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Table of Contents

Research articles

Table of Contents

Food for Thought

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EDITORIAL

Dear Reader,

It gives me great pleasure to share with you this special issue of the GJSD, devoted to education, language, and pedagogy in a global context. For me, this issue is a reminder of why education matters so deeply: it shapes not only what we know, but also how we think, act, and engage with the world around us.

The contributions in this volume come from diverse corners of the globe - from Hungary and Tanzania to Mexico, Italy, and East Africa - and yet they are connected by a shared question: how can our educational systems truly prepare learners for life? Reading through the papers, I was struck by the variety of ways scholars are approaching this challenge.

We begin with the journey of Hungarian doctoral students as they navigate the intellectual and emotional demands of academic English. From there, we move to Tanzanian higher education, where communication challenges remain a pressing concern. Another contribution shows how structured instruction in prompt engineering can empower EFL students to use AI tools more effectively, a topic that feels especially timely.

Other studies highlight equally important themes: the subtle yet powerful motivational influence of teachers; the role of student participation in higher education governance; and the need to bring digital and media literacy training closer to experiential learning. We also broaden the conversation beyond higher education. One article maps Hungarian secondary school students' digital and AI literacy, while another offers a scoping review of how East African systems are embedding life skills and values into their curricula. And finally, the Italian pilot study on multimodal pedagogies reminds us that even assessment can (and should) be a space for innovation.

What I take from this collection is that education is never static. It is a living system, constantly evolving and adapting. Beyond the transfer of knowledge, it must foster resilience, critical thinking, inclusivity, and ethical awareness. These qualities are no longer optional; in today's interconnected and digitalised world, they are essential for learners to thrive - not just in the classroom, but in life.

I warmly invite you to read and reflect on the insights shared here. My hope is that this issue will not only inform your thinking but also inspire you, as it has inspired me, to see education as a powerful force for change.

Happy reading!

Warm regards,

Dr habil. Judit Beke

Dr habil. Judit Beke is the Editor-in-Chief at GJSD

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Extent to Which Life Skills and Values are Embedded in the Education Systems of Four East African Jurisdictions: A Scoping Review

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Abstract

Sustainable Development Goal 4.7 calls for education systems to equip all learners with the knowledge, skills, and values necessary to promote sustainable development, equity, and social cohesion. As global societies face rapid technological and socio-economic changes, education systems are increasingly recognizing the importance of life skills and values—such as communication, collaboration, critical thinking, and digital literacy—beyond traditional academic knowledge. However, embedding these competencies into curricula, teaching practices, and assessments remains a complex challenge. This scoping review analyses 32 policy documents, curriculum frameworks, teacher training materials, and assessment strategies to examine how life skills and values are integrated into the primary and secondary education systems of Kenya, Tanzania Mainland, Uganda, and Zanzibar. Through an analysis of policy documents, curriculum frameworks, teacher training materials, and assessment strategies, the study assesses both the explicit and implicit presence of these competencies. Findings reveal a strong regional commitment to life skills and values education, reflected in curricular reforms and pedagogical shifts. However, implementation is inconsistent due to limited teacher capacity, resource disparities—especially in rural areas—and challenges in culturally contextualizing values education. Moreover, assessment mechanisms often fail to capture these competencies effectively. Three integration approaches are identified: across-subject embedding, standalone subjects, and extracurricular activities. The ALiVE program, under the Regional Education Learning Initiative, represents a collaborative effort to systematically embed these competencies in East African education systems. This review provides a crucial baseline for future monitoring and offers insights for policymakers, educators, and development partners seeking to strengthen life skills and values education in diverse and evolving contexts.

***Keywords*:** life skills and values education, curriculum integration, East Africa

1. Introduction

Sustainable Development Goal 4.7 (SDG) emphasises ensuring all learners acquire knowledge and skills to promote sustainable lifestyles and a culture of equity and excellence. Education systems around the world are in agreement that, in order to equip children with the ability to succeed in today's rapidly changing world, learners need to be taught a broad range of life skills and values that extend beyond the traditional numeracy and literacy skills. Life skills and values, such as communication, collaboration, self-awareness, and respect, are critical for making informed decisions, navigating different environments and contexts, and thriving in an increasingly interconnected and uncertain world. Although there is indication that education systems are aspiring to move beyond traditional academic disciplines to integrate life skills and values within their teaching and learning, implementation, and even knowing where to begin and how to identify whether progress has been made in their implementation, has been and continues to be a challenge (Care et al., 2018).

1.1. The Changing Landscape of Education

The rapid transformations occurring at global, regional, national, and local levels are driven by increasing mechanization and the exponential growth of information generation and exchange. Over the past decades, numerous discussions have emerged about changing landscapes and the advent of new eras, such as the "New Industrial Revolution" or the "New Information Age"

(Schmidt & Cohen, 2015). While these developments bring significant advancements, they also raise concerns about the human dimension, particularly in education.

Education serves as the primary mechanism for equipping individuals with the knowledge, skills, and competencies necessary for contemporary society. However, educational systems often struggle to keep pace with evolving societal needs (Care et al., 2018). Many scholars (Robinson & Aronica, 2015) have pointed out that despite shifts in pedagogical approaches, classroom structures and management remain largely unchanged. Nonetheless, innovative practices have emerged in various contexts, albeit unevenly distributed. The most inexperienced teachers are often assigned to rural and underserved areas, which historically receive the least investment in infrastructure and teaching resources (Adedeji & Olaniyan, 2011). As a result, students who require the most support frequently have the least access to quality education.

Society today demands individuals who are literate and numerate, understand scientific principles, are aware of global interconnections, and can adapt to complex environments both physically and virtually. Organizations such as the OECD, the World Economic Forum, and national education bodies have emphasized the need for education to extend beyond the accumulation of knowledge to include life skills and values that prepare individuals for the workforce, address socio-economic challenges, and foster meaningful civic participation (Care et al., 2018).

Education systems have historically aimed to prepare students with competencies that align with societal needs. However, dissatisfaction with traditional approaches has led to an increasing emphasis on explicitly defining and integrating life skills and values into curricula (Care et al., 2018). The terminology surrounding these competencies varies widely, with terms such as general capabilities, soft skills, social-emotional skills, or transferable competencies often used interchangeably. Some frameworks also encompass values, attitudes, and ethics, raising questions about whether these distinctions are meaningful or overlapping (Ercikan & Oliveri, 2016). While the specific knowledge, skills, and values emphasized may differ across national education systems, there is a general consensus on the importance of competencies such as critical thinking, collaboration, communication, problem-solving, and digital literacy.

A large-scale analysis of national education policies (Care et al., 2016) revealed that countries increasingly recognize life skills and values as essential components of their educational goals. Many have incorporated them into their mission and vision statements, curriculum frameworks, and policy documents. However, the extent to which these aspirations translate into practice varies. Some countries explicitly embed these competencies within their curricula, while others remain at the stage of broad policy endorsement without clear implementation strategies (Care et al., 2018).

1.2. Incorporation of Life Skills and Values in East African Education Systems

Education systems across East Africa are undergoing significant transformations as they strive to integrate life skills and values into their curricula. Kenya, Tanzania, and Uganda have all recognized the necessity of equipping students with skills beyond academic knowledge, ensuring they develop critical thinking, communication abilities, digital literacy, financial awareness, and environmental consciousness. These countries also emphasize values such as national cohesion, self-reliance, and responsible citizenship (Jacob et al., 2007; Komba & Shukia, 2023; Ominde et al., 2021; Orodho, 2019). However, the approaches adopted in integrating these competencies vary significantly, shaped by historical, cultural, and policy contexts.

The integration of life skills and values education within the curriculum of East African countries follows three primary approaches. The first is an across-subjects model, where life skills and values are embedded throughout various disciplines rather than being taught as standalone subjects (Heto et al., 2020; Komba & Shukia, 2023; NCDC, 2019). This approach ensures that students encounter these essential competencies in different learning contexts. In Kenya, for example, problem-solving and critical thinking are introduced in language and science lessons at the primary level, while secondary students develop these skills further through debates, project-based work, and specialized subjects (Heto et al., 2020). Social studies in Kenya play a crucial role in fostering national cohesion and civic responsibility. Similarly, in Tanzania, environmental awareness is woven into multiple subjects through a multidisciplinary approach, reinforcing the connection between theoretical knowledge and real-world application (Komba & Shukia, 2023; Stephen & Ismail, 2019). The focus on self-reliance and entrepreneurship is reflected in business-related subjects. Uganda, on the other hand, emphasizes the importance of incorporating life skills and values as crosscutting competencies that each subject should contribute to develop through teaching practices that ensure students engage with these concepts in meaningful ways (NCDC, 2019).

In some cases, life skills and values are transferred to student in standalone subjects. For instance, in Tanzania, Life Skills Education is recognized as a subject in some schools, particularly within secondary education. This subject is designed to equip students with essential personal and social competencies, including decision-making, emotional resilience, interpersonal communication, and conflict resolution. The Tanzanian curriculum places a strong emphasis on self-reliance, a principle rooted in the country's educational philosophy of "Education for Self-Reliance." As a result, Life Skills Education often incorporates practical lessons that help students navigate real-life challenges, from managing peer pressure to making informed career choices (Sulayman, 2015). Similarly, Kenya has experimented in the past the introduction of life skills as a distinct subject in some schools, particularly in secondary education (Waiganjo & Mwangi, 2018). In Ugandan schools, while life skills are currently integrated across different subjects (NCDC, 2019), certain aspects—such as health education, HIV/AIDS awareness, and civic responsibility—were sometimes delivered as independent modules (Jacob et al., 2007).

Beyond the formal curriculum, extracurricular activities serve as a third avenue for reinforcing life skills and values education (Jacob et al., 2007; Kimiti et al., 2011; Stephen & Ismail, 2019). Clubs, societies, and non-classroom initiatives provide students with opportunities to develop leadership, teamwork, and problem-solving skills in practical settings. Schools in Kenya, Tanzania, and Uganda increasingly use these platforms to supplement classroom learning, ensuring that students cultivate essential life skills in diverse environments.

1.3. Implementation and Challenges

Despite the explicit commitment to integrating life skills and values in the curricula, the implementation of these frameworks faces numerous challenges. One of the most pervasive obstacles is the preparedness of teachers. Many educators lack the necessary training to effectively deliver life skills education, often struggling to shift from traditional rote-learning approaches to more interactive, student-centred methodologies. This gap in teacher capacity leads to inconsistencies in how these skills and values are imparted across different schools and regions (Giacomazzi et al., 2022; Kariuki et al., 2022; Komba & Shukia, 2023; Kowino, 2024; Ominde et al., 2021; Ruto et al., 2023).

Resource constraints also present a significant challenge, particularly in rural areas where access to teaching materials and digital infrastructure is limited (Kariuki et al., 2022). While urban schools may benefit from better-equipped classrooms and technology integration, their rural counterparts often struggle to provide students with practical exposure to digital literacy and environmental education. The disparity in resources exacerbates inequalities in the quality of life-skills education, hindering efforts to create a standardized approach across East Africa.

Another key challenge is the cultural sensitivity surrounding values education. The integration of traditional values with modern educational principles requires careful navigation to avoid conflicts with societal norms and beliefs (Giacomazzi, 2022, 2024; Losioki, 2024; Ominde et al., 2020). For instance, while citizenship education in Kenya promotes national unity, its emphasis on multiculturalism may face resistance in some communities. Similarly, in Uganda, comprehensive sexuality education has sparked debates regarding the balance between cultural values and global human rights perspectives. These tensions highlight the complexity of implementing values education in diverse and evolving societies.

Assessment remains another pressing issue, as traditional examination systems often fail to adequately measure life skills and values (Care et al., 2024; Mugo et al., 2022, 2023). While academic subjects lend themselves to standardized testing, competencies such as critical thinking, collaboration, and ethical reasoning require alternative evaluation methods. The absence of effective assessment tools creates a disconnect between curriculum goals and actual learning outcomes, making it difficult to gauge the success of life skills education programs.

2. Background of the Study

This review focuses on Kenya, Tanzania (Mainland), Uganda, and Zanzibar because they are anglophone jurisdictions in East Africa that are relatively advanced in integrating life skills and values into their education systems. All four are undertaking curriculum reforms where these competencies are explicitly emphasized, providing fertile ground for comparative analysis. Their selection also reflects the sustained engagement of the Regional Education Learning Initiative (RELI)—a network of civil society organizations working together with academia and government—and its Actions for Life Skills and Values in East Africa (ALiVE) program, which has collaborated with governments, academia, and civil society to strengthen policy frameworks and fill gaps in implementation. In this context, ALiVE has sought to ensure that life skills and values are systematically embedded in primary and secondary education through curriculum, assessment, and teacher training reforms. The inclusion of these four jurisdictions therefore combines considerations of policy leadership, reform momentum, and availability of comprehensive documentation to support a systematic scoping review.

3. Purpose of the Study

The purpose of this scoping review is to gather the most current baseline information on the extent to which life skills and values are embedded in the primary and secondary education systems of Kenya, Tanzania Mainland, Uganda, and Zanzibar. The outcomes from the study can then be used in the future to track progress to assess whether there is an increase over time in the extent to which life skills and values are integrated in their education systems. To this end, this scoping review will answer the following main questions:

1. To what extent are life skills and values embedded in the primary education systems of Kenya, Tanzania Mainland, Uganda, and Zanzibar, as evidenced by both explicit and implicit mentions of life skills and values in the curriculum, assessment, and teacher training?
2. To what extent are life skills and values embedded in the secondary education systems of Kenya, Tanzania Mainland, Uganda, and Zanzibar, as evidenced by both explicit and implicit mentions of life skills and values in the curriculum, assessment, and teacher training?

4. Methods

4.1. Design

A scoping review (Kastner et al., 2012), a type of knowledge synthesis, is an ideal method, as it provides a systematic approach to mapping evidence in an area of interest, as well as identifying potential gaps in evidence and other exploratory findings and insights.

4.2. Search Strategy and Document Selection

The review sought the most recent documents in English—or translated into English—available prior to May 2023, including national vision and mission statements, policies, curricula, assessment frameworks, and teacher training materials for the four jurisdictions. A total of 50 documents were initially identified. Following a double review, 18 documents were excluded for the following reasons: 9 were not the most updated versions, 1 had not been officially approved, 2 were not policy documents, 2 referred exclusively to refugee contexts, 3 addressed only pre-primary education, and 1 was a duplicate. The final study sample comprised 32 documents, including 2 vision documents, 9 policy papers, 8 curriculum frameworks, 8 teacher training materials, and 4 assessment guidelines, distributed across jurisdictions as follows: 15 from Kenya, 6 from Tanzania Mainland, 9 from Uganda, and 2 from Zanzibar. Specific details on these sources are provided in Annex 1.

4.3. Document Screening and Selection Process

Initial screening of documents is one important aspect of conducting a high-quality and comprehensive review of the current evidence base. Document screening allows the review team in each jurisdiction to conduct the first step in the systematic synthesis of the existing information around whether life skills and values are embedded in the primary and secondary education systems. A standard approach was used for identifying whether a particular document should be included as part of the final review. Table 1 below includes the information that was used to identify documents, screen the documents, and determine inclusion eligibility.

TABLE 1. DOCUMENTS IDENTIFICATION AND SCREENING

Field	Type	Description	Response Options
Title	Text	Write the full title of the document	
Author(s)/ Organization(s)	Text	Write the name of the author(s) or main organizations	
Jurisdiction	Pull Down	Identify the jurisdiction	Kenya, Tanzania Mainland, Uganda, Zanzibar
Year Published	Pull Down	Identify the year the document was published. If this information is not available, please use NA.	2000-2023 or NA
Month Published	Pull Down	Identify the month the document was published. If this information is not available, please use NA.	Jan-Dec or NA
Language	Pull Down	What language is the document in?	English/Other
Recent	Pull Down	Is this the most recent document? Use Maybe if you are not sure.	Yes/No/Maybe
Approved	Pull Down	Is this officially approved by the Ministry? Use Maybe if you are not sure.	Yes/No/Maybe
National	Pull Down	Is this a national or jurisdictional level document? Use Maybe if you are not sure.	Yes/No/Maybe
Category	Pull Down	Identify the document category	Mission, vision, education policy, primary curriculum, secondary curriculum, primary assessment, secondary assessment, teacher education assessment, teacher training, other
Other Category	Text	If you identified the document category as Other, please write the category here.	
Include in Review?	Pull Down	Should this document be included in the data collection process?	Yes/Maybe/No

Source: own compilation/calculations

Each jurisdiction team gathered any and all documents that met the eligibility criteria listed above. Once documents were gathered, a Document Screening Tool was used to screen the document and determine eligibility for data collection. To increase consistency among reviewers, all members of the jurisdiction team screened the same documents, discussed the results, and amended the screening and document screening protocol and tool before beginning the data collection efforts for this review. Inconsistencies and disagreements on document selection were resolved within each jurisdiction team and with the entire study team by consensus and discussion.

4.4. Eligibility Criteria

For documents to be included in the review needed to be official national level documents from the Ministry of Education that focus on curriculum, assessment, and teacher training in both primary and secondary levels. Specifically, the documents considered eligible included: 1) Education policy documents; 2) Primary and secondary level curricula; 3) Assessment frameworks at the primary and secondary levels and for teacher education; and 4) Teacher training policy documents.

Documents were considered based on the following inclusion criteria: Most recent; Approved by the Ministry; At the national/jurisdictional level; Mission/vision statements; Education policy documents; Curricula at primary and secondary levels (or equivalent); Assessment framework for primary, secondary, and teacher education (or equivalent); Teacher training policy documents (or equivalent); and Present in the jurisdictions of Kenya, Tanzania Mainland, Uganda, and Zanzibar.

The exclusion criteria were: Documents not approved; Not the most recent version of the documents; Documents not from the Ministry of Education; and Documents at levels other than national/jurisdictional.

4.5. Data Collection Process

A data collection form was jointly developed by the study team to determine which variables to extract from the documents. The reviewers from each jurisdiction team independently collected the data, discussed the results within each team as well as with the entire study team to identify any issues and discrepancies, and continuously updated the data collection form in an iterative process. In addition to the data collected on the document characteristics, data were gathered on life skills and values mentioned either explicitly or implicitly within each of the documents selected for the review, as well as mentions of more traditional approaches to learning (e.g., memorization, knowledge-focused, traditional subject areas).

4.6. Data Synthesis and Reporting

Both quantitative and qualitative approaches to data synthesis were applied to summarize the main results to better describe the extent to which life skills and values are embedded in the education systems of the four jurisdictions at baseline. Based on the data collected as described above, the information extracted from the documents were coded in terms of the "intensity" (i.e., number of times) at which life skills and values are mentioned or identified in the various documents.

In addition, the specific life skills and values mentioned were coded, and implicit instances where life skills and values are alluded to in order to qualitatively describe themes were documented, alongside types of evidence available, and other observations that were considered relevant for this study.

Once the data were collected and analysed, heat maps were created to show whether skills and values were mentioned, whether there were explicit versus implicit mentions of skills and values, whether traditional subject skills were mentioned, and how many instances of skills and values were mentioned. In addition, specific skills and values were counted to show the number of times these skills and values showed up in the policy documents.

5. Findings

5.1. Life Skills and Values

Life skills and values can have different meanings depending on the context, and different terminology can be used to refer to life skills and values. For this study, life skills and values refer to a broad set of competences that can be taught or learned to enhance thinking, learning, working, and living in the world.

Across the four jurisdictions, different terminologies and/or nomenclatures refer to these competences. For instance, Kenya uses the term core competences, Tanzania Mainland uses cross-cutting issues, Uganda uses generic skills and 21st century skills, and Zanzibar uses 21st century skills and lifelong learning skills. Each jurisdiction has identified and emphasized particular life skills and values in its national education policy documents to inform curricula and pedagogy in their contexts. Table 2 shows the specific values and skills emphasized for learners in each jurisdiction.

It is worth noting that certain terminology may be considered a value for one jurisdiction, whereas that same terminology may be considered a life skill for another jurisdiction. For instance, citizenship is considered a value and a life skill in Tanzania Mainland and Zanzibar; however, in Kenya, citizenship is considered a life skill, not a value. In some cases, like Tanzania Mainland, citizenship is emphasized as a value and a life skill, falling under the larger umbrella term cross-cutting issues.

TABLE 2. LIST OF SPECIFIC LIFE SKILLS AND VALUES ACROSS THE FOUR JURISDICTIONS

Jurisdictions	Specific Values Emphasized for Learners	Specific Skills Emphasized for Learners
Kenya	Love, responsibility, respect, unity, peace, patriotism, social justice, and integrity	Critical thinking and problem solving, creativity and imagination, communication and collaboration, learning to learn, self-efficacy, digital literacy, and citizenship
Tanzania Mainland	Tolerance, Justice, equality, citizenship, respect, integrity, spiritual values	Collaboration, problem solving, critical thinking, creativity, respect, self-awareness, innovation, cooperation, curiosity, communication, resilience, citizenship, respect, decision-making, self-efficacy, digital literacy, and ICT.
Uganda	Respect, honesty, justice and fairness, integrity, moral uprightness, hard work, responsibility, harmony, unity, patriotism, citizenship, spiritual values	Critical thinking and problem solving; creativity and innovation; creative thinking, cooperation, and self-directed learning; mathematical computations and ICT proficiency; communication, assertiveness, decision making, negotiation, resilience, self-awareness, and leadership.
Zanzibar	Tolerance, justice, equality, citizenship, respect, integrity, spiritual values	Communication, creative thinking skills, vocational skills, collaboration, problem solving, critical thinking, creativity, respect, self-awareness, innovation, cooperation, curiosity, resilience, citizenship, respect, decision-making, self-efficacy, digital literacy, and ICT.

Source: own compilation/calculations

5.2. Life Skills and Values in Kenya's Education System

Kenya's basic curriculum has identified seven core competences and eight values prioritized across all school system levels. The core competences highlighted in the primary and secondary curriculum framework, include critical thinking and problem solving, creativity and imagination, communication and collaboration, learning to learn, self-efficacy, and digital literacy. The eight values include love, responsibility, respect, unity, peace, patriotism, social justice, and integrity. The skills and values are emphasized in the core curriculum framework as competences that are to be taught and nurtured among all learners.

The following national-level documents were included in this study: the Mission and Vision Statement; the Education Policy Document; the Primary Curriculum Framework; the Secondary Curriculum Framework; the Primary Assessment Framework; and the Teacher Training Policy.

Note that Kenya—at the time when the study was conducted—did not have official national-level documents regarding secondary assessment and teacher education assessment. However, a Secondary Assessment Framework was being drafted.

TABLE 3. HEAT MAP FOR KENYA

	Kenya							
	Mission/ Vision	Education Policy	Primary Curriculum	Primary Assessment Framework	Secondary Curriculum	Secondary Assessment Framework	Teacher Training	Teacher Education Assessment Framework
Life Skills								
Are 21st Century Skills mentioned?	10	5	9	8	32		9	
How many instances of explicit mentions of skills?	31	21	52	23	102		24	
How many instances of implicit mentions of skills	32	17	21	5	113		6	
How many instances of traditional skills mentioned?	9	4	7	0	49		3	
Critical Thinking	2	0	6	3	17		3	
Creativity	0	0	3	3	11		4	
Communication	5	3	5	2	10		2	
Problem Solving	3	0	6	3	13		1	
Collaboration	4	1	2	2	10		3	
Learning to Learn	0	0	0	3	4		0	
Self-efficacy	0	2	2	2	4		0	
Digital Literacy	1	0	1	3	5		5	
Creative Thinking	0	0	1	0	7		0	
Vocational Skills	0	0	0	0	0		0	
Innovation	0	0	1	0	4		3	
Cooperation	4	0	0	0	0		0	
Self-directed learning	0	0	0	0	0		0	
Mathematical computational skills	0	0	0	0	0		0	
ICT Skills	1	0	1	0	0		0	
Social-Emotional Skills	0	0	1	0	0		0	
Adaptability	0	0	0	0	0		0	
Assertiveness	0	0	0	0	0		0	
Self-awareness	0	1	0	0	0		0	
Curiosity	0	1	0	0	0		0	
Self-esteem	0	2	0	0	0		0	
Values								
How many instances of values?	140	103	32	15	71		19	
Love	1	0	2	1	3		0	
Responsibility	51	18	8	2	9		1	
Respect	19	8	2	5	6		0	
Unity	2	1	1	0	5		0	
Peace	14	28	4	2	10		0	
Patriotism	6	3	0	0	3		0	
Citizenship	0	0	0	0	0		0	
Justices/**Social Justice**	11	1	0	0	5		0	
Integrity	13	9	0	1	4		11	
Moral	11	5	12	1	18		2	
Spiritual Value	5	2	0	0	1		0	
Tolerance	0	3	1	0	1		0	
Valuing Equality	4	9	0	0	0		0	
Empathy/Empathize with others	1	2	0	2	1		0	
Transparency	1	14	0	0	0		4	
Trust	1	0	0	1	0		1	

Source: own compilation/calculations

Table 3 illustrates that skills are referenced both implicitly and explicitly throughout the policy documents. However, the difference between implicit and explicit mentions is not particularly significant. Critical thinking, creativity, communication, and problem-solving are the most frequently cited skills in explicit references, whereas learning to learn appears the least. Among the seven identified competencies, there is an almost 4:1 ratio between the most frequently mentioned—critical thinking, problem solving, and communication—compared to self-efficacy. Notably, while the Competence-Based Curriculum (CBC) prioritizes seven key competencies, additional competencies such as creative thinking, innovation, cooperation, and digital skills are also referenced in the reviewed documents.

Core values are similarly emphasized throughout the policy documents. For example, the *Presidential Working Party on Education Reforms* strongly highlights values as fundamental to the proposed education reforms. This underscores the critical role values play in shaping both the educational experience and student outcomes. The document also outlines specific strategies for integrating values into the reform process, including curriculum adjustments and teacher training initiatives. Additionally, curriculum frameworks, such as the *Basic Education Curriculum Framework*, explicitly emphasize the incorporation of fundamental values into the curriculum. These values—honesty, responsibility, respect, and tolerance—are clearly integrated across various subjects. Notably, both the primary and secondary curricula most frequently reference *moral(s)* as a core value.

The reviewed documents reveal both implicit and explicit references to competencies and values in education policy. While the national mission and vision statements do not explicitly mention competencies—given their broad and strategic nature—they emphasize student-centred learning, fostering critical thinking, problem-solving, and ethical values. The Ministry of Education's mission highlights addressing mental health challenges through guidance and counselling policies, mentorship programs, parental engagement, awareness campaigns, and life skills education. Additionally, the national vision underscores the importance of instilling ethical and moral values, such as integrity, honesty, and responsibility, within the education system.

Education policy documents explicitly reference both traditional skills (literacy and numeracy) and 21st-century competencies, recognizing the interdependence between them. Mentorship is identified as a key mechanism for developing life skills, as outlined in the *Mentorship Policy for Early Learning and Basic Education*, which underscores the role of mentorship in enhancing intrinsic motivation and personal development. These policies also stress the integration of character and values education into the curriculum, promoting ethical behaviour, responsible citizenship, and holistic personal growth alongside academic learning.

The *Primary Assessment Framework* explicitly prioritizes the seven core competencies, recognizing their role in aligning education with societal and global demands. It supports a competency-based assessment approach, evaluating both academic performance and personal development, including values related to character, social responsibility, and emotional intelligence.

Teacher training policies reinforce the importance of core competencies and emphasize that traditional skills enable the acquisition of life skills. For instance, ICT is highlighted as a critical tool for fostering communication, collaboration, critical thinking, creativity, and digital literacy. Expanding ICT access is seen as a means to enhance life skills education. Additionally, teacher education programs stress the integration of values, embedding ethical behaviour, professionalism, and social responsibility into training curricula.

5.3. Life Skills and Values in Tanzania Mainland's Education System

Tanzania Mainland has the intention to promote life skills from pre-primary education through to secondary education. The education system of Tanzania Mainland places significant emphasis on life skills, which is evident both explicitly and implicitly throughout various policy documents. The curricular materials specifically identify and describe life skills in four major areas: empowerment (self-awareness, communication, resilience), citizenship (empathy, participation), learning (critical thinking, creativity, problem solving), employability (collaboration, decision making), and reproductive health skills. Life skills, however, are not treated as a standalone subject. Instead, they are integrated as a cross-cutting issue across various subjects. As such, life skills are woven into the pre-primary education curriculum and certain core subjects, including Civics and Morals, Social Studies, and Skills in primary education.

While life skills are explicitly emphasized, the values identified in the policy documents are fewer in comparison. The values highlighted include tolerance, justice, equality, citizenship, respect, integrity, and spiritual values. However, there is a notable difference in the frequency with which values are mentioned compared to life skills.

The national-level documents included in this study are: the Mission and Vision Statement; the Education Policy Document; the Primary Curriculum Framework; the Secondary Curriculum Framework; and the Teacher Education Assessment Framework. It is important to note that Tanzania Mainland does not have separate Primary and Secondary Assessment Frameworks or a Teacher Education Policy Document.

Table 4 presents the frequency with which the reviewed documents for the Primary and Secondary Curricula, as well as the Teacher Education Assessment Framework, explicitly mention various skills. When 21st century skills are explicitly identified, critical thinking, creativity, problem solving, collaboration, and self-awareness are the most frequently cited. In contrast, skills such as self-efficacy, self-directed learning, adaptability, and self-esteem are mentioned less frequently. Notably, the reviewed documents give limited attention to values. When values are highlighted, responsibility, morals, patriotism, and citizenship are emphasized, whereas values like love, trust, and integrity are scarcely mentioned.

In terms of specific findings from the reviewed documents, the Education Policy documents for Tanzania Mainland contain only a few mentions of skills, focusing primarily on ensuring that students across all levels of education acquire life skills, recognize themselves, and make informed decisions.

The curriculum for Primary Education (Standard III-VII) includes both implicit and explicit references to life skills and values. The skills prioritized in this curriculum include critical thinking, self-awareness, problem solving, collaboration, communication, and self-realization. Other explicit mentions emphasize the development of talents, cultivating an inquiring mind, and fostering competitiveness, along with the importance of morals and patriotism.

The National Curriculum Framework for Basic and Teacher Education in Tanzania Mainland offers more detailed mentions of life skills, focusing on creativity, innovation, management skills, problem solving, informed decision making, communication, critical thinking, flexibility, inquisitiveness, accountability, self-efficacy, self-control, emotional management, self-assessment, goal setting, resilience, value clarification and management, conflict management, negotiation, self-confidence,

empathy, and self-assertiveness. There are also a few implicit references to skills, described as cross-cutting issues that apply knowledge, skills, and values critical to development and lifelong learning. Additionally, the framework emphasizes the need for students to develop effective communication skills, both oral and written, using the appropriate medium of instruction. Values such as empathy, morals, ethics, patriotism, respect, and integrity are mentioned in the curriculum, though their frequency is limited.

TABLE 4. HEAT MAP FOR TANZANIA MAINLAND

	Tanzania							
	Mission/ Vision	Education Policy	Primary Curriculum	Primary Assessment Framework	Secondary Curriculum	Secondary Assessment Framework	Teacher Training	Teacher Education Assessment Framework
Life Skills								
Are 21st Century Skills mentioned?	1	2	5		2		8	3
How many instances of explicit mentions of skills?	1	2	12		12		51	10
How many instances of implicit mentions of skills	3	0	4		1		14	5
How many instances of traditional skills mentioned?	5	0	2		1		10	0
Critical Thinking	0	0	1		2		5	2
Creativity	0	0	0		1		1	1
Creative Thinking	0	0	0		1		2	0
Communication	0	0	1		2		5	1
Problem Solving	0	0	1		1		3	2
Vocational Skills	0	0	0		0		0	0
Innovation	0	0	1		1		2	0
Cooperation	0	0	0		1		1	0
Collaboration	0	0	1		1		0	1
Self-directed learning	0	0	0		0		0	0
Mathematical computational skills	0	0	0		0		0	0
ICT Skills	0	0	0		0		0	1
Social-Emotional Skills	0	0	0		0		1	0
Adaptability	0	0	0		0		0	0
Learning to Learn	0	0	0		0		0	0
Assertiveness	0	0	0		0		3	0
Self-awareness	0	1	1		0		2	0
Curiosity	0	0	0		0		0	0
Self-efficacy	0	0	1		0		2	0
Self-esteem	0	0	0		0		0	0
Digital Literacy	0	0	0		1		0	0
Values								
How many instances of values?	0	0	3		3		18	0
Love	0	0	0		0		0	0
Responsibility	0	0	0		0		5	0
Respect	0	0	2		0		1	0
Unity	0	0	0		0		0	0
Peace	0	0	0		0		0	0
Patriotism	0	0	0		1		2	0
Citizenship	0	0	0		0		2	0
Justices/Social Justice	0	0	0		0		2	0
Integrity	0	0	0		0		1	0
Moral	0	0	0		1		3	0
Spiritual Value	0	0	0		0		0	0
Tolerance	0	0	0		0		0	0
Valuing Equality	0	0	0		0		1	0
Empathy/Empathize with others	0	0	0		0		3	0
Transparency	0	0	0		0		1	0
Trust	0	0	0		0		0	0

Source: own compilation/calculations

5.4. Life Skills and Values in Uganda's Education System

The Uganda education policy documents reviewed in this study explicitly mentioned skills and values. Skills such as innovation, creativity, lifelong learning, critical thinking, problem solving, and communication skills, among others, were explicitly mentioned as critical to achieving the educational aims of the country. Citizenship, patriotism, respect, responsibility, moral ethics, and spiritual values are also explicitly mentioned in policy documents as key to building an integrated, self-sustaining, and independent national economy. Implicit mentions of life skills and values in

policy documents focused on increasing equitable education for all and improving the quality and content of educational delivery at all levels and sectors of education. All through the different policy documents, an emphasis was placed on expanding the functional capacity of educational structures and reducing the inequalities of access to education between sexes, geographical areas, and social classes in Uganda.

The following national-level documents were included in this study. The most recent and publicly available documents in each category were identified and used to examine the extent to which life skills and values are integrated into the education system: the Mission and Vision Statement; the Education Policy Document; the Primary Curriculum Framework; the Secondary Curriculum Framework; the Primary Assessment Framework; the Secondary Assessment Framework; and the Teacher Training Policy.

Table 5 presents the results of the review of national-level policy documents. The analysis reveals that life skills and values are emphasized throughout all levels of education, from Primary to Secondary, as well as in Teacher Education Frameworks and Policy documents. While life skills and values are frequently identified, there are notably more implicit mentions than explicit references to these competencies in the policy documents. The Curriculum Frameworks for Primary and Secondary education are grounded in a clear set of values derived from the Uganda National Ethics and Values Policy of 2013. These values underpin the entire curriculum and guide the work of schools, serving as the foundation upon which learners are expected to base their lives as citizens of Uganda.

The findings also indicate that Uganda's education policy documents and the lower secondary school curriculum frameworks provide the most explicit references to life skills. The Primary education curriculum framework follows suit, while the teacher training frameworks contain the least explicit mentions of life skills. However, the implementation documents and frameworks do not clearly articulate how these aspirations for life skills and values are translated into classroom practice or the actual acquisition of these competencies, making the assessment and nurturing of life skills and values within the education system somewhat elusive.

Critical thinking is the most commonly identified skill across the three levels of education (Primary, Secondary, and Teacher Training). When 21st century skills are explicitly mentioned, critical thinking, problem solving, creativity, innovation, communication, and cooperation are most frequently cited. Values such as responsibility, patriotism, and respect are also noted. Although "learning to learn" is not a prioritized competence in either the lower secondary school curriculum or the primary curriculum framework, it is explicitly mentioned more than three times across various educational stages as an important skill that supports the acquisition and transferability of knowledge.

From this analysis, it is clear that Secondary education plays a crucial role in emphasizing and integrating both explicit and implicit skills across a wide spectrum, reflecting a substantial focus on skill development. Traditional subject skills such as numeracy and literacy appear sporadically across different educational levels. However, there is an opportunity for more explicit mentions of life skills and values in foundational learning and numeracy within Primary Education and Teacher Training to better align with modern educational demands.

The review of policy documents and curriculum frameworks across primary, secondary, and teacher training levels reveals significant insights into the treatment of life skills and values in

Uganda's education system. While life skills and values are explicitly mentioned across all levels, the assessment of these competencies is not clearly outlined in the policy documents. At the lower secondary school level, it is implied that the assessment of life skills is integrated within the subject learning expectations, though a closer examination of the assessment framework reveals that the focus is predominantly on evaluating learners' understanding of key concepts in each subject. Although a variety of assessment techniques, such as oral, written, and performance-based assessments, are suggested, the documents do not provide concrete details on how life skills and values will be practically assessed.

The primary education curriculum references the Government White Paper on the Education Policy Review Commission Report (1992) and outlines a set of life skills and values to be acquired by learners. These include skills such as effective communication, creative thinking, problem solving, critical thinking, decision making, self-esteem, respect, identity, cooperation, and friendship formation, among others. The curriculum is structured around thematic learning outcomes, which reflect essential aspects of Ugandan learners' daily lives and encourage awareness and responsiveness.

At the secondary level, the curriculum framework for lower secondary education is one of the most explicit documents regarding life skills and values. It identifies critical thinking, problem solving, cooperation, self-directed learning, creativity, innovation, mathematical computation, ICT proficiency, and communication skills as prioritized competencies. These skills are incorporated into subjects, with skill development progressing through the increasing complexity of subject matter rather than through specific skill descriptors. In this framework, life skills are presented as cross-cutting issues that are not confined to specific subjects but instead permeate the entire curriculum, linking various disciplines together. The framework also emphasizes values such as respect for humanity and the environment, honesty, justice, hard work, integrity, social responsibility, national unity, and patriotism. These values, while not directly taught or assessed, inform and shape the teaching and learning process.

