth examination. They may also struggle with critical reading abilities such as synthesis and comprehension of primary points.

Furthermore, in a study on the experiences of a group of 'non-traditional' students in higher education, Tahira and Haider (2019) discovered that a common issue is student misunderstanding about what is expected of them in terms of academic writing. As Andrews (2003) points out, when instructors' and students' expectations differ, problems might arise. The cause of the "trouble" – that is, students' incapacity to write in the ways required by the academia – has been the subject of much scholarly investigation and controversy. Parts of the literature have addressed the history of foreign students' perceptions of some cultures – particularly Confucian-heritage cultures – as impeding their ability to develop critical and analytical thinking. Others, like Jones (2007), have contended that the university's failure to adequately explain and teach its discourse norms and conventions may be the reason why international students are unable to exhibit critical thinking.

Evidently, the roots of failing in academic writing lie in the lack of critical thinking skills shaping during reading and analysis of academic texts, including in FL.

As the main means of gaining a wide range of knowledge, including facts, theories, and concepts necessary for comprehending different subjects and fields, academic reading is a fundamental component of education, research, and personal growth (CastilloMartínez & Ramírez-Montoya, 2021). Its importance in promoting academic achievement is widely known; being able to read well is essential for understanding assignments, tests, and duties at university. According to Nguyen and Henderson (2020), university students must engage in academic reading as a critical intellectual activity. Academic reading requires a deliberate and critical approach because it is discipline-specific, targeted, and sophisticated in contrast to everyday reading (Maguire et al., 2020). It entails a demanding social practice that calls for consistent practice and effort, supporting academic success in a variety of fields and cultivating superior critical thinking abilities. A skilled and well-rounded approach to integrating academic reading, writing, and reasoning instruction with FL teaching curricula could yield positive outcomes, as Gen Z students in EFL contexts significantly choose interactive and participatory reading activities. In order to outline potential avenues for improved understanding and conceptual development, our study attempts to systematize current perspectives and practices in this field.

METHODS

The methodological basis of the study is a set of philosophical, psychological, and pedagogical provisions that reveal conceptual approaches to the implementation of the process of developing critical thinking (Mulnix, 2012). The concepts of critical philosophy, critical rationalism, dialectics, which considers processes and phenomena in their universal connection, integrity, and interdependence (Wolin, 1987) were the basilar structure for the reasoning of the model. Other elements of psychology and pedagogy regarding the recognition of man as the highest value and goal of social development, frame the proposed analysis on the interaction of society and man, creative activity (Bauer & McAdams, 2004).

We employed a methodology of narrative review (Rother and Ferrari, 2015) and critical content analysis (Krippendorff, 2018) while the search for items to include in the sample of sources was carried out with the use of grounded theory elements (Dunne, 2011). Search in scientometric databases Wiley, ResearchGate, ScienceDirect, MDPI, and ERIC with the key words "critical thinking in HE students", "developing critical thinking", "critical thinking in academic reading", "academic reading in FL" allowed compiling an array of sources consisting of 126 items, which we then analyzed with the help of AILYZE software, to obtain more precise and deeper insights. The obtained categories, in particular, VUCA education, Generation Z students' motivation, adaptive reasoning, among others, became the basis for the final search of sources to be included into the analysis and subjected to manual narrative review and content analysis.