The Teacher Training Policy documents underscore the importance of preparing 21st century teachers who can create learning environments that enable students to thrive. These documents highlight the need for teachers to be proficient in critical thinking, problem solving, information technology, communication skills, and social skills, including conflict resolution. The national teacher qualifications framework calls for educators who are capable of modifying and applying knowledge through varied pedagogical practices and resources, alongside strong leadership, research, and innovation skills.

TABLE 5. HEAT MAP FOR UGANDA

	Uganda							
	Mission/ Vision	Education Policy	Primary Curriculum	Primary Assessment Framework	Secondary Curriculum	Secondary Assessment Framework	Teacher Training	Teacher Education Assessment Framework
Life Skills								
Are 21st Century Skills mentioned?	0	15	5	0	26	2	5	
How many instances of explicit mentions of skills?	0	26	2	0	72	0	6	
How many instances of implicit mentions of skills	0	48	17	0	77	5	9	
How many instances of traditional skills mentioned?	0	5	9	0	7	1	1	
Critical Thinking	0	1	0	0	8	0	1	
Creativity	0	2	0	0	5	0	0	
Creative Thinking	0	0	0	0	1	0	0	
Communication	0	2	0	0	6	0	1	
Problem Solving	0	2	0	0	5	0	1	
Vocational Skills	0	2	0	0	1	0	0	
Innovation	0	2	0	0	5	0	0	
Cooperation	0	0	0	0	4	0	0	
Collaboration	0	0	0	0	1	0	0	
Self-directed learning	0	0	0	0	3	0	0	
Mathematical computational skills	0	0	0	0	4	0	0	
ICT Skills	0	3	0	0	4	0	1	
Social-Emotional Skills	0	0	0	0	0	0	0	
Adaptability	0	0	0	0	0	0	0	
Learning to Learn	0	3	0	0	1	0	0	
Assertiveness	0	0	0	0	0	0	0	
Self-awareness	0	0	0	0	0	0	0	
Curiosity	0	1	0	0	0	0	0	
Self-efficacy	0	0	0	0	0	0	0	
Self-esteem	0	0	0	0	1	0	0	
Digital Literacy	0	0	0	0	1	0	0	
Values								
How many instances of values?	18	28	23	1	36	0	10	
Love	0	0	0	1	1	0	0	
Responsibility	4	1	1	0	6	0	2	
Respect	3	2	2	0	3	0	0	
Unity	1	1	2	0	2	0	0	
Peace	1	1	2	0	1	0	0	
Patriotism	2	3	5	0	5	0	1	
Citizenship	0	4	4	0	4	0	1	
Justices/Social Justice	0	0	0	0	3	0	1	
Integrity	0	2	1	0	1	0	0	
Moral	1	4	1	0	3	0	2	
Spiritual Value	1	2	1	0	1	0	0	
Tolerance	1	0	0	0	1	0	0	
Valuing Equality	3	5	1	0	0	0	2	
Empathy/Empathize with others	0	2	1	0	1	0	0	
Transparency	0	0	1	0	0	0	0	
Trust	1	0	1	0	0	0	0	

Source: own compilation/calculations

5.5. Life Skills and Values in Zanzibar's Education System

The education system in Zanzibar emphasizes life skills, values, and dispositions, all of which are essential for learners to thrive both in school and in life. These skills, values, and dispositions are explicitly and implicitly integrated throughout the various educational documents. This study analysed the following national-level documents: the Mission and Vision Statement; the Education Policy Document; and the Primary Curriculum Framework.

While Zanzibar has jurisdictional-level documents concerning the mission and vision, education policy, and primary curriculum, it adopts the documents of Tanzania Mainland for all other educational policy matters. Therefore, Zanzibar and Tanzania Mainland share the same documents for Secondary and other levels of education, and information regarding these levels is included in the Tanzania Mainland analysis.

TABLE 6. HEAT MAP FOR ZANZIBAR

	Zanzibar							
	Mission/Vision	Education Policy	Primary Curriculum	Primary Assessment Framework	Secondary Curriculum	Secondary Assessment Framework	Teacher Training	Teacher Education Assessment Framework
Life Skills								
Are 21st Century Skills mentioned?	2	18	12					
How many instances of explicit mentions of skills?	4	17	22					
How many instances of implicit mentions of skills	9	12	37					
How many instances of traditional skills mentioned?	6	8	23					
Critical Thinking	0	0	1					
Creativity	1	0	1					
Creative Thinking	0	0	0					
Communication	1	2	4					
Problem Solving	0	2	4					
Vocational Skills	1	0	1					
Innovation	0	0	0					
Cooperation	0	0	1					
Collaboration	0	0	0					
Self-directed learning	0	1	0					
Mathematical computational skills	0	0	0					
ICT Skills	0	0	0					
Social-Emotional Skills	0	0	1					
Adaptability	0	0	0					
Learning to Learn	0	0	0					
Assertiveness	0	0	0					
Self-awareness	0	0	0					
Curiosity	0	1	0					
Self-efficacy	0	0	0					
Self-esteem	0	0	0					
Digital Literacy	0	0	0					
Values								
How many instances of values?	23	0	9					
Love	1	0	0					
Responsibility	2	0	1					
Respect	2	0	1					
Unity	2	0	0					
Peace	2	0	0					
Patriotism	2	0	1					
Citizenship	3	0	1					
Justices/Social Justice	2	0	0					
Integrity	0	0	0					
Moral	1	0	2					
Spiritual Value	0	0	2					
Tolerance	2	0	1					
Valuing Equality	4	0	0					
Empathy/Empathize with others	2	0	1					
Transparency	1	0	0					
Trust	0	0	0					

Source: own compilation/calculations

Communication and problem-solving skills have received significant attention in the reviewed documents, standing out more than other skills and values (see Table 6). Values are explicitly mentioned in the mission statement and primary education curriculum, while the education policy of Zanzibar remains silent on values. The most emphasized values are equality and citizenship, while morality, transparency, and love are less frequently mentioned.

The findings from the specific policy documents reviewed reveal several key insights. In the Mission and Vision documents for Zanzibar, life skills such as communication, creativity, vocational skills, and thinking skills are mentioned infrequently, though there are numerous implicit references to skills that aim to help citizens understand and respect the fundamentals of the national constitution and the enshrined human and civic rights. The Mission and Vision documents place a greater emphasis on values compared to other policy documents. Key values highlighted include love, responsibility, respect, unity, peace, patriotism, citizenship, and equality.

The Education Policy document includes both explicit and implicit mentions of skills and values. Explicitly, skills such as communication, problem solving, independent thinking, and entrepreneurship are identified as critical to achieving the educational aims of the country.

Implicitly, the document refers to life skills and values in the context of inclusive education and the promotion of equitable access to education across all levels.

The pre-primary and primary education curriculum frameworks prioritize several skills, including entrepreneurship, emotional expression, problem solving, confidence, creativity, financial literacy, cooperation, communication, social-emotional learning, critical thinking, and vocational skills. In terms of values, the framework places equal emphasis on integrity, responsibility, citizenship, moral and spiritual values, equality, love, respect, self-identity, and patriotism. Implicitly, the document underscores the importance of understanding human rights and fundamental personal character.

Additionally, the pre-primary and primary education curriculum framework includes references to other components, such as dispositions, which are neither skills nor values. These dispositions include progressiveness, inquisitiveness, tolerance, peace, justice, inclusiveness, appreciation, and acceptance of others. The emphasis is on fostering these characteristics in citizens to help them thrive in life.

5.6. Discussion of Findings

The analysis of education policy documents across Kenya, Tanzania Mainland, Uganda, and Zanzibar highlights both convergence and divergence in the framing of life skills and values. A first key finding is the lack of a common terminology: while Kenya emphasizes "core competences," Uganda refers to "generic skills" and "21st century skills," and Tanzania Mainland frames them as "cross-cutting issues." Zanzibar largely aligns with Tanzania Mainland, while introducing additional emphases at the primary level. This diversity of nomenclature points to different policy traditions, yet it also suggests a shared recognition of the importance of preparing learners for personal, social, and economic participation in rapidly changing societies.

A second pattern is the broad overlap in the actual skills and values emphasised across jurisdictions. Critical thinking, problem solving, creativity, communication, and collaboration appear consistently, as do values such as respect, responsibility, citizenship, and integrity. This indicates a regional consensus on what constitutes essential competences for the 21st century, even if their categorization varies. Such convergence may facilitate regional dialogue and cross-learning, especially given ongoing East African efforts to harmonize education systems and qualifications.

However, the findings also reveal uneven levels of integration and emphasis. Kenya's Competence-Based Curriculum (CBC) is distinctive in articulating a coherent set of competences and values, supported by assessment and teacher training frameworks. Uganda has a comprehensive policy framework but shows weaker links between stated aspirations and mechanisms for assessment and classroom practice. Tanzania Mainland integrates life skills as cross-cutting issues but gives limited explicit attention to values, while Zanzibar highlights dispositions and moral education more explicitly at the primary level. These contrasts suggest varying levels of institutional capacity and political prioritization, with implications for how effectively policies can be translated into practice.

Taken together, the findings suggest that East African education systems are at different stages of institutionalizing life skills and values. The shared policy vocabulary around critical thinking, citizenship, and collaboration indicates strong regional capacity to articulate educational aspirations aligned with global agendas such as SDG 4.7. Yet the unevenness in assessment frameworks, teacher

training provisions, and explicit policy attention points to capacity gaps that may constrain the effective classroom-level implementation of these skills and values.

Importantly, the analysis underscores the limitations of a policy-document focus. While national strategies highlight the importance of life skills and values, the extent to which these are enacted in classrooms depends on teachers' professional development, curriculum delivery, and resource availability—areas not fully captured in this review. Future qualitative and empirical research, particularly classroom-level studies, would be crucial to understanding how policy aspirations are translated into learning outcomes.

6. Limitations

This review relied primarily on national policy documents, curriculum frameworks, teacher training materials, and assessment strategies. While these sources provide valuable insights into official intentions and systemic approaches, they do not capture classroom-level realities. As a result, there may be a gap between policy commitments to life skills and values education and the ways these competencies are actually taught, practiced, and assessed in schools. The absence of field data—such as teacher interviews, classroom observations, or grade-level lesson plans—further limits the ability to assess implementation in practice.

The use of coding to identify explicit and implicit mentions of life skills and values provided a structured basis for comparison across countries, but also introduces limitations. Implicit references are open to interpretation, raising the possibility of researcher bias despite efforts to ensure consistency. Moreover, while frequency counts and heat maps facilitated clarity in data presentation, they risk oversimplifying nuanced or context-specific mentions of skills and values.

Finally, although the review highlights regional trends and contextual factors, it cannot fully account for cultural variations in how competencies are understood and enacted in different learning environments. Future research should triangulate policy analysis with qualitative field data, combining classroom-level observations, teacher and student perspectives, and lesson-level analyses to complement and deepen the insights generated here.

7. Conclusions and Implications

This study reveals several key conclusions and implications for the integration of life skills and values in education systems across the four jurisdictions under review.

There is considerable variability in how life skills and values are incorporated into education systems, reflecting differences in available policy documents, the types of skills and values emphasized, and the extent to which they are embedded in the curriculum. While each jurisdiction demonstrates a clear intent to integrate life skills and values into education, these elements are often more implicitly referenced than explicitly stated. This suggests that, while the emphasis is present, life skills and values may not be fully integrated across the educational framework. The frequency with which they are mentioned is low, indicating that their inclusion, when it does occur, may be occasional rather than systematic.

Each jurisdiction has identified life skills and values as essential components for curriculum reform. The ongoing reform processes across the four jurisdictions—Kenya's alignment of its curriculum to a competence-based approach, Uganda's backward integration from secondary to primary levels, and similar efforts in Tanzania Mainland and Zanzibar—highlight a regional push

towards educational reform. While these efforts are promising, there remains a lack of clarity around how to assess life skills and values, particularly within primary, secondary, and teacher training frameworks. This gap underscores the need for further development in assessment approaches to ensure these skills and values are adequately measured.

While there is a strong presence of life skills and values in the curriculum, there is no clear framework to guide educators on how to interpret, teach, and assess these competencies. Although curriculum and teacher education documents emphasize learner-centred approaches, the lack of a structured framework for assessment and implementation suggests a missed opportunity for more effective integration of life skills and values into everyday teaching practices.

8. Implications

The findings of this review carry several implications for education policy, practice, and research in East Africa. First, they underscore the urgent need for more robust assessment frameworks capable of capturing the development of life skills and values at the primary, secondary, and teacher education levels. Without such frameworks, integration risks remaining aspirational, with little evidence of its impact on learners. Equally critical is the role of teachers, who are expected to adopt learner-centred approaches but often lack clear guidance on how to translate policy prescriptions into practice. Strengthening teacher training and continuous professional development therefore emerges as a priority area if life skills and values are to be effectively taught and assessed in classrooms.

The review also highlights opportunities for greater regional collaboration. The variability observed across jurisdictions suggests that countries can learn from one another's strengths, sharing resources and models that may help reduce disparities in policy and practice. This form of cross-country learning would also enhance coherence across the region, ensuring that life skills and values are not only embedded in policy but also operationalized consistently. Furthermore, the predominance of implicit references in many documents points to the need for clearer and more deliberate policy language. Making life skills and values more explicit within curricula, assessment strategies, and teacher education guidelines would increase their visibility and support systematic implementation.

Finally, the study points to important directions for future research. Because this review is limited to policy documents, it cannot capture the complexities of classroom realities. Complementary research that incorporates teacher interviews, lesson observations, and learner perspectives is therefore necessary to assess how policies are interpreted and enacted in practice. Such work would not only deepen the evidence base but also strengthen the feedback loop between policy and implementation.

In this sense, the ongoing curriculum reforms across the four jurisdictions represent a timely opportunity. By investing in assessment, teacher capacity, and regional collaboration, policymakers and educators can ensure that life skills and values move beyond rhetorical commitment and become an integral, measurable component of education systems in East Africa.

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Conflict of Interest

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Data Availability

Data supporting the conclusions of this study can be made available upon reasonable request from the corresponding author.

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Factors Impeding Communication Skills Proficiency among Higher Learning Students: Study of College of Business Education and Dar es Salaam Institute of Technology

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Abstract

Effective communication is essential for both academic and professional achievement in higher learning institutions. Although stakeholders in Tanzania have attempted several initiatives toward rectifying communication challenges, the difficulties students encounter in acquiring verbal and written competencies remain unresolved. This study investigates the main factors that impede the development of effective communication skills among students at two higher learning institutions. The study uses a qualitative design with in-depth interviews, focus group discussions, document reviews, and observations. Data were collected from 100 participants and analyzed using NVivo 12 software for thematic exploration. The findings identify four major barriers: teaching and learning methods; lecturer qualification; student-related behaviours; and poor English language proficiency. The findings offer practical insights for educators, curriculum planners, and policymakers aiming to enhance communication skills among Tanzanian students while contributing to the broader theoretical understanding of communication proficiency in multilingual, resource-constrained higher education contexts.

***Keywords*:** communication skills proficiency, verbal communication, written communication, higher education

1. Introduction

The most higher learning institutions particularly universities and colleges, focus on developing facilities for the students to enable a high level of proficiency in communication skills as it is essential for academic progress, career enhancement, and interactions in society after graduating. The human-readable communication process breaks down the basic facies of

human interaction into a textual format: Reading and writing need to remain core competencies throughout the whole teaching-learning process.

As used in this study, communication skills proficiency is a student's ability to effectively convey, interpret, and respond to messages in spoken and written forms, both academically and professionally. This includes aspects such as clarity of expression, coherence, tone, organization, and correct use of language. Verbal communication means communication by mouth, including speaking and listening, in classes like classroom talk, presentations, and interpersonal communication. In contrast, written communication includes academic writing assignments, including essays, reports, and research papers, as well as email correspondence. Together these two types make up what is commonly referred to as communicative competence which, in this sense, is the linguistic complement for pragmatic ability: knowing when to use language (or not) in the right communicative situations, in both speaking and writing.

These skills assist students not only with academic pursuits the capacity to participate actively in class conversations as well as academic presentations and assignments but also propel their confidence, voice and engagement with faculty, administrators, and peers inside, as well as outside, institutional context (Shishiwa, 2016). For instance, in oral presentations, teamwork and peer collaboration verbal communication is extremely important while written communication is vital in academic writing, assessment, documentation and also record keeping. Outside academia, strong communication abilities are considered by employers to be one of the most important employability competencies as it affects leadership, customer service, teamwork and problem-solving (Dauber & Spencer-Oatey, 2023).

Realizing this, Tanzania and other education stakeholders such as policy makers, curriculum developers and teachers have implemented a number of reforms that support communication skill development. Such tools range from curriculum changes and pedagogical training to linguistics-based course instructor deployment. Despite this, there continues to be, especially in the case of the verbal and written communication skills of graduates, low levels of communicative competence reported in numerous studies (Munishi 2016; Munishi 2022; NACTE, 2020; URT, 2018; World Bank, 2014).

According to available evidence, institutions in other countries, especially, in Sub-Saharan Africa and other developing regions track significant deficiencies in communication skills competence which ironically have reduced graduate employability and workplace readiness (UNICEF, 2019; World Bank, 2021). Such deficiencies appear with disengaged attendance of classes, poor-structured writing, and low performance in oral tasks, which decreases the growth level academically and in future jobs. Although the previous work notes these challenges, they typically view communication skills as a ubiquitous construct without disaggregation of verbal and written challenges or variation across institutional and academic disciplines. Numerous interventions have been decontextualized, failing to consider the socio-political, pedagogical and linguistic contexts of Tanzania's higher education environment.

This gap has been addressed in this study, where the current study investigates the contextual factors which contribute to the proficiency of students' communication skills (specifically verbal and written communication skills) at two higher learning institutions. Through nuanced depiction of lived experiences with qualitative inquiry, and systematic thematic analysis using NVivo 12, the

study yields grounded, evidence-based suggestions for enhancing communicative competence in higher education in Tanzania.

1.1. Statement of the Problem

Despite the widespread recognition of the value of communication skills in academic and professional domains, many students in Tanzanian higher learning institutions continue to face challenges in developing adequate proficiency. While there is increasing awareness of the importance of communication skills, and Tanzanian institutions have taken steps to address these needs through curricular reforms, policy changes, and the recruitment of communication instructors, many students still graduate lacking adequate competencies in verbal and written communication. Communication skills proficiency is frequently cited by employers as a key soft skill missing among graduates, acting as a major barrier to youth employment (World Bank, 2014). Although some studies (Dauba & Jullanda, 2024; Munishi, 2016; Munishi, 2022; Suhairom et al., 2024) have examined this issue, existing literature often fails to distinguish between the specific characteristics of verbal and written communication challenges or appreciate how these differ across various types of institutions. Additionally, the majority of past studies have relied heavily on broad, descriptive instruments that lack the qualitative depth needed to understand students' and instructors' lived experiences.

By focusing specifically on the two higher learning institutions, this study seeks to generate contextualized and actionable insights that will support communication skills enhancement through evidence-based recommendations tailored to the Tanzanian higher education setting.

1.2. Significance of the Study

Understanding the barriers to communication skills development is essential for designing effective interventions in higher education. This study offers several contributions toward that goal. Firstly, it provides an in-depth analysis of the factors hindering communication skills proficiency in Tanzanian universities, drawing a clear distinction between verbal and written communication challenges. Secondly, the study informs curriculum designers, education policymakers, and instructors by identifying key areas for pedagogical improvement and resource allocation. Thirdly, the findings help shape institutional strategies for improving students' communication capacities in support of both academic success and employability.

Finally, the study contributes to existing literature by applying NVivo 12 software for qualitative analysis. This approach offers a more detailed and systematic understanding of stakeholder perspectives, thereby addressing a critical gap in research concerning communicative competence in multilingual and resource-constrained educational contexts.

2. Literature Review

Communication, with both oral and written forms, is one of the essential competences needed to succeed in higher education and professional practice (Khan, 2017). Despite this, several studies also indicate that Tanzanian higher learning institution students still face difficulties in these skills (Montaner-Villalba, 2021). Barriers to effective communication skills appear to fall within five main thematic areas: linguistic background, pedagogic quality, systemic deficiencies, assessment, and student behaviours. Although these areas have been explored independently, little research has critically compared their impact on verbal and written

communication across Tanzanian colleges with varied programs. Therefore, this study addresses this gap of existing literature and contextualised it with technical & business education of Tanzanian environment. This framework also guided the initial coding categories and node development during the data analysis process in NVivo 12 to ensure continuity between the framework identified from the literature and that developed analytically.

2.1. English Language Proficiency and Foundational Barriers

One of the main arguments raised for the poor performance in communication skills amongst Tanzanian learners is a poor grounding in English as the medium of instruction in both secondary and tertiary education (Killick, 2019; Shishiwa, 2016; Wingate, 2012). Many students are poorly prepared for higher education and are educated by teachers who themselves lack proficiency in English (Munishi, 2016; Munishi, 2022). This has implications both for delivery and for student comprehension, especially when it comes to communication skills classes taught in English. Due to language limitations, instructors frequently mispronounce, give incorrect tone and make grammatical mistakes, which inherently obstructs students' understanding (Tang, 2016; Wei, 2022).

Khoma (2016) and Luton (2015) note that poor pronunciation and tone changes alter meaning, create confusion, and hinder student involvement. This encourages students to shy away from communication-based activities and prevents learning basic principles. While existing literature recognizes these barriers, it often fails to distinguish between how they affect oral and written communication. This study addresses that gap using disaggregated thematic coding in NVivo 12, because mapping how language-related difficulties manifest across communication modalities provides a fuller picture of the challenge individuals face and offers potential avenues for intervention.

2.2. Instructional Quality and Pedagogical Gaps

Instructional quality is another critical determinant of communication skills development. Ellis (2019) and Mwila (2025) note that communication instructors often lack mastery of subject content and pedagogical strategies, particularly in areas like active listening, non-verbal communication, and public speaking. Poor lesson planning and delivery compounded by students' language limitations undermine comprehension and participation (Munishi, 2022). Tang (2016) emphasize that inadequate pedagogical practices hinder instructors from promoting interaction, creativity, and independent thinking, which are key elements in developing communicative competence.

Roorda, et al., (2020) and Yeung (2019) underscore the necessity of communicative teaching approaches to inspire student engagement. Yet, the literature rarely examines how these shortcomings affect oral versus written performance or how they influence students' confidence in either mode. This study bridges that gap by analyzing instructor-related factors through NVivo 12, with coding categories such as "delivery method," "feedback," and "teaching interest," helping isolate how pedagogical choices shape communication skill development.

2.3. Infrastructure, Class Size and Feedback Constraints

Physical learning environments are also important in communication (Guffey, 2016). Overcrowded classrooms and insufficient teaching aids as well as lack of digital or physical

infrastructure limit feedback and active engagement opportunities (Komba, 2016; Munishi, 2016; Munishi, 2022). Tang (2016) and Gulua (2020) contend that such constraints inhibit instructors from customizing learning or providing constructive feedback, especially when it comes to writing tasks. Indeed, detailed feedback is crucial for learners to improve their written communication but is rarely viable in large classes (Kotamjani et al., 2018).

These are all well-known challenges, but few studies have examined their particular impact on verbal versus written proficiency in different fields of study. NVivo 12 is then used to help capture these nuances, structuring nodes around variables of interest, including 'class size', 'feedback delays', and 'resource availability'. Further, frameworks such as CEFR (Wang & Li, 2020) are also conceptually tested in this context, in terms of progressive skill development in resource-constrained contexts.

2.4. Curriculum Interpretation and Assessment Systems

Poor dissemination of curricula (Holley, 2023) is another contributor to communication skills not being optimal. Tang (2016) and Needleman et al. (2018) argue that when instructors move from curricular goals to teaching practice, intended and practiced learning often diverge, resulting in coverage of prefigured content without attention paid to their transformational quality. Pandey et al. (2020) and Makayev et al. (2017) move beyond grammar-heavy approaches and lecture-mode delivery and encourage positive expression from students. No one even try to monitor or improve their writing skills without frequent formative feedback (Lipnevich & Smith, 2009; Sopina & McNeill, 2014).

Koretz (2008) goes further by warning that high-stakes testing actually encourages memorization at the expense of meaningful communication. Yet, previous studies do not sufficiently investigate how oral and written assessment practices affect learning outcomes differently. Using matrix queries and text search functions in NVivo, this study investigates these gaps across identified coded themes in the interviews such as 'assessment pressure', 'feedback cycles', and 'task engagement', and assists in pinpointing which practices either impede or facilitate varying communication outcomes.

2.5. Student Attitudes, Motivation, and Anxiety

Student behaviour is also an important factor. Students tend to avoid class activities due to fear of being judged, low self-esteem and lack of motivation (Seng & Abdullah, 2018). Some researchers (Roorda, 2025) directly link passive classroom behaviour to poor student-teacher relationships; others (Dauba & Jullanda, 2024; Munishi, 2016, 2022) note that students place little value in communication courses, using them as a way to pass without seeing much use outside the classroom. Weak foundations in the English language compound this disengagement and underperforming academically in all subjects (Ahmed et al., 2017; Babapoor et al., 2018; Tayyab et al., 2023). Yet little research has examined how these behaviours rippled effect into the acquisition of spoken and written communication (Özdemir & Seçkin, 2025). The assumption that their psychological barriers were contributing to poorer academic performance than expected was based on the analysis through coded NVivo themes of 'fear of speaking', 'low motivation', and 'feedback rejection'. This supports the findings of Reed (2020), who emphasize the need to nurture both cognitive and affective domains in the growth of 21st-century skills.

Even though there is plenty of literature concerning the abovementioned topics, we have insufficient information on the dynamic influences that affect verbal and written communication skills in higher education. The vast majority of studies either generalize their findings around the challenges of communication or focus exclusively on written communication without considering the differential impact of these challenges in different communication modes and institutional contexts. Additionally, few studies have utilized qualitative software such as NVivo to systematically code stakeholder perspectives and thematic interrelatedness.

To fill this gap, the present study explores the problems that affect students' verbal and written communication skills at both institutions. The five thematic categories identified through the literature review: language background, instructional quality, infrastructure, assessment systems, and student behaviour informed the coding framework and the basis for data analysis in NVivo 12. This alignment allows for conceptual coherence and an evidence-based, contextualized understanding of the forces shaping communication skills development in Tanzanian higher education.

3. Research Design and Methodology

3.1. Research Design

A descriptive qualitative research design was employed in this study to explore and describe the constraints of communication skills proficiency amongst higher learning students in Tanzania. This design was chosen, as it facilitates a comprehensive understanding of human experiences, perceptions, and behaviours, without being limited by a prescriptive case framework (Sandelowski, 2000). It is particularly well-suited to answering 'what', 'how' and 'why' questions such as why students struggle with verbal and written communication skills and how those challenges manifest in different academic contexts. This study stands from the fact that it was conducted in Dar es Salaam to two major technical institutions. The aforementioned institutions were selected purposefully based on their reputable standing in Tanzania's higher learning institutions and the fact that CBE is largely prominent for Business and ICT programs, with DIT well-known for Engineering and Natural Sciences. This juxtaposition paved the way for learning valuable comparative lessons regarding how communication skills are taught, used, and contested across diverse academic disciplines and enhanced the capacity of the study to capture different experiences and opinions.

3.1.1. Research Questions

1. What factors hinder students' proficiency in verbal and written communication skills in Tanzanian higher learning institutions?
2. How do these challenges differ across academic disciplines and between instructors and students?

To ensure the trustworthiness of the analysis, strategies such as peer debriefing, iterative coding cycles, and inter-coder agreement were applied. A second researcher reviewed 20% of the coded data for consistency and alignment with identified themes. Any discrepancies were discussed and resolved through collaborative validation, enhancing the study's credibility and

dependability. Additionally, audit trails were maintained to document coding decisions and analytical reflections throughout the process.

Advanced NVivo tools, such as matrix coding queries, were used to explore patterns and differences across institutions and participant types. Visualizations, including word clouds, tree maps, and coding stripes, illustrated the prevalence and intensity of particular themes. NVivo's text search and word frequency features also helped identify dominant terms and concepts across the entire dataset. The structured use of NVivo 12 significantly enhanced the efficiency, transparency, and validity of the data analysis process. It enabled triangulation of responses across data sources and participant groups, leading to contextually grounded and evidence-based interpretations. As a result, the analysis provided a robust understanding of the root causes behind the communication skills gap among students in Tanzanian higher learning institutions.

3.2. Sampling and Participants

A purposive sampling approach was employed to recruit participants with knowledge and experience relevant to teaching and learning communication skills. The sample included 100 participants: 80 students (i.e., ranging from first-year to final-year students), and 20 instructors teaching communication skills. The selection reflects diversity of voice across disciplines, levels of study and teaching experience that enabled meaningful thematic exploration.

3.3. Data Collection Methods

In-depth qualitative data collection methods included:

1. Document Review: Reviewing institutional reports, national policy documents (e.g., Tanzania Education and Training Policy 2014), global frameworks (e.g., UNESCO Education 2030) as well as education sector reviews by organisations such as the World Bank and African Union. These documents added context and helped triangulate findings.
2. Semi-Structured Interviews: The study conducted in-depth interviews with 40 participants (i.e., 25 students and 15 instructors). These enabled locked down exploration of experiences, perceptions and challenges related to communication skill development.
3. Focus Group Discussions (FGDs): Six FGDs (i.e., four FGDs in each institution) were conducted, five (5) participants per group. FGDs promoted meaningful dialogue and allowed discussion for responses of common challenges and solutions.
4. Non-participant observation: Non-participant classroom observations were conducted to evaluate real-time communication practices, teaching styles, and student engagement in communication-related lessons.

3.4. Data Analysis Using NVivo 12

Qualitative data collected from semi-structured interviews, focus group discussions (FGDs), classroom observations, and document reviews were analyzed with NVivo 12 (i.e., a qualitative data analysis software that allows for systematic, in-depth thematic analysis (QSR International, 2028). Data analysis started with the transcription of all interviews and FGDs, as well as the development of field notes and documentation of data. These data sources were subsequently imported into NVivo 12 and aligned to enable source classification based on

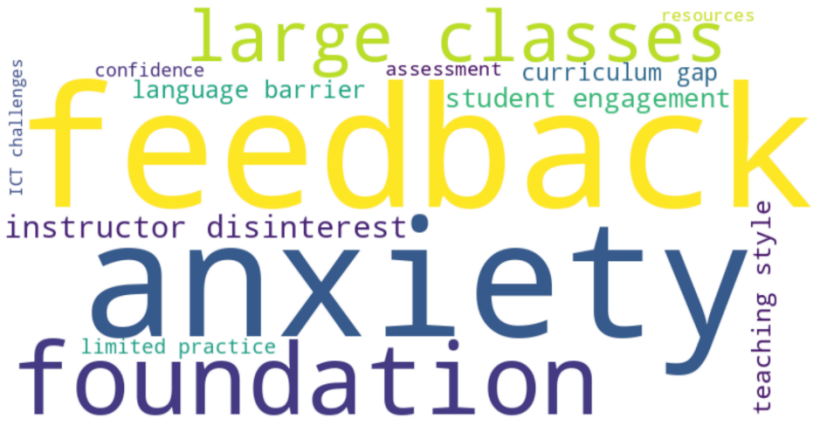
participant traits (i.e., participant attribute), including institution, role (i.e., student or instructor), gender, and year of study. This classification made it possible to effectively cross-compare between participant groups.

The first step in the analysis was open coding, after which transcripts were read line-by-line and meaningful statements or phrases were highlighted and coded. Based on recalibrating ideas from recurring thoughts, codes were created such as 'poor English foundation', 'lack of feedback', 'large class sizes', 'lecturer disinterest', and 'student anxiety'. The researcher subsequently coded the data and grouped them into nodes, representing a category of related themes. Codes specific to instructor behaviour were summarised under the theme 'Instructor Competence', whereas learning environment-related issues were grouped under the theme 'Teaching and Learning Challenges'. These nodes were distilled into broader themes corresponding to the research objectives of the study.

The study used NVivo's advanced tools like matrix coding queries to compare patterns and differences across institutions and participant categories. Word clouds, tree maps, coding stripes, and other visualization were produced to help illustrate how prevalent and widespread particular themes and concepts were. This allowed for text search and word frequency queries to extract leading phrases and concepts across the data set. This allowed identification of shared barriers to effective communication skills development greater, such as lack of effective teaching strategies, limited feedback, and low levels of student engagement.

NVivo 12 increased efficiency, validity, and transparency in the data analysis process. This enabled triangulation of data across different sources and types of participants providing a contextually grounded and evidence-based interpretation of findings. The benefit of NVivo 12 was its ability to systematically organize and manage the large volume of qualitative data, which enabled the researcher to identify trends, categorize challenges, and draw meaningful insights into the reasons behind the communication skills competency gap among higher learning students.

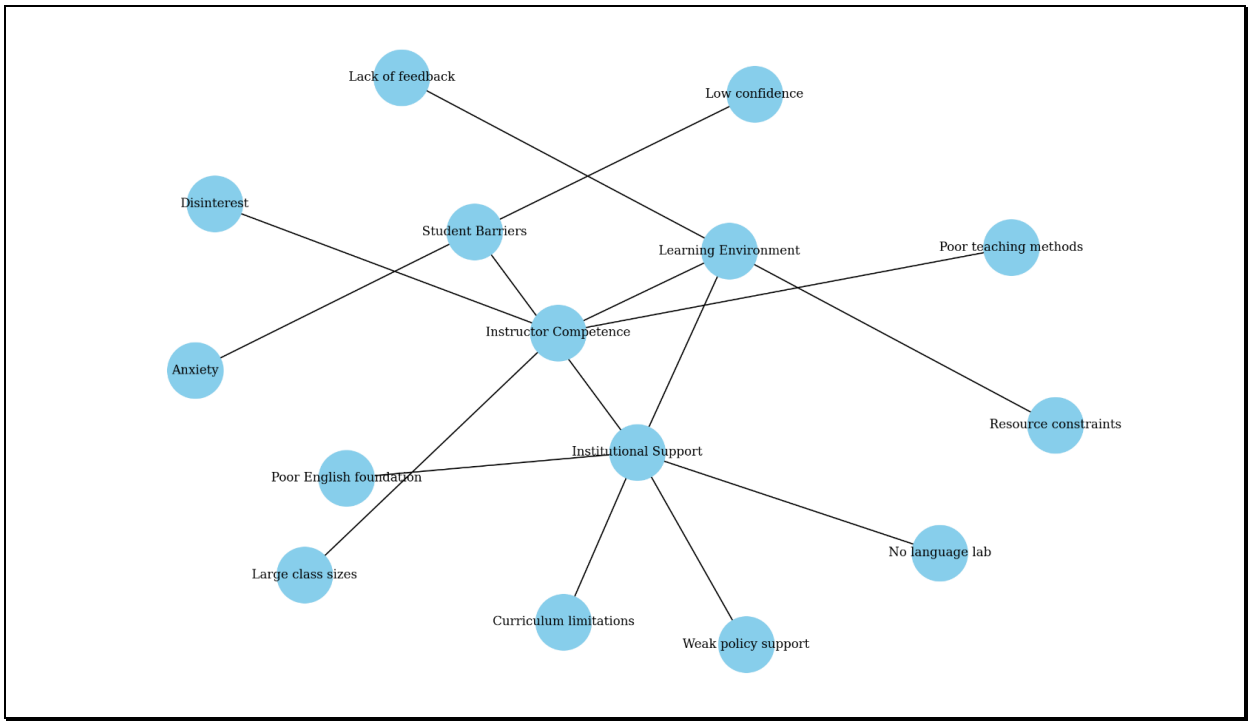
FIGURE 1. WORD CLOUD DISPLAYING FREQUENT NVIVO CODES



Source: own compilation

Description: This word cloud visualizes the most commonly referenced terms in participant responses. Larger words such as "feedback", "anxiety", "foundation", and "teaching" highlight recurring themes that reflect the core communication barriers faced by students across both institutions.

FIGURE 2. HIERARCHICAL MODEL OF MAJOR THEMES IDENTIFIED IN NVIVO ANALYSIS



Source: own compilation

Description: *This diagram illustrates key thematic categories and their sub-nodes as coded in NVivo. Major themes include: (1) Instructor Competence, (2) Learning Environment Challenges, (3) Student-Related Barriers, and (4) Institutional Support Systems. Each theme is supported by linked codes representing specific recurring issues mentioned by participants.*

3.5. Ethical Considerations

The study adheres to ethical and data protection guidelines to protect participants and ensure research integrity. All participants gave written and verbal consent to participate in the study after the purpose and scope of the study explained. The names and identities of participants were anonymized; all data were secured. Participation was completely voluntary, with the option to withdraw at any time during the study. All research activities were carried out in accordance with local cultural norms and institutional policies.

4. Discussion of the Findings

Using NVivo 12 data processing, multidimensional barriers that hinder students in higher learning institutions in Tanzania from fully achieving communication skills proficiency emerged from the study findings. Systematic thematic analysis featuring NVivo node coding, matrix queries and visualization was utilized to identify key barriers, grouped into four main themes of impediment: (1) Teaching and Learning Processes, (2) Instructor-related Factors, (3) Student Behaviours, and (4) English Language Proficiency.