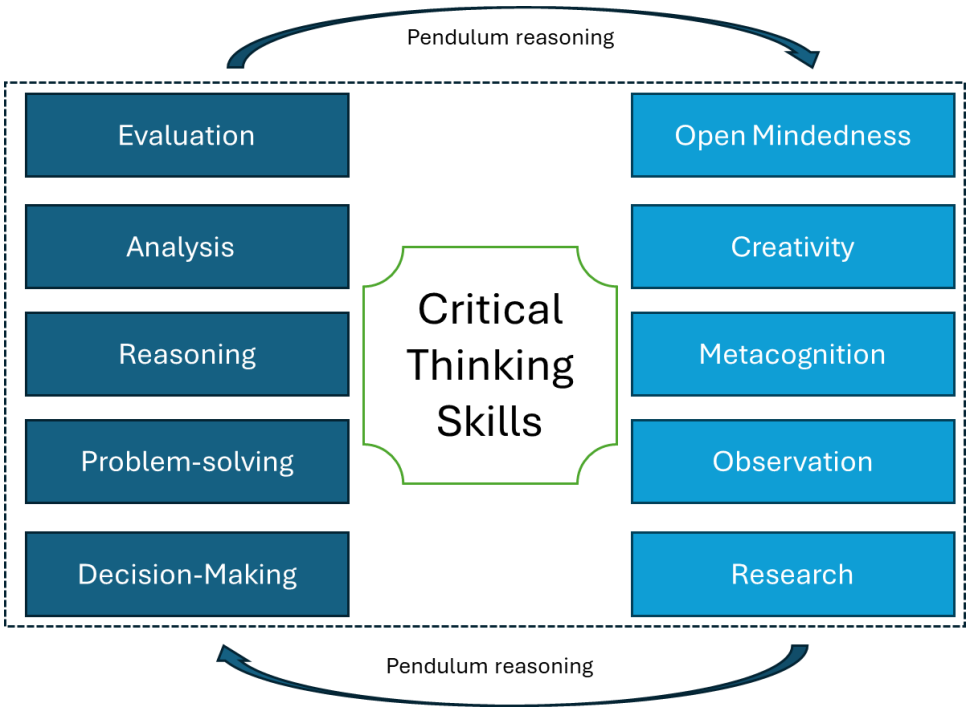
Finally, following a critical pendulum reasoning (Hutcheon, 1992; Bond, 1995; Shayer, 1979) some testable propositions were developed with the aim of developing an exploratory conceptual model (Hollebeek et al., 2024; Hulland, 2020) and a possible agenda for future research into the phenomenon.

RESULTS AND DISCUSSION

Critical thinking represents a complex integrative quality of a person, a set of motivational, cognitive, activity-based, reflexive components that ensure the processes of self-knowledge, self-education, self-realization, including the skills of interpretation, analysis, evaluation, conclusion, explanation, self-regulation and the skills of problem-solving thinking, dialogical thinking, critical analysis. It reflects the socially conditioned level of development of a student in educational and research activities, represents a professionally and personally significant value (McPeck, 2018). At the same time, the technology for developing students' critical thinking in the process of learning a foreign language is based on a systemic, cognitive-communicative, personality-oriented, activity-based approach and the principles of communicativeness, text-centrism, complementarity, controlled transition from activity in an educational situation to a life situation, reflection. The American National Council on the Teaching of Critical Thinking believes that the intellectual skills of critical thinking must meet certain requirements (standards), which are universal. These include clarity, precision, accuracy, validity, relevance, depth, impartiality or objectivity, and logicality (Egan, 2019).

The critical thinking mechanism includes dialectical mental operations that determine the process of reasoning and argumentation: setting a goal, identifying a problem, putting forward hypotheses, making arguments, justifying them, predicting consequences, accepting or rejecting alternative points of view. This notion can be considered as pendulum reasoning (Bond, 1995). The mechanism includes the ability to apply basic intellectual skills (knowledge and understanding) to synthesize, analyze, and evaluate complex and ambiguous situations and problems (Egan, 2019). Today, experts in both HE and professional development compile the lists of necessary critical thinking skills, and these lists, in essence, are identical and can be largely summarized as shown in Fig. 1. It is commonly acknowledged that CT is a basic ability that is vital for both academic achievement and the creation of adaptable individuals who can handle the challenges of the constantly changing labor market (Le & Chong, 2024). The duty of teaching students a wide range of skills, such as teamwork, self-direction, flexibility, creativity, analytical acumen, and the ability to evaluate oneself and make well-informed decisions, has been taken on by contemporary higher education institutions. In a dynamic, globally connected, and technologically advanced world, where knowledge acquisition is only one aspect of a larger skill set that employers require, these qualities are essential (Jaramillo Gómez et al., 2025).

Figure 1. Core critical thinking skills



Source: Authors' development based on literature

The effectiveness of developing students' critical thinking in the process of learning a foreign language is ensured by the following pedagogical conditions: the formation of cognitive motives that stimulate students' thinking; the creation of an educational and research environment; the integration of modern information technologies with active forms and methods of teaching a foreign language (discussion, project activities, brainstorming, problem-based, heuristic, research methods, etc.), contributing to the development of critical thinking, increasing students' cognitive interests (Negoescu, 2023).

The importance of addressing the issues of optimal use of the developing capabilities of a foreign language for the development of critical thinking at the stage of higher professional education is actualized by the fact that the formation of a global information space and a sharp increase in the volume of information, including in a foreign language, presupposes not only a sufficient level of communicative competence of a specialist, but also the ability to critically understand the reliability of the information received, its relevance to the tasks being solved, the ability to effectively work with this information (receive, save, interpret, and use), recognize problems and find quick but balanced ways to solve them. Obviously, these skills and abilities will not arise by themselves only in the course of studying a foreign language in the classical understanding of this process; they require targeted training in specially organized classes.

In the context of learning English as a foreign language (EFL), Besral (2022) asserts that comprehension of academic texts in English necessitates the capacity for critical thought and precise writing responses. His study sought to enhance students' critical reading skills by using Double Entry Journals. To accomplish these competencies, we carried out a classroom action research project with a group of at-risk students who were having difficulty finishing the fifth semester's reading course. The author discovered that during two cycles, students' critical thinking skills increased in both their oral presentations and reading assignments. Research indicates that students performed better orally when working on fiction. Apart from the use of DEJ, the essay also explores the kinds of student activities that could help them build critical thinking abilities, especially in the areas of speaking, writing, and reading.

Similar to other foreign language learners, the core of critical thinking in the context of English as a Foreign Language (EFL) determines not just one's ability to receive or acquire knowledge, but also one's ability to produce it in the target language. It should be mentioned that many of the literary and artistic techniques employed in fiction are typically seen as unsuitable for usage in non-fiction. They still exist, especially in older works, but they are frequently subdued to avoid overpowering the content. When writing non-fiction, simplicity, clarity, and directness are some of the most crucial factors to consider. In any creative or descriptive work, the audience is crucial, but in non-fiction, it may be even more crucial. While the creation of non-fiction is primarily concerned with the direct delivery of information, the author of fiction assumes that readers would attempt to follow and comprehend an abstracted or indirectly communicated topic progression. Effective non-fiction requires an awareness of the intended audience's usage of the work as well as their prior understanding of the subject. A balanced, well-reasoned, and knowledgeable argument is essential since, despite the reality of non-fiction, it is frequently necessary to convince the reader to agree with the views.

For a variety of reasons, including the following, formal reasoning models are not very helpful in complicated, dynamic, and uncertain real-world situations that require adaptation (Ey and others, 2025):

1. Logic is only one aspect of reasoning; it is insufficient to raise the caliber of reasoning.

2. Context and content are not addressed by formal logic. To adjust to a situation, people must search for context and content cues.

3. Complete and precise information is rare. It is frequently meaningless to state that someone needs additional information before they can begin to think. Thinking is specifically about taking information from knowledge and experience and applying it to unexpected situations.

Table 1 contrasts the aspects of adaptive reasoning with the formal reasoning.

Table 1. Comparing the elements of formal reasoning and adaptive reasoning

Thinking Aspect	Formal Thinking	Adaptive Thinking
Application	Well-defined issues with best practices	Using emergent approaches to solve complex, everyday issues
Variation	Overarching goal	Adapted to the situation, ideals, and experience
Source of control	Theory dictates	A person chooses the best course of action for their thinking in each circumstance
Process	Convergent	Discriminating, innovative, and diverse
Orientation	Form- and process-oriented	Goal-oriented
Foundation	There are all premises	There are some suggested or absent premises
Knowledge	Existing or determinable knowledge	There is always some degree of uncertainty
Goal	Single answers exist and are discovered through application and process	An answer may not occur, or there may be multiple answers
Theoretical basis	Classical frameworks impose reasonable decisions	Naturalistic, comprehends what makes humans adaptive and effective

Source: Based on Ey et al. (2025)

Analysis of academic literature in a foreign language is intrinsically tied to academic text writing. Western Anglo-Saxon countries such as the United States, the United Kingdom, Australia, and Canada, have developed educational systems that are widely accepted in the worldwide education community. According to Seidlhofer (2012), science research articles and academic communication originated and are now common in English-speaking countries, with English serving as the default language of science. As a result, the term "international" has become synonymous with Anglo-Saxon norms. Other scholars (Snow & Uccelli, 2009) agree that learning the rules of the English academic language is essential for students to excel in their studies. In other words, the more students follow the target community's customs and expectations, the higher their academic performance is.