4.1. Teaching and Learning Processes

Using NVivo 12 for data analysis, the "limitation in teaching and learning process" has recognised as a main theme which influencing the students in acquiring communication skills. More than 65 percent of coded segments featured apparent student dissatisfaction with outdated

pedagogical approaches that characterized by one-way lectures, minimal interactions and delayed or insufficient feedback. Students regularly characterized their classroom experience as passive and uninspiring; one said, *"The lectures are so boring; we just sit and listen to the lecturer read from slides, no discussion, no practice"*. Another said, *"We only receive feedback during exams, and by then it's often too late to make changes before the next exam"*. This was supported through NVivo's word cloud, which shows common words such as 'boring lectures', 'no feedback', and 'no practice'.

The analysis also reveals a convergence of apprehension among instructors, in particular the need for interactive strategies in the context of large classrooms. *"As a teacher, I attempt to get my students to participate, but at times the class sizes get too large to be able to manage meaningful interaction"*, one instructor says. This adds to the dilemma of keeping students engaged in overpopulated classrooms in addition to the ineffectiveness of standard lecture and test methods. The matrix query in NVivo also illustrates the homogenous perspective among pupils and tutors on the lack of dynamic modalities like simulations, role-playing and peer teaching methods that are well-documented to enhance active learning and real-life communication practice.

Indeed, Lipnevich and Smith (2009) argue for regular, low-stakes formative feedback as necessary to develop students' communication and writing skills, and these results support their position. Moreover, the work of Wang & Li (2020) supports the trend towards curriculum designs that are structured, student-centered and aligned with the CEFR and that stage the development and use of communication skills across time. Such recommendations are supported by the NVivo analysis, highlighting the imperative of revamping communication modules to adopt interactive pedagogies and the use of frequent formative assessment together with timely feedback streams to augment student preparedness and performance.

4.2. Instructor-Related Factors

The most unifying barrier that impacted findings on skills acquisition is the competence of instructors within communication skills; 87% of student responses pointed to issues related to the delivery practices of communication skills instructors including their use of language and their overall engagement. NVivo 12 analysis reveals that poor grammar, monotone deliveries, absence of constructive feedback and inattentiveness from some instructors. All these factors led to lower student motivation and understanding during lessons. A student said, *"The lecturer is speaking in a monotone voice, and sometimes I can't even understand the points with the grammar being poor"*. Another commented, *"The instructor doesn't seem to care about our progress. They don't follow up with us after class to explain"*. Such sentiments affirm Luton's (2015) observation that it is the tone and delivery with which we speak that informs how students interpret us and engage in the classroom.

The most common mentions within the NVivo (i.e., text search query) files are words like tone, confidence, and grammar errors, which seem to indicate less instructional communication styles, indicating that this is certainly a recurring sub theme in the data. The matrix query in NVivo further provides evidence of a shared perspective of both students and instructors on the impact of rapport on classroom interaction, where it concludes that the absence of rapport plays a significant role. *"I know I could improve my delivery, but sometimes it's hard to keep things fun when the class size is overwhelming and students easily get distracted"*, one instructor

explained. This reinforces a shared understanding of the pedagogical challenges facing institutions of higher learning.

This study confirms Roorda (2025) that relational trust ultimately builds effective communication between instructors to successfully communicate with students. If students feel that there is no-one supporting them, no-one trying to listen to them, they will not engage in any learning process, because if you don´t communicate with them actively, they basically shut down. The NVivo findings reveal a critical need for ongoing professional development for instructors that will dedicate to improving pedagogical practice, using clear and engaging delivery and ensuring language accuracy within the context of the development of the e-learning materials. Even though implementation of influential capacity-building programs based on frameworks, e.g., CEFR (i.e., Common European Framework of Reference for Languages) assists instructors in developing privileged language awareness and improving instructional delivery, integration of meaningful, interactive, and student-centered pedagogical maps is critical.

4.3. Student Behaviour

Student-related behavioural factors are a significant barrier influencing the communicative skills proficiency level as evidenced in over 80% of the student response reporting issues including fear of speaking, lack of motivation, procrastination and poor time management. NVivo 12 cluster analysis indicates a high co-occurrence between '*fear of making mistakes*' and avoiding or refraining from verbal participation, thus revealing that a significant portion of students engaged in a passive response in classroom dialogue. This is consistent with Martínez-Saéz (2019), who identified the syndrome in activity where hesitation to be judged and failure disables students who will not make oral communication exercises.

The depth of this issue is reflected in students' narratives. For example, one student said, *"I'm afraid of making mistakes when I speak in class. It feels like easier to shut up, keep on your side and don't answer"*. Another spoke to similar concerns, saying, *"I don't feel motivated to contribute in group discussions because I don't feel that I'm good enough at English". These accounts show how self-doubt and a sense of low self-efficacy thwart students' efforts to participate in communicative practices, in particular oral communication"*. Instructors see this behaviour too. One wrote, *"I notice that students are afraid to answer questions even when I ask them to speak when in front of the class"*. Those tendencies inhibit verbal fluency and stifle feedback and iterations. Moreover, a word frequency query using NVivo exposes common words, including fear, feedback, and writing late, and how assignments completed at the last minute and without proper engagement in learning contribute to poorly developed writing abilities.

In this way, these findings support the argument by Sopina & McNeill (2014 that students who do not get specific, iterative feedback have difficulty identifying and addressing their own communication strengths and weaknesses. In addition, they are consistent with Wingate (2012) focus on formative assessment and the role of personalized support in promoting student engagement and motivation. This qualitative process leads to NVivo's thematic analysis, which suggests that learner-centered interventions are required to address these behavioural imperatives. Possible solutions like peer collaboration, personalized feedback and low-stakes speaking opportunities help students develop confidence in their communication skills. Incorporating these practices into instructional practices leads to increased confidence, engagement, and an overall sense of agency in students.

4.4. English Language Proficiency

The level of mastery in the English language becomes a significant predictor of students' ability to learn to communicate effectively. Upon analysis using NVivo 12, 84% of the students' reason that their issues with expressing themselves in writing and speech are due to poor grammar, limited vocabulary, and lack of input of English beyond school settings. Using the NVivo word tree output, it is found that these issues are repeatedly associated with words/phrases including '*confusion*', '*poor understanding*', and '*writing errors'*.

This concern is echoed in students' responses. One student said, *"I make many mistakes on grammar when I write or speak, and it makes embarrassed to communicate"*. Another wrote, *"I don't feel confident speaking in English because my vocabulary is limited, and I do not read much outside of class"*. These experiences highlight how language hinder students' confidence and their capability to express ideas with clarity, a pattern confirmed by instructors as well. As one said, *"The students often have problems with expression because they don't have enough words, and don't practice English enough"*. These results are in line with an earlier study (Komba, 2016; Munishi, 2016, 2022) which indicating that weak foundations in English, particularly in grammar and vocabulary are fundamental impediments for Tanzanian students' effective communication. As NVivo's thematic clustering also shows students do little listening, reading, and writing in informal settings outside of what they are formally assessed on, that only serves to exacerbate the problem.

4.5. Intersections and Interdependencies Across Themes

NVivo findings indicate that addressing this involves implementing more extensive language support strategies. This covers all steps from creating support programs in English, increasing access to language labs and media, integration of the English language through immersive and learner-based experiences. These interventions are seen as reflective of Wang & Li's (2020) argument for progressive exposure in multilingual learning contexts, and UNESCO's (2023) recommendation for education systems to implement inclusive and applied approaches for positive outcomes in functional language development.

The four thematic barriers are the teaching methods employed, the limitations of the instructors, the behaviours of the students, and the English proficiency of the students, none of which operate in isolation and rather compound each other in complex ways. For instance, established pedagogical techniques for second language learning are one thing; desirable outcomes in terms of the neurobiological or psychological facets of second-language acquisition under proper teaching interventions are quite another, and they suffer subrogated undermining when teachers do not have a great language command or do not craft an engaging course environment. In the same vein, students' anxiety, and lack of motivation, are often the direct result of poor teaching, and instructors' ability to provide timely and actionable feedback throughout the learning journey. In addition, without strong, foundational skills, students tend to disengage from both rendition (speaking and/or listening to others speaking) and written tasks, both of which add to the passivity in the class and the breakdown of communication.

Through comparative matrix coding of NVivo, the study finds overlapping nodes across all four themes, confirming these interconnected influences. These findings highlight the need for a more comprehensive intervention that enhancing instructional quality, teacher-student relationships, student confidence, and language skills in an integrated manner. An integrated approach like this

is better to prepare students with the appropriate communication competencies for success in Tanzania's higher learning institutions both in academia and executive positions.

5. Conclusion and Recommendations

5.1. Conclusion

The results indicate that ineffective pedagogical strategies such as lecture-based presentation, large class size, and limited feedback reduce meaningful language practice and language skill consolidation opportunities. Against this background, instructors' own language proficiency, pedagogical competence, and attitudes have a powerful influence on how communication is taught and subsequently perceived by students. In addition, students' own behaviours such as speaking anxiety, procrastination, and rejection of feedback create internal barriers to skill development. Last but not the least, having a weak foundation in English, with limited exposure, irregular practice and outdated teaching methods, have found to be a key contributor that holds back further improvement in both written and spoken proficiency.

In response to the first research question, the study identifies four interrelated factors hindering students' verbal and written communication skills: outdated teaching practices, instructor-related challenges, student behaviours, and limited English language proficiency. Regarding the second research question, the study finds that the impact of these barriers varied across academic disciplines and participant categories. For instance, engineering students report higher levels of anxiety in oral tasks, while business students exhibit more difficulties with written structure and vocabulary. Instructors, on the other hand, express frustration over large class sizes and students' disengagement, which further compounded these challenges.

The key findings suggest that the in-depth teaching and learning of communication skills among students in higher education is hindered by limited approaches to teaching, inadequacies in facilitative teaching, factors related to the students themselves and gaps at an elemental level. The results highlight the importance of moving away from traditional, lecture-focused pedagogical models toward that of interactive, student-centered and feedback-rich instruction. Instructors are not just deliverers of content but facilitators of engagement, practice and mentorship. Moreover, students should be equipped with skills in time management, public speaking and constructive feedback application. Pre-university and higher education English language instructions must be redefined as communi-technology based, multi-modal and contextually driven.

Noteworthy is that the NVivo 12 software is incorporated into the analysis process which assisted in a structured thematic interpretation, which reflected the importance of data-driven decision making for identifying the unique complexities of educational challenges. In addition, it finds that the use of structured assessment frameworks, innovative programs such as the Virtual Exchanges (Horváth-Csikós, 2021) and the use of interactive writing practices positively impact on these key competences. Lastly, embracing international competency frameworks such as CEFR and utilizing digital tools vastly improve the teaching and learning of communication skills in higher education.

Importantly, this study reflects on the researchers' own positionality and the reflexive process undertaken during the research journey. Being academic members within one of the studied institutions provided unique access to participants and contextual insight; however, it also required continual self-awareness to minimize bias during data collection and interpretation. Peer debriefing

and audit trails were employed to enhance objectivity. This reflexivity strengthens the credibility of the study and underscores the importance of transparency in qualitative inquiry.

5.2. Recommendations

Based on the study's findings and conclusions, the following recommendations are proposed and grouped into three major categories for clarity and stakeholder actionability:

5.2.1. Institutional-Level Recommendations

1. Enhanced Student Support Services: Establish dedicated writing centers and speaking labs within institutions to offer personalized coaching, peer mentoring, and communication workshops. These can support students with confidence-building in public speaking, academic writing, and time management.
2. Smaller Class Sizes or Teaching Assistants: Institutions should reduce class sizes in communication skills modules or introduce teaching assistants to facilitate interaction, feedback, and individualized support during lessons.
3. Utilization of Digital Platforms: Encourage continuous language engagement through e-learning tools, mobile apps, podcasts, student-led blogs, and moderated discussion forums that support verbal and written communication outside traditional classroom settings.

5.2.2. Pedagogical Recommendations

1. Curriculum Reform and Instructional Innovation: Communication skills modules should be redesigned to incorporate interactive teaching strategies such as simulations, role-playing, debates, peer teaching, and collaborative writing projects. This should also include task-based and problem-solving activities that mirror real-life communication contexts.
2. Formative Assessment and Feedback Mechanisms: Introduce low-stakes, continuous assessment techniques that emphasize frequent, constructive, and individualized feedback to help students reflect, improve, and build confidence in both verbal and written communication.
3. Instructor Capacity Building: Provide regular professional development for communication instructors focusing on student-centered pedagogy, multimodal communication, differentiated instruction, and the integration of CEFR-based frameworks (i.e., Common European Framework of Reference for Languages) for teaching and assessing language proficiency.

5.2.3. Policy-Level Recommendations

1. Improved English Language Instruction in Secondary and Higher Education: The Ministry of Education should promote Communicative Language Teaching (CLT) approaches in English language instruction from secondary school through tertiary levels. Emphasis should be placed on multimedia exposure and balanced development of all four language skills listening, speaking, reading, and writing.
2. Benchmarking and Monitoring Language Proficiency: Regulatory bodies such as Tanzania Commission for Universities (TCU) and National Council for Technical and Vocational Education and Training (NACTVET) should set and enforce minimum English language proficiency standards for both students and instructors. Institutions should also be supported in implementing language proficiency monitoring tools at entry and exit levels.

3. Support for Research and Innovation: Policymakers should fund research into innovative models of communication pedagogy and support institutional experimentation with blended and virtual exchange programs that improve communicative competence in multilingual and resource-limited contexts.

5.3. Limitations of the Study

Although this study is rich in insights regarding the challenges influencing communication skills competency among Tanzania's higher education students, some limitations need to be noted. To begin with, the study was conducted in only two institutions which, though ensuring disciplinary contrast, restrict generalizability of findings across other settings and across universities with alternative 5student profiles and institutional environments. Second, the dynamic nature of language learning technologies and AI tools is likely to influence subsequent communication skills teaching and learning dynamics that may not be adequately appreciated from this study. Third, whereas NVivo 12 enabled systematic theme analysis, the employment of self-reported data from FGDs and interviews may be vulnerable to biases such as social desirability or recall bias. Future research may expand in scope by including longitudinal data, broader institutional coverage, and student performance measures to further enhance understanding and verify the current findings.

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Declaration Statements

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Mastering Academic English in Hungarian Higher Education: Fostering Grit, Emotion Regulation, and Motivation among Doctoral Students

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Abstract

Pursuing a doctoral degree is an intellectually and emotionally demanding journey. In this context, the concept of grit, defined as perseverance of efforts and passion for long-term goals despite adversities has become a key factor influencing doctoral students' persistence, emotional resilience, and sustained motivation when navigating academic challenges. In today's globalised higher education, mastering academic English is also essential for academic and professional success, which can pose significant challenges, particularly for those who use English as a foreign language. Thus, this paper explores how grit interacts with emotions, emotion regulation, and motivation in mastering academic English within Hungarian higher education. Adopting a qualitative approach, the research involved nine doctoral students specialising in linguistics from diverse cultural and linguistic backgrounds. The data collected through in-depth semi-structured interviews were thematically analysed and validated by co-coders. Findings revealed that highly gritty PhD students were driven by various internal and external sources of motivation, primarily by passion for learning and professional development as teachers and researchers. While the students' curiosity and enjoyment grew in insightful academic environments, their challenges with academic writing, negative feedback, extensive readings written in complex English, and unengaging classes led to anxiety, frustration and mixed feelings with fluctuations in motivation. The participants shared various strategies, including cognitive change and social support, to navigate the challenges. This study contributes to understanding the role of grit and emotion regulation in supporting doctoral students by emphasising the effective use of strategies. The research offers practical insights into integrating necessary training into graduate programmes aimed at developing grit, emotional resilience and wellbeing, sustained motivation, and linguistic proficiency essential for academic achievement and long-term career paths.

Keywords: academic English, doctoral students, emotion regulation strategies, grit, motivation

1. Introduction

Doctoral education requires commitment, emotional resilience, motivation, sustained effort and passion in specialised fields. In doctoral programmes, intellectual and emotional demands are high, with students often experiencing challenges related to performance, feedback, and time constraints (Stubb et al., 2011). Grit becomes pertinent in this context as it underscores the need for fostering sustained interest and effort to overcome adversities (Duckworth et al., 2007) associated with demanding workloads, assignment deadlines, critical thinking and academic writing (McAlpine & Amundsen, 2018). In addition, considering today's globalised higher education and academia, English is predominantly used for academic purposes, research and publications; mastering Academic English is crucial at this high-stake level, which may present difficulties for doctoral students using English as a foreign language. As it is evident that grit interacts dynamically with motivation and emotional experiences, which influence language proficiency (Csizér et al., 2024; Pawlak et al., 2022), this study explores the interplay between grit, motivation, and emotion regulation in Academic English mastery among doctoral students studying in Hungary. Our study employed semi-structured interviews to deepen our understanding of subjective experiences from an emic perspective, as grit research is primarily dominated by quantitative studies (Csizér et al., 2024). With a focus on strategy use, our study aims to provide a deeper understanding of grit in high-level learning contexts by offering practical strategies to support doctoral students in the face of challenges. The following part presents the reviewed literature, emphasising related studies on grit and other variables, followed by research questions.

2. Literature Review

2.1. Grit

Grit is defined as perseverance of efforts and passion for long-term goals despite challenges, comprising two components: perseverance of effort (POE) and consistency of interest (COI) (Duckworth et al., 2007). While POE refers to sustained effort towards a long-term goal, COI pertains to maintaining interest in the goal over a longer period despite facing obstacles (Duckworth et al., 2007). In second/foreign language learning (L2) contexts, while grit is initially regarded as a domain-general construct (e.g., Feng & Papi, 2020; Khajavy et al., 2021), that is, being gritty in life in general, domain-specific L2 grit, has gained importance due to its predictive power boosting language learning success by leveraging learners' strengths (Botes et al., 2024; Zhao & Wang, 2023). In this paper, L2 grit is associated with sustained efforts and interest in mastering Academic English among doctoral students in Hungarian higher education.

Research has revealed that components of grit differently affect L2 learning outcomes. POE is frequently linked with higher language proficiency and increased motivation (Pawlak et al., 2022), while COI has more variable effects on learning outcomes (Khajavy et al., 2021). This variability does not only highlight the context-dependent nature of grit but also emotional and motivational dynamics involved in sustaining goal-oriented determination. For instance, in environments where anxiety, enjoyment, and boredom are present, POE mediates the relationship between these emotions and motivational behaviours, thereby enhancing language proficiency (Csizér et al., 2024; Pawlak et al., 2022). Additionally, Cai et al. (2024) report that grit contributes to L2 achievement by fostering POE and COI by reducing negative emotions. Further research has explored the link between higher grit with greater engagement, which helps improve language performance and mediates between students' motivation and engagement (Jin, 2024; Li & Yuan, 2024; Sun et al., 2024). Besides, the impact of grit might be mediated

by other factors such as cognitive strategies, study effort, or self-efficacy (Credé et al., 2017; Hagger & Hamilton, 2019). Above all, grit has been highlighted as contributing to enhancing engagement, motivation, positive experiences, and linguistic proficiency. Thoroughly understanding these nuanced interactions with motivation and emotions can thus provide deeper insights into doctoral students' experiences in the demanding context of higher education.

2.2. Motivation

Motivation, a driving force that guides and sustains goal-directed behaviours, is fundamental in language learning (Dörnyei, 2009), a cornerstone of academic achievement, especially in demanding PhD education. Ryan and Deci's (2000) self-determination theory provided a foundational framework for understanding motivation as a continuum between sources of intrinsic motivation, such as self-improvement, curiosity, and passion, and extrinsic motivation, including career advancement, financial stability, and social validation. Motivation is also often described regarding integrative orientations involving a genuine interest in the language and the target culture, and instrumental orientations typically achieving instrumental goals, such as getting good grades (Gardner & Lambert, 1972); both shape language learning strategies and experiences (Bonney et al., 2008). Furthermore, the ideal L2 self and the ought-to L2 self have garnered considerable attention as part of the L2 Motivational Self System (L2MSS) proposed by Dörnyei (2009). The ideal L2 self incorporates competencies that learners need to possess in their future selves to attain their L2 learning outcomes as a powerful motivator reflecting the learners' motivation to become proficient speakers, while the latter pertains to attributes they perceive they should possess to meet external expectations. Recent research highlights grit's interaction with the ideal L2 self, affecting language learning outcomes. Sun et al. (2024) and Feng and Papi (2020) indicate that grit enhances L2 learners' persistence and mediates the relationship between the ideal L2 self and engagement. A higher level of grit may enhance learners' ideal L2 self through emotional resilience, thus aligning personal aspirations with actual learning behaviour (Nikitina et al., 2025). Such interactions suggest that grit can act as a bridge between intrinsic motivation and external achievements, thus facilitating a deeper commitment to learning.

2.3. Emotions and Emotion Regulation

Emotions are complex responses to situations seen as essential opportunities or difficulties in the world of individuals related to their objectives in life (Keltner et al., 2014). According to the broaden-and-build theory, positive emotions such as joy and interest enhance an individual's cognitive engagement, while negative emotions can significantly hinder their ability to flourish (Fredrickson, 2004). Specifically, in L2 learning contexts, Foreign Language Enjoyment (FLE) correlates strongly with higher motivation and language achievement, fostering a sense of accomplishment and satisfaction, particularly in collaborative and challenging tasks (Dewaele et al., 2019). Moreover, curiosity, although less explored in the L2 learning field, is a key driver of inquiry and exploration, stimulating intrinsic interest in learning. Mahmoodzadeh and Khajavy (2019) found that curiosity often precedes enjoyment, creating a reinforcing cycle of engagement. For example, Takkac Tulgar (2018) observed that curiosity fosters language exploration, even in high-pressure academic settings. On the other hand, negative emotions, such as anxiety and boredom, pose significant barriers to learning. Foreign Language Anxiety (FLA) typically stems from pressures and can lead to avoidance behaviours (Horwitz et al., 1986), while it can motivate learners to prevent failure (MacIntyre,

1999; Pekrun et al., 2002). Similarly, boredom, defined as a disengagement arising from monotony or excessive challenge (Kruk et al., 2021), can sometimes drive learners to seek new ways to re-engage with the material, which highlights the complex role of negative emotions in shaping engagement in L2 learning.

The dual role of emotions as barriers and facilitators highlights the importance of emotion regulation (ER) in academic success. Gross (2015) defines ER as a process by which an individual influences their emotional experience and expression to achieve their goals through using ER strategies (ERS), situation selection or modification, attention deployment, cognitive reappraisal, and response modulation. In doctoral education, such strategies are invaluable during high-stakes tasks like academic writing and publication (Paltridge & Starfield, 2023). Research has shown that effective ER helps sustain learner engagement and motivation by enhancing academic resilience (Mei et al., 2024). Resilient students are better equipped to manage emotional setbacks and maintain their commitment to academic and linguistic goals. Solhi et al. (2023) emphasised that grit and ER are mutually reinforcing: students who effectively regulate their emotions are more likely to exhibit grit, while gritty individuals are better positioned to deploy adaptive strategies. Additionally, ER is influenced by interpersonal factors. Wei et al. (2019) found that supportive learning environments enhance grit and ER, helping students manage emotions and sustain motivation. These findings underscore the interconnected nature of ER strategy use, motivation, and grit in ensuring academic success.

Recent studies, as emphasised in this section, provide a substantial understanding of grit, emotions and ER, motivation, and engagement, nonetheless, mainly from a quantitative perspective, predominantly in Iranian and Chinese L2 learning contexts (e.g., Bensalem et al., 2024; Cai et al., 2024; Fathi et al., 2024; Khajavy & Aghaee, 2022; Mohammed Hossaini et al., 2024; Solhi et al., 2023; Sun et al., 2024). However, Csizér et al. (2024) examined the grit of Hungarian English majors from both emic and etic perspectives, revealing varied student profiles based on grit levels that are dynamically interlinked with motivation and emotions. Although relevant, their study did not explore regulatory strategies, which this research aims to address, focusing on an international PhD setting. Given this underrepresentation, it is crucial to understand doctoral students' experiences to grasp better the interplay between these variables.

2.4. Doctoral Students' Experiences

Doctoral students pursue their education for personal growth, career advancement, and scientific contributions, driven by various internal and external factors. Nonetheless, they face significant challenges, including demanding workload, publication pressure, supervisory and peer relationships, financial stress, employment concerns, loneliness, isolation, burnout, self-doubt, and language and cultural barriers, especially for those studying abroad, which negatively influence their holistic wellbeing and mental health (Anderson, 2021; Li, 2024). In this regard, purpose, empowerment, persistence, grit, intrinsic motivation, peer and supervisor support, financial security, access to resources, self-regulatory strategies, and feedback are essential for the successful completion of school (Vigil Avilés et al., 2025). Furthermore, mastering Academic English becomes vital yet poses a challenge, particularly for those with low language proficiency, which leads to less engagement in learning (Xiao, 2024) and frustration, anxiety, and mixed feelings among doctoral students (Geng & Yu, 2024). Furthermore, cultural norms may influence grit and emotional experiences among diverse PhD students (Markus &

Kitayama, 1991). For instance, Xiao (2024) notes that Asian doctoral students are often perceived as passive learners within the Western education context due to differing cultural and educational backgrounds. Therefore, understanding these dynamics is crucial for providing tailored support to meet PhD students' needs in a multicultural context (McAlpine & Amundsen, 2018). Given that, this study addresses the following research questions:

1. What characterises general and L2 grit, emotional experiences, and motivation in mastering Academic English among doctoral students in Hungarian higher education?
2. What strategies do doctoral students use to manage their emotional experiences and navigate academic English challenges faced during their studies?

3. Method

3.1. Research Design

The research adopted a qualitative approach, employing in-depth interviews to gain a broader and more nuanced understanding of the experienced world from doctoral students' perspectives (Dörnyei, 2007).

3.2. Participants and Setting

The participants included nine doctoral students enrolled in a four-year full-degree PhD program in Hungary focusing on linguistics, chosen through purposive sampling (Dörnyei, 2007). The first two years of education concentrate on educational and research modules, where students attend classes while preparing for a comprehensive exam and defending a dissertation proposal at the end of the fourth semester. The final two years focus on research activities, including compulsory publications and conferences and writing up the dissertation. After collecting the necessary credits and completing defences, the students become a PhD in their specialised area. To ensure anonymity regarding research ethics (Dörnyei, 2007), pseudonyms were assigned to each participant.

Table 1 below illustrates that this multilingual group of three males and six females represents a diverse cultural background: three Hungarian students and six international students studying in Hungary for more than two semesters. This included two Burmese, one Indonesian, one Ecuadorian, one Ukrainian and one Jordanian student. Their ages ranged between 26 and 46 years, averaging 32.67 (SD=6.31). Only one student perceived herself as proficient (C2), while the others had advanced (C1) English according to the Common European Framework of Reference (CEFR, 2001).

3.3. Data Collection

Data was collected in English on Teams during the academic year of 2022-2023 through one-round semi-structured interviews that lasted between 38 to 80 minutes. Before the interviews, participant consent was obtained via a consent form detailing information on privacy, confidentiality, anonymity, data storage, and research integrity (Dörnyei, 2007). During the interviews, participants were questioned about their perceptions of grit concerning their lives and PhD journey, emotional experiences, and how they managed emotions and navigated challenges. The interviews were transcribed for data analysis on ATLAS.ti 24 software.

TABLE 1. DEMOGRAPHIC INFORMATION

Participant	Gender	Age	Nationalities	First Language	Duration of Study	Proficiency
Asja	Female	35	Burmese	Burmese	2 semesters	C1
Kristof	Male	27	Hungarian	Hungarian	2 semesters	C1
Elisa	Female	38	Ecuadorian	Spanish	2 semesters	C1
Adrienn	Female	46	Hungarian	Hungarian	2 semesters	C1
Mina	Female	26	Jordanian	Arabic	3 semesters	C1
Reza	Male	33	Indonesian	Nias	3 semesters	C1
Anton	Male	27	Ukrainian	Ukrainian	3 semesters	C1
Maya	Female	35	Burmese	Burmese	3 semesters	C1
Anita	Female	27	Hungarian	Hungarian	3 semesters	C2

Source: Interview data

3.4. Data Analysis

Thematic analysis (Braun & Clarke, 2006) was employed to explore recurring themes and patterns on motivation, grit, challenges, emotions and ERS. The first author, a Turkish doctoral student in Hungary, conducted all interviews, which helped establish rapport during the interviews while raising questions about researchers' positionality and potential bias due to shared experiences and social proximity. To address these dynamics, the first author engaged in persistent engagement within the research context, noting important reflections after each interview with questions about interpretation. Later, she completed initial codings while the second author, a Hungarian doctoral student, collaboratively reviewed the codes to establish consistency. To enhance the trustworthiness of the research (Guba & Lincoln, 1985), peer debriefing was conducted between the authors, and an audit trail was established for analytic discussions with two experts, ensuring confirmability. Thick descriptions of the context, participants, and findings facilitated transferability. These steps aimed to ensure the credibility and transparency of the research process. Details on finalised themes are discussed in the following section.

4. Findings and Discussion

This section presents the findings on doctoral students' perceptions, covering their motives for studies, general and L2 grit levels, academic challenges, emotional experiences, and strategies, along with earlier relevant studies. A visual summary of the identified themes is included in each sub-section.

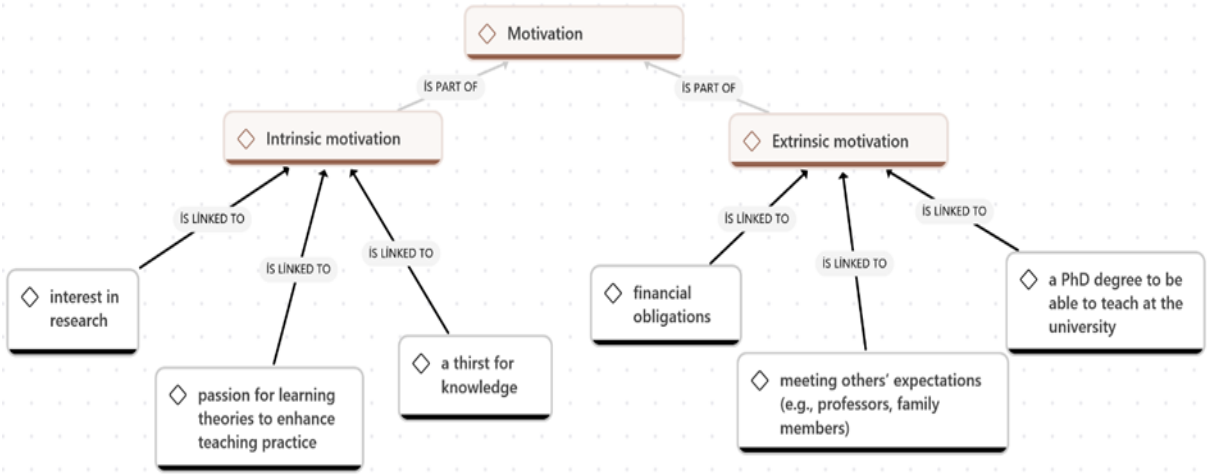
4.1. Motivation

Findings demonstrated that the participants were intrinsically motivated by self-improvement and professional goals as L2 teachers, doctoral students and researchers (Ryan & Deci, 2000), as shown in Figure 1 below. As teachers, they were fuelled by their passion for learning about theories to apply to their teaching context and understand classroom instruction (Asja, Mina, Elisa, Adrienn, Anita, Maja), helping others learn English (Elisa, Kristof). As researchers, they were intrigued by their research interest areas (Mina, Anton). Kristof defined this passion for learning as "a thirst for knowledge," stating, "I would like to provide more pieces of

information, reveal things to people to help them more." He described his interest in research, stating, "I enjoy critical thinking, and research is also a form of self-expression; I want to ask questions that people may not have asked before." Here, a doctoral education could serve a significant goal: enhancing theoretical knowledge and teaching skills while making scientific contributions. Their ideal self as teachers and researchers can interact with grit, helping them strive for their goals (Feng & Papi, 2020; Sun et al., 2024). Their continuous interest in learning and teaching may relate to higher COI and curiosity, as Takkac Tulgar (2018) noted, which enhances language exploration and performance by enhancing intrinsic motivation.

Alongside internal drives, external sources also contributed to their motivation. Reza highlighted the need for a PhD for his greater aspiration: "I want to teach at the university. That's my dream after PhD." Asja and Anita mentioned their financial obligations; failing to complete the PhD program would require repaying government reimbursement. Furthermore, Anita sought validation from others regarding her capabilities, while Maya pursued a PhD to honour her late father's wishes. Their ought-to L2 self, being motivated by the urge to fulfil others' expectations (Dörnyei, 2009) and instrumental goals (Gardner & Lambert, 1972), likely increases their determination to sustain efforts and interest during their studies. Nonetheless, these factors may fall short in grasping sustained effort over time (Csizér et al., 2024); thus, understanding general grit also becomes crucial.

FIGURE 1. THEMES ON MOTIVATION



Source: Authors' analysis via ATLAS.ti, 2025

4.2. Grit

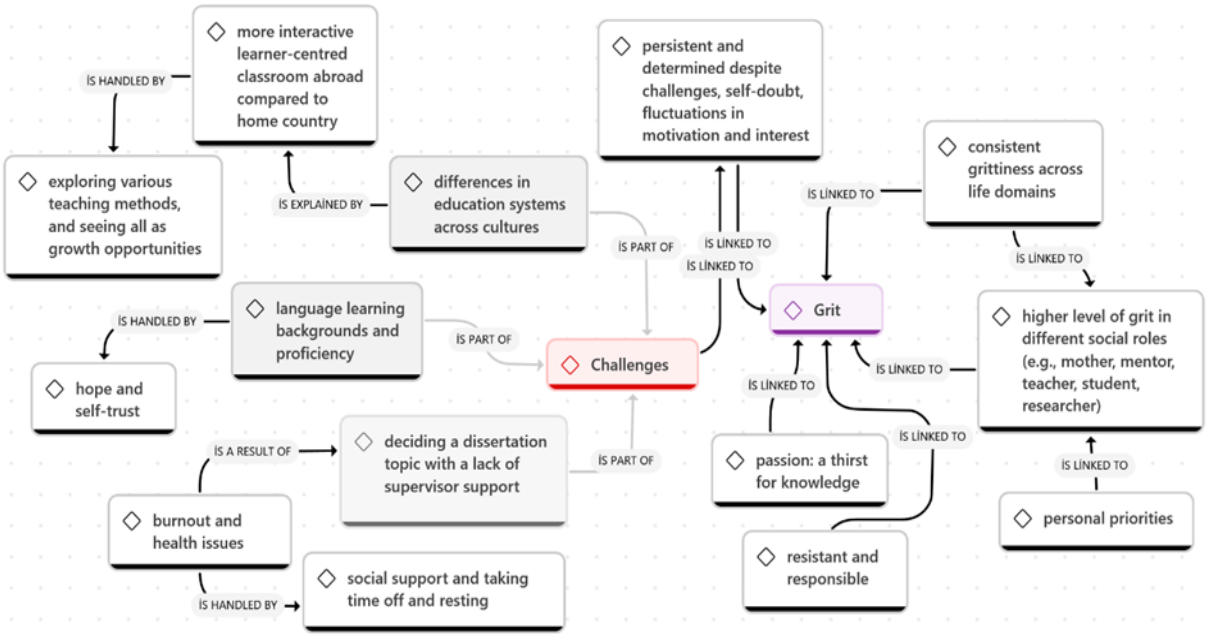
While general grit and domain-specific grit were found to be closely interrelated (Feng & Papi, 2020), grit may differ across domains in life for some individuals, especially in L2 learning (Pawlak et al., 2022; Teimouri et al., 2022). This aspect becomes important, considering that the participants reported themselves as L2 learners, teachers, and researchers.

Findings, as illustrated in Figure 2, revealed that all participants perceived themselves as persistent and determined despite challenges, while a few noted fluctuations in motivation and interest with self-doubt. Kristof described himself as "determined" to spread knowledge: "Work and study are not different for me in sight on the importance of persistence." Adrienn linked her roles as a mother, wife, teacher, mentor, and PhD student to higher grit: "I think I'm

determined in all of my roles." Her priorities changed across domains; family always came first, driving her determination to balance everything. PhD was intellectually enriching and enjoyable, contributing to her professional life: "This is kind of like my hobby that is actually useful for my work." Elisa was also highly gritty, motivated by self and familial goals as a financial supporter, which further helped her to be a "responsible" student. Mina perceived herself as persistent and resistant, yet often with an inner uncertainty. Significantly, she faced burnout and health issues when selecting a dissertation topic with a lack of supervisor support. With the help of fellow professors and classmates and using strategies such as taking time off and resting, she navigated academic challenges: "Sometimes, you just need good guidance." Similarly, despite fluctuating motivation and mixed feelings due to challenges in this "wavy road," Kristof was determined to learn more and commit to his goals:

> This thirst for knowledge is still going on for me, so that makes me go on. I want to be better. I would like to provide better. Even when I have ups and downs, still going on because I'm absolutely sure in the end that my goal, my dream, l still there. (Kristof)

FIGURE 2. THEMES ON GRIT AND CHALLENGES



Source: Authors' analysis via ATLAS.ti, 2025

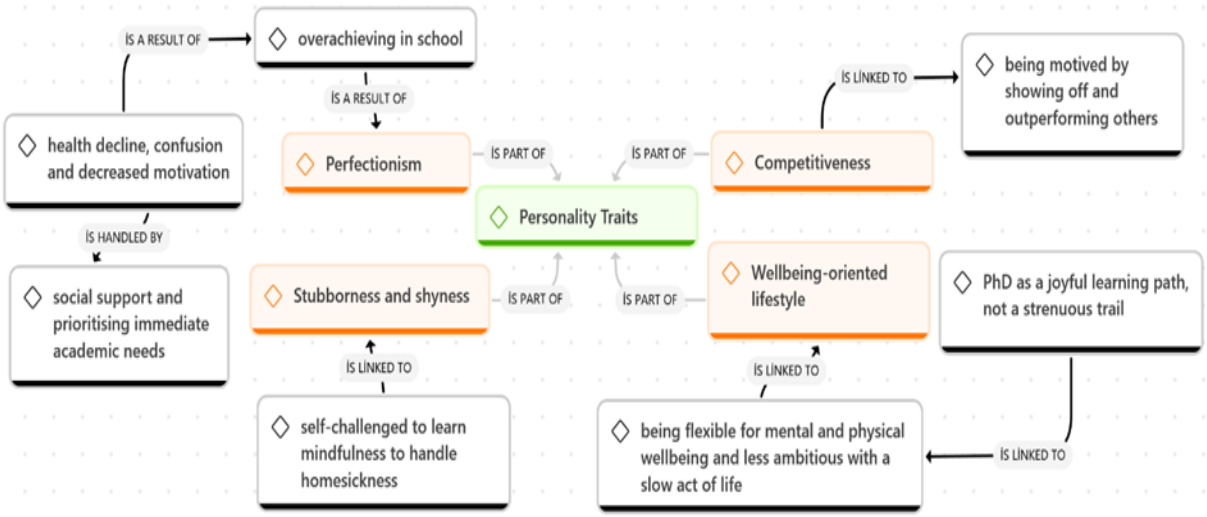
Moreover, traits such as competitiveness, perfectionism, and stubbornness contribute to grit, as illustrated in Figure 3. Anton's competitive nature and tendency to "show off" were aligned with his higher general grit; making mistakes became a boost to continue to outperform others. In addition, Maya described herself as "quiet and shy" yet highly determined and stubborn in life. She self-challenged to learn mindfulness to cope with her homesickness after moving to Hungary. This significant change challenged Maya, especially when in a more interactive learner-centred classroom compared to her home country. She explored various teaching methods, motivated to adapt to local academic culture and seeing all as growth opportunities through mindfulness and social support: "Even if I find difficulties, I know that there will be some ways and there will be some people who will help me, so I ask for suggestions or help from other people." Likewise, Asja recognised herself as "weak" in speaking and listening due

to differences in language education between her home and current country; nonetheless, she highlighted the importance of hope and self-trust amid cultural and educational challenges. According to Asja, being a teacher and researcher demanded varying levels of effort and skills in these two contexts, influencing the degree of perseverance necessary for both roles.

> I was an English language teacher in a local situation. Now, I'm a researcher in an international setting; this situation is very demanding and very intensive. In my local situation, I'm okay. I can teach very well, and I can teach my student to achieve their goal. I don't have to put in a lot of effort like this. (Asja)

Furthermore, Anita described herself as perfectionistic in life: "I'm not satisfied with anything less than perfect, and that is true to all areas of my life." Initially overachieving in school in her first year, she felt exhausted, which resulted in a health decline, confusion and decreased motivation at the start of her second year. To manage this, she minimised tasks, focusing on only immediate academic requirements. Support from her supervisor and others, with "a novice spark of enthusiasm and an inner motivation," helped her rediscover her interests and balance personal wellbeing with lower academic expectations. Unlike Anita, Reza kept flexible goals for his mental and physical wellbeing, prioritising stress-free sleep. He was determined yet less ambitious, acting with reduced urgency when unmotivated or over-challenged. He regarded PhD as a joyful learning path, not a strenuous trail: "I don't really push myself like I have to change something after I finish my PhD. No, I just like learning. So, for me, being a PhD student is really fun. It's not difficult for me." Instead of seeing challenges as threats, he focused on the brighter side with a clear vision of his ambitions, together embracing challenges.

FIGURE 3. THEMES ON GRIT AND PERSONALITY TRAITS



Source: Authors' analysis via ATLAS.ti, 2025

The findings to this point suggest that all participants demonstrated a strong determination to show efforts towards their long-term goals, motivated by various sources. They showed consistent grittiness across various life domains, while those in unfamiliar international contexts may be affected by differences in cultural and educational backgrounds, as noted by Markus and Kitayama (1991) and highlighted by Xiao (2024) for Asian students. This cultural shift led Maya and Mina from Myanmar to develop strategies such as mindfulness or seeking social support. Our results corroborate earlier findings on which L2 grit is context-dependent

(Csizér et al., 2024; Khajavy & Aghaee, 2022) while it extends this understanding by focusing on international doctoral-level English-majors' L2 grit, which reveals new insights into how grit interacts with priorities and different roles in life, which have not been previously reported. We have found that personal priorities may influence grit and balance, considering Adrienn's family-first mindset and Reza's slow act of life. As for Asja, varying cultural and educational backgrounds might shape different grit perceptions in different roles. Furthermore, Anita's and Mina's burnout, Anton's competitiveness and Kristof's self-doubt caused their motivation to fluctuate, but all were determined with a mindset of "no way back; I have to go on" to reach their goals. All these perspectives suggest that their grit is influenced by various factors such as goals, emotions, courses, teachers, proficiency, social roles and priorities, and educational backgrounds. The following section delves into emotional experiences and academic challenges, showing their interaction with grit.

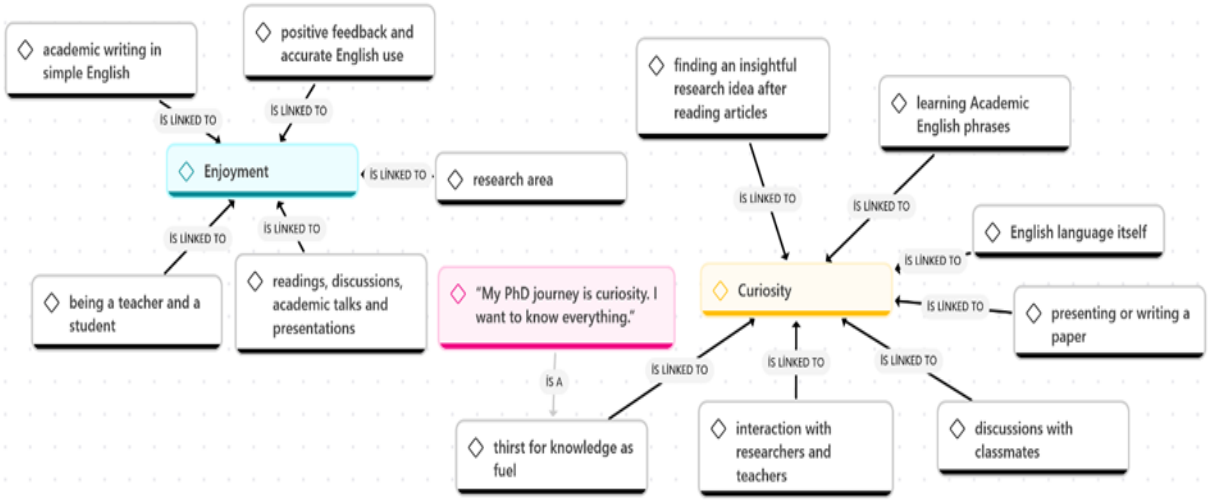
4.3. Emotions and Emotion Regulation Strategies

Participants reported varying emotional experiences, such as joy, curiosity, anxiety, frustration, and boredom, in different situations and various ER strategies to cope with boredom, academic writing and reading anxiety.

4.3.1. Curiosity and Enjoyment

As shown in Figure 4, the analysis revealed that curiosity grew during discussions with classmates (Maya, Reza, Asja), interaction with researchers and teachers (Asja), presenting or writing a paper (Adrienn), finding an insightful research idea after reading articles (Reza), and learning Academic English phrases (Kristof). Elisa emphasised her curiosity about English, while Asja defined her thirst for knowledge as fuel: "My PhD journey is curiosity. I want to know everything." Similarly, the participants found enjoyment in readings, discussions, academic talks and presentations (Asja, Adrienn, Reza, Anita), positive feedback and accurate English use (Kristof), being a teacher and a student (Mina), research interest (Anton), academic writing in simple English (Anita). Our findings align with one study by Jin (2024) reporting that student engagement was influenced by FLE and L2 grit, which explains how the PhD students' enjoyment and grittiness foster deeper engagement in insightful academic environments. Similarly, Choi and Lee (2024) showed that COI and curiosity significantly predicted L2 vocabulary enhancement, aligning with the PhD students' curiosity in self-development in advanced language use and theoretical knowledge. Additionally, Kristof highlighted positive feedback, boosting his motivation: "When I have positive feedback, I'm the happiest person in the world. It is more motivation. For even doing more, study, work, research." This specific quote uniquely highlights that enjoyment leads to more motivation, which results in more effort and higher grittiness as a student, teacher, and researcher. This nuance enriches the current body of knowledge on the dynamic interrelations of grit, emotions, and motivation in diverse roles.

FIGURE 4. THEMES ON ENJOYMENT AND CURIOSITY



Source: Authors' analysis via ATLAS.ti, 2025

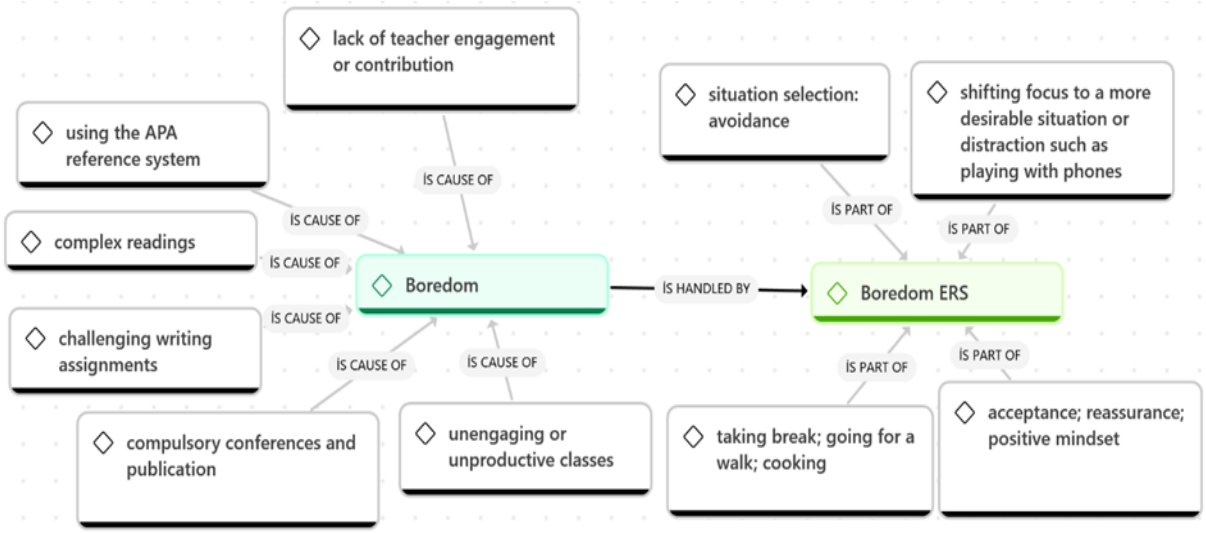
4.3.2. Boredom

Findings showed that some circumstances caused boredom and decreased interest and joy, managed by different boredom ERS, depicted in Figure 5. These included challenging writing assignments (Asja, Reza), complex readings (Kristof, Anton, Adrienn, Anita), compulsory conferences and publications (Mina, Reza), using the APA reference system (Kristof, Elisa, Reza), and unengaging or unproductive classes (Elisa, Reza, Maya, Kristof, Anton, Adrienn). Cognitive reappraisal, modifying the situation, selecting a better condition by avoidance, and attention deployment were the most employed strategies to cope with course- and research-related boredom (Gross, 2015). For instance, Asja used cognitive reappraisal through accepting reality: "When I feel bored, I remind myself, okay, you have no choice. You have to go on. If not, life will be more terrible than this situation," Kristof reassured himself: "That's how I try to gain motivation; my ideas might still be good. But I might have problems with the references." Among situation modification strategies, Mina preferred taking breaks, going for a walk, or cooking, which must be irrelevant to academia. Faced with a lack of teacher engagement or contribution, Elisa used distractions such as playing with phones, among attention deployment strategies: "It's because the person that is in charge really doesn't know how to make students get involved in their classroom, I got distracted," along with her positive mindset and sustained motivation: "I'm with the motivation to learn. Yeah, I'll go with my positive mindset to go and learn that sometimes." Reza either preferred avoidance or shifting his attention to the computer while remaining in class as a requirement.

Prior investigations on L2 grit and boredom highlight critical insights that serve as a reference point to interpret the current study's findings. Solhi et al. (2023) investigated L2 grit, boredom coping strategies with a behavioural and cognitive approach, and ER strategies, including cognitive appraisal and suppression, proving a strong relationship between L2 grit and ER, especially managing boredom through the cognitive approach. They also found that higher L2 grit predicted greater boredom coping strategy use. This study supports the findings on gritty PhD students' sustained efforts and strategies used to manage their boredom in academic settings. Mohammed Hossaini et al. (2024) also found that mindfulness, grit and academic buoyancy influence boredom, aligning with Maya's mindfulness and Elisa's positive mindset

to manage boredom and increase positive experiences with grit. Students' distracted minds or avoiding behaviours due to boredom may lead to decreased engagement, which is noted by Sun et al. (2024). Mei et al. (2024) further noted that boredom may influence goal-oriented learners' grit. Likewise, Bensalem et al. (2024) suggest that boredom may impact more on students' willingness to communicate in class than L2 grit. In other words, despite high grit, boredom might cause less engagement and communication, possibly influencing student performance to a greater extent than positive experiences and grit. This focus reveals that the gritty PhD students might show less participation because of unengaging classes. This emphasised the need for ER to manage decreased interest and dullness.

FIGURE 5. THEMES ON BOREDOM



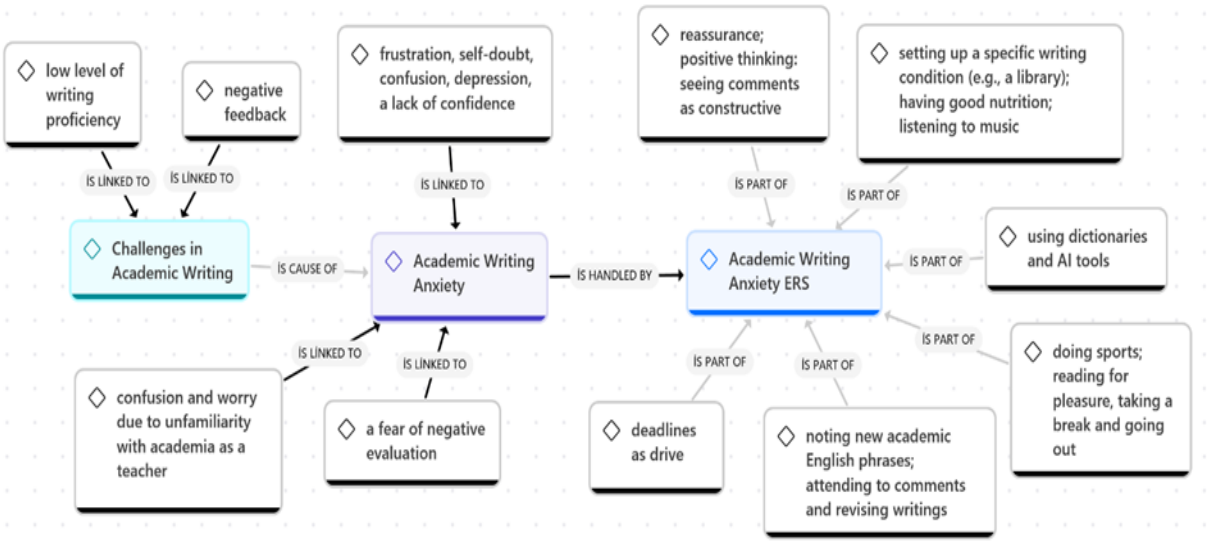
Source: Authors' analysis via ATLAS.ti, 2025

4.3.3. Anxiety: Academic Writing and Reading

Challenges in academic writing, negative feedback and complex readings evoked anxiety, frustration, self-doubt, and confusion among the students, as shown in Figure 6, supported by Geng and Yu (2024). Regarding academic writing, all participants reported less proficiency. Asja experienced depression, a lack of confidence and writing anxiety, especially when receiving feedback. Similarly, Kristof experiences a fear of negative evaluation (Horwitz et al., 1989). Mina echoed these observations by reporting, "I would feel anxious because when you write, you don't know who will read your writing." To cope, they reviewed comments multiple times and revised their writing following feedback, reassuring themselves. Elisa regarded comments as constructive, not threatening and making mistakes as natural: "I don't care honestly if they say that it's accurate. Fine, I can learn from my mistakes. We are human beings. We are not perfect." Adrienn shared her confusion and worry due to unfamiliarity with academia as a teacher-mentor; she felt proud of her growing self-awareness and belief. Besides, Mina and Reza believed writing was crucial for completing a PhD programme; both noted academic English phrases in articles. Most set up a specific writing condition, like a library, had good nutrition and listened to music to enhance concentration. Asja found deadlines motivating: "When the deadline is approaching and then I can't think about music, the surroundings, the deadline drives me to work." Furthermore, Kristof focused on sports or reading for pleasure, seeking success and joy despite feeling constant unease due to

requirements. Similarly, Reza took a break and went out to manage stress until feeling ready for writing. Like others, Maya found her writing "very simple" despite her continuous efforts, highlighting dictionary use to cope.

FIGURE 6. THEMES ON ACADEMIC WRITING ANXIETY



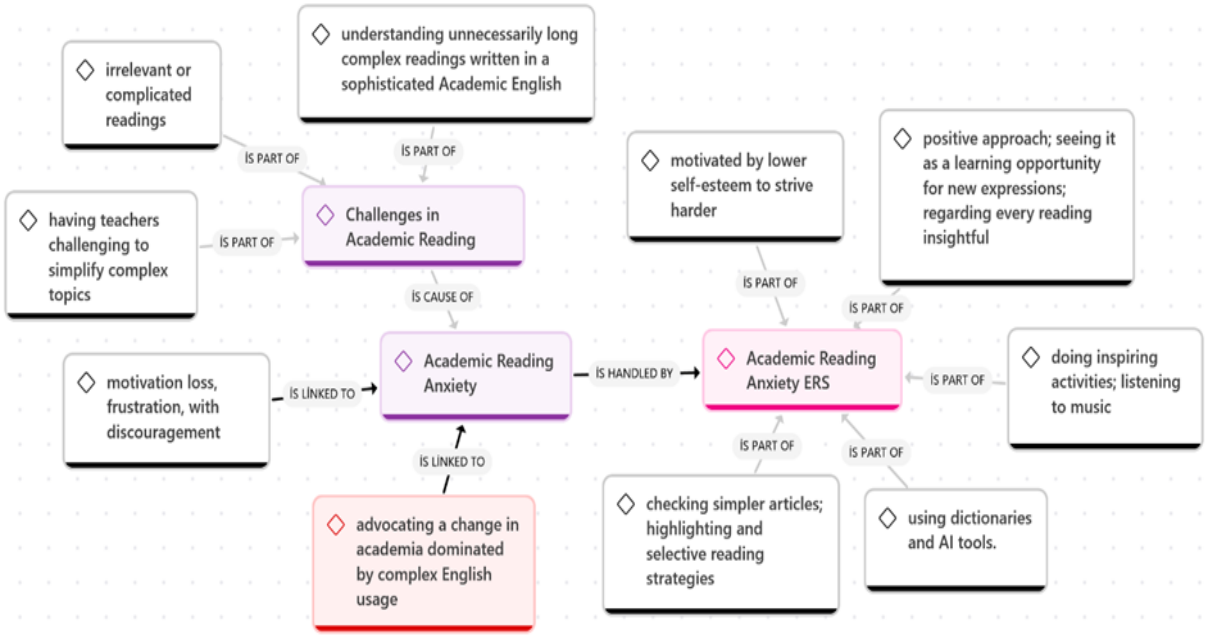
Source: Authors' analysis via ATLAS.ti, 2025

Regarding emergent themes on academic reading mapped in Figure 7, unnecessarily long complex readings written in sophisticated academic language caused similar unpleasant emotions with fluctuating motivation and interest. Frustration was common when students had difficulty understanding readings, and they realised that teachers faced challenges in simplifying complex topics. To manage, Elisa approached simpler articles positively, seeing this as a learning opportunity for new expressions. Adrienn found every reading insightful: "I always find something interesting in them and something useful that strengthens my determination to become a better teacher." Similarly, Kristof demonstrated a positive approach: "I still find something that is interesting for me; I like thinking or fantasising about how I could still relate this to my field." However, Reza got less motivated by irrelevant or complicated readings. Inspiring activities helped increase his interest and motivation. This shows that relevance to interests could affect students' engagement and emotions. Anton and Kristof also emphasised that reading motivation fluctuated; it did not mean constant or lack of interest, but varying over time. They listened to music or made gradual progress each time. Kristof mentioned his temporarily lowered self-esteem helped him to strive harder. Differently, Maya used dictionaries and AI tools for better understanding. Asja was conscious of her less critical skills, but she was eager to devote time to improve despite slow progress: "At the moment, it is still just a plan. I am very confused. How can I improve my reading? So, it can be slow, but it doesn't mean I can't do that." Additionally, Anita urged a change in academia dominated by complex English usage, highlighting that scientific writing should be accessible and relevant to others, not just for academics' own sake. Maya and Elisa agreed with Anita, indicating motivation loss, frustration, with discouragement because of complex English. To manage extensive course requirements, Anita used highlighting and selective reading strategies.

These strategies in academic writing and reading demonstrate the students' eagerness to control their writing and reading endeavours, linking to higher L2 grit, especially in this complex

Academic English usage context. Calafato (2024) suggested that POE and language use predict reading and writing achievement, which aligns with the idea that sustained efforts together with using strategies may positively influence academic English progress. Fathi et al. (2024) found gritty L2 writers with a growth mindset and ideal L2 self, enhancing writing performance. Accordingly, gritty writers actively seek feedback, see challenges as opportunities, and use self-regulation strategies. Moreover, learners' engagement with feedback affects their approach towards revision and acceptance of mistakes; therefore, for those unsure how to improve writing, like Asja, it is suggested that teachers should provide positive and indirect feedback, utilise peer or digital tools for revisions, teach cognitive/metacognitive strategies to manage feedback (Li & Yuan, 2024). As for reading, Ismail et al. (2024) proposed that task-based instruction is essential in enhancing reading motivation and grit while decreasing anxiety; task-based activities relevant to students' interests foster active engagement and reading comprehension. These insights emphasise that gritty doctoral students are likely to adopt strategies, show resilience and efforts, and sustain motivation to master writing and reading skills, especially with guided instructions, higher self-efficacy beliefs and growth mindsets.

FIGURE 7. THEMES ON ACADEMIC READING ANXIETY



Source: Authors' analysis via ATLAS.ti, 2025

5. Conclusion

This study explored the dynamic interplay of grit, emotions, motivation, and strategy use regarding Academic English mastery among PhD students studying in Hungary. The findings suggest that one theme is common for all doctoral students: a thirst for knowledge as a lifelong learner. This continuous interest in learning invigorates their determination, perseverance and motivation to strive more despite challenges, especially in academic reading and writing in English and fulfilling PhD requirements. External factors, fulfilling others' expectations or financial obligations, also shape students' ability to persevere during their education. The findings also indicate that most participants exhibit a high level of grit across various domains in life. Their social roles may influence their priorities, which does not imply they lack grit; instead, they make choices based on

what is significant to them, potentially influencing their displayed effort and interest in different aspects of life. Additionally, personality traits such as perfectionism, competitiveness, stubbornness, wellbeing mindset may positively affect general grit. On the other hand, despite demonstrating grit in their life and academic pursuits, fluctuations in motivation and interest may arise due to self-doubt, burnout, or unfamiliarity with the educational and cultural context among doctoral students. Nonetheless, they continued to strive for achievement by believing in themselves, seeking help, and practising mindfulness. More importantly, they employed various ERS, including cognitive reappraisal, reassurance, acceptance, and distraction. Besides, they preferred to immerse themselves in more pleasant situations for better engagement by visiting the library, taking short breaks, or listening to music. Furthermore, reviewing and addressing feedback, engaging in supplementary readings, noting down English phrases, and utilising dictionaries and AI tools helped to enhance their learning. All these strategies enabled them to pursue their aspirations while handling challenges.

These findings highlight the complex and often unexplored interplay between grit, emotion regulation, and motivation that shape doctoral students' experiences. This long and challenging journey requires effective collaboration among teachers, program coordinators, and higher education administrators to ensure success and student wellbeing (Li, 2024). In light of this, ERS should be incorporated into doctoral programmes to assist students in managing their emotions and sustaining motivation and engagement in their education. Regarding the development of academic writing and reading skills in English, feedback mechanisms, peer mentoring, flexible deadlines, and regular progress reviews can be provided to accommodate students' unique needs (Anderson, 2021; McAlpine & Amundsen, 2018). Clear communication is suggested among students and teachers, especially supervisors, to reflect on their roles and expectations (Vigil Avilés et al., 2025); in this regard, higher education can offer training to supervisors on developing their intercultural communication skills. A platform where students reflect on their experiences can help shape higher education policies. Additionally, offering academic writing and critical reading courses, workshops on ER, and counselling services contribute to students' performance and wellbeing, especially in this type of international environment.

While the study offers valuable insights, it is not without limitations. As qualitative research, the findings are only based on self-reported data from a specific student group with advanced language proficiency. As grit relates to long-term goals, and the current paper focused on grit at a single time during the first years of doctoral education, future research with a longitudinal perspective can provide deeper insights into how grit might evolve throughout the PhD education among students at different level of language proficiency, which contributes to a broader range of insights on grit. Besides, a focus on only students' self-perceived grit and emotions might overlook external factors such as supervisors and institutions, which may affect emotional and motivational experiences. Further investigation is needed on the role of other stakeholders in higher education, along with in other cultural contexts, using different research methods for a deeper understanding of doctoral student grit.

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EFL Learners' Perceptions of English Language Teachers' Implicit Motivating Agency: An Interview Study in the Hungarian Higher Education Context

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Abstract

The role of language teachers is considered important in shaping their students' motivation to learn a foreign language (L2). The motivational impact of a language teacher predominantly stems from the teacher's personality and behaviour, rather than from the direct use of explicit motivational strategies (Kálmán, 2023). Dörnyei (2001) also claimed that teachers act as key figures, or authorities, who affect the motivational quality of the learning process by providing mentoring, guidance, nurturance, support and limit setting" (p. 35). These point to the importance of teachers' implicit roles in motivating their learners. Research on the implicit role of English language teachers in EFL motivation has not been conducted extensively in general, but especially not at all in the Hungarian higher education context. Therefore, this study aims to investigate the perceptions of EFL learners in relation to their EFL teachers' implicit motivating agency (i.e., the effect of a teacher's personality, behaviour, and appearance on their L2 motivation). To explore such a research niche, this study adopts a qualitative research design with a semi-structured interview. The results based on data collected from 14 EFL learners, from different universities in Hungary, suggest that the teacher's personality traits such as *niceness, friendliness, support, encouragement, enthusiasm, empathy* and *cheerfulness* can motivate the learners implicitly. Regarding the behaviour of the teacher, *creating a warm atmosphere, asking students about their feelings, not behaving in a strict manner, playing games* and *telling jokes* can have a motivational impact on the learners as well. In connection with EFL teachers' appearance, students highlight the importance of *dressing nicely and professionally* and *caring for personal grooming*. The findings of this study may contribute to raising awareness of the importance of an EFL teacher's personality, behaviour as well as appearance in higher education contexts.

***Keywords*:** teacher's role in L2, implicit motivating agency, EFL learners, higher education, Hungary

1. Introduction

Motivation is widely acknowledged as a key factor influencing success and achievement in second language (L2) learning (e.g., Cheng & Dörnyei, 2007; Dörnyei, 2018; Horváth & Kálmán, 2020; Lamb, 2017). Language learners with no motivation might struggle to engage with learning materials, have limited progress or success in their language learning and acquisition process, and these problems can lead to negative attitudes toward language learning in general. Guilloteaux (2013) highlighted that teaching language learners who lack motivation is one of the most significant challenges faced by language teachers across various contexts.

Keller (2010) argued that while teachers cannot directly control students' language learning motivation, they have a significant influence on it, and they also have the power to either ignite a desire to learn or diminish their students' motivation altogether. Matsumoto (2011) and Öztürk and Ok (2014) also highlighted a similar idea, stating that teachers are always regarded as having an important influence on the motivation of the learners. These insights underscore the significant role language teachers play in enhancing their students' motivation to acquire a foreign language. Furthermore, Kálmán (2023) asserted that the influence exerted by language teachers on students' motivation greatly stems from their personality and behaviour, rather than the deliberate implementation of explicit motivational strategies or techniques.

Previous research studies with regard to the teachers' role in motivating their learners have placed an emphasis on teachers' use of explicit motivational strategies (see e.g., Dörnyei & Csizér, 1998; Howard, 2023; Lee et al., 2020; Min & Chon, 2020). However, the implicit role of the teacher in EFL motivation has not been explored much in general, and not at all in the Hungarian higher education context. Kálmán (2023) has also recently claimed that language teachers' implicit motivational attributes are still unexplored in research. In addition, the influence of teachers' personality, behaviour, and appearance on EFL learners' motivation is still an unexplored topic in L2 motivation research. Therefore, it would be beneficial to explore EFL learners' perceptions regarding their EFL teachers' implicit motivating agency (i.e., the effect of teacher's personality, behaviour, and appearance on their L2 motivation) in the Hungarian higher education context. It is hoped that this interview study will benefit many stakeholders: learners, pre-service and in-service EFL teachers, teacher trainers, teacher trainees, and fellow researchers.

2. Literature Review

Motivation is a key factor in the process of learning second and foreign languages (Shili, 2023), particularly in classroom settings (Al Kaboody, 2013). Its significance has been widely researched in the field of language learning and acquisition (Dörnyei & Csizér, 1998; Khasinah, 2014; Lamb, 2017; Ushioda, 2014). For the theoretical and empirical background of this article, teachers' implicit motivating agency/motivational attributes, teachers' implicit roles in motivating EFL learners, and finally, some empirical research studies on English language teachers' implicit motivational attributes in motivating L2 learners, will be reviewed.

2.1. Teachers' Implicit Motivating Agency/Motivational Attributes

Teachers' implicit motivating agency/motivational attributes have not been explicitly defined in the literature. Therefore, the concepts of motivation proposed by some scholars were used to create new definitions for English language teachers' implicit motivating agency/motivational attributes.

According to Dörnyei (2001), "motivational effectiveness appears to be determined by an interplay of several broad factors (related to the teachers' personality, enthusiasm, professional knowledge/skills and classroom managerial style)" (p. 35). Lamb (2017) argued that "the aspects of teacher behaviour which appear to have the most motivational impact on language learners are those that relate to the human side of teaching" (p. 45). Kálmán (2021) also claimed that language teachers' attributes related to appearance, posture, and clothing can implicitly motivate language learners. "The implicit motivating agency includes the language teacher's support, kindness, empathy, enthusiasm, conscientiousness, joy, charisma and appearance, as well as behavioural and attitudinal attributes evoking achievement and social emotions in language learners" (Kálmán, 2023, p. 42).

Therefore, an English language teacher's implicit motivating agency can be defined as the motivational impact of a teacher (i.e., how strongly they can motivate language learners) without the teacher being (fully) aware of it. This implicit agency can refer to both appearance and personality traits (e.g., being well-dressed or being conscientious).

2.2. Teachers' Implicit Roles in Motivating EFL Learners

Dörnyei and Ushioda (2011) stated that "almost everything a teacher does in the classroom has a motivational influence on students, which makes the teacher's behaviour a powerful motivational tool" (p. 109). Kálmán (2023) stated that "the language teacher's motivational influence derives from the motivational power of the teacher's personality and behaviour, and not from an explicit use of motivational strategies" (p. 23). Regarding implicit motivation, Kálmán (2023) mentioned in his interview study that:

> While the theoretical underpinnings of foreign language (FL) teachers' motivational strategies are conceptualised and have been validated, the conceptualisation of the teacher's implicit motivating impact has not been worked out, and empirical evidence revealing motivating language teachers' attributes and implicit motivating influence is meagre. (p. 23)

According to Kálmán (2023), the emotional, attitudinal, and behavioural attributes can be said to be implicit motivating factors in the field of EFL motivation. Therefore, the teacher's implicit role can be considered the unconscious ways teachers promote their students' motivation, for example, through their personality, behaviours, and appearance. Some research studies (see e.g., Freeburg et al., 2011; Göncz, 2017; Kálmán, 2023; Khalilzadeh & Khodi, 2018; Marici et al., 2023) have also demonstrated that language learners are implicitly motivated through their teacher's personality, behaviour, and appearance. Unfortunately, the implicit domain of motivational agency in second language motivation is substantially underestimated although this domain has a salient role in motivating language learners (Kálmán, 2023).

With regard to the role of the teachers, Dörnyei (2001) also stated that "teachers act as key figures, or authorities, who affect the motivational quality of the learning process by providing mentoring, guidance, nurturance, support and limit setting" (p. 35). Dörnyei and Ushioda (2011) also said that the effectiveness of teachers' motivation can be determined in terms of their personality, enthusiasm, professional knowledge/skills, and classroom management style. "If enthusiasm is to be conceptualised as an affective construct, it can be best assigned to the domain of positive emotion and intrinsic motivation" (Kunter et al., 2011, p. 290). "Enthusiasm

is regarded as an affective, person-specific characteristic that reflects the subjective experience of enjoyment, excitement, and pleasure, and that is manifested in certain teacher behaviours in the classroom" (Kunter et al., 2011, p. 290). McEown and Takeuchi (2014) discovered that teachers' enthusiasm for teaching English rarely motivates the learners. However, Kálmán's (2023) study, which focused on primary and secondary learners in Hungary, regarded this personality trait as one of those teacher attributes that contributes to extraordinary motivating agency. "In the second language classroom, charismatic teachers function as role models of their students and they have a high potential to enhance students' motivation through their own communication" (Kálmán, 2023, p. 28). In the following subsections, personality, behaviour, and appearance theories will be discussed since these are the major foci of this study.

2.2.1. Personality

The term *personality* is defined by various scholars based on their own perspectives. Pervin and John (2001) stated that personality refers to a person's characteristics or traits that contribute to the consistent patterns of their emotions, thoughts, and actions. Anderson (2009) considered personality "the pattern of collective character, behavioural, temperamental, emotional, and mental traits of an individual" (p. 5).

"The influence of teachers' actions on students is largely based also on teachers' personality traits and dimensions, which can best be explained within the context of psychological theories of personality" (Göncz, 2017, p. 82). Due to the multitude of specific traits, constructing an accurate profile of personality is impossible (Sharp, 2008). Thus, different personality theories are applied to investigate the personality of the teacher. This is because there is not a single personality theory, or a set of similar personality theories, that can fulfil all the criteria of a good theory (Göncz, 2017). Cramer (2013) stated that a good personality theory needs to "describe, explain, predict, and control phenomena and behaviour" (p. 9). Personality theories are formulated based on factor analysis, and so, several theoretical frameworks of personality have emerged, namely *Cattell's personality theory* (Cattell & Mead, 2008), *Eysenck's personality model* (Eysenck, 1970), *The Five-Factor Model, FFM* (Goldberg, 1992), and the *Myers Briggs Type Indicator, MBTI* (Myers, et al., 1998). Among them, the most frequently used theories to investigate the personality of teachers are *The Five-Factor Model* and the *Myers Briggs Type Indicator.*

The Five-Factor Model, also known as *The Big Five Model,* was "one of the most important starting points in researching teachers' personalities in the teaching/learning process" (Göncz, 2017, p. 76). This model of personality has five dimensions, and they are *Neuroticism* (N), *Extraversion* (E), *Openness to Experience* (O), *Agreeableness* (A), and *Conscientiousness* (C). The acronyms such as 'NEOAC', 'CANOE', and 'OCEAN' are used as a representation of these dimensions. The dimension *Neuroticism* refers to negative emotions or feelings (e.g., depression, stress, and pessimism) whereas the *Extraversion* dimension represents positive emotions (e.g., friendliness, enthusiasm, and confidence). The third dimension, *Openness to Experience,* refers to creativity, imaginativeness, innovation, and those who have this dimension are receptive to new experiences, unconventional or new ideas, and culture. The *Agreeableness* dimension is related to sociability, i.e., sustaining social stability between individuals (e.g., kindness, carefulness, and helpfulness). The last dimension, *Conscientiousness*, refers to characteristics or the behaviour of an individual (e.g., sense of duty, self-discipline, and time management). A teacher's nice personality is often conceptualised through the lens of this model, in particular emphasising *Extraversion* and *Agreeableness*.

A theoretical framework HEXACO, the adaptation of *The Five-Factor Model,* is also useful to explore one's personality (Ashton & Lee, 2007; Lee & Ashton, 2013) since it is said to be unique because of the additional dimension of *Honesty-Humility*. HEXACO represents *Honesty-Humility* (H), *Emotionality* (E), *Extraversion* (X), *Agreeableness* (A), *Conscientiousness* (C), and *Openness to Experience* (O). Here, the dimension *Emotionality* (E) is similar to the *Neuroticism* (N) dimension of *The Five-Factor Model*. Göncz (2017) suggested that this new model can be successfully employed "in research when behaviours and traits found on the *Honesty-Humility, Agreeableness* and *Emotionality* dimensions are of specific interest, including the study of teacher personality" (p. 90).