The development of students' critical thinking (CT) skills in English academic writing presents problems for both educators and students in the field of English language education. In response to these issues, Phyu (2024) investigates two major research questions about tutors' opinions and experiences in promoting CT abilities in English academic writing programs at a Hungarian university. The study took a qualitative exploratory approach and included the participation of five EFL tutors. Data was gathered through semi-structured interviews and processed using thematic content analysis. The data show that EFL tutors believe CT skills are essential for evaluating sources, analyzing academic writings, challenging trustworthiness, and expressing autonomous ideas. Several tactics are used to develop CT abilities, including sample texts, guided activities, the process approach to teaching academic writing, technology utilization, written feedback, self-assessment, peer revision, and the Toulmin model. EFL tutors confront a variety of challenges, including students' diverse English language skill levels, little experience to CT and academic writing, students' attitudes about CT and academic writing, time limits, and systemic concerns. The study provides EFL tutors with valuable insights and efficient ways for improving students' CT skills in English academic writing. Participants reported using a variety of tactics to improve CT abilities in first-year university students' English academic writing. These strategies included guiding students through tasks, using technology to improve academic vocabulary and cohesion, providing explicit written feedback, providing sample texts, writing using a process approach, assigning essay assignments, encouraging self-assessment and peer revision, and teaching argumentation with the Toulmin model. Importantly, the tutors emphasized the need for critically evaluating literature, advising students to have an open mind, challenge the legitimacy of sources, and avoid taking information blindly.

At the same time, Phyu (2024) indicated that teaching CT in academic writing classes is a double effort for teachers because students are unfamiliar with academic writing and lack expertise with CT. These issues are consistent with the findings of Shaheen's (2016) study, which emphasize the significance of addressing language proficiency, cultural disparities, and clear explanations to improve students' CT skills. As a result, lack of experience with CT skills and academic writing influences students' attitudes toward academic writing. Students are cautious and lack confidence in criticizing scholarly sources. Their inability to critically assess academic texts might also present considerable issues for EFL tutors. Teachers expressed their experiences, indicating that while some students can critique academic books, others are cautious and lack confidence in doing so. They see academic sources as extremely complex and professional, and they feel too unskilled to evaluate them.