The *Myers Briggs Type Indicator* was developed based on Jung's theory of psychological types or personality (Aviles, 2001; Pittenger, 1993), and this theory has four personality dimensions: *extraversion-introversion, sensing-intuition, thinking-feeling,* and *judging-perception*, through which individuals experience the world. Regarding Jung's framework, Göncz (2017) stated that "one of these is dominant and determines the preferences regarding how people perceive the world and make decisions. Notably, the four functions are expressed in either introverted or extroverted forms" (p. 84).

2.2.2. Behaviour

Teacher behaviour is one of the major determinants in enhancing learners' motivation and learning (Hein, 2012; Opdenakker, 2023; Shah et al., 2021). Adebayo (2023) pointed out the importance of teachers' behaviour and how it can influence learners' motivation, emphasising the positive and negative effects of learners' motivation resulting from teachers' behaviour. She defined a teacher's behaviour as "a function of the characteristics of the teacher, his environment and the task in which the teacher engages" (p. 4205). Shah et al. (2021) also argued how teachers' action has important roles in relation to their students' motivation by stating that:

> Teachers are the main source of motivation for the students because they have a daily based regular direct interaction with each other. Students perceive a teacher as a mentor and role model, and this enhances the responsibility of a teacher to behave in an appropriate manner. A teacher's rude behaviour makes students lose their interest in studies and refuse to take part in classroom activities which affect their learning abilities. (p. 121)

Referring to the above statements, it can be said that teachers' behaviour can lead to learners' motivation as well as demotivation if they do not behave appropriately in the classroom setting. Since teacher behaviour has a direct effect on learners' motivation, teachers should maintain positive behaviours to keep their students motivated (Shah et al., 2021). Suryani (2016) claimed that teachers who have charismatic behaviours can have a huge impact on their students' behaviours as well as motivation for learning. According to her, charismatic teachers are the ones who

> tend to communicate warmly, love challenge, inspire vision, trust, put high energy, be enthusiastic, be emphatic, inspire self-confidence, caring, encouraging and exciting. They also develop caring, motivating and trusting relationships. By having those characters and relationships, charismatic teachers have a potential role and capacity to nurture students' inner motivation. They can inspire their students' motivation by performing charismatic behaviours and develop warm communication. (p. 74)

Opdenakker (2023) stated that the impact of teachers and their behaviours on their learners can be investigated in a variety domain within educational research. Various kinds of instruments and measurements have been developed in order to explore the behaviour of the teacher. The most widely used instruments are the *Classroom Assessment Scoring System, CLASS* (Pianta & Hamre, 2009); the *What is Happening In this Class, WIHIC* (Fraser et al., 1996); the *International Comparative Analysis of Learning and Teaching, ICALT* (van de Grift, 2007); the *International System for Teacher Observation and Feedback, ISTOF* (Muijs et al., 2018; Opdenakker & Minnaert, 2011; Teddlie et al., 2006); and the *Teacher As a Social Context, TASC* (Belmont et al., 1992). According to Opdenakker (2023), "all these instruments share overlapping concepts and characteristics that are recognised as effective teaching behaviour in teacher effectiveness research" (p. 39).

2.2.3. Appearance

In the process of language teaching and learning, learner motivation can be influenced by several factors, and teacher's appearance is regarded as one of these influential factors (Hafizi et al., 2020; Shiban et al., 2015). Kálmán (2021; 2023) also put emphasis on the crucial role of teacher's appearance, stating that adult language learners are motivated by their teachers' appearance and it significantly contributes to the learners' external motivation.

According to Khan and Sheikh (2023), the impact of a teacher's appearance on the motivation of learners is gaining widespread acknowledgment from both educational researchers and practitioners. Reviewing the relevant literature, teachers' appearance encompasses the following dimensions: physical/body attractiveness, clothing style, first impressions, smell/odours, role models, accessories, and hairstyle (see e.g., Hong-li, 2011; Kashem, 2019; Khan & Sheikh, 2023). In Marici et al.'s (2023) study, attractive appearance was operationalised as the degree to which a teacher's physical features or attire were perceived as appealing by students. Referring to research on the effects of human attractiveness, it represents such elements as facial attractiveness, physical attractiveness, hairstyle attractiveness, vocal attractiveness, and attire attractiveness (see e.g., Mesko & Bereczkei, 2004; Sebastian & Bristow, 2008; Shang & Liu, 2022, Zhang et al., 2020). In addition, there were some research studies investigating the relationship between shoes and human attractiveness (Morris et al., 2013) and height and human attractiveness (Shepperd & Strathman, 1989).

Physical attractiveness is an effective social mechanism (Gurung & Vespia, 2007; Tan et al., 2019), and people with physical attractiveness are perceived as being more intelligent (Kanazawa & Kovar, 2004; Tan et al., 2019), having more positive qualities and traits (Gurung & Vespia, 2007), being more efficient than people who are less attractive (Jackson et al., 1995), and gaining special attention and preferential treatment from others (Little, 2014; Tan et al., 2019). According to Dion et al. (1972), the majority of young people hold positive impressions towards those who are good-looking, and they thought that physically attractive people possess such positive characteristics as politeness, fun, and being more sociable than less attractive people. Westfall et al. (2016) also stated that students feel more motivated towards learning a language if their instructor is physically attractive than unattractive.

Clothing is a form of nonverbal communication that conveys messages to others or affects the opinions of others (Dixon, 2007; Hong-li, 2011). Yu-ling et al. (2015) also claimed that the teaching effectiveness and reputation of teachers can be enhanced if their appearance is

"rigorous and modest and personal identity and personality are manifested in clothing" (p. 560). Regarding the dress, Marici et al. (2023) described in their research as follows:

> When the perception of clothing attractiveness is high, this external evaluation influences the internal evaluation of the person, and this happens in the absence of certain evidence that the person possesses particular internal characteristics, with a positive valence. (p. 2)

Khan and Sheikh (2023) put emphasis on the importance of teacher's physical looks by stating that

> it is generally assumed that first impression is the last impression therefore, a person's outlook is considered to be important. …. Students not only learn the subject matter from their teachers, but their teacher's dressing and presentation could also motivate them towards learning. Therefore, only subject command is not vital but other factors also need to be considered to motivate students towards learning. (p. 1)

Willis and Todorov (2006) stated that social judgements are usually made by inferencing individuals' perceived facial attractiveness. Facial attractiveness has been linked to many social benefits in life, such as gaining increased popularity, acceptance, and social competence (Mares et al., 2010). Mueser at al. (1984) claimed that a person's face has a somewhat more influential role of overall human attractiveness than the body. Tatarunaite et al. (2005) also pointed out the importance of facial attractiveness, saying that "smiling and youthful facial appearance make women look more attractive" (p. 676).

Vocal attractiveness plays a substantial role in various kinds of social interaction as well (Zhang et al., 2020). Those who have attractive voice qualities tend to be more successful at political elections and job applications (Degroot & Kluemper, 2007; Tigue et al., 2012). According to Gumelar and Gilipanda (2019), students formed perceptions of their teachers' attractiveness not solely based on external aspects such as facial expression, and clothing, but also on the auditory experience of their teachers' voice. Subsequently, they also emphasised the fact that normal voice pitch of both male and female teachers is more attractive than their low and high voice pitch in the classroom setting.

3. Research Method

The present interview study adopted a qualitative research design, and it employed a semi-structured interview, which is one of the most common data collection tools in qualitative research in SLA (Dörnyei, 2007; Friedman, 2012). According to Dörnyei (2007), "qualitative research is concerned with the subjective opinions, experiences and feelings of individuals and thus the explicit goal of research is to explore the participants' views of the situation being studied" (p. 29); therefore, it is ideal and necessary for this research. In order to investigate the complex nature of motivation (i.e., EFL teachers' implicit motivating agency and EFL learners' motivation), the participants were asked to express their opinions, perceptions, experiences, and feelings in relation to the topic.

This study aimed to explore EFL students' perceptions of EFL teachers' implicit motivational attributes (i.e., personality, behaviour, and appearance) in motivating EFL learners. To fulfil the aim of the study, the following research question was formulated.

- How do EFL learners perceive the influence of their EFL teachers' personality, behaviour, and appearance on their motivation in the Hungarian higher education context?

3.1. Participants and Context

In this study, 14 tertiary EFL learners were interviewed. The participants were approached through the *convenience sampling technique*. According to Dörnyei (2007), this type of sampling technique "usually results in willing participants, which is a prerequisite to having a rich dataset" (p. 114). The biographical data of the participants are summarised in Table 1.

TABLE 1. BIOGRAPHICAL DATA OF THE PARTICIPANTS (TERTIARY EFL LEARNERS)

Pseudo-nym	Gender	Age	Nationality	Major	Years of English Language Learning	Learner's Perceived Language Proficiency
Tomi	male	22	Albanian	Communication and Media Studies	14	C1
Tina	female	38	Chinese	Educational Science	29	B2
Marina	female	31	Mexican	Semiotics	25	B2
Flora	female	30	Turkish	Communication and Media Studies	15	B2
Ella	female	21	Russian	German Studies	14	C1
Tereza	female	19	Hungarian	German Studies	15	C1
Viola	female	23	Hungarian	English and American Studies in Hungarian Language	12	C1
Nikolasz	male	25	Vietnamese	English and American Studies	12	B2
Dina	female	20	Hungarian	English	11	C1
Eliz	female	23	Hungarian	English and American Studies	12	C1
Bence	male	19	Hungarian	English Linguistics	10	C1
Vera	female	22	Hungarian	English and American Studies	14	C1
Attila	male	21	Hungarian	Electrical Engineering	13	C1
Berti	female	19	Hungarian	Architecture	12	B2

Source: own compilation

3.2. The Research Instrument

For this study, a semi-structured interview guide was applied. The interview guide was designed inductively by the researcher based on the literature review and the purpose of this research, which was an essential step as there is no empirical research that addresses the issue of EFL teachers' implicit motivational attributes in the Hungarian higher education context. The interview protocol was developed by the general guidelines suggested by Dörnyei (2007) and Friedman (2012). That is to say, the interview protocol began with an introduction and a few questions about the participants' biographical data, which was followed by the content questions, and a final closing question. The content questions were organised into three topics (personality, behaviour and appearance), containing two to three questions each. The first content section consisted of questions about participants' perceptions regarding their teacher's

personality (e.g., "In what way are you motivated by your language teacher's personality?"). The following section included questions about the perceptions of the participants concerning their teacher's behaviour (e.g., "In what way are you motivated by your language teacher's behaviour?"). The last content section examined their perspectives on whether a teacher's appearance has a motivational impact on their language learning (e.g., "In what way are you motivated by your language teacher's appearance?") (see Appendix A).

The interview guide validation process involved multiple steps. Questions for a provisional interview guide were formulated first and then checked by two experts, my Ph.D. course instructor and supervisor. It was revised based on expert feedback (i.e., adding questions to the initial ice-breaking section and content section). After that, the interview guide was piloted with three participants. Based on their responses, it was modified and used to interview 11 other participants.

3.3. Data Collection and Data Analysis

For the purpose of data collection, the one-to-one interviews were conducted online via Microsoft Teams. For the interview sessions, Microsoft Teams invitation links were sent to the interviewees in advance. English was used in each interview session, as this is the common language of the researcher and the participants, and the average length of each session was about 25 minutes. All the interviews were audio-recorded with the permission of the participants. The first interview was conducted via Zoom, and the audio recording was transcribed using the Alrite software programme. Starting from the second interview, Microsoft Teams was used for carrying out the interviews as it has an auto-transcribed option, and no additional tool was needed to transcribe the interview data. The transcripts were analysed using thematic content analysis suggested by Dörnyei (2007): (1) transcribing the data, (2) coding the data, (3) collecting and organising ideas (see Appendix B and 4.2.), and (4) interpreting the data and arriving at conclusions.

In order to enhance the trustworthiness or credibility of this study, member checking or participant validation was employed to reinforce whether the interpretations fit with what the participants intended to say. Pseudonyms were used to ensure confidentiality. After that, the interview transcripts were analysed with the help of a co-coder, who participated in 20% of the coding process, as this can ensure the reliability of the analysis. While the transcripts were being analysed, emerging themes were marked. If different themes reappeared in later interviews, the number of occurrences were recorded (e.g., friendly: five out of 14 participants).

3.4. Ethical Considerations

In carrying out this study, thus, I first informed the participants about my research topic as well as the fact that their participation was on a voluntary basis. They were also informed that their responses will only be used for the present interview study, and the data will be kept with complete anonymity and confidentiality. In addition, I let them know their right to withdraw and refuse to participate at any time with no penalty (Dörnyei, 2007).

4. Results and Discussion

4.1. Results of EFL Teachers' Implicit Motivational Attributes

This section answers the research question, namely, how EFL learners perceive the influence of their EFL teachers' personality, behaviour, and appearance on their motivation in the

Hungarian higher education context. In presenting the data, results relevant to the three major foci of the instrument will be presented, starting with *personality,* followed by *behaviour,* and finally, *appearance.*

4.1.1. Personality

The personality traits identified by the EFL learners are presented in Table 2, arranged in descending order based on how frequently they emerged during the interviews. It might provide an empirical foundation for analysing how EFL teachers' implicit motivational attribute (i.e., teacher's personality traits) influence learners' motivation.

TABLE 2. FREQUENCY OF EFL TEACHERS' IMPLICIT MOTIVATIONAL ATTRIBUTE: PERSONALITY

Emerging Theme **(Teacher's Implicit Motivational Attribute: Personality)**	**Number of Mentions**
friendly, nice, kind, humble, soft	10
helpful, supportive, caring, encouraging	10
enthusiastic, hardworking, active, energetic	9
empathetic, sympathetic, understanding, patient	7
funny, happy, joyful, cheerful	7
confident, knowledgeable	3
positive attitude towards teaching	2
playful	2
open-minded	2
charismatic	1
unique	1
strong communication skills	1
humorous	1
well-organised, prepared	1
responsible	1
creative	1

Source: own compilation

Referring to Table 2, the most prominently mentioned implicit motivational attributes for tertiary EFL learners were *friendliness, niceness, kindness* and *softness* (10 mentions), and *helpfulness, support, care,* and *encouragement* (10 mentions). These personality traits reflect a teacher's genuine warmth and approachability which make the learners feel motivated to learn a language. Referring to *Extraversion:* one of the dimensions of *The Big Five Model,* such kinds of personalities can have positive impacts on learner motivation. According to Deci and Ryan's Self-Determination Theory (SDT) (1985), a sense of relatedness, i.e., the feeling of being connected to others, is identified as a fundamental psychological need that can enhance

learners' intrinsic motivation. To put it another way, if learners have teachers who express their friendliness and support, they feel motivated to learn a language. One of the learners said that *"so basically, my English teacher was a really good friend of mine and that's why I started to really like English because she was really friendly" (Vera).* This finding confirms the result of Pálfy's (2024) study that teacher's personality traits such as *kindness* and *friendliness* were regarded as key motivational attributes influencing student's language learning motivation.

The findings (i.e., *teacher's helpfulness, support, care,* and *encouragement*) align with the conclusions drawn by recent research (see e.g., Kiefer et al., 2015; Luo et al., 2024; Pálfy, 2024; Singh & Singh, 2021). For example, this result confirms Kiefer et al.'s (2015) research outcomes that teacher support can be both academic and social in nature, which can contribute to creating a responsive learning atmosphere and have distinct impacts on enhancing learners' academic motivation. Moreover, Singh and Singh's (2021) study also confirmed that teacher encouragement can foster learners' intrinsic motivation. This can be seen in the following participant's response in which she said how she felt most motivated because of her teacher's emotional support and encouragement.

"I would say that the teacher motivated me the most because of her personality traits such as emotional support and emotional intelligence. For example, I received positive feedback on my performance and her encouragement when I made mistakes, reassuring me that it wasn't a problem and that we could solve it together." (Ella)

Based on what the participant said, EFL teacher's helpfulness substantially influences learners' motivation as it enhances their confidence and competence – a crucial component of intrinsic motivation as stated by Deci and Ryan's Self-Determination Theory (1985). In addition, these results seem to suggest that the dimensions of *Agreeableness* and *Extraversion* in a teacher's personality play a crucial role in motivating learners.

Other important motivational attributes expressed by tertiary EFL learners were *enthusiasm* and *hard work* (9 mentions), *empathy* and *patience* (7 mentions), and *happiness* and *cheerfulness* (7 mentions). Based on the results, teachers who possess these motivational attributes are highly influential in sustaining learner motivation in tertiary EFL contexts. Dörnyei and Ushioda (2011) stated that language learners view their teacher's enthusiasm and empathy as essential personality traits for sustaining their motivation. Similarly, some studies also proved that a teacher's enthusiasm plays a vital role in influencing students' motivation and serves as a significant indicator of their intrinsic motivation (see e.g., Kunter et al., 2011; Pan, 2014; Singh & Singh, 2021; Tran & Le, 2022). Remarkably, the majority of tertiary EFL learners in this study also reported that they felt motivated when their teachers exhibited such kinds of personal qualities. These can be seen in the following two excerpts discussed by Ella and Tina:

"I think my English teachers, in general, have enthusiasm, and empathy. So, yeah, this builds like a really nice classroom environment, which makes me motivated to learn." (Ella)

"… Maybe he works very hard and shows more enthusiasm in teaching. This kind of personality may influence me, yeah." (Tina)

In their study, Ghanizadeh and Moafian (2010) confirmed that teacher happiness, empathy and support are strongly associated with learners' motivated learning behaviours. Recent empirical research by Kálmán (2023) also showed that personality traits such as support, kindness, empathy,

enthusiasm, and joy have motivational impacts on primary and secondary school learners in Hungary. In the same way, most of the EFL learners participating in the present study accepted the notion that teachers who are cheerful, happy, joyful, and funny can motivate them in their learning process. Berti supported this, saying that *"I think my English teacher is always very cheerful and he is extremely energetic. And there are no breaks during the lessons, and he is never tired. So, I am eager to join his class."* Therefore, the happiness and cheerfulness of a language teacher have a profound impact on the motivation of the learners in the EFL classroom settings.

4.1.2. Behaviour

Table 3 shows tertiary EFL learners' perspectives on their EFL teachers' behaviour that contributes to their language learning motivation. Similar to EFL teachers' personality traits, the motivating teachers' behaviours are organised in descending order according to the frequency of their occurrence during the interviews.

TABLE 3. FREQUENCY OF TERTIARY EFL TEACHERS' IMPLICIT MOTIVATIONAL ATTRIBUTE: BEHAVIOUR

Emerging Theme (Teacher's Implicit Motivational Attribute: Behaviour)	**Number of Mentions**
reduces students' stress and creates a pleasant atmosphere (good rapport)	10
makes the class enjoyable and engaging	7
encourages students' participation and asks personal opinion questions	7
promote learners' self-confidence through praises and positive feedback	4
tells jokes	4
is ready to help	2
shares personal experiences/gives real-life examples	2
respects and values students	2
gives students a lot of attention	2
monitors the class during activities	1
conducts the class on time	1

Source: own compilation

Based on the results presented in Table 3, the most frequently mentioned EFL teacher's behavioural attribute that motivates EFL learners was *reducing students' stress and creating a pleasant atmosphere* (10 mentions). This recurring theme focuses on a crucial factor of teachers' emotional support in motivating their learners in this particular EFL context. This finding supports the earlier work conducted by Naung (2024) that *Displaying appropriate teacher behaviours, Creating a pleasant classroom climate, Promoting learners' self-confidence,* and *Recognising learners' effort* were said to be the most important motivational dimensions among the tertiary EFL learners. The concept of a nice and warm classroom climate corresponds with Dörnyei's (2001) framework of motivational teaching practice in second language classrooms, which emphasises the importance of establishing a safe and supportive

environment in which students feel valued and motivated. In connection to this point, Berti presented her opinions in this way:

"… I think it is important for the teacher and the students to create a nice welcoming atmosphere for the class, and it can be extremely motivating I think, to be excited to go to class and not to think that, oh no English again." (Berti)

This finding corroborates Heitzmann's (2008) longitudinal research focusing on secondary school students in Hungary that classroom setting has an influential role in sustaining students' motivation. One of the participants, Tomi, expressed the following opinion:

"Yeah, that's actually true that their [teacher] behaviour can have a huge motivational impact on us. It can make me as a student have less pressure on taking the course and feel less stressful about it and much more engaged in the subject also." (Tomi)

Shah et al.'s (2021) research showed that a positive relationship between a teachers' behaviour and their learners' motivation, and the teachers' motivated behaviour had a substantial impact on the attitude of the learners, their understanding, learning and mental development. They also found that a vital component that leads to good academic development of learners in the school setting was having good relationships between teachers and students. The research conducted by Henry and Thorsen (2018) also revealed the same result that building positive relationships with teachers plays a crucial role in fostering students' motivation to learn a second language. Regarding teacher-student good rapport, building trust can be regarded as a basic element in maintaining and sustaining language learner motivation (Mercer & Dörnyei, 2020; Singh & Singh, 2021). Vera felt the same and expressed her perceptions as follows:

"I was always looking forward to going to English classes because they were definitely the best part of my week, … and she [my English teacher] would start the lessons by asking how I felt. And she was like, really nice in a way that I felt like I could trust her." (Vera)

The second most commonly cited behavioural attributes of EFL teachers that motivate learners were *making an enjoyable and engaging class* (7 mentions) and *encouraging students' participation and asking questions* (7 mentions). This finding confirms the fact proposed by Dörnyei (2001) that language learners are more likely to be intrinsically motivated if their learning process is fun and enjoyable. Tomi, one of the participants, said:

"… like the class after 5:00 p.m. … he [teacher] tried to make it [the class] much more enjoyable and not as much like boring to learn. And it was actually engaging and motivating because at that time, we were tired of the class, and we just wanted to have an engaging class and not something like really boring teacher explaining only the lectures. But instead, it [our class] was like engaging as we play games …" (Tomi)

According to the above excerpt, it can be said that learner motivation also depends on the class hour. Thus, teachers should be aware of it if they teach during these hours. Tereza expressed her opinions that *"… they [teachers] try to find many creative ways to teach the language, so they always search for videos, for example, and it was a playful way to teach us the language, and this motivates me to learn, I guess".* This aligns with Willis and Willis' (2007) Task-Based Language Teaching principles, which claimed that tasks involving playful activities and games

foster language learners' motivation by providing real-world contexts in which the target language is used.

With regard to *encouraging students' participation and asking questions* (7 mentions), participants felt that they were motivated if their teachers made them participate in various tasks and activities and ask them topic-related questions and their perspectives. Bence said: *"… if a teacher is too nonchalant, then the students might not be interested in the class. So, what's kept me motivated is that my teacher was very active and also made us participate a lot in various tasks"*. Thus, it can be assumed that encouraging EFL learners to take part in various classroom tasks can serve as a powerful motivational tool. According to Deci and Ryan (1985), creating opportunities for learners to contribute their views and thoughts motivates intrinsically. In Marina's opinion,

"… ask us questions like 'what do you think about this?', 'what do you think about that?', I mean, 'do you agree or why do you disagree or why do you agree?'. I think that would be one of the things or one of his [our teacher] behaviours that motivated me. The way he actively asks us questions about our own perspectives." (Marina)

This finding is in agreement with research conducted by Leoanak and Amalo (2018) that teachers can motivate their students through questioning, giving examples, and using teaching materials related to the lessons.

4.1.3. Appearance

Table 4 represents frequency of tertiary EFL teachers' appearance that has a motivational impact on learners in learning a language.

TABLE 4. FREQUENCY OF TERTIARY EFL TEACHERS' IMPLICIT MOTIVATIONAL ATTRIBUTE: APPEARANCE

Emerging Theme **(Teacher's Implicit Motivational Attribute: Appearance)**	**Number of Mentions**
dresses nicely and professionally	8
cares for personal grooming (e.g., hair, basic hygiene)	2
has a friendly face	1
has attractive voice	1

Source: own compilation

This finding aligns with what Kálmán (2018), who discovered in his research study that the majority of participants highlighted the importance of dressing in the corporate context in Hungary. Let me quote two participants' words here:

"… also the dressing can have certain kind of effect because I think definitely the appearance is a motivator, i.e., not wearing clothes that match them." (Tomi)

"Well, I don't know, but it would be weird for me if he [the teacher] arrived in his pyjamas or dirty clothes. Yes, appearance matters to me, not like super important, but on a basis level, it would matter a little bit." (Marina)

This finding also corroborates Gashti and Farrokh's (2024) results that there is a strong and statistically significant relationship between teachers' attire and students' motivation. That is, students taught by teachers with tidy physical appearance demonstrated higher motivation in learning a language than those whose teachers had an untidy physical appearance.

Some participants were not very sure whether the clothing style of a teacher has a positive impact on their motivation to learn. However, they have the same opinion regarding this, i.e., teachers should dress up really nicely. Regarding this, Ella said *"clothing should be not that bright, and more like pastel colours. And yes, for example, for a female teacher, that might be just a blouse and skirt like pretty in middle long skirt or a long skirt. And for a man it's just like a suit. Yes, and for women suits are also really nice".* This finding supports the findings that teachers should choose their clothing carefully since the types of clothes they choose can tell their personality (Hong-li, 2011). Therefore, it can be concluded that teachers should pay attention to their appearance, especially their professional attire as it plays a vital role in motivating learners in the classroom.

5. Conclusion

The present interview study aimed to investigate EFL teachers' implicit motivational attributes in motivating EFL learners in the Hungarian higher education context. This study's findings corroborate the results of Kálmán's (2023) study, i.e., both studies have suggested that the implicit motivating agency of language teachers can be inferred as teacher's *friendliness, kindness, support, helpfulness, care, encouragement, hard work, enthusiasm, empathy, patience, joy,* and *happiness,* as well as their behavioural attributes and appearance. It is surprising to see that learners' have almost the same perceptions regarding their teachers' motivating agency although the participants of each study are different (i.e., Hungarian students attending primary and secondary schools in Hungary in Kálmán's (2023) study and tertiary EFL students from different countries attending universities in Hungary in the present study). In spite of the fact that the above traits and behaviours proved to have a motivating power according to the participants, their teachers might or might not be aware of this influence. Therefore, a certain proportion of this motivating influence can be assumed to stem from the implicit domain. The results seem to confirm that there is a hidden domain of motivation/implicit motivation that is under-researched to a great extent, and it warrants for further and more extensive research in the field, while it cannot be disputed that the area of this investigation overlaps with teacher agency.

In terms of the limitations of the study, it can be said that using only English during the interview sessions might have resulted in a loss of nuanced data, as participants might not have been able to express themselves in a foreign language to the extent they would have in their mother tongue, no matter how proficient they might be. In other words, the English proficiency level reported by the participants represents their perceived proficiency level, which may not accurately reflect their actual abilities. Another limitation might be related to social desirability bias, that might have distorted the respondents' answers. That is to say, perceptions of personality and appearance can be subjective and culturally loaded, i.e., in this case the participants were from different countries, having different cultural backgrounds. Since motivation is intrinsically subjective, future research might seek to address this aspect through triangulation (e.g., class observation or teacher self-reports/self-concepts).

It is hoped that this study will benefit many stakeholders: learners, pre-service and in-service EFL teachers, teacher trainers, teacher trainees, and fellow researchers. Based on the results of this study, pre-service teachers as well as in-service EFL teachers themselves might become more aware of how they implicitly motivate their students through their personality, behaviour, and appearance. The theoretical implications of the study may be that implicit motivating agency does exist; therefore, more robust research (bigger in scope and more diverse in methodology) would be necessary to corroborate the findings of this study. Then, on the basis of the findings, implicit motivating agency could be conceptualised in a more nuanced manner.

The present study put emphasis only on EFL learners in universities in Hungary; therefore, with respect to future possible research avenues, it would be interesting to focus on EFL teachers' perceptions to check if the findings of this study can be said to be implicit motivational attributes. In addition, based on the results of this study, quantitative research could be conducted via a questionnaire survey in order to be able to generalise the results. If further research is done on a bigger scale involving horizontal and vertical triangulation, it might possibly result in a new conceptual model of teacher's implicit motivating agency. Therefore, it can be said that this paper takes an initial step in that direction. Last but not least, based on the results and findings of this study, student well-being in the classroom might be an area of further research, as motivation and well-being overlap.

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Appendices

Appendix A

The final version of the interview guide for EFL learners

Thank you very much for volunteering to take part in my interview. The interview is part of my Ph.D. research. The aim of my research is to investigate how EFL teachers motivate EFL learners in the Hungarian higher education context with their personality, behaviour, and appearance. I am interested in your personal experiences and opinions rather than the 'right' answers: there are no right or wrong answers. The current interview will be used for research purpose only, and the analysis will be made using a summary of data collected. Full anonymity is ensured, and no personal details will be made public. You can withdraw from the interview at any point. The interview is going to take approximately 25 minutes, and with your permission, I'd like to record our conversation.

Introductory questions

In the first part of the interview, I would like to ask you a few biographical questions.

1. How do you describe your gender identity?
2. How old are you?
3. What is your nationality?
4. Which university/college do you attend?
5. What do you major in?
6. When did you start learning English?
7. How would you describe your level in English now (e.g., pre-intermediate, intermediate, etc.)?
8. Do you speak any other foreign languages? If yes, what are they?

Main questions

Thank you. Now, let me move to the next session. Firstly, I would like to ask you about your EFL teacher(s) who make(s)/made you motivate to learn a language harder.

EFL teacher's personality

- In what way are you motivated by your language teacher's personality?
- Do you think there is anything in your teacher's personality that motivates you, but he or she might not be aware of it? What is it? Please tell me about it.
- Can you give me a specific/some specific examples?

EFL teacher's behaviour

- In what way are you motivated by your language teacher's behaviour?
- Do you think there is anything in your teacher's behaviour that motivates you, but he or she might not be aware of it? What is it? Please tell me about it.
- Can you give me a specific/some specific examples?

EFL teacher's appearance

- In what way are you motivated by your language teacher's appearance?
- Do you think there is anything in your teacher's appearance that motivates you, but he or she might not be aware of it? What is it? Please tell me about it.
- Can you give me a specific/some specific examples?

Final part

Now, we are in the final part of the interview. I would like to know if there is anything else you would like to add. If not, thank you very much for your help.

Appendix B

A Sample Analysis of the Teacher's Implicit Motivating Agency (Emerging Themes and Sources)

Emerging Themes	Sources
personality (kind) behaviour (creates a pleasant atmosphere)	Well, as I previously mentioned, he was very kind to us, and I think it's a huge factor that motivates me to learn. …. I think it is important for the teacher and the students to create a nice welcoming atmosphere for the class, and it can be extremely motivating to learn I think, to be excited to go to class and not to think that, oh no English again. (Berti)
	I was always looking forward to going to English classes because they were definitely the best part of my week, and she was just

personality (nice; caring)	always so nice and she would always make me a cup of tea and she would start the lessons by asking how I felt. And she was like, really nice in a way that I felt like I could trust her. (Vera)
personality (friendly; encouraging)	She was, first of all, really easy to approach, like friendly. And yeah, she's friendly, not like the teacher-student hierarchy. … she said "Oh well, you can do it like you already did it on time and it was really good. Why don't you try again?" She was like that, you know, and it makes me motivated. (Flora)
personality (encouraging) behaviour (give students attention) personality (caring)	Umm, she was encouraging …. Uh, she was very careful. While teaching to not let any students fall asleep, so she really paid attention to the whole class. And encouraged everyone depending on their level and also uh, she put a lot of time into each and every one of us. So, I think that in the teacher it's important to, on a basis level of, care about their students and also to not let anyone like fall through gaps in English. (Bence)
appearance (vocal attractiveness) appearance (clothing) appearance (personal grooming)	But yeah, it [appearance] can have an effect on it [learner's motivation]. Like I noticed that when English teachers' tone of voice would be kind of higher. He would want attention, and you would be more like, hey, I need to pay attention now to what he's saying. Also, the dressing can have certain kind of effect because I think definitely the appearance is a motivator, i.e., not wearing clothes that match them. Most of the cases that I heard it's mainly for not the male teacher but for the female teachers. I heard it from my friends that they had the experience of being in the bachelor with a female teacher and they would often notice her appearance. Not only the boy, but also the girls said "Oh, her hair is unbrushed or her clothing doesn't match, et cetera or her voice is too low that I cannot hear sometimes." (Tomi)
appearance (clothing)	Teacher's appearance might have only a little bit influence on my motivation. Yeah, talking about clothing. I would underline maybe the thing that clothing should be not that bright, and more like pastel colours. And yes, for example, for a female teacher, that might be just a blouse and skirt like pretty in middle long skirt or a long skirt. And for a man it's just like a suit. Yes, and for women suits are also really nice so yeah. So, it might be better if teacher wears something usual. (Ella)
appearance (clothing)	During my BA studies at university, my business English teacher always dress up really nicely. Uh, in a way that he would look really a businessman. You know, like he would always wear really nice suits, and he was always really put together and I think he made the business specialisation feel really like, umm, trustworthy. (Vera)
behaviour (encourage student's participation)	Yes, ok. I had a lot of English teachers and once teachers were more focused on just completing the course book and doing one exercise after the other and it was more monotonous. And so, I felt less motivated and bored in those classes compared to the ones who did group discussions and focused more on active participation because it was more stimulating I guess. (Eliz)
	Yeah, I had a pretty strict English teacher, but she really likes me because in our group I am one of the best in speaking English and

behaviour (gives students attention)	that really motivated me how she is giving me a lot of attention. (Attila)
behaviour (creates good rapport)	Umm, well. In my experience my teachers are really, yeah, open about themselves as well. So, like they share some information about themselves as well as they ask us. So, this also makes us a little bit close to them I think, and it's easier to connect. And I think it is a feature of a small group classroom as well. I think that that helps us feel us safe in the classroom. So, I think it motivates me to join their classes. (Dina)
personality (helpful) behaviour (is ready to help) personality (knowledgeable)	Maybe, the helpfulness also can be a motivational factor for me because I'm not good at grammar and I never felt it would be my cup of tea. The grammar stuff and the linguistic stuff. And I always had questions about these parts of the language, and I would feel more confident if I can ask questions and they are ready to help me and they are ready to explain and give examples to understand more rather than just giving the material just go and read it, learn it and we will have a test about it. So, the helpfulness can be also for me, a motivational factor as well. If they are helpful, and if they know what they are talking about because I had teachers who didn't know what they are talking about. They just read the material, and they just moved on and we couldn't ask questions and I was quite unmotivated during those classes. I didn't like those because they didn't help at all, so I couldn't perform. So, it was quite hard. (Viola)

Source: own compilation

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Developing Prompt Engineering as a 21st-Century Skill: The Impact of Structured ChatGPT Instruction in EFL Education

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Abstract

Artificial intelligence (AI)-powered large language models, such as ChatGPT, are increasingly utilized in education, particularly for language learning. However, the effectiveness of AI-assisted learning is highly dependent on the quality of user-generated prompts. This study examines how structured instruction in prompt engineering affects English as a Foreign Language (EFL) students' ability to craft effective ChatGPT prompts, their engagement with AI, and their confidence in AI-assisted learning, culminating in the development of skills that will increasingly be in demand in the workplace. Using a three-phase intervention, students first generated self-created prompts, then used teacher-provided prompts based on the Nazari and Saadi framework, and finally received explicit instruction in structured prompt writing. After receiving instruction in prompt engineering, there were significant improvements in student prompt quality. Additionally, students' confidence in prompt generation significantly increased after instruction. However, teacher-provided prompts alone did not significantly enhance student perceptions of ChatGPT's usefulness for grammar or vocabulary improvement. These findings underscore the importance of explicit instruction in AI

prompt engineering, suggesting that providing structured frameworks enhances student engagement, prompt effectiveness, and confidence in AI-assisted learning. Implications for AI-based language instruction and future research directions are discussed.

Keywords: AI literacy, prompt engineering, English as a Foreign Language (EFL), cognitive apprenticeship

1. Introduction

Across the higher education sector around the world, we are seeing a significant shift in the ways lecturers teach and students learn. Technological innovation in education is no longer a novelty; teaching and learning has adjusted and incorporated digitalisation to varying degrees of effectiveness (Ghilay, 2019). Using learning management systems (LMS) such as Moodle and Blackboard for interaction with students has made course management and development more streamlined (e.g., Kraleva et al., 2019; Vivitsou, 2019). The sudden requirement to move all levels of teaching online from the outset of the Covid-19 pandemic accelerated the uptake of digital learning. For those teachers who had already been actively engaged in using LMSs, this next phase of digitalised learning was less disruptive, and teachers were able to leverage the advantages of multimedia platforms (Ghilay, 2019).

With the release of OpenAI's ChatGPT onto the market in November 2022, technological innovation took another exponential leap with 100 million users trying it out within the first few months (Hu, 2023). While the AI in Education and Technology (AIET) community has been working on integrating AI into educational technology for the past 25 years (Raghuram & Jain, 2024), fully embracing AI has been widely resisted among educators (Kalmus & Nikiforova, 2024). Concerns over academic integrity, transparency, and honesty are uppermost among academics, alongside student misuse and cheating (Rasul et al., 2023). For language competence teachers, students' complete abdication of course exercises and activities – particularly writing tasks – to Gen AI is a major concern. Understandably, teachers feel that providing feedback on AI-generated student work is pointless and wastes their time and energy (Preshern & Born-Lechleitner, 2024).

Despite the many and justifiable concerns around Gen AI in higher education, there are tangible benefits to be reaped from a mindful and ethical implementation of the tool (Kalmus & Nikiforova, 2024; Keerthi & Raghuram, 2024). Not least is the potential for personalised learning, and in particular for autonomous *language* learning (Szabó & Szoke, 2024). With appropriate and informed training, educators and language teachers can teach their students how to leverage the power of Gen AI to improve their learning and development (Crompton et al., 2024). This paper reports on a small-scale study in which EFL students learned to write effective ChatGPT prompts. The goal is to show fellow language teachers that we can guide students to use ChatGPT as a learning tool rather than as a way to circumvent the challenges of language acquisition. This has the additional benefit of developing digital literacy skills that students will likely need in their future work lives.

The first section of the paper reviews literature which provides an insight into the role of Gen AI in education and the EFL classroom in particular. It continues with a discussion of the relevance of prompt engineering and then moves into an exploration of three frameworks that can help in engineering prompts – the Nazari model was chosen as the analytical framework

for the study presented here. Following this, we present the research study: design, methodology, and results. A discussion ensues, followed by a concluding section that reiterates the importance of explicitly teaching language students at university how to effectively prompt Gen AI in order to maximise the learning effect.

2. Literature Review

2.1. ChatGPT's Role in Education

Artificial intelligence (AI) involves machines simulating human cognitive processes (Fogel, 2022). One type of AI, known as a large language model (LLM), can generate text that closely resembles human writing. A specific application of LLMs is the chatbot, with ChatGPT being one of the most well-known examples. Launched in November 2022 by OpenAI, ChatGPT has surpassed previous chatbot models in versatility and application potential (Ali et al., 2024). Since its release, ChatGPT has remained a prominent AI technology, particularly in education (Bettayeb et al, 2024; Walter, 2024).

Numerous studies have documented the benefits of using ChatGPT in the classroom, highlighting its ability to provide personalised learning, support autonomous learning, and deliver time-efficient feedback. ChatGPT can enhance teacher-directed instruction by offering personalised information and answering student questions to deepen their understanding of classroom content (Alenezi et al., 2023; Baidoo-Ann & Ansah, 2023).

Beyond teacher instruction, students can use ChatGPT to receive individualised learning support, supplementing traditional methods such as lectures and textbooks (Rasul et al., 2023). As a result, ChatGPT can serve as a virtual tutor or teaching assistant (Hopkins et al., 2023). For example, a study by Agustini (2023) found that ChatGPT effectively supported high school students' individual learning needs and accommodated diverse learning styles, allowing them to take greater ownership of their education.

In addition to personalised instruction, ChatGPT promotes autonomous learning by enabling students to set learning goals, identify resources, create structured learning plans, and reflect on their progress (X. Lin, 2024; Nazari & Saadi, 2024). By facilitating independent learning, ChatGPT empowers students to take control of their educational development. Self-reliance and independent thinking are among the skills which employers are looking for when hiring new talent; developing digital competencies while at university has to become an integral part of higher education today.

Another key advantage of ChatGPT is the immediacy of its feedback. AI-powered tools like ChatGPT can generate feedback instantaneously, at any time of day, which students find highly beneficial for their learning experience (Kasneci et al., 2023; Preschern & Born-Lechleitner, 2024). The ability to receive timely feedback enhances the learning process by allowing students to quickly identify areas for improvement and refine their understanding in real time.

2.2. Use of ChatGPT in the English as a Foreign Language Classroom

Over and above the more generalised educational benefits, ChatGPT can also support both oral and written language learning in the English as a Foreign Language (EFL) classroom. The use of ChatGPT has been shown to improve overall oral communication skills, with students who use AI more frequently to practice language interactions performing better on language assessments (Cao

& Zhong, 2023; Shaikh et al., 2023). However, while there are indications that ChatGPT can support student language learning (Preschern & Lechleitner, 2024), research around the provision of feedback to language learners remains inconclusive (Xerri & Block, 2025).

An experimental study by Wang (2025), showed that students who had utilized ChatGPT-4 to improve their oral communication skills performed better than the control group that had received teacher-only feedback; the experimental group made fewer English language errors from pre-test to post-test than those not receiving AI feedback. Conversely, in a writing-focused context, Mohammadi et al. (2023) found that teacher-only or blended teacher-AI feedback resulted in better performing students than in the case of AI-only generated feedback on writing. That being said, it certainly seems that ChatGPT is useful as an aid for improving written language. It can assist students in all phases of the writing process, from generating writing prompts to providing personalised written feedback (Herft, 2023; Steiss et al., 2024). As busy teachers are increasingly learning for themselves (e.g., Khlaif et al., 2024), ChatGPT streamlines many written language tasks, including drafting and summarising texts (Bin Arif et al., 2023).

ChatGPT is also beneficial for vocabulary acquisition. Students report effectively using AI technology independently to identify synonyms, rephrase texts using more sophisticated vocabulary, and generate fill-in-the-blank activities for vocabulary practice (Preschern & Lechleitner, 2024). Students can also use ChatGPT to acquire new words (Shaikh et al., 2023), and then improve on using those words cohesively and coherently. Hwang et al. (2023) note that AI was able to support the iterative process of revising and editing, while Tseng & Lin (2024) point to the immediacy of feedback, instant idea generation, and structural improvements AI affords.

Returning to concerns around the efficacy of AI-tools for language learning, there are mixed reports on whether ChatGPT can effectively aid in grammar improvement. It is documented that ChatGPT can correct grammar mistakes in written text (Younis et al., 2023), but students report lower levels of success in using ChatGPT to improve grammar knowledge compared to learning vocabulary (Preschern & Born-Lechleitner, 2024; Schmidt-Fajlik, 2023). Other researchers suggest that ChatGPT has the potential to engage learners in English grammar improvement (Phieanchang, 2024). For example, Kucuk (2024) conducted an experimental study in which the experimental group received ChatGPT-centred grammar education, while the control group received book-centred instruction. Post-test results revealed that the experimental group outperformed the control group, and a focus group interview indicated that ChatGPT users were satisfied with the integration of the technology into their grammar lessons (Kucuk, 2024).

Behforouz and Al Ghaithi (2024) found similar positive results. In their study, the control group received traditional face-to-face instruction. Experimental Group 1 received in-class instruction supplemented by ChatGPT, which provided feedback on grammatical structures. Experimental Group 2 engaged in fully online instruction, with ChatGPT as the primary feedback facilitator for grammatical tasks. Statistical analysis indicated that all groups improved grammatical proficiency from pre-test to post-test. However, the progress observed in Experimental Group 1 was statistically more significant, suggesting that supplementing grammar instruction with ChatGPT is most effective. This concurs with what Mohammadi et al. (2023) found with a blended approach to language learning being most effective for writing classes, and that students expressed a strong preference for teacher-AI-blended learning.

2.3. The Impact of Effective Prompts on AI-Generated Outcomes

To effectively engage with and benefit from LLM support, users must input prompts—natural language instructions that provide the AI with specific rules, processes, and desired qualities for the generated output (Liu et al., 2023; White et al., 2023). These prompts can take various forms, including simple questions, statements, or detailed descriptions designed to elicit a specific AI response (Amatriain, 2024). In essence, prompts function as a form of programming that governs both the interaction with AI and the quality of its output (White et al., 2023).

The quality of an LLM's output, such as that generated by ChatGPT, is highly dependent on the effectiveness of the provided prompt. Well-structured prompts tend to produce high-quality responses, whereas poorly constructed prompts can result in suboptimal outcomes (Dwivedi et al., 2023; Ekin, 2023; Heston & Khun, 2023; Zhou et al., 2023).

The process of writing effective prompts is more complex than it may initially appear. Simply knowing a language does not guarantee the ability to communicate effectively with AI, making prompt writing a skill that requires deliberate practice and learning (Oppenlaender et al., 2024). Users interact with LLMs in diverse ways. Non-technical users often rely on a trial-and-error approach to refine their prompts, which can be both inefficient and time-consuming (Dang et al., 2022; Federiakin et al., 2024). In contrast, Sawalha et al. (2024) documented strategies employed by computer science students when solving five distinct problems. Some students simply copied and pasted questions into the LLM, while others iteratively refined their prompts, ultimately achieving better outcomes. This evidence underscores the importance of developing proficiency in prompt engineering through structured instruction and practice (Chan & Colloton, 2024; Oppenlaender et al., 2024).

2.4. Prompt Engineering: An Emerging 21st-Century Skill

The process of designing, refining, and optimising input prompts for large language models (LLMs), such as ChatGPT, is known as **prompt engineering** (Eager & Brunton, 2023; Ekin, 2023). As a relatively new research area, prompt engineering focuses on developing structured inputs that effectively engage LLMs across diverse applications (White et al., 2023). This technique is crucial for obtaining optimal results from ChatGPT, as it enables users to structure their input in a way that guides the model toward the desired outcome (Patel & Parmar, 2024; Wang et al., 2023).

2.4.1. Frameworks for Prompt Engineering

Prompt engineering can be approached through various structured frameworks, which range from complex models to more simplified structures. For example, Ramlochan (2023) proposes a five-component prompt framework, which includes:

- Task (the core action of goal),
- Instructions (specific guidelines for execution),
- Content (the subject matter),
- Parameters (adjustments such as temperature or token limits), and
- Input (data provided to the model).

Additionally, Ramlochan identifies 17 supplementary elements that refine prompts, including temperature, token limits, role, topic, query, command, structure, goals, format, examples, audience, probability, script, document, and dialect.

In contrast, Z. Lin (2024) suggests a simplified framework for applied linguistics that comprises five components:

1. Persona – The role the LLM is instructed to adopt.
2. Audience – The target audience of the output.
3. Context – Background details that help the LLM understand the task.
4. Specific Instructions – Clear directives on the desired output.
5. Output Specifications – The expected style, tone, and format.

In applied linguistics, this framework can specify the complexity level of the material using the Common European Framework of Reference for Languages (CEFR) (e.g., B1, B2, C1) and indicate dialect preferences, such as American, British, or Australian English.

Another structured approach, designed specifically for higher education, is the Nazari and Saadi Prompt Framework (Nazari & Saadi, 2024). Similar to Ramlochan's model, this framework categorises prompts into components and elements but simplifies the structure to enhance accessibility for students. Nazari and Saadi´s prompt structure includes three main components:

1. Task – The specific goal or action.
2. Context – Background information related to the prompt.
3. Instructions – The required approach or format.

Additionally, it incorporates five elements to refine responses:

- Role – The assumed identity of the model (e.g., an English teacher).
- Audience – The intended recipients of the output.
- Tone – The appropriate style and complexity level.
- Examples – Illustrative references for clarity.
- Limits – Constraints on the response (e.g., avoiding sentence structure changes).

The Nazari and Saadi framework was decided upon for the current study as it was the most accessible for students.

2.4.2. Prompt Analysis Based on the Nazari and Saadi Formula

Table 1 provides a breakdown of the Nazari and Saadi (2024) Framework and below it is an example of a structured prompt following this framework:

TABLE 1. NAZARI AND SAADI FRAMEWORK

Component	Task	Improve 5% of the vocabulary in this text.
	Context	To a C1 level
	Instructions	Focus on the changing the words that are not used well
Elements	Role	Imagine you are an English as a second language teacher
	Audience	You are trying to help a student learn new vocabulary
	Tone	The vocabulary suggestions should be suitable for a B2 level English student
	Limit	Do not change the sentence structure in the text
	Example	Provide a list of the changed words after the corrected text

Source: own compilation, based on Nazari & Saadi, 2024 p. 5

Example of a structured prompt following the Nazari and Saadi Framework:

Teach Masters students with C1 Level English (context) how to correct grammatical errors in their essay drafts (task). Focus on upgrading simple and/or incorrect grammatical structures to higher level academic grammar (instruction).

You are an instructor of academic writing (role) to C1 Level international students (audience) who need support to improve the grammar they use for academic essays (tone). The content and coherence of the essay should not be changed (limit). Highlight what you change and why you changed it (example).

By systematically teaching and applying these structured prompt frameworks, students and educators can more effectively interact with LLMs, maximising their usefulness in education, and in particular in language competence development.

Instruction in Prompt Engineering

While research on prompt engineering in educational contexts is still emerging, it is increasingly recognised as a skill that can be taught and developed through structured instruction (Oppenlaender et al., 2023). The ability to craft effective prompts allows students to maximize their use of AI tools like ChatGPT, thus enhancing their learning experience (Eager & Brunton, 2023; Walter, 2024). Although little research has explored how to teach prompt engineering systematically, it seems obvious that instructors play a crucial role in helping students develop these skills (Jacobsen & Weber, 2023; Z. Lin, 2024; Sawalha et al., 2024).

Huang (2023) suggests that students in EFL classrooms benefit from being provided with structured prompts to support their learning. The researcher highlights the many advantages of AI-assisted learning while also acknowledging its limitations when students struggle to formulate effective prompts. To address this issue, Huang supplied students with specific, tailored prompts designed to align with individual learning goals. For example, one prompt given to students instructed them to ask ChatGPT:

"Please review my paragraph and provide feedback on structure, grammatical errors, clarity, coherence, logic, and use of appropriate transitions and cohesive devices. I am not seeking a rewrite, only feedback. (Paste your paragraph here)*."*

Huang noted that while these structured prompts helped students engage with AI more effectively, they required extensive trial and error. The researcher also emphasised that further validation studies are needed to assess the effectiveness of these prompts.

Similarly, Woo et al. (2022) examined how EFL students used ChatGPT to complete a writing task. The findings revealed that, like in Huang's (2023) study, students relied heavily on trial-and-error strategies when drafting prompts. The researchers concluded that without explicit instruction, students struggled to generate effective prompts that yielded meaningful AI-generated feedback.

Despite these findings, there remains a lack of systematic research on how best to teach prompt engineering. While existing studies recognise its importance and potential benefits, little is known about how structured instruction impacts students' ability to generate effective prompts and optimise AI-assisted learning. This gap underscores the need for empirical investigation

into whether explicit instruction in prompt engineering can improve students' proficiency in crafting prompts and, by extension, enhance their learning outcomes.

3. The Study

As discussed above, research has demonstrated that ChatGPT can function as an effective language learning tool, but its successful use requires the ability to craft well-developed prompts. While the importance of *prompt engineering* has been acknowledged, research examining students' ability to independently and effectively prompt ChatGPT remains limited.

This study employs the *cognitive apprenticeship* theoretical framework to investigate three key research questions:

1. How adept are English as a Foreign Language (EFL) university students at independently crafting effective ChatGPT prompts to improve their writing?
2. Do teacher-provided prompts help students engage more effectively with ChatGPT compared to self-generated prompts?
3. From a student perspective, how effective is teacher instruction in prompt engineering?

According to Collins et al. (1991), the cognitive apprenticeship model comprises two key components in teaching:

1. Experts must identify and explicitly demonstrate the processes involved in a task to make them visible to students.
2. Experts must situate abstract tasks within authentic contexts to enhance students' understanding of their relevance.

In alignment with this framework, this study incorporates a scaffolded instructional approach, in which teachers will model effective prompt construction in authentic homework tasks before gradually releasing control to students.

This study employs a mixed methods design (Creswell & Plano Clark, 2018; Johnson et al., 2007) in order to understand whether prompt engineering is a helpful skill that can be taught in EFL contexts. A mixed methods was chosen as it enables the synthesis of our integrative data (e.g. survey responses) with qualitative insights (e.g. analysis of student prompts). This dual approach aligns with recommendations in the field to triangulate data sources for increased validity, especially when evaluating complex educational outcomes such as skill acquisition and AI tool integration (Ivankova et al., 2006).

3.1. Methodology

3.1.1. Participants

This study was conducted with 90 university students enrolled in EFL courses at B1 and B2 proficiency levels at Johannes Kepler University, Linz, Austria. The students were pursuing degrees in sociology, social economics, and business. The participant pool consisted of 40 men and 50 women, with an age range of 19 to 27 years (M = 22.4, SD = 2.1).

Participants were selected through convenience sampling, as they were enrolled in courses taught by members of the research team. This approach allowed for the practical implementation of the instructional intervention within existing class structures. No control

group was created, as the researchers wished to ensure that all students had equitable access to the skill development opportunities associated with prompt engineering instruction. While this decision aligns with the ethical and pedagogical aims of the study, it represents a methodological limitation in terms of experimental control and generalisability. All students participated in the first two surveys; however, due to scheduling constraints, only one class of 23 students completed the final follow-up survey.

3.1.2. Instruments

To assess the impact of structured prompt engineering instruction, students completed three surveys administered throughout the semester, following a progressive scaffolded intervention approach.

Survey 1: Baseline (No Teacher Guidance)

- Purpose: To evaluate students' natural ability to generate effective ChatGPT prompts without explicit guidance.
- Pre-Survey Preparation:
    - No instruction was provided on how to formulate prompts.
    - Students were simply asked to submit their ChatGPT-generated responses to their writing assignments using self-created prompts.
- Survey Structure:
    - Students were asked to rate their confidence using AI with the question "How confident are you right now at writing effective ChatGPT prompts to help with learning?" They were asked to evaluate the statements "ChatGPT is helpful to improve my grammar" and "ChatGPT is helpful to improve my vocabulary," rating each statement from not at all to very helpful.
    - The students were also asked to use ChatGPT to correct one of their homework texts. They input the prompt that they used to complete this task into the survey.

Survey 2: Teacher-Provided Prompts (Nazari and Saadi Framework Implementation)

- Purpose: To assess whether structured prompts provided by the instructor improved students' engagement with ChatGPT.
- Pre-Survey Instruction:
    - Prior to completing the survey, students were given two specific teacher-generated prompts that followed the Nazari and Saadi framework.
    - Vocabulary Prompt:
      "Imagine you are a college English as a second language teacher who is trying to help a student learning new vocabulary. Improve 5% of the lower-level vocabulary in this text to a C1 level. The vocabulary suggestions should be suitable for a B2-level English student. Do not change the sentence structure in the text. Focus on changing the words that are not used well. Provide a list of the changed words after the text."
    - Grammar Prompt:
      "Imagine you are a college English as a second language teacher who is trying to help a student improve their writing. Using Strunk and White writing

guidelines, correct the grammar mistakes in this text. Replace the errors with B2-level correct sentences. Only change text that is grammatically wrong. If there are no mistakes, do not change anything. Provide a list of the errors and changes after the corrected text."

- Survey Structure:
    - Students corrected another homework assignment using AI, using one of the teacher-provided ChatGPT prompts. Students were again asked to input the utilised prompt into the survey.
    - Student confidence in using AI was reassessed, along with the helpfulness of AI for grammar and vocabulary.
    - Their responses were compared to Survey 1 data to analyse improvements in prompt quality.

Survey 3: Student-Created Prompts (Prompt Engineering Coaching)

- Purpose: To assess whether explicit instruction in prompt engineering enabled students to craft their own high-quality ChatGPT prompts.
- Pre-Survey Instruction:
    - Students were introduced to the Nazari and Saadi Prompt Engineering Template, which includes:
        - Context: About what topic?
        - Instructions: What specific steps to do?
        - Role: Who is ChatGPT?
        - Audience: Who is receiving the information?
        - Tone: Describe the style of the writing/interaction.
        - Example: Provide an example of what ChatGPT could do.
        - Limits: What should ChatGPT not do? Include limits on text structure or the number of suggested changes.
    - Students analysed pre-written prompts and evaluated their alignment with the Nazari and Saadi framework.
    - Finally, students drafted their own structured prompts following this framework.
- Survey Structure:
    - Survey three asked students to submit their self-created prompt.
    - They were reassessed one more time to determine confidence in using AI, and for the helpfulness of AI for vocabulary and grammar learning.

Each survey was designed to progressively assess student skill development in crafting ChatGPT prompts, moving from no guidance (Survey 1) to explicit guidance (Survey 2) and ultimately to independent prompt writing (Survey 3).

3.1.3. Procedure

To answer question one “How adept are English as a Foreign Language (EFL) university students at independently crafting effective ChatGPT prompts to improve their writing?” students completed

two surveys, Survey 1 and Survey 3, where they were asked to generate ChatGPT prompts independently. Survey 2 was excluded from the analysis because students were instructed to use teacher-provided prompts verbatim. Prompts from Survey 1 and Survey 3 were analysed using the Nazari and Saadi framework, with each prompt receiving a score based on the inclusion of key structured criteria. Students were assigned one point for each of the following elements incorporated in their prompts: task, context, instruction, role, audience, tone, limit, and example. Each student's prompt received a total score ranging from 0 to 7 points.

TABLE 2. ANALYTICAL FRAMEWORK INFORMED BY NAZARI AND SAADI FRAMEWORK

Criterion	Description	Example
Task	Clearly defines the core action the LLM should perform.	Improve the email.
Context	Provides relevant background information to situate the task.	For an English class assignment.
Instruction	Offers specific, step-by-step directives on how the task should be executed.	Specifically focus on improving the poorly chosen vocabulary words.
Role	Assigns a persona to ChatGPT.	You are an English teacher.
Audience	Specifies the intended recipient of the response.	Make the changes appropriate for a student learning English.
Tone	Indicates the appropriate language style (e.g., formal, conversational). One point was also awarded if the student specified the Common European Framework Reference Level (CEFR).	Make this to a B2 level.
Limit	Describes what should not be done.	Do not change the sentence structure.
Example	Provides sample inputs or expected responses to guide the LLM's output.	Give me a list of changes when you are done.

Source: own compilation, based on Nazari & Saadi, 2024 p. 5

To ensure reflexivity and minimize potential bias in the analysis process for all research questions, the research team engaged in collaborative coding of student responses. The two researchers who conducted the coding brought differing perspectives on the educational use of ChatGPT. While both researchers positively view ChatGPT as a whole, Researcher A sees ChatGPT as a highly valuable pedagogical tool capable of enhancing student learning and engagement. In contrast, Researcher B approaches the technology with greater caution, expressing concerns about its potential to facilitate academic dishonesty. These contrasting stances provided a balanced lens during the analysis. Both researchers jointly analysed student prompts using the Nazari Framework, allowing for continuous dialogue and negotiated interpretation of student responses. This collaborative approach, along with efforts to bracket personal assumptions, helped to strengthen the trustworthiness and rigor of the qualitative findings.

The length of the student prompts in Survey 1 and Survey 3 was analysed using descriptive statistics, including mean and standard deviation. To evaluate differences in prompt quality before and after instruction, a paired *t*-test was conducted with prompt scores as the dependent variable. Prompts were also qualitatively analysed for the presence and structuring of key framework components, documenting thematic differences between Survey 1 and Survey 3 to illustrate qualitative improvements in student-generated prompts following instruction.

To answer research question two: "Do teacher-provided prompts help students engage more effectively with ChatGPT compared to self-generated prompts?" Students' perceptions of

ChatGPT's usefulness, assessed using the questions "ChatGPT is helpful to improve my vocabulary" and "ChatGPT is helpful to improve my grammar" from survey one and two were compared using a *t*-test analysis.

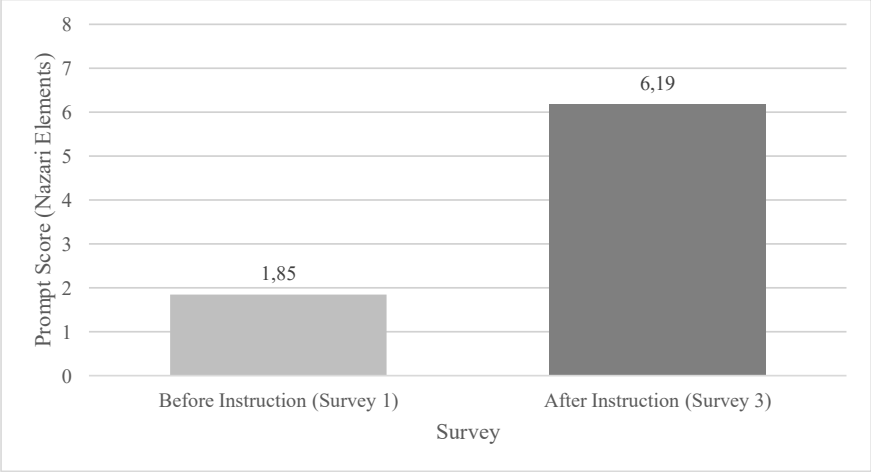
To answer research question three: "From a student perspective, how effective is teacher instruction in prompt engineering?" student confidence in writing ChatGPT prompts was measured across all three surveys using the question, "How confident are you right now at writing effective ChatGPT prompts to help with learning?" After structured prompt instruction, students were asked to rate their confidence levels. The ratings on the survey were compared in three ways. Results in Survey 1 were compared to Survey 2. Survey 2 was compared to Survey 3, and Survey 1 was compared to Survey 3.

3.2. Results

To answer research question one "How adept are English as a Foreign Language (EFL) university students at independently crafting effective ChatGPT prompts to improve their writing?" we first assessed the complexity and detail of student-generated prompts before and after structured instruction by analysing word count differences between Survey 1 (Baseline) and Survey 3 (Post-Instruction). The mean word count increased from 13.35 (SD = 7.49) in Survey 1 to 64.19 (SD = 27.43) in Survey 3. The maximum word count also increased, growing from 38 words in Survey 1 to 135 words in Survey 3, indicating a significant expansion in prompt detail. Additionally, the standard deviation increased, suggesting greater variability in how students structured their prompts. A paired t-test revealed a statistically significant increase in word count after structured instruction, $t(25) = 9.03$, $p = 3.2 \times 10\text{-}9$.

Then, students received one point for each element of the Nazari & Saadi framework (2024) incorporated into their prompts. Subsequently, a paired-samples *t*-test was also conducted to compare prompt scores before and after instruction. The mean prompt score in Survey 1 was 1.85 (SD = 0.78), whereas the mean score in Survey 3 increased to 6.19 (SD = 1.60). This increase was statistically significant, $t(25) = 11.96$, $p = 6.28 \times 10\text{-}11$, indicating a marked improvement in prompt effectiveness following structured instruction. These results are depicted in Figure 1.

FIGURE 1. IMPROVEMENTS IN STUDENT PROMPTS



Note. Mean prompt scores before and after instruction using the Nazari and Saadi (2024) framework. Scores reflect the number of elements successfully included in student prompts (range: 0–8).

A qualitative analysis of the prompts further supported these findings. In Survey 1, most prompts lacked structured elements, with the majority including only the task and minimal contextual details. In contrast, Survey 3 prompts demonstrated a more comprehensive application of the Nazari framework, incorporating multiple structured components such as role, audience, context, and tone. Feature inclusion improved notably, with role specification increasing from 4% in Survey 1 to 92% in Survey 3, audience specification rising from 0% to 81%, and contextual information increasing from 8% to 88%. Additionally, tone guidance improved from 15% to 77%, while the inclusion of examples rose from 0% to 69%.

A comparison of sample prompts illustrates these qualitative improvements. In Survey 1, a typical prompt was, "Can you correct this email for grammar?"—a vague request with limited scope that lacked role specification, audience context, or detailed instructions. In contrast, a Survey 3 prompt demonstrated greater sophistication: "Imagine you are an English as a Second Language teacher. Your task is to correct this email for grammar and improve vocabulary to a B2 level while keeping the sentence structure intact. Provide a summary of corrections at the end." This revised prompt included essential framework components, resulting in a more structured and effective interaction with the AI tool.

To answer research question two “Do teacher-provided prompts help students engage more effectively with ChatGPT compared to self-generated prompts?” a paired-samples t-test was conducted to compare students’ perceptions of ChatGPT’s usefulness for vocabulary improvement and grammar improvement confidence across Survey 1 (self-generated prompts) and Survey 2 (teacher-provided prompts).

A paired-samples *t*-test was conducted to compare students’ confidence in ChatGPT’s usefulness for vocabulary improvement when using self-generated prompts (Survey 1) and teacher-provided prompts (Survey 2). The results indicated that the mean rating in Survey 1 ($M = 8.09$, $SD = 1.89$, $N = 58$) was slightly lower than in Survey 2 ($M = 8.41$, $SD = 1.52$, $N = 58$). However, this difference was not statistically significant, $t(57) = -1.34$, $p = .19$, with a 95% confidence interval for the mean difference ranging from −0.816 to 0.161.

A paired-samples correlation analysis revealed a moderate positive correlation between the two survey responses ($r = .425$, $p = .00038$, one-tailed), suggesting that students’ perceptions of ChatGPT’s effectiveness in vocabulary learning were relatively stable across conditions.

To further assess the magnitude of the difference, Cohen’s d was calculated. The effect size was small, $d = -0.18$ (standardizer = 1.858), with a 95% confidence interval ranging from −0.44 to 0.08. Since the confidence interval included zero, the difference between self-generated and teacher-provided prompts was not perceived as meaningful in practical terms.

A paired-samples t-test was conducted to compare students' confidence in ChatGPT’s ability to improve grammar when using self-generated versus teacher-provided prompts. The results showed that the mean confidence rating in Survey 1 ($M = 7.33$, $SD = 2.18$, $N = 57$) was slightly lower than in Survey 2 ($M = 7.63$, $SD = 1.99$, $N = 57$), but this difference was also not statistically significant, $t(56) = -1.02$, $p = .31$, with a 95% confidence interval for the mean difference ranging from −0.885 to 0.289.

A paired-samples correlation analysis showed a moderate positive correlation (r = .483, p = .00011, two-tailed), indicating that students' confidence ratings remained relatively consistent between self-generated and teacher-provided prompt conditions.

The effect size (Cohen's d) was small, d = −0.14 (standardizer = 2.212), with a 95% confidence interval ranging from −0.40 to 0.13. Since the confidence interval crossed zero, there was no meaningful effect of teacher-provided prompts on students' grammar confidence.

To answer research question three: "From a student perspective, how effective is teacher instruction in prompt engineering?" student confidence in writing ChatGPT prompts was measured across all three surveys. After structured prompt instruction, students were asked to rate their confidence levels.

1. Survey 1 (Pre-Instruction) – Students received no teacher assistance in prompt writing.
2. Survey 2 (Teacher-Provided Prompts) – Students used a teacher-generated prompt before engaging with ChatGPT.
3. Survey 3 (Nazari and Saadi Framework Instruction) – Students received explicit instruction in prompt engineering using the Nazari and Saadi framework.

A repeated-measures design was used, and paired-samples t-tests were conducted to determine whether structured prompt instruction significantly increased student confidence.

Student confidence in prompt writing increased across the three surveys. In Survey 1, the mean confidence rating was 6.22 (SD = 1.98, N = 23). In Survey 2, confidence increased slightly to 6.39 (SD = 2.19, N = 23). Following explicit instruction in prompt engineering (Survey 3), the mean confidence rating significantly increased to 7.87 (SD = 0.98, N = 23).

Paired-Samples *t*-Test Comparisons

Survey 1 vs. Survey 2 (Self-Generated vs. Teacher-Provided Prompts)

A paired-samples *t*-test compared confidence in prompt writing before and after students were provided a teacher-generated prompt. The results showed no statistically significant difference between conditions, $t(22) = -0.51$, p = .617 (two-sided), p = .308 (one-sided). The correlation between Survey 1 and Survey 2 was moderate (r = .694, p = .0001, one-tailed), but the effect size was small (d = −0.13, standardizer = 1.642). The 95% confidence interval (−0.52, 0.31) included zero, indicating no meaningful change in student confidence when using a teacher-provided prompt.

Survey 1 vs. Survey 3 (No Assistance vs. Prompt Instruction)

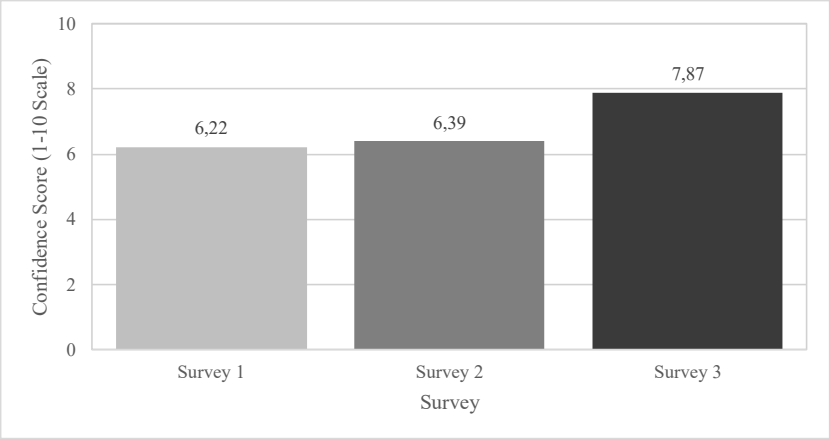
A paired-samples t-test comparing Survey 1 (no teacher assistance) and Survey 3 (explicit prompt instruction) revealed a statistically significant improvement in student confidence, $t(22) = -4.07$, p = .00068 (one-sided and two-sided). The correlation was moderate (r = .277, p = .10), and the effect size was large (d = −1.95, standardizer = 1.945). The 95% confidence interval (−1.32, −0.36) did not include zero, confirming a meaningful increase in confidence after structured prompt instruction.

Survey 2 vs. Survey 3 (Teacher-Provided vs. Prompt Instruction)

A paired-samples *t*-test comparing Survey 2 (teacher-provided prompts) and Survey 3 (explicit prompt instruction) found a statistically significant increase in student confidence, $t(22) = -3.30$, $p = .003$ (two-sided), $p = .002$ (one-sided). The correlation was moderate ($r = .261$, $p = .114$, one-tailed), and the effect size was large ($d = -2.15$, standardizer = 2.150). The 95% confidence interval (−1.14, −0.23) confirmed a substantial improvement in confidence following explicit instruction.

The improvements in student confidence across all three instructional phases is depicted in Figure 2.

FIGURE 2. IMPROVEMENT IN STUDENT CONFIDENCE IN PROMPT WRITING



Note. Self-reported confidence in prompt writing increased across three surveys. Ratings were based on a 10-point scale (1 = Not Confident, 10 = Very Confident).

4. Discussion

The findings of this study highlight the effectiveness of explicit instruction in prompt engineering for EFL students. The statistically significant increase in prompt scores (Research Question 1) and word count following structured instruction suggests that students who receive guidance in prompt construction can develop more comprehensive and structured interactions with AI tools. The increase in word count aligns with improved prompt structure, as students incorporated more elements from Nazari and Saadi framework (2024), such as task, role, audience, context, and limits. These results support the cognitive apprenticeship model, which emphasises the role of explicit modelling and scaffolded learning in skill acquisition (Collins et al., 1991).

The qualitative analysis for Research Question 1 further reinforces the impact of instruction on prompt design. In Survey 1, students' prompts were typically vague and lacked critical structural elements, reducing their effectiveness in AI interactions:

"Write this email with more advanced vocabulary."

"Rewrite this text by using B2 level."

Having received instruction, students demonstrated a greater ability to specify role, audience, context, and limitations, leading to more precise and functional AI-generated responses:

"Act as if you were my personal English teacher, helping me to improve my vocabulary in my text. Improve the vocabulary in my text so that it corresponds to C1 level without changing the

sentence structure. However, the new vocabulary should be chosen so that I can still understand them with my B2 level. Make sure that the meaning of the text is retained and that there are no grammatical errors. Focus on accuracy and clarity. Provide a list of the errors and changes after the corrected text."

These findings align with prior research emphasising the importance of structured input in optimising AI-assisted learning experiences (Huang, 2023, Nazari & Saadi, 2024). Additionally, the significant increase in role specification and audience awareness suggests that students not only refined their instructions but also began considering the communicative context of their AI-generated responses, an essential skill in academic and professional writing.

For Research Question 2, although teacher-generated prompts led to slight increases in students' perceived usefulness of ChatGPT for vocabulary and grammar improvement, these differences were not statistically significant. The small effect sizes and confidence intervals including zero indicate that the impact of structured prompts was minimal. However, the significant correlations suggest that students consistently viewed ChatGPT as a valuable tool for language improvement, regardless of prompt structure. These findings indicate that while structured prompts may slightly enhance engagement, students already benefited from ChatGPT's feedback even when using self-generated prompts. Future studies could explore whether more advanced scaffolding techniques, such as iterative feedback or adaptive AI-generated prompts, yield greater benefits in perceived usefulness.

The findings for Research Question 3 suggest that explicit instruction in prompt engineering significantly improved student confidence in generating effective ChatGPT prompts. The small and non-significant difference between Survey 1 (self-generated prompts) and Survey 2 (teacher-provided prompts) ($p = .617$, $d = -0.13$) suggests that merely using a teacher-generated prompt did not enhance confidence. However, the large effect sizes and statistically significant differences observed when comparing Survey 1 vs. Survey 3 ($p < .001$, $d = -1.95$) and Survey 2 vs. Survey 3 ($p = .003$, $d = -2.15$) indicate that explicit instruction in prompt engineering was highly effective in improving student confidence. These results demonstrate the value in explicit modelling and scaffolded instruction to facilitate skill acquisition and self-efficacy as expounded by cognitive apprenticeship theory (Collins et al., 1991). While teacher-provided prompts alone were insufficient, structured instruction using a framework (Survey 3) led to substantial increases in confidence. This finding underscores the importance of active learning and structured guidance over passive exposure to AI-generated prompts.

These results reinforce the importance of structured AI instruction in education. Simply providing students with pre-written prompts is not enough to enhance engagement or confidence in using AI effectively. Instead, explicit instruction in prompt engineering frameworks—such as the Nazari framework—can significantly improve students' ability to engage meaningfully with AI tools. Educators integrating AI-based writing tools in EFL classrooms or other writing-intensive courses should consider explicitly teaching students how to construct structured prompts rather than simply providing effective prompts.

4.1. Implications for AI-Assisted Learning

1. **Scaffolded Prompt Instruction is Essential**: Without instruction, students struggle to structure AI prompts effectively, leading to suboptimal engagement with ChatGPT.
2. **Nazari and Saadi Framework Enhances AI Communication**: By incorporating structured components, students maximize AI utility, improving learning outcomes in writing and vocabulary acquisition.
3. **Potential for AI in EFL Education**: Given the improvement in student prompts, structured AI usage could complement traditional language instruction by enhancing writing skills and critical thinking.