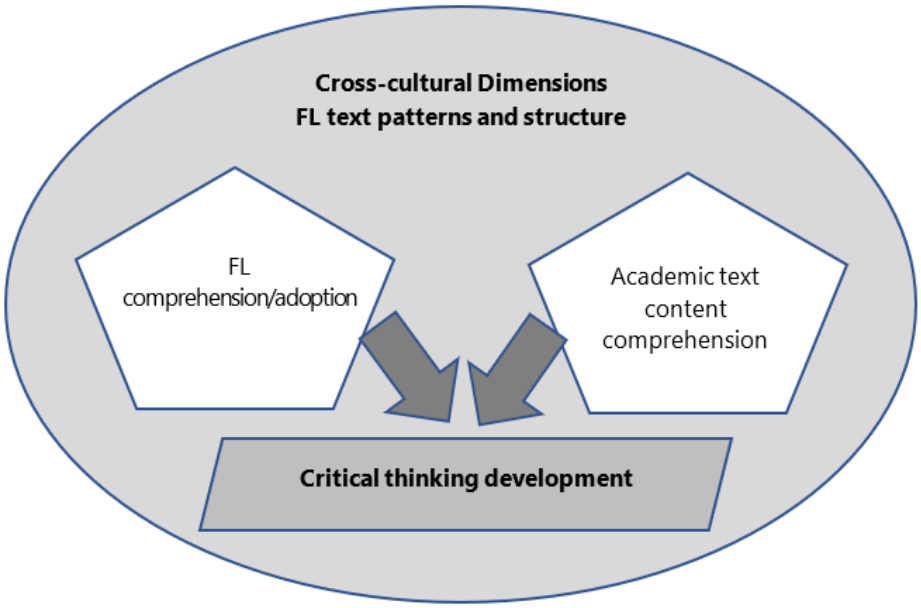
Maab et al. (2024) also emphasize the need for academic reading and critical thinking in higher education, particularly for university students, including those learning English as a foreign language. Their research investigates the perspectives of second-semester English Education students at Yogyakarta State University on the relationship between academic reading and critical thinking skills. It identifies the difficulties people encounter in this area. The study included 19 participants and used a mixed-methods approach, with data collected using both Likert-scale surveys and semi-structured interviews. Data were examined using descriptive statistics and thematic analysis. The results show that participants have generally good attitudes on their critical thinking and academic reading abilities across all domains of Bloom's Taxonomy. The findings indicate a link between students who are excellent in academic reading and those who have high critical thinking skills. They were confident in their capacity to understand, assess, and analyze texts. Furthermore, the study demonstrates that these students confront several problems, including language complexities, interdisciplinary comprehension concerns, and subjective biases, all of which have an impact on their critical thinking and academic reading skills.

Furthermore, certain students may require more critical reading skills to analyze sources, comprehend complex arguments, and undertake detailed analyses. In contrast, McKinley (2015) contends that academic writing should be viewed through the lens of social construction. Foreign language learning contributes to the development of this necessary social construction framework, and in the process of analyzing academic texts in a foreign language, the student's contextual efforts to understand the foreign language stimulate their critical thinking, thereby increasing the potential for proper analysis of academic text.

The cross-cultural dimension of text in FL, as well as the unique structure and manner of the text determined by its author's national origin, contribute to better analysis and comprehension, enhancing the student's critical thinking skills based on comprehension (and, in many cases, subsequent borrowing) of FL patterns.

Thus, the landscape of developing critical thinking in HE students through the analysis of academic texts in FL can be depicted schematically in a proposed model as follows (see Fig. 2).

Figure 2. The landscape of developing critical thinking in HE students through the analysis of academic texts in FL (schematic model)



Source: Developed by the authors based on discussion and specialized literature

As the model and discussion clearly demonstrates, analysis of academic texts in FL can effectively serve as a tool for developing critical thinking skills in HE students in case there is synergy of the text academic content and FL content in the plan of linguistics patterns and structure. These two levers together shape the processes of critical thinking formation, amplifying the impact of each other. At the same time, one should bear in mind that if a student experiences difficulties with one of these two domains in the process of reading and analyzing FL academic text, this can level down the expected outcome. This is critical for Generation Z students, since continuous motivation and interest are necessary elements of their academic performance, and FL texts can contribute to maintaining this interest, namely due to new FL linguistic patterns which a student can reveal and adopt.

Possible testable propositions derived from the model

To transition the landscape model from a conceptual scheme to an empirically validated theory, we must formulate specific, falsifiable propositions. These propositions are derived from the interactions between the model's components: (A) FL Proficiency, (B) Content Knowledge, (C) Rhetorical Awareness, and (D) Critical Thinking Outcome.

The model posits that FL content and academic content amplify the impact of each other. This implies an interaction effect rather than a simple additive one. The theoretical underpinning here draws heavily from Content and Language Integrated Learning (CLIL) research, which suggests that the cognitive challenge of processing content through a foreign language can lead to deeper learning, provided the linguistic load is managed. If a student has high content knowledge but low FL proficiency, the cognitive load of decoding prevents deep analysis (the "short-circuit" effect described by the Linguistic Threshold Hypothesis). Conversely, high FL proficiency without content knowledge leads to superficial fluency without deep critique.

Proposition 1 (P1): *The positive effect of Academic Text Analysis on Critical Thinking skills is moderated by Foreign Language Proficiency, such that the relationship is strongest when students possess both high FL proficiency and high prior content knowledge (Synergy), and weakest when either is below a critical threshold.*

If supported, this proposition confirms that language and content instruction cannot be siloed. It supports the implementation of "Hard CLIL" programs where language support is embedded within content lectures, rather than treated as a prerequisite.