5. Limitations and Future Research

Despite these promising results, the study has certain limitations. The sample size was relatively small, and for Survey 3 it was even smaller due to missing data from the business students. These factors certainly limit the generalisability of the findings to a broader population of EFL learners. Additionally, the study focused on the immediate effects of instruction and did not assess the long-term retention of prompt engineering skills.

Future research could address these gaps by conducting longitudinal studies to investigate whether students retain structured prompt-writing skills over time and whether continued practice enhances proficiency. Comparative studies could also be beneficial, particularly in evaluating the Nazari and Saadi framework against alternative prompting strategies to determine the most effective approaches for AI engagement. Furthermore, research could explore the role of peer collaboration in AI prompting, examining how collaborative prompt generation influences learning outcomes, student engagement, and confidence in using AI tools. These future directions would contribute to a more comprehensive understanding of effective instructional approaches for developing prompt engineering skills in EFL contexts.

6. Conclusion

This study underscores the critical role of explicit instruction in AI prompt engineering, demonstrating a significant improvement in students' ability to craft effective ChatGPT prompts. Based on the lacklustre response to teacher-generated prompts, i.e., where confidence levels were not improved, it seems students feel more invested in their own, self-generated prompts. The findings suggest that structured guidance enhances AI-assisted learning, particularly in EFL education. Having developed such skills while at university, students offer future employers what is increasingly going to be required as standard in many industries: AI competence and digital literacy skills. Future research should explore long-term impacts, cross-framework comparisons, and iterative feedback mechanisms to optimize AI integration in academic settings. By equipping students with structured prompt-writing skills, educators can foster more meaningful AI interactions, ultimately enhancing writing proficiency and critical thinking in language learning contexts.

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Data supporting the conclusions of this study can be made available upon reasonable request from the corresponding author.

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Gen AI usage

In the preparation of this manuscript, the authors utilised ChatGPT to enhance readability, coherence, and adherence to academic writing conventions. Specifically, ChatGPT provided recommendations for refining vocabulary, improving sentence structure, and strengthening transitions between ideas. The tool was also employed to align the manuscript with APA 7th edition formatting guidelines. However, all references were independently sourced, verified, and analysed by the authors to maintain academic rigor and integrity. Researchers attempted to use ChatGPT to help code data, but found that the AI was not effectively able to code based upon a researcher framework.

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Mapping Hungarian Secondary School Students' Digital and AI Literacy with a Focus on Language Learning

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Abstract

As digital technologies and artificial intelligence (AI) have been transforming education, students need to acquire the competencies necessary to use these tools critically and ethically. Although digital literacy has been extensively explored in higher education contexts, research on secondary school students remains limited. This study addresses this gap by researching Hungarian secondary school students' digital and AI literacy using the Digital Intelligence Framework (DQ Institute, 2019) and the Québec Digital Competency Framework (Conseil supérieur de l'éducation, 2019). An online questionnaire ($N = 130$) assessed six competency dimensions, including ethical AI use, critical evaluation, and communication. Quantitative data analysis was conducted using SPSS, through descriptive statistics, ANOVA, correlation, and regression. This study reveals that Hungarian secondary school students show varying levels of digital and AI literacy, with public school students demonstrating significantly higher awareness of AI ethics and digital responsibility compared to those in private or international schools. Students with advanced self-assessed English proficiency scored higher in digital communication and empathy, suggesting a link between language skills and digital competence. Additionally, lifelong learning attitudes strongly predicted confidence in using AI tools. These findings highlight the importance of tailored, ethically focused, and skill-integrated AI literacy education to prepare secondary students for digital environments. By applying the internationally recognised frameworks, this study informs educational policy and practice, advocating for targeted AI literacy and language learning curricula to foster equitable, ethically grounded digital skills in Hungarian secondary schools.

Keywords: digital literacy, AI literacy, digital competencies, language learning, secondary education

1. Introduction

The rapid integration of digital technologies and artificial intelligence (AI) into everyday life has transformed how students access, process, and produce information. In education, particularly in secondary schools, this transformation presents both opportunities and challenges. As students increasingly engage with generative AI tools and digital learning environments, there is a need to reframe our understanding of literacy to embrace not only

access and technical proficiency but also critical engagement, ethical responsibility, and creative use of digital tools (Marín & Castañeda, 2023; Naamati-Schneider & Alt, 2024). Within this context, digital literacy, which includes skills for using and critically evaluating digital tools and information, and AI literacy, which involves understanding, applying, and ethically navigating AI technologies, are evolving as essential competencies, particularly in language learning, where digital technologies influence communication, interaction, and content creation (Quraishi et al., 2024; Zhang & Zhang, 2024).

Recent research indicates that traditional literacy models are inadequate to address the complexities of digital involvement in the AI era (Tinmaz et al., 2022). Consequently, new frameworks have been proposed to guide curriculum design. Among these, the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework developed in Québec (Conseil supérieur de l'éducation, 2019) offer comprehensive, multidimensional models that include technical, cognitive, socio-emotional, and ethical competencies. These frameworks reject narrow, skill-based approaches and instead promote critical thinking, adaptability, and responsible innovation as core 21st-century skills.

Despite growing attention to these topics, most existing research has focused on university students or adults, with very limited empirical data available on the digital and AI literacy of secondary school learners. Moreover, there is a lack of studies focusing on comprehensive, multi-dimensional frameworks that reflect the complex nature of digital engagement.

This study aims to address these gaps by examining the digital and AI literacy of Hungarian secondary school students. By analysing questionnaire responses from a diverse student sample, the research investigates the extent to which learners demonstrate ethical AI use, digital responsibility, critical information evaluation, and communication skills. It also explores differences based on school type and self-assessed language proficiency.

2. Literature Review

Digital and AI tools have already been integrated into education, transforming how students access information, communicate, and engage in learning. As a result, digital and AI literacy have become essential competencies for students for navigating modern learning environments and preparing for future academic and professional challenges. However, varying definitions and conceptual models have led to fragmented research, with limited studies with findings based on multidimensional frameworks that represent the full complexity of these competencies. Traditional definitions of digital literacy once focused on basic technical skills, whereas contemporary interpretations have expanded to encompass critical thinking, ethical awareness, information evaluation, and responsible digital participation. Notably, AI literacy among secondary school students remains underexplored, without empirical evidence on how they engage with AI technologies in educational contexts.

This literature review aims to critically synthesize existing research on digital and AI literacy of students, with the goal of connecting findings with two robust and internationally recognised frameworks, the DQ Institute framework for digital citizenship (DQ Institute, 2019) and the Québec Digital Competency Framework (Conseil supérieur de l'éducation, 2019). These frameworks offer comprehensive models that include not only technical skills but also ethical use, critical thinking, digital communication, and personal empowerment. The review will

present an overview of these frameworks, summarise research on student's digital and AI literacy, compare themes across studies, and identify conceptual and methodological gaps.

2.1. Frameworks of Digital Literacy

2.1.1. Limitations of Well-known Frameworks

Internationally recognised frameworks address digital and AI competence from different angles, but many of them are educator- or policy-facing rather than student-centred for secondary contexts. DigCompEdu defines 22 educator competences in six areas (Professional Engagement, Digital Resources, Assessment, Teaching and Learning, Empowering Learners, Facilitating Learners' Digital Competence) with an A1-C2 progression, offering a strong map for teacher practice rather than students' literacy profiles (Redecker, 2017).

Recent UNESCO AI competency frameworks specify AI-era competences for students (12 competences across human-centred mindset, ethics, AI techniques, and system design; staged at Understand/Apply/Create) and for teachers (15 competences spanning ethics, AI foundations, AI pedagogy, and professional learning), but they are AI-specific, broad, and primarily intended as global policy references (UNESCO, 2024a; 2024b). The Common Framework of Reference for Intercultural Digital Literacies (CFRIDiL) is data-driven and multimodal, integrating Multimodal Orchestration, Digital Technologies, Intercultural Communication, and Transversal Skills, yet it was developed in higher-education settings and targets intercultural, multimodal assessment more than school-level digital citizenship (Sindoni et al., 2021). The Global Framework for Educational Competence in the Digital Age reframes competence through educator identities (Citizen/Teacher/Connector) and roles (Design, Facilitation, Assessment, Leadership, Collaboration, Mentoring), again centring teacher development (Sáez et al., 2020).

These frameworks offer valuable but partial focus: several are educator-centred and policy-oriented, others are AI-specific or rooted in higher-education intercultural assessment, and few provide operational guidance for investigating secondary students' digital and AI literacies within language-learning contexts. They also tend to leave open issues of contextualisation (e.g., school type, linguistic proficiency), measurement (student-level indicators, invariance across groups), and the integration of ethics into everyday classroom practice. This posits the need for a more comprehensive, context-sensitive framework that unifies cognitive, ethical, socio-emotional, and creative dimensions of digital and AI literacy, and can be practically implemented and assessed in secondary language education.

2.1.2. The Need for a Reviewed, Comprehensive Framework

The increasing integration of digital technologies in education has prompted scholars and policymakers to propose a wide range of frameworks to define and foster digital literacy. However, the diversity of these models has also led to conceptual fragmentation and inconsistencies in how digital literacy is understood and operationalized. In a recent meta-synthesis, Marín and Castañeda (2023) analysed reviews of digital literacy frameworks (*N=33*), with the emphasis on strategies to foster digital literacy skills in education. Their main findings emphasize that digital literacy is not a singular or static skill, but a combination of practices, including technological, intellectual, attitudinal, and ethical dimensions, and it has evolved into critical, reflective, and participatory citizenship frameworks. Despite these advances, the authors point out that many widely adopted international frameworks fail to address the

multidimensional and context-sensitive nature of digital literacy. They note a tendency to conceptualize digital literacy as an individual competence, thereby neglecting its inherently collective and socio-cultural dimensions. This critique is reaffirmed by Tinmaz et al. (2022), who conducted a systematic review of academic papers (*N=43*) and similarly called for the development of more context-sensitive and regularly updated frameworks, and they suggested the use of digital literacy strategies to support broader goals such as equity, health, and workforce readiness.

In response to these identified gaps, Hammoda and Foli (2024) proposed a conceptual model designed to be learner-centred and adaptable to contemporary digital realities, the Digital Competence Framework for Learners. Their framework includes seven competency areas, two of which have never been addressed as separate competencies: Devices and Software Operations and Career-related Competencies. The rationale behind the former area is that mobile learning is growing, and distinct skills are required to operate each platform effectively, while the latter was added to address employability and job-readiness, as a response to the demand for students to build career identity in digital spaces. Although this presents a promising evolution toward a more comprehensive and learner-responsive model, it is not without limitations. As a conceptual framework, it has yet to be empirically validated, and its applicability may vary across educational contexts and digital infrastructures. Its success may depend on factors such as national curricula, access to technology, and institutional support, which raises concerns about scalability and equity.

The reviews and proposals explain a clear need for flexible, empirically grounded, and socially responsive frameworks that can advance alongside emerging technologies and the changing needs of learners. The development and adoption of such frameworks should prioritize not only technical skill development but also critical engagement, ethical awareness, and social participation in digital environments.

2.1.3. The Digital Intelligence Framework

Developed by the DQ Institute (2019), the Digital Intelligence Framework offers a comprehensive, research-based model that outlines the key competencies individuals need to navigate the digital world safely, responsibly, and effectively. As one of the most holistic digital literacy frameworks currently available, it was developed as a global standard and is increasingly used in educational, policy, and organizational contexts. The framework is structured around eight interconnected areas: digital identity, use, safety, security, emotional intelligence, communication, literacy, and rights. These categories are further organised into four levels – Digital Connectivity, Digital Citizenship, Digital Creativity, and Digital Competitiveness – corresponding to an individual's developmental stage and engagement with digital technology.

The DQ Framework explicitly addresses many of the limitations identified in recent literature. It goes beyond basic digital proficiency by integrating technical skills with social, emotional, cognitive, and ethical dimensions. This corresponds closely to the calls by Marín and Castañeda (2023) and Tinmaz et al. (2022) for frameworks that move past individualistic, decontextualized definitions of digital literacy. For instance, DQ's inclusion of digital emotional intelligence and digital rights and responsibilities positions it as a framework that recognizes the collective and societal implications of digital participation.

Furthermore, the DQ Framework is designed to be flexible and adaptable across cultures and educational systems, offering implementation guides and assessment tools that can be localised. This adaptability addresses the concern raised in the literature that many frameworks lack contextual relevance and fail to evolve with the rapidly changing digital landscape (Hammoda & Foli, 2024; Marín & Castañeda, 2023; Tinmaz et al., 2022). Its emphasis on digital creativity and competitiveness also aligns with emerging needs for future-oriented skills, including AI interaction, content creation, and ethical innovation.

2.1.4. The Québec Digital Competency Framework

The Digital Competency Framework, developed by the Conseil supérieur de l'éducation (2019), represents a comprehensive, competency-based approach to supporting the effective integration of digital technologies across all levels of education, from preschool to higher education and vocational training. The framework is intended to promote lifelong learning and skill development for both students and educators. Its primary objective is to cultivate digital competency, defined as "a set of skills necessary to the confident, critical and creative use of digital technologies to achieve objectives with regard to learning, work, leisure, and inclusion or participation in society" (Conseil supérieur de l'éducation, 2019, p. 7). The framework encourages autonomy in digital tool usage and supports individuals in selecting appropriate technologies for specific tasks. In addition, it highlights the need for adaptability in response to technological advancements such as artificial intelligence.

One of the framework's key strengths lies in its future-oriented and adaptable design, addressing the very limitations highlighted in recent critiques of digital literacy models. As noted by Marín and Castañeda (2023) and Tinmaz et al. (2022), many existing frameworks lack the flexibility to remain relevant in developing technological landscapes. The Québec framework responds to this challenge by explicitly encouraging autonomy and critical evaluation in digital tool selection and use, with particular attention to emerging technologies such as artificial intelligence. Rather than prescribing a fixed skill set, it empowers learners to make context-sensitive decisions and to adopt new tools as needed.

The framework adopts a competency-based model, interpreting "competency" as the complex ability to apply internal and external resources effectively across various situations. This approach corresponds to the multidimensional perspective on digital literacy, incorporating not only technical knowledge but also cognitive flexibility, creative thinking, and ethical awareness. Moreover, it acknowledges that competencies are interrelated and non-linear, developing over time in response to individual growth, changing contexts, and new technological opportunities. Therefore, the framework is intentionally designed to be flexible and future-proof, capable of accommodating ongoing innovations in digital tools and practices. It rejects a fixed or hierarchical structure, instead promoting a cyclical process of lifelong learning.

Importantly, the Québec framework avoids a rigid hierarchical structure, which distinguishes it from many traditional digital literacy taxonomies. Instead, it embraces the fluidity and interconnectedness of digital skills and attitudes, encouraging learners and educators to integrate competencies in various combinations depending on specific tasks or environments.

This flexibility, scalability, and learner-centred orientation make the Québec framework particularly suited for guiding both pedagogical practices and empirical research. It directly supports broader educational goals, such as adaptability, equity, innovation, and critical digital

engagement, thus addressing many of the gaps identified in prior reviews of digital literacy frameworks.

2.1.5. Comparative Synthesis: Aligning the DQ and Québec Frameworks

Both the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework (Conseil supérieur de l'éducation, 2019) represent significant advances in conceptualizing digital literacy as a multidimensional, context-sensitive, and future-oriented competence. These frameworks converge in key aspects that make them particularly relevant for addressing the gaps highlighted in recent reviews of digital literacy literature (e.g., Marín & Castañeda, 2023; Tinmaz et al., 2022).

Both frameworks explicitly reject narrow, skill-based definitions of digital literacy in favour of holistic and developmental models. They incorporate cognitive, ethical, emotional, and social competencies, responding to earlier critiques that many frameworks overlook the broader social and moral dimensions of digital participation. Additionally, both emphasize critical engagement with digital tools and stress the importance of adaptability in response to evolving technologies such as artificial intelligence. Another common strength is their flexibility and scalability. Neither model proposes a fixed hierarchy of competencies; instead, they are structured to allow learners to progress at different paces and adapt their skill sets to various contexts.

Despite their shared vision, the frameworks diverge in emphasis and structure. The DQ Framework is organised around eight core areas and four progressive levels, offering a developmental arc that parallels with stages of digital engagement. In contrast, the Québec Framework adopts a competency-based model that avoids strict hierarchical progression. It is grounded in a pedagogical tradition, emphasizing lifelong learning, autonomy, and context-specific application. Although it includes many of the same dimensions as the DQ model, it focuses more on learner agency, flexibility, and the integration of digital tools into meaningful educational tasks. The DQ Framework may be stronger in addressing global policy alignment and standardized assessment. Meanwhile, the Québec Framework provides richer pedagogical scaffolding, making it particularly suitable for curriculum development and integration across formal education systems.

Together, these frameworks offer a complementary perspective on digital and AI literacy, particularly in student populations. Mapping student competencies against both models allow for a more nuanced analysis of how learners develop digital and AI literacy across cognitive, technical, and ethical domains. Using both frameworks together can help researchers and educators bridge the gap between high-level visions and everyday pedagogical realities, fostering approaches that are both theoretically grounded and practically adaptable.

2.2. Students' Digital and AI Literacy

There has been substantial research on higher education students' digital literacy skills. In a mixed-method study involving 130 university students and 20 lecturers, Quraishi et al. (2024) found that the integration of digital literacy skills into higher education significantly improves

students' academic learning outcomes. However, they found that usage trends show strong dependence on productivity and e-learning tools, but limited adoption of emerging technologies like AI. Their research supported the study by Ervianti et al. (2023), whose findings also

demonstrated a strong correlation between digital literacy and academic achievement. Their quantitative study indicated that over 76% of the variation in learning outcomes could be explained by digital literacy levels (*N*=49). Both studies emphasise the importance of redesigning curricula with the integration of digital literacy to foster the skills that students will need to thrive in their future life, offering ongoing training and support for students to develop critical digital competencies. This implication is also suggested by Marín and Castañeda (2023), who argue that it must be integrated across subjects and disciplines, and treated as a collective educational goal.

The evolving role of AI in education further complicates this landscape. A quantitative study by Zhang and Zhang (2024) investigates the opportunities, challenges, and consequences of integrating artificial intelligence (AI) into teacher education (*N*=202). The study found that AI streamlines administrative tasks like grading and attendance, AI tools enable personalized, adaptive learning for students with diverse needs, and that AI boosts teachers' digital competence. Although their findings are positive, they identify some challenges, such as inequitable access to AI tools, and the need for ongoing AI-focused professional development.

Adding a critical dimension, Naamati-Schneider and Alt (2024) conducted a mixed-method study (*N*=223; 441 observations) exploring how AI is reshaping digital literacy itself. Their results show a shift from basic skills toward evaluation, understanding information bias, effective prompting and critical AI use. The authors posit the need for a balanced hybrid model combining AI use with traditional digital literacy skill-building.

Dringó-Horváth et al. (2025) present a pioneering large-scale study on Hungarian university teachers' digital competence and AI literacy, drawing from a weighted sample (*N*=1103) to explore how these competencies interrelate and are moderated by factors such as gender, age, teaching experience, and field of study. The research demonstrates a positive correlation between digital skills and AI proficiency, endorsing tailored educational strategies that account for demographic variances, such as stronger links among male educators in technical fields, while contributing empirical insights to global frameworks like DigCompEdu and UNESCO's AI Competency Framework. However, a notable limitation lies in its focus on higher education instructors, interpreting the findings less generalizable to secondary school contexts where students, rather than teachers, are the primary users navigating AI tools.

Folmeg et al. (2024) explore Hungarian higher education students' perceptions of ChatGPT to identify components of AI literacy as a critical 21st-century skill. Through qualitative analysis of responses from 69 students across six Hungarian universities, the study reveals that students primarily use ChatGPT for tasks like brainstorming, text creation, and translation, while highlighting challenges such as generic responses and outdated information. The findings underscore the need for systematic AI literacy integration in academic curricula and emphasising critical evaluation and ethical use. However, the study's focus is limited to higher education students, predominantly in business-related fields, which restricts its applicability to secondary school students.

Szabó et al. (2023) explore the real-time experiences of Hungarian youth (aged 15–29) with digital education during the COVID-19 pandemic, utilizing a social listening methodology to analyse online discourse and focus group data. The study reveals a dual perception: positive sentiments tied to easier performance evaluations (e.g., simpler exams) contrast with negative

views on learning effectiveness, eroded social relationships, and challenges with pandemic regulations like mask-wearing. This research offers valuable insights into how the pandemic reshaped educational experiences, highlighting persistent shifts toward online interactions and exposing infrastructural and social inequalities, particularly in Hungary's struggling education system. However, its focus spans both secondary and higher education students, with significant emphasis on university experiences, limiting its specificity for secondary school students.

The reviewed studies emphasise the complexity of digital and AI literacy in educational contexts. The agreement among researchers calls for the need for curricula that embed digital competencies across subjects and promote lifelong learning strategies.

2.3. Identified Gaps and Research Questions

As stated above, a number of studies have explored the digital literacy skills of students, particularly within the context of higher education (Ervianti et al., 2023; Naamati-Schneider & Alt, 2024; Quraishi et al., 2024; Zhang & Zhang, 2024). Consequently, a notable gap remains in understanding the digital and AI literacy skills of secondary school students, a group equally impacted by the increasing integration of digital technologies and AI tools in education.

Moreover, these studies have broadly examined digital literacy skills, often overlooking their application in specific educational domains. One such under-explored area is language learning, where the use of digital and AI tools is escalating. Despite the growing availability of AI-powered language learning applications, little empirical research has examined how secondary students engage with these tools or how they develop and apply relevant digital and AI literacies in this context.

These two key gaps form the basis of the present study, driven by the following research questions:

RQ1: To what extent do Hungarian secondary school students demonstrate awareness of ethical and responsible AI use?

RQ2: To what extent do Hungarian secondary school students engage in verifying online information and questioning digital sources?

RQ3: Do students from different Hungarian secondary school types differ significantly in AI ethics and digital responsibility?

RQ4: To what extent does self-assessed English language level influence digital communication and empathy skills?

This study addresses these questions to provide insights into the digital and AI literacy of Hungarian secondary school students, with a focus on their application in language learning contexts. The findings aim to guide the development of curricula that integrate ethical and critical digital competencies across diverse educational settings.

3. Methods

This study employed a quantitative survey design to investigate the digital and AI literacy skills of secondary school students in Hungary in connection with their language learning practices. The research was guided by two comprehensive frameworks, the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework (Conseil supérieur de l'éducation, 2019).

3.1. Instrument

Data were collected through an online questionnaire specifically designed for this study, with items designed based on the key concepts of the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework (Conseil supérieur de l'éducation, 2019), assessing competencies such as ethical AI use, critical evaluation, digital communication, and adaptability. The questionnaire included 49 Likert-scale items, 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree), grouped into six theoretical constructs: ethical use and digital responsibility, critical evaluation and information literacy, personalisation prompting and content adaptation, communication and empathy, confidence in AI use, and lifelong learning and adaptability. These constructs were developed to reflect the frameworks' emphasis on technical, cognitive, ethical, and socio-emotional dimensions of digital and AI literacy, particularly in the context of language learning. Below are descriptions of the constructs and sample items:

- Ethical Use and Digital Responsibility: Measures awareness of ethical AI practices and responsible digital behaviour, addressing RQ1 (e.g., "I understand the ethical implications of using AI-generated content during school assignments"; "I always properly cite the sources I use"; "I respect copyright when using AI-generated materials").
- Critical Evaluation and Information Literacy: Assesses ability to verify online information and question digital sources, to answer RQ2 (e.g., "When I read English-language online articles, I always check if the information is reliable"; "When I read English language social media posts, I always check their authenticity"; "I recognize if content generated by AI contains misleading information").
- Personalisation Prompting and Content Adaptation: Evaluates skills in customizing AI tools for learning needs (e.g., "I confidently compare different sources before using them in my schoolwork"; "I use various AI applications confidently to improve my English language learning").
- Communication and Empathy: Examines effective and empathetic digital communication, linked to RQ4 (e.g., "I know how to adjust my tone in online English messages"; "I confidently express my opinion in English in online discussions").
- Confidence in AI Use: Measures self-assessed confidence in using AI tools effectively (e.g., "I am able to solve minor technical problems while using AI tools").
- Lifelong Learning and Adaptability: Evaluates attitudes toward continuous learning and adapting to new digital tools (e.g., "I effectively manage my time when I use AI tools for studying").

Demographic data such as age, gender, grade level, school type, and self-assessed English proficiency (beginner, intermediate, advanced) were also collected. These data enable

comparisons across student groups, such as differences in digital and AI literacy by school type or English proficiency levels.

3.2. Participants and Data Collection

The online questionnaire was distributed using Google Forms and was accessible for a period of three weeks in April 2025. Links to the survey were sent via email or shared by teachers in participating schools. Informed consent was obtained from all participants and their parents via an introductory section in the questionnaire. The study was designed to ensure anonymity and confidentiality throughout, with no personal data collected. Ethical approval was obtained from the relevant university body prior to the commencement of data collection.

One school refused to participate due to scheduling constraints. A total of 131 secondary school students participated in the study. One response was excluded due to incomplete data, resulting in a final sample of 130 responses for analysis. Participants were recruited from private, international, and public secondary schools across Hungary, including institutions in the capital city of Budapest and rural areas, to ensure a diverse representation of educational contexts, through institutional contacts and teacher networks. The sample included students aged between 14 and 19 (*M=16,19, SD=1,24*) from multiple year levels (9-12 grade). Participation was voluntary and anonymous.

3.3. Data Analysis

All statistical analyses were conducted using SPSS. After cleaning and excluding incomplete responses, descriptive statistics were generated for each construct, and a composite score was computed as the mean of its items, with higher scores indicating greater competence in that domain. Internal consistency reliability for each construct was assessed using Cronbach's alpha, with all values exceeding the acceptable threshold of $\alpha > .70$. Independent samples t-tests, one-way ANOVA with post hoc tests, one-way MANOVA, and Pearson correlation analyses were conducted to explore relationships between variables. Additionally, multiple linear regression was used to identify predictors of key outcomes, such as confidence in AI use.

4. Results

4.1. Scale Reliability and Validity

Internal consistency was acceptable to excellent across the six scales ($\alpha = .717 - .874$ see Table 1). Item diagnostics indicated that no removals were necessary; in a few cases, dropping a borderline item would have increased α trivially (e.g., AI Ethics to .804).

TABLE 1. SCALE RELIABILITY SUMMARY

Construct (5-point Likert)	Items (n)	Valid N	Cronbach's α
AI Ethics & Digital Responsibility	10	126	.793
Critical Evaluation & Information Literacy	8	128	.810
AI Personalisation, Prompting & Content Adaptation	5	126	.720
Communication & Empathy in Digital Spaces	7	125	.742
Lifelong Learning & Adaptability	8	123	.874
General AI Use Confidence	5	126	.717

Source: author's analysis based on questionnaire data (2025), SPSS output

Note. All scales were computed as the mean of their items (1 = strongly disagree, 5 = strongly agree); higher scores reflect greater competence. Cronbach's α values were calculated after item screening (corrected item–total r ≥ .30).

4.2. RQ1: To what extent do Hungarian secondary school students demonstrate awareness of ethical and responsible AI use?

Descriptive statistics for the AI Ethics & Digital Responsibility scale are reported in Table 2 (5-point scale; higher = greater ethical awareness). These values provide the overall level and spread of students' self-reported ethical engagement with AI.

TABLE 2. SIGNIFICANT ANOVA RESULTS FOR AI ETHICS & DIGITAL RESPONSIBILITY

Construct	Independent Variable	F(df1, df2)	*p*-value	η^2	Post hoc (significant)
AI Ethics & Digital Responsibility	School Type	5.09 (2, 127)	.008*	.074	Public school > Private school

Source: author's analysis based on questionnaire data (2025), SPSS output

Note. $p < .05$ (*). Values represent one-way ANOVA results. η^2 indicates effect size (partial eta squared).

Ethical awareness showed a strong, positive correlation with Critical Evaluation & Information Literacy, $r(130) = .763$, $p < .001$, indicating that students who report stronger source-checking and evaluative habits also report more responsible AI use. A multiple regression examined whether critical evaluation and AI personalisation/prompting predict ethical awareness. The model was significant, $F(2, 127) = 91.83$, $p < .001$, explaining 59.1% of the variance ($R^2 = .591$, adj. $R^2 = .585$). Critical evaluation was a unique, strong predictor ($\beta = .703$, $p < .001$), whereas AI personalisation showed a non-significant trend ($\beta = .115$, $p = .086$) (see Table 3).

TABLE 3. REGRESSION PREDICTING CRITICAL EVALUATION & AI PERSONALISATION

Predictor	B	SE B	β	*t*	*p*
(Constant)	1.108	0.224	—	4.95	<.001
Critical Score	0.650	0.061	.703	10.58	<.001
Personalisation Score	0.100	0.058	.115	1.73	.086

Source: author's analysis based on questionnaire data (2025), SPSS output

An independent-samples t-test found no gender difference on the AI Ethics & Digital Responsibility scale (see Table 4). (School-type differences in ethics are reported under RQ3.)

TABLE 4. T-TEST RESULTS FOR AI ETHICS AND DIGITAL RESPONSIBILITY

Construct	*t*(df)	*p*-value	Cohen's *d*	Significant?
AI Ethics & Digital Responsibility	$t(89) = 0.28$	.784	0.06	No

Source: author's analysis based on questionnaire data (2025), SPSS output

4.3. RQ2: To what extent do Hungarian secondary school students engage in verifying online information and questioning digital sources?

An independent-samples *t*-test showed a significant gender difference: males (M = 3.92, SD = 0.59) scored higher than females (M = 3.67, SD = 0.70) on critical evaluation and information literacy, $t(85) = 2.07$, $p = .042$, Cohen's $d = .38$ (Table 5). No other gender differences for this construct were observed.

TABLE 5. T-TEST RESULTS FOR CRITICAL EVALUATION AND INFORMATION LITERACY

Construct	*t*(df)	*p*-value	Cohen's *d*	Significant?
Critical Evaluation & Information Literacy	$t(85) = 2.07$	.042*	0.38	Yes

Source: author's analysis based on questionnaire data (2025), SPSS output

Note. $p < .05$ (*). Values represent two-tailed significance. Cohen's *d* represents effect size.

Critical evaluation displayed robust, positive associations with related competencies (Table 6): it correlated strongly with AI Ethics & Digital Responsibility ($r = .763$, $p < .001$) and Communication & Empathy in Digital Spaces ($r = .674$, $p < .001$), and moderately with General AI Use Confidence ($r = .413$, $p < .001$) and Lifelong Learning & Adaptability ($r = .346$, $p < .001$). Taken together, these links suggest that students who more consistently verify information and question sources also tend to report more ethical AI practices, richer digital communication, greater confidence using AI, and stronger learner agency.

TABLE 6. CORRELATION RESULTS (N=130)

Variable 1	Variable 2	*r*	*p*	Interpretation
Critical thinking	AI ethics	.763	< .001	Strong positive relationship
Critical thinking	Lifelong learning	.346	< .001	Moderate positive relationship
Critical thinking	AI confidence	.413	< .001	Moderate positive relationship
Communication	Critical thinking	.674	< .001	Strong positive relationship

Source: author's analysis based on questionnaire data (2025), SPSS output

4.4. RQ3: Do students from different Hungarian secondary school types differ significantly in AI ethics and digital responsibility?

A one-way ANOVA showed a significant effect of school type on AI Ethics & Digital Responsibility, $F(2, 127) = 5.09$, $p = .008$, $\eta^2 = .074$ (medium effect). Post hoc comparisons indicated that public-school students ($M = 4.09$, $SD = 0.58$) scored significantly higher than private-school students ($M = 3.74$, $SD = 0.63$); differences involving other school types were not statistically significant (Table 7). These results suggest that institutional context is associated with students' self-reported ethical awareness and responsible AI use.

TABLE 7. SIGNIFICANT ANOVA RESULTS FOR AI ETHICS AND DIGITAL RESPONSIBILITY

Construct	Independent Variable	F(df1, df2)	*p*-value	η^2	Post hoc (significant)
AI Ethics & Digital Responsibility	School Type	5.09 (2, 127)	.008*	.074	Public school > Private school

Source: author's analysis based on questionnaire data (2025), SPSS output

Note. $p < .05$ (*). Values represent one-way ANOVA results. η^2 indicates effect size (partial eta squared).

To examine whether school type relates to a broader pattern across the six literacy constructs, a one-way MANOVA was conducted. The multivariate effect was significant (Pillai's Trace = .173, $F(12, 246) = 1.94$, $p = .031$; Wilks' $\Lambda = .831$, $F(12, 244) = 1.97$, $p = .027$; Hotelling's Trace = .200, $F(12, 242) = 2.01$, $p = .024$; Roy's Largest Root = .177, $F(6, 123) = 3.63$, $p = .002$), indicating that school type differentiates the combined profile of digital/AI literacy competencies (Table 8).

TABLE 8. MANOVA TEST RESULTS FOR SCHOOL TYPE

Test	F	Hypothesis df	Error df	*p*-value	Interpretation
Pillai's Trace	1.935	12	246	.031	Significant
Wilks' Lambda	1.974	12	244	.027	Significant
Hotelling's Trace	2.013	12	242	.024	Significant
Roy's Largest Root	3.630	6	123	.002	Highly significant

Source: author's analysis based on questionnaire data (2025), SPSS output

4.5. RQ4: To what extent does self-assessed English language level influence digital communication and empathy skills?

A one-way ANOVA showed a significant effect of English proficiency on Communication & Empathy, $F(2, 126) = 3.80$, $p = .025$, $\eta^2 = .057$. Post-hoc comparisons indicated that advanced students (M = 3.97, SD = 0.63) scored significantly higher than beginner students (M = 3.50, SD = 0.75); other pairwise differences were not significant (Table 9).

TABLE 9. SIGNIFICANT ANOVA RESULTS

Construct	Independent Variable	F(df1, df2)	*p*-value	η^2	Post hoc (significant)
Communication & Empathy in Digital Spaces	Language Level	3.80 (2, 126)	.025*	.057	Advanced level > Beginner level

Source: author's analysis based on questionnaire data (2025), SPSS output

Note. $p < .05$ (*). Values represent one-way ANOVA results. η^2 indicates effect size (partial eta squared).

For context, an independent-samples *t*-test showed females outperformed males on this construct, $t(92.44) = 3.29$, $p = .001$, $d = .65$ (Table 10); this effect is reported here to situate the proficiency finding within observed subgroup variation.

TABLE 10. T-TEST RESULTS FOR COMMUNICATION AND EMPATHY

Construct	*t*(df)	*p*-value	Cohen's *d*	Significant?
Communication & Empathy in Digital Spaces	$t(92.44) = 3.29$	.001**	0.65	Yes

Source: author's analysis based on questionnaire data (2025), SPSS output

Note. $p < .01$ (**). Values represent two-tailed significance. Cohen's *d* represents effect size.

Communication & Empathy correlated strongly with Critical Evaluation ($r = .674$, $p < .001$) and AI Ethics & Responsibility ($r = .629$, $p < .001$), and moderately with AI Confidence ($r = .334$, $p < .001$) and AI Personalisation ($r = .434$, $p < .001$) (Table 11), indicating that higher communicative competence co-occurs with stronger evaluative and ethical engagement online.

TABLE 11. CORRELATION RESULTS (N=130)

Variable 1	Variable 2	*r*	*p*	Interpretation
Communication	Critical thinking	.674	< .001	Strong positive relationship
Communication	AI ethics	.629	< .001	Strong positive relationship
Communication	AI confidence	.334	< .001	Moderate positive relationship
Personalisation	Communication	.434	< .001	Moderate positive relationship

Source: author's analysis based on questionnaire data (2025), SPSS output

4.6. Supplementary Analysis

4.6.1. Predictors of AI Use Confidence

A linear regression was conducted to examine whether lifelong learning, communication, and critical digital literacy significantly predict students' confidence in using AI tools (see Table 12.). The overall model was statistically significant, $F(3, 126) = 62.12$, $p < .001$, and explained approximately 59.7% of the variance in confidence scores ($R^2 = .597$, Adjusted $R^2 = .587$). Only lifelong learning was a significant predictor ($p < .001$), suggesting that higher lifelong learning competencies are strongly associated with increased confidence in AI use.

TABLE 12. REGRESSION PREDICTING CONFIDENCE

Predictor	B	SE B	β	*t*	*p*
(Constant)	0.386	0.300	—	1.28	.201
Critical Score	0.153	0.094	.129	1.63	.105
Communication Score	0.080	0.092	.067	0.87	.387
Lifelong Learning Score	0.657	0.057	.692	11.46	<.001

Source: author's analysis based on questionnaire data (2025), SPSS output

4.6.2. Predictors of AI Personalisation, Prompting & Content Adaptation

A model was tested to predict the ability to personalize AI tools from students' lifelong learning and confidence scores (see Table 13). The model was statistically significant, $F(2, 127) = 77.57$, $p < .001$, explaining 55.0% of the variance ($R^2 = .550$, Adjusted $R^2 = .543$). Both predictors were significant ($p < .001$), indicating that students who are confident and engage in lifelong learning are more likely to personalize AI tools effectively for their learning needs.