Drawing from the work of Keysar et al. (2014) and Costa et al. (2012), the "Foreign Language Effect" suggests that thinking in a foreign language reduces "loss aversion" and emotional biases. The model's focus on the "validity of judgments" and "impartiality or objectivity" aligns with this. The cognitive distance provided by the FL should reduce emotional reactivity (System 1) and force the student to rely on the logical structure of the argument (System 2).

Proposition 2 (P2): *Students analyzing controversial or emotionally charged academic texts in a Foreign Language will demonstrate significantly lower rates of cognitive bias (e.g., confirmation bias, framing effect, myside bias) and higher objective argument evaluation scores compared to students analyzing the same texts in their Native Language*.

This proposition has profound implications for teaching critical thinking in polarized societies. It suggests that using English (or another L2) as the medium for debating sensitive social issues might lead to more rational and less heated discourse.

Our discussion notes Gen Z's preference for digital, visual, and interactive content. The original model depicts a direct interaction with text, but modern interactions are often mediated by digital tools. Research indicates that Gen Z often exhibits shorter attention spans and prefers multimodal inputs. Therefore:

Proposition 3 (P3): *The efficacy of FL Academic Text Analysis on Critical Thinking is significantly enhanced when mediated by interactive digital tools (e.g., collaborative annotation platforms, AI-scaffolded reading assistants) compared to static paper-based analysis, specifically for Generation Z learners.*

If tested empirically this proposition will confirm the claim about Gen Z's learning preferences and the need for adaptive reasoning.

Limitations and future agenda

The proposed model presents some limitations, as for example a linear progression that overlooks the recursive nature of learning and the "cognitive overload" threshold where excessive linguistic demands hinder rather than stimulate critical analysis. Efforts are necessary to better integrate a possible digital mediation component, as initially framed in P3, to avoid the neglecting how Generation Z's reliance on AI tools and multimodal texts fundamentally alters the traditional reading-analysis process. Furthermore, the framework did not include relevant affective factors, such as foreign language anxiety, which can act as a barrier to the predicted synergistic benefits of cross-cultural text analysis.

For emerging and developing countries, a possible research agenda must pivot toward "Frugal Pedagogical Innovation" to address constraints like large class sizes and limited access to journals. Research should investigate if low-resource, peer-mediated strategies (e.g., Jigsaw reading) can effectively substitute for instructor-led analysis in large lectures. Furthermore, given the multilingual reality of the Global South, studies must rigorously test the efficacy of "Translanguaging"—using L1 to scaffold complex L2 conceptual analysis—to determine if strict "English-only" policies are hindering the deep cognitive processing required for critical thought.

FINAL REMARKS

The idea of critical thinking, a highly regarded cognitive skill, has changed dramatically. In today's "Western" institutions, critical thinking is probably one of the most important prerequisites and intended results. In order to achieve the prerequisites for successful writing at university and to be able to claim participation in that community, the international student population is expected to adopt the established Western academic discourse. This implies that students must demonstrate critical thinking in their academic essays by presenting an argument and by showcasing associated abilities like analysis and evaluation. In light of the growing diversity of the student body, higher education departments ought to expand the scope of FL academic reading assignments to establish more diverse and supportive avenues for critical thinking and academic expression in general.

It should be noted, however, that Gen Z students' motivation for academic reading in a foreign language (FL) is influenced by a variety of factors including their digital-native upbringing, learning preferences, and opinions of reading's importance. Digital distractions, a lack of engaging materials, language issues, and insufficient support can all undermine motivation, whereas combining digital platforms, gamification, individualized content, and good teacher-student interaction can boost engagement. Finally, as discussed in the proposed research agenda, future study should attempt to undertake empirical investigations with varied samples and contexts, which will help us better understand student attitudes and obstacles in the essential areas of FL academic reading and critical thinking. This expanded research could yield deeper insights and more broad conclusions that will help to advance teaching in these academic fields.

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