TABLE 13. REGRESSION PREDICTING AI PERSONALISATION, PROMPTING & CONTENT ADAPTATION

Predictor	B	SE B	β	*t*	*p*
(Constant)	1.366	0.202	—	6.75	<.001
Confidence Score	0.370	0.081	.415	4.58	<.001
Lifelong Learning Score	0.320	0.077	.377	4.16	<.001

Source: author's analysis based on questionnaire data (2025), SPSS output

5. Discussion

5.1. Interpretation of the Results

The findings of this study offer new insights into secondary school students' digital and AI literacy within the Hungarian educational context, guided by the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework (Conseil supérieur de l'éducation, 2019). These results address the identified gaps in the literature, particularly regarding how digital and AI literacy are established at the secondary level and within language learning contexts. Overall, the pattern of results supports a holistic view of digital and AI literacy as a combination of ethical,

evaluative, communicative, and adaptive capacities rather than a set of isolated skills. The findings also emphasise the importance of context (school type) and learner characteristics in developing students' literacy skills. For language learning, this calls for the integration of digital and AI aims directly into language outcomes (reading-to-write, interaction, mediation), using tasks that blend language work with evaluation, creation, and reflection. Teachers can make these competencies visible in lesson objectives and assess them formatively via short reflections, prompt-revision logs, and peer feedback notes.

Ethical and responsible AI use (RQ1) is tightly linked to critical evaluation. Ethical awareness correlated strongly with critical evaluation and was uniquely predicted by it in regression models, explaining a considerable distribution of variance. This supports both frameworks, which position critical judgement and responsible participation as core to digital citizenship. The relation suggests that ethics education is likely to be most effective when embedded in tasks that require students to question sources, identify bias, and examine AI outputs, rather than taught as stand-alone rules.

With regard to verifying online information and questioning digital sources, results suggest a relatively high level of critical awareness among students. Beyond its association with ethics, critical evaluation related positively to communication, confidence, and lifelong learning. This pattern is consistent with the frameworks' emphasis on interdependence among competencies: students who regularly check credibility also communicate with greater sensitivity online, feel more capable with AI, and approach new tools with a growth orientation. The gender difference observed for critical evaluation and for communication/empathy indicates meaningful variability worth monitoring in classroom practice and future research.

The results confirm that institutional context matters (RQ3). Public-school students reported higher AI ethics and responsibility than peers in private schools, and MANOVA showed a multivariate school-type effect. These differences may reflect curricular emphasis, assessment practices, or school-wide norms around technology use. The results strengthen the case for whole-school approaches that integrate ethics, evaluation, and creative digital practice across subjects, not only within ICT lessons.

Language proficiency is associated with communicative–empathetic competence (RQ4). Students with higher self-assessed English proficiency scored higher on digital communication and empathy, and this construct, in turn, correlated with ethics, critical evaluation, confidence, and personalisation. In a language-learning context, this finding suggests an upright cycle: broader access to English-language digital spaces may support richer communicative repertoires and intercultural perspectives, which both frameworks treat as foundational to responsible, participatory digital citizenship.

A developmental sequence emerges from the supplementary models. Lifelong learning/adaptability was the dominant predictor of AI confidence; together, lifelong learning and confidence predicted AI personalisation. It offers a practical design logic for curricula: develop adaptive learning habits, scaffold confident tool use, and then turn that confidence into creative, ethically informed production.

Overall, the findings support a holistic view of digital and AI literacy as a combination of cognitive, ethical, emotional, and communicative skills, in line with both the Digital Intelligence Framework and the Digital Competency Framework. Importantly, the study confirms that demographic and contextual variables, particularly language proficiency and

school environment, influence how these skills are developed and applied. These insights call for personalised pedagogical strategies that reflect the realities of students' digital lives while promoting critical engagement and ethical AI use.

5.2. Limitations

The findings of this study contribute meaningfully to the understanding of secondary school students' digital and AI literacy, however, several limitations must be acknowledged. First of all, participants were recruited from Hungarian secondary schools via institutional contacts and teacher networks, which constitutes convenience sampling. Although public, private, and international schools from both Budapest and rural regions were included, data sizes were uneven across school types, limiting power for some contrasts and inflating standard errors. Future research should also include school-level covariates (e.g., ICT infrastructure, AI-related policy, assessment practices).

English proficiency was self-assessed on an ordinal scale, not verified by a standardized test. Self-ratings can be biased by self-concept or recent experiences and may also correlate with access to English-language media and instruction. Future studies should complement self-ratings with objective proficiency measures, such as teacher assessments.

The questionnaire relied entirely on self-reported perceptions, which may be influenced by social bias or limited self-awareness. Students may over- or underestimate their digital and AI competencies, particularly in areas such as ethics or critical evaluation. Objective performance-based assessments could complement these findings in future studies. Longitudinal designs would further track development and change over time, especially given the fast pace of technological advancement.

AI-use frequency or type-of-use measures (e.g., academic vs. recreational; generation vs. evaluation) were not collected; however, these data clarify the link between lifelong learning and confidence and personalisation.

5.3. Implications

The findings of this study support several practical and pedagogical implications for educators, school leaders, and policy-makers seeking to foster students' digital and AI literacy in meaningful, equitable, and future-oriented ways. Given the uneven levels of AI ethics awareness and responsible technology use, especially across different school types, curricula should more explicitly incorporate ethical reasoning, privacy, and digital responsibility. Both frameworks highlight the need for nurturing socio-emotional and ethical competencies alongside technical skills. These should not remain peripheral topics but be embedded across subjects and age groups, with authentic, real-world scenarios involving AI use.

The strong link between English proficiency and literacy dimensions, such as digital empathy and communication, highlights an opportunity to support language learning through well-selected AI applications. Teachers should implement the use of AI applications to develop learners' reflective and metacognitive skills and extend their digital agency. As students' ability to experiment with AI tools and navigate digital challenges emerged as important predictors of literacy levels, schools and teachers should promote learner autonomy and encourage exploration beyond the classroom.

Specifically for an ELT context, the findings provide practical implications. To support the results for RQ1 in language teaching, teachers can embed "evaluate-then-use" routines: e.g., students ask

an AI for a summary, highlight hallucinations, revise the prompt, and add citations in their own words. Short "source-triangulation" activities (two credible sources + one suspicious post) can precede writing tasks; paraphrase/citation checklists can be included in writing rubrics to keep ethics alive in everyday language work. For RQ2, ELT tasks that focus on viewpoint and audience, e.g., replying to a forum post with evidence, or converting a fact-checked outline into a persuasive email, can turn evaluation into discussion practice. Teachers can differentiate supports (credibility checklists, model language) to close gaps while advancing interactional competence. To apply the results for RQ3 in the ELT classrooms, shared AI use policies in writing assignments, common rubrics that include 'critical use of tools' and 'source integrity,' and cross-curricular projects where learners produce multimodal texts with documented prompt trails and reflection paragraphs could be taken into consideration. As a support for RQ4, ELT teachers can apply AI-mediated role-plays (e.g., customer support chats) to rehearse tone, register, and empathy; lower-proficiency learners can use sentence frames and tone aids, while advanced learners adapt style to audience. Reflection prompts ("Why did you choose this tone?" "How might it be received?") link pragmatic choice to ethical awareness.

Future research should consider an international expansion of this study to strengthen the findings. Furthermore, the incorporation of longitudinal or qualitative methodologies could enhance the generalisability of the results.

6. Conclusion

This study set out to explore Hungarian secondary school students' digital and AI literacy through two multidimensional frameworks: the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework (Conseil supérieur de l'éducation, 2019). By examining students' awareness of AI ethics, their critical engagement with digital sources, and the role of variables such as school type and self-assessed language proficiency, the research offers timely insights into the developing landscape of technology-enhanced education.

The results reveal that many students demonstrate emerging competencies in digital responsibility and information verification. Public school students reported higher awareness of ethical AI use, while higher English proficiency correlated with stronger communication and empathy skills in digital environments. These findings underscore the importance of contextual, inclusive approaches to literacy development that exceed mere technical fluency and address ethical, cognitive, and communicative dimensions.

The study's findings align with and extend prior research calling for holistic digital education frameworks and demonstrates that applying such models can clarify not only what students know, but how they think, act, and make decisions in digital contexts (Hammoda & Foli, 2024; Marín & Castañeda, 2023; Tinmaz et al., 2022). Unlike educator-focused frameworks such as DigCompEdu (Redecker, 2017), which prioritises teacher competencies, or the UNESCO AI Competency Frameworks (2024a; 2024b), which offer broad policy-oriented guidelines, the Digital Intelligence Framework (DQ Institute, 2019) and the Digital Competency Framework (Conseil supérieur de l'éducation, 2019) provide student-centred, adaptable models that effectively capture the complexities of secondary students' digital and AI literacy. Similarly, the Common Framework of Reference for Intercultural Digital Literacies (CFRIDiL) (Sindoni et al., 2021) and the Global Framework for Educational Competence in the Digital Age (Sáez et al., 2020) emphasize multimodal and intercultural dimensions but are less tailored to

secondary school contexts. By applying the chosen frameworks, this study bridges these gaps, offering a practical, learner-focused approach that integrates language learning with digital and AI literacy, addressing the contextual nuances of Hungarian secondary education.

Hungarian research further contextualizes these findings. Dringó-Horváth et al. (2025) highlight the interplay between digital competence and AI literacy among university teachers, noting demographic influences like gender and discipline, yet their focus on higher education limits direct applicability to secondary students. Folmeg et al. (2024) explore Hungarian higher education students' use of ChatGPT, emphasizing the need for critical evaluation and ethical integration in curricula, but their study's scope excludes younger learners. Szabó et al. (2023) provide insights into Hungarian youth's digital education experiences during the COVID-19 pandemic, exposing infrastructural and social inequalities that correspond to this study's findings on school-type differences.

The study also highlights the value of integrating AI literacy explicitly into the secondary school curriculum, not just as a set of skills, but as a mindset. Importantly, the implications extend directly to language learning. As AI tools increasingly support EFL instruction, students must be taught not only to use these tools, but to evaluate, question, and adapt them responsibly. As Folmeg et al. (2024) note, students' use of AI for tasks like translation and text creation requires critical evaluation to address issues like generic or outdated outputs. Language educators have an important role in equipping learners with the ability to express themselves clearly, ethically, and critically in digital environments. This calls for integrating digital and AI literacy skills into language curricula to prepare students for real-world communication that is both linguistically accurate and digitally responsible.

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Bridging Media and Information Literacy with Experiential Learning: Empowering Students for the Digital Age

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Abstract

This article explores how information and media literacy (MIL/IL), when integrated into internship experiences in higher education, can enhance students' professional development, critical awareness, and ethical engagement. Framed within an applied research project, the study investigates students' perceptions regarding the importance of information competencies and their connection to career readiness and personal growth. This study used a mixed-methods design combining IL-HUMASS surveys (pre/post), open-ended responses (Item 29), and an integrative synthesis of three programme studies (Anonymous Sources A-C). The research was conducted at a large public university in north-eastern Mexico as part of a broader pedagogical model aimed at bridging academic learning with workplace realities through experiential education. The cohorts comprised a cross-programme survey of 426 undergraduates; a pre-/post workshop with communication students, and a diagnostic study with more than 500 students across faculties. The results show that there are significant differences between how crucial students think information literacy is and how well they believe they perform in it, especially in relevant areas like using information ethically, evaluating sources critically, and communicating effectively online. Along with the numbers, open-ended responses showed common issues like the need for more hands-on training, challenges in adjusting to mixed or online work settings, and the importance of blending technical skills with emotional and reflective abilities. These findings highlight that internships, when connected to MIL/IL strategies, can effectively help students build essential skills that are useful for securing and sustaining employment in the long run. This paper contributes to the ongoing academic discussion on the role of higher education in equipping students for dynamic and technology-driven labour markets. Furthermore, it proposes an integrated pedagogical model that connects classroom learning with real-world demands while fostering autonomy, ethical responsibility, and critical thinking within digital contexts. Limitations include the single-institution scope,

reliance on self-report IL-HUMASS measures, and a short pre-/post-window; these were tempered through qualitative triangulation and a transparent synthesis protocol.

Keywords: digital skills, employability, disinformation, information literacy, higher education, critical thinking

1. Introduction

There is a unique challenge for university students today. While considering that students have exposure to a plethora of information, they tend to struggle with evaluating it ethically, particularly in their immediate environments. This situation is further compounded in today's social media, algorithm, and AI-driven world, this challenge is especially within a social media, algorithm, and AI driven world. Tomorrow's leaders and experts no longer have the luxury of passively receiving information; they instead curate a fast-evolving and perhaps oversaturated information environment. This challenges us to rethink standard pedagogical practices, which massively lean towards the transmission of information at the expense of deeper analysis and critical reflection.

Addressing these challenges requires cultivating a set of human-centric competencies that go beyond technical knowledge, critical thinking, moral decision-making, online interaction, information discernment, collaboratively solving problems, and adaptability are among the fundamental human-centric skills that the suggested model emphasizes in this context. The model grounds these competencies in actual scenarios, like internships and project-based learning, where students must use their judgment, collaborate with people from various generations, and deal with the uncertainties of modern digital life, rather than treating them as abstract ideals.

These competencies align closely with the expectations of employers in a rapidly changing labour market. At the same time, employers expect graduates to possess skills in areas such as complex problem-solving, early decision-making, and the ability to adapt quickly to uncertain and globalized markets. Analytical thinking, knowledge management, and digital literacy are now considered essential competencies, yet they are not consistently taught.

In this broader context of technological disruption, as the Fourth Industrial Revolution changes the labour market. Universities must respond by providing students with subject-specific knowledge and the skills to constantly learn, unlearn, and relearn. As students face an overwhelming amount of information and increasingly competitive job opportunities, schools need to rethink how they prepare them for professional life after graduation. Political and institutional debates often raise the idea of lifelong learning.

Meeting these demands depends on two interrelated factors, it is possible thanks to two crucial factors: knowing how to use knowledge effectively and having work experience. These things help students connect what they have learned in the classroom to real life, think about their place in society, and act decently. While both elements have been studied independently, their interaction remains underexplored, particularly in Global South contexts marked by inequality and limited digital access.

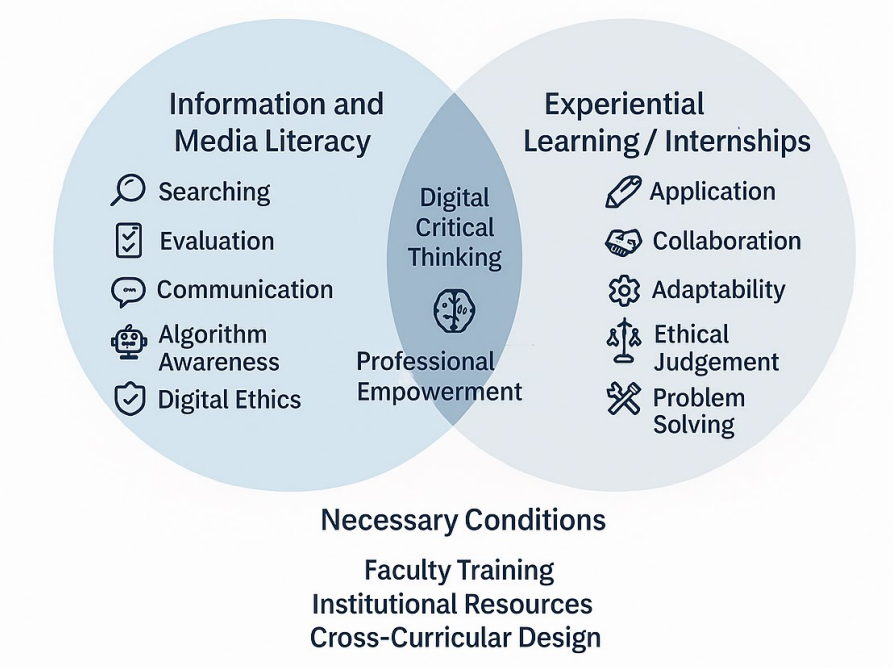
Drawing on recent empirical studies in Mexican higher education, this paper proposes a dialogue between two traditionally separate components: information and media literacy and experiential learning. Rather than being complementary, their integration is now essential to.

To guide this study, the following research questions were formulated:

- RQ1: How do undergraduate students engage in professional or internship experiences, and what transversal competencies do they perceive as most relevant for their employability?
- RQ2: To what extent do information literacy interventions—measured through the IL-HUMASS instrument—enhance students' self-perceived informational competencies in searching, evaluating, processing, and communicating information ethically?
- RQ3: How do students perceive their media literacy and their capacity to identify and resist misinformation within digital environments?

However, the interplay between these two factors remains underexplored, particularly in Global South contexts. To address this gap, the following model illustrates how these elements can be integrated into a coherent pedagogical framework. This paper suggests a new model that combines two essential areas often looked at separately in universities: information and media literacy and learning through real-life experiences, while also including professional internships. Figure 1 demonstrates how this hybrid idea hopes to improve students' digital ethics, critical thinking, and readiness for modern professional settings.

FIGURE 1. HYBRID PEDAGOGICAL MODEL FOR DIGITAL EMPOWERMENT



Source: own elaboration, 2025

Note: The model represents the convergence between information/media literacy and experiential learning, highlighting the development of critical thinking, digital ethics, and professional preparation.

This conceptual foundation informs the central argument of the paper; this idea underpins the proposal that ethical awareness, combined with professional abilities such as cooperation, flexibility, and problem-solving, helps to strengthen skills such as searching, analysing, and reporting. The profile this work aims to advance—a student able to negotiate today's digital society with moral judgment and critical thinking—emerges at their intersection. The empirical underpinnings and educational consequences of this model are discussed in the next parts.

1.1. Theoretical Foundation: Literacy, Competence, and Experience

Originally rooted in library science, information literacy (IL) has evolved into a core competence for professional success, academic achievement, and civic participation. UNESCO (2024) defines IL not only as the ability to find and access information but also to evaluate its credibility, interpret it in context, and communicate it ethically; authors state that this definition becomes even more crucial in today's digital ecosystem, where personalized content feeds, algorithmic curation, and artificial intelligence (AI) reign supreme.

Furthermore, authors such as Qian et al. (2022) argue that students must learn not only to consume information but also to critically interrogate the systems that deliver and shape it. These same authors point out that, often without students' understanding, algorithms greatly impact what they believe and see online. The two terms media literacy (MIL) and information literacy (IL) serve as essential frameworks in this context for increasing students' access to and awareness of information.

These indicated literacies optimise the ability to judge the validity of information, interpret media messages, and take part in accountable participation in social networks. Bawden and Robinson (2020) highlight that short media and information literacy (MIL) programmes can greatly help students think critically and make better judgements online; for this reason, UNESCO (2023) stresses that these skills are crucial for participating in democracy and staying strong against misinformation, especially for young people.

In other words, strengthening MIL in early stages is a foundation for later professional experience in parallel, professional experience, whether through internships, service-learning, or applied projects, represents a formative bridge between theoretical knowledge and its application in real-world contexts. Authors note that internships offer students the opportunity to interact with complexity, ambiguity, and collaborative work, which rarely arise in conventional classroom environments.

According to the literature on experiential learning theory, such immersive experiences trigger reflective cycles that deepen understanding and foster adaptability. In addition, some studies indicate that students who participate in internships tend to develop greater confidence in their communication, problem-solving, and teamwork skills (Jackson & Dean, 2023).

Contemporary syntheses of experiential learning in higher education indicate that meaningful knowledge construction emerges when students move through iterative cycles of experience, reflection, conceptualisation, and application. When framed pedagogically, internships provide exposure to real-world contexts and opportunities to reflect, reframe, and apply disciplinary knowledge in iterative ways (Wijnia et al., 2024).

This cyclical process strengthens the retention and transfer of competencies and aligns academic preparation with workplace expectations, as shown by recent evidence on project-based approaches. We observe this pattern in our results: students progressed from hands-on activity to reflective sense-making and subsequent application—consistent with meta-analytic findings that structured reflection improves learning outcomes (Zhai et al., 2023).

Similarly, recent syntheses position experiential learning as a structured, reflective pedagogy that aligns authentic tasks with explicit outcomes and evaluation (Tembrevilla et al., 2024).

Complementarily, meta-analytic evidence shows that project-based approaches yield consistent gains in achievement and higher-order thinking, strengthening the case for applied, reflective curricula (Zhang & Ma, 2023).

Evidence was found that when students develop strong skills in IL, MIL, or both, their experiences in professional internships become more important because these programmes help them better research industry trends, assess workplace information critically, and handle ethical issues, especially in areas impacted by data manipulation and digital surveillance.

Therefore, information literacy enhances the value of these experiences since internships also provide an authentic scenario to exercise and improve literacy skills. This dynamic has been explored by Archambault et al. (2024), who argue that the workplace is fertile ground for consolidating information practices acquired in academic settings.

This situation suggests that the intersection of literacy and experience forms a solid pedagogical base. Moreover, in a context marked by rapid technological change, media polarisation, and labour market uncertainty, the most effective strategy for long-term empowerment may be to foster students with a critical literacy level and a career foundation.

The relationship between information literacy and experiential learning is part of a broader conversation that integrates pedagogical practices and frames the shift from education to employment. Soproni (2023) underscores the need to reset the structural competencies of graduates and emphasises the value of soft skills and 21st-century capabilities that go beyond the purely technical.

In this context, employability should not be framed solely as an outcome, but as a pathway that encourages the cultivation of critical thought and social responsibility. Fellows (2023) contends that critical educators should engage with the employability agenda, positioning education as a vehicle to foster student intellectual self-governance and civic engagement. This view supports the embedding of media and information literacy (MIL/IL) into authentic learning frameworks where employability is approached as a reflective and ethical consideration instead of a mere response to the needs of the labour market.

Prior research by Succi and Canovi (2020) and Chiu et al. (2024) underscores a persistent misalignment between students' self-perception of their competencies and employers' expectations. While students often feel confident in communication or teamwork, employers report deficits in problem-solving, adaptability, and digital literacy. These findings reinforce the importance of developing such skills and engaging students in reflective practices that allow them to recognize, articulate, and refine these competencies, particularly within internship settings.

In the university environment, measuring informational competencies requires instruments sensitive to the educational and disciplinary context. Developed and tested as a useful means for evaluating students' proficiency in searching, assessing, processing, and communicating information, the IL-HUMASS model has proven to be a reliable framework in academic research. Pinto et al. (2024) explain that this tool helps identify what students do well and where they struggle with information skills, and it summarizes their performance using indicators that give an overall view of their abilities in social sciences. The cited instrument facilitates pedagogical and curricular decision-making to strengthen these key competencies in the digital age.

A meaningful education must go beyond the development of technical or informational skills; it must also connect with the authentic commitment of the student to his or her training process. Along these lines, Jackson and Rowe (2023) propose concrete actions to promote student involvement, emphasizing aspects such as agency, active learning, and the social relevance of knowledge.

These proposals are aligned with the idea that information and media literacy must be articulated with educational experiences that challenge the student as a reflective subject, not only as a recipient of skills. Therefore, promoting active participation in face-to-face and technology-mediated learning environments reinforces the transformative potential of integrated initiatives like those discussed here.

For their part, Pinto and Guerrero-Quesada (2017) applied IL-HUMASS to Spanish university students to investigate how they perceive their informational skills. Their findings underline a moderately positive self-perception, especially in basic skills such as locating sources, but also reveal crucial gaps in more complex aspects such as the critical evaluation of information or its ethical communication. This type of study confirms the usefulness of IL-HUMASS not only as a diagnostic tool but also as a starting point for designing educational interventions that respond to the real needs of students.

As a result, because AI permeates most fields, integrating experiential learning and IL has become even more relevant. Students need not only to use AI tools but also to question their outputs and understand their limits as automation reshapes job profiles; digital fluency is now essential. In a rapidly changing environment, AI is a disruptive force that affects jobs, access to jobs, and the skills those jobs demand.

The OECD (2023) reports that the spread of AI complicates progress on gender equality, labour-market inclusion, and the preparation of students for the labour market; it is also altering how work is organised. These challenges call for educational responses that combine critical literacies (information and digital) with technical expertise.

Following Deming and Noray (2020), graduates who are strong in problem-solving and information processing are more capable of coping with AI-driven change, particularly in roles that require human judgment and flexible thinking. To help students succeed in this data-rich world, institutions need to adopt methods that integrate critical literacy with practical, applied learning.

2. Methodology and Integration of Sources

At a single large public university, this study implemented a mixed-methods approach to integrate three programme studies (Anonymous Sources A–C) which were selected a priori (the same institution, undergraduate cohorts, IL/MIL outcomes, and extractable statistics).

Quantitative data stem from an adapted IL-HUMASS (descriptives, Pearson correlations; pre–post for the intervention aligned with course and internship tasks). Qualitative data are from Item-29 free-text responses and were analysed using reflexive thematic analysis. During the study, alignment for comparability and analysis integration was documented; data collection procedures ensured anonymity and voluntariness in accordance with institutional policy.

2.1. Context and Participants

The students involved in the research were undergraduate participants, mostly aged between 20 and 23 years. This stage—marked by the transition from academic learning to early professional life—is critical for fostering the reflective and ethical capacities required in today's rapidly changing digital and work environments. In this context, the integrative model proposed in this study (illustrated in Figure 1) is tailored to the developmental needs of young adults preparing to enter the workforce.

2.2. Instrument Used

An adapted version of the IL-HUMASS instrument was applied, and its contextual use has been previously discussed in the literature. A comprehensive overview of information literacy tool adaptations in Latin America and Spain can be found in Pinto et al. (2024). This version was tailored to align with the educational context and information practices of undergraduate students in Mexico, ensuring cultural and curricular relevance while maintaining the instrument's reliability.

2.3. Prior Empirical Studies and Integrative Approach

This article is based on three programme studies conducted at a single large public university in north-eastern Mexico. This research provided an empirical basis and comparative insight into the development of digital competencies and experiential learning. While they are diverse in design and scope, together, they reveal patterns that inform the central thesis of this article:

2.3.1. Study A — Survey of 426 Students (Design, Measures, Analysis)

A survey was applied to 426 students enrolled in professional programmes from various disciplines to explore their participation in internships and their correlation with developing transversal competencies such as teamwork, problem-solving, adaptability, and initiative.

The study, which covered branches such as engineering, health sciences, social sciences, and creativity, revealed that the chances of doing internships are not equally distributed and that this influences the options of finding a job. The data were obtained through a structured online questionnaire composed of 25 items, including both closed-ended (Likert-scale) and open-ended questions. The questionnaire assessed students' self-perceived proficiency and the importance they assign to various digital and information competencies.

Descriptive statistics (means, standard deviations, and frequencies) were calculated, and Pearson correlation coefficients were used to examine relationships between the variables, particularly between perceived importance and self-assessed performance across dimensions such as ethical information use, critical evaluation, and digital collaboration.

2.3.2. Study B — Educational Workshop (Pre/Post with Communication Students)

The instrument was adapted to better fit the local curriculum and the needs of the students while still assessing information literacy in educational settings. Three groups of communication students used the educational workshop as a before-and-after test. The session focused on seeking information and evaluating sources, digital ethics, and disinformation. The revised instrument allowed for a better assessment of growth, particularly on topics such as algorithmic awareness, media manipulation, and the dissemination of ethical content.

2.3.3. Study C — Large-scale Diagnosis (>500 Students)

The intervention showed measurable improvements, with differences by gender and performance across studies. An exhaustive research study of more than 500 students from different faculties sought to evaluate what they thought and did concerning digital literacy and media and information literacy (MIL).

The study used closed-ended and open-ended questions to see if students knew how to find reliable information, assess the credibility of sources, and think about how they engaged in digital communication. We paid particular attention to students' exposure to misinformation during the COVID-19 pandemic and their understanding of how algorithms affect what content is visible.

2.4. Integrative Synthesis and Cross-study

Although the methods varied —including quantitative surveys, pedagogical interventions, and perception diagnoses—all three studies converged on a key point: there remains a clear gap between having access to information and knowing how to use it critically and ethically.

Additionally, students are showing more interest in engaging with educational activities that integrate theory with practice.

These conclusions imply that neither integrated learning (IL) nor vocational training can be effective in isolation. A more robust and responsive system of higher education in Latin America—where significant barriers to digital access and employment stymie opportunities—could be achieved through more thoughtful curriculum design or cross-disciplinary co-curricular programmes that blend both approaches.

2.5. Sampling and Selection Criteria

The study used purposive sampling within a single large public university in north-eastern Mexico. Eligible participants were undergraduates currently enrolled, with at least two semesters completed, and engaged in an internship, a work-integrated learning placement, or the study's experiential module.

Recruitment proceeded via course announcements and programme mailing lists. The sampling aimed for breadth across disciplines, stage of study, and gender so that different student voices were represented. Participation was voluntary; consent was obtained online with no incentives, and responses were collected anonymously under prior institutional ethics approval.

2.6. Qualitative Analysis

Open-ended responses to Item 29 (n=176) were analysed using reflexive thematic analysis, following the six phases of familiarisation, coding, theme development, review, definition, and reporting. Coding proceeded iteratively by the research team; to enhance trustworthiness, an audit trail and analytic memos were maintained throughout.

Data management was conducted in a spreadsheet environment. Excerpts are anonymised and presented in English translation, with brief quotations used to illuminate themes that align with the quantitative trends (e.g., source evaluation, responsible use of AI, and employability-related literacies).

Illustrative comments (Item 29): "Develop research skills: identify relevant information from reliable sources for professional tasks." (Student, Q29). "We need courses on using AI responsibly to support workplace tasks and professional growth." (Student, Q29). "Speaking other languages is key for broader job opportunities and professional progression." (Student, Q29).

Taken together, these responses foreground literacies that students perceive as directly connected to professional development: the ability to interrogate sources, to use emerging technologies responsibly, and to build communicative repertoires (e.g., additional languages) that widen access to opportunities.

2.7. Procedure and Intervention

The intervention was delivered within regular teaching for an experiential module at a large public university in north-eastern Mexico. After a brief orientation, students completed a baseline IL-HUMASS survey (plus open-ended Item 29). A workshop then guided them through authentic tasks—locating and evaluating sources for their field, discussing digital ethics and misinformation, and practising responsible use of AI tools—supported by short reflective prompts.

Immediately after the session, students completed the post-survey (same IL-HUMASS subscales and Item 29), allowing pre/post comparison. For those on internships or work-integrated learning placements, the workshop was embedded in their seminar to keep activities close to workplace realities.

All responses were anonymised and linked only by study codes; participation was voluntary and took place in scheduled class time with no incentives. This sequencing enabled measurement of short-term gains while keeping the experience practical, relevant, and *low-burden* for students.

2.8. Inclusion/Exclusion

The synthesis incorporated three prior empirical studies (Anonymous Sources A-C). Inclusion criteria were set a priori: undergraduate cohorts from north-eastern Mexico; outcomes on media/information literacies (IL-HUMASS or closely aligned constructs); quantitative or mixed-methods designs with comparable descriptive statistics; and some qualitative material (open responses or brief reflections) for triangulation.

Studies were excluded if methodology was insufficiently detailed, instruments were non-comparable, results were purely theoretical/opinion, or summary data were not extractable. Variables and scale ranges were harmonised across sources, with all decisions recorded in a concise log. Potential author-selection bias was mitigated by applying the same explicit criteria to every candidate study and documenting reasons for inclusion or exclusion.

2.9. Limitations/Assumptions

This study draws on a single large public university, which limits generalisability across institutions and regions. IL-HUMASS scores are self-reported and may over- or under-estimate competence; this was mitigated through triangulation with qualitative themes and simple performance indicators. The pre/post window around the workshop captures immediate change

rather than durability. Internship and placement contexts varied, so exposure was heterogeneous; analyses are descriptive and avoid causal claims.

The integrative synthesis rests on harmonisation decisions (e.g., scale alignment, codebook mapping) and author-led selection; risks were reduced by applying a priori inclusion/exclusion criteria, anonymising sources (A–C), and keeping a synthesis log. Qualitative excerpts were translated and lightly edited for clarity while preserving meaning. A fuller account of study-level limitations and transferability is provided in Section 4.4.

3. Results and Synthesis

The key dimensions that emerged in the analysis—professional engagement, information competence, and media literacy awareness—present the findings of the three studies. This section reports outcomes from three studies (see Section 2.8). We prioritise indicators with complete, comparable coverage across cohorts and omit ancillary metrics without aligned baselines to ensure an impartial and transparent presentation of results.

3.1. Professional Commitment and Skills Development

Table 1 is presented because it addresses RQ1 on access to professional experiences. We restrict the display to graduating students (n=110) to allow like-for-like comparison across areas. Ancillary participation indicators are not shown here as they lack comparable denominators; they are documented in the underlying study.

Data from the survey of 426 undergraduates revealed that 63.4% had participated in at least one internship or professional experience. Among students who are about to graduate, more than 78% reported some type of prior professional commitment, and nearly half indicated having participated in two or more activities. Fields such as engineering and health sciences showed the highest levels of participation, while social sciences and creative fields lagged markedly.

TABLE 1. PARTICIPATION IN INTERNSHIPS AMONG GRADUATE STUDENTS BY AREA (N=110)

Area	1 internship (%)	≥2 Internships (%)
Engineering Disciplines	67.94	44.20
Business-related Disciplines	50.62	40.74
Health and Medical Disciplines	62.86	47.14
Social Sciences Disciplines	34.62	25.00
Creative Disciplines	50.00	16.67
Built Environment Disciplines	46.67	24.44

Source: authors' own calculations, 2024

Note 1: Study A; see Section 2.8 for inclusion and harmonisation criteria.

Note 2: Values indicate the percentage of graduate students who reported having completed at least one or two internships during their studies, categorized by academic area. Percentages are not mutually exclusive, as some students may fall into both categories.

These professional experiences were associated with the perceived development of key transversal competencies. Among the participants, 82.1% highlighted the growth in teamwork,

76.5% in adaptability, 74.3% in communication, and 69.8% in problem-solving. The students reported slightly higher gains in communication and adaptability based on cross-table data. This aligns with prior literature on competency gaps, further validating the impact of integrated pedagogical models. A brief association with transversal competencies is reported descriptively; interpretive implications for employability are developed in Section 4.

3.2. Informational Competence after IL Interventions

Table 2 focuses on pre-/post change in IL-HUMASS dimensions aligned with RQ2. Differences are computed as post minus pre using the same response scale across items. Non-comparable or ancillary indicators were excluded to avoid redundancy. The intervention, which used a modified version of the IL-HUMASS tool, showed clear improvements in five pivotal areas of thinking.

The most significant improvements occurred in communication and dissemination (+1.14) and information evaluation (+1.09), followed by considerable advances in information processing and search strategies.

TABLE 2. PRE- AND POST-TEST MEANS BY IL-HUMASS DIMENSION

Dimension	Pre-test	Post-Test	Difference
Information search	6.91	7.69	+0.78
Evaluation of information	7.02	8.11	+1.09
Information processing	7.20	8.10	+0.90
Communication and Dissemination	5.91	7.05	+1.14
Ethical use and management of AI	7.40	7.68	+0.28

Source: Authors' own calculations, 2025

Note 1: Differences are post–pre on identical response ranges; internal consistency was acceptable.

Note 2: Mean scores were obtained from pre- and post-test self-assessments using an adapted IL-HUMASS instrument. Improvements reflect students perceived growth in informational competencies across five dimensions after the intervention. Scores range from 1 (very low) to 9 (very high).

Participants' qualitative reflections revealed increased confidence in navigating digital platforms, greater understanding of search engines, and increased sensitivity to algorithmic curation and manipulation. Students also asked for clearer institutional support and better-prepared teachers in future interventions. "Develop research skills: identify relevant information from reliable sources for professional tasks." (Student, Q29). "We need courses on using AI responsibly to support workplace tasks and professional growth." (Student, Q29).

3.3. Media Literacy and the Challenge of Disinformation

The diagnostic study with more than 500 students from various faculties offered a broader perspective on media literacy and misinformation. Students reported high levels of digital news consumption (mean score: 6.67/10) and awareness of media responsibility (7.70/10) but considerably lower scores on identifying and resisting misinformation (4.03/10). Participation in specific MIL campaigns was the indicator with the lowest rating.

Table 3 summarises self-perceived media literacy (0–10 scale) to address RQ3 on disinformation resilience. We report scale means with consistent anchors; items with limited comparability or low response coverage are not included here but note in the study record.

"Speaking other languages is key for broader job opportunities and professional progression." (Student, Q29)

TABLE 3. MEDIA LITERACY (MIL) SELF-PERCEPTION AVERAGES (0-10)

Dimension	Average score
Digital News Consumption	6.67
Diversity in news types	6.68
Awareness of media responsibility	7.70
Spread of fake news	4.03
Participation in MIL campaigns	3.69

Source: authors' own calculations, 2025

Note 1: Means on a 0–10 scale with consistent anchors.

Note 2: Values represent students' self-perceived competence in key areas of media and information literacy (MIL), measured on a 0–10 scale. Lower scores in categories like detecting fake news and active participation indicate areas that require further educational efforts.

These findings suggest that although students demonstrate a general awareness of media, their critical literacy remains underdeveloped, particularly when resisting algorithmic persuasion and misinformation in digital environments. The low participation in structured MIL initiatives indicates a gap in curricular integration and institutional commitment.

4. Discussion: Towards a Synergistic Educational Strategy

In all three studies, systematic, self-reflective, and work-integrated activities assist learners in applying disciplinary knowledge and in deepening evaluative judgement, ethical practice, and digital resilience. The integration of information literacy and media literacy (IL and MIL) into project-based and applied curricula is more useful than that offered in standalone workshops. In turn, this demands professional development on teaching critical thinking and digital judgement, as well as systemic institutional frameworks that allow for cumulative interaction with genuine information challenges.

4.1. Integrated Synthesis of Findings

Combined, these findings support the importance of literacy and experiential learning interventions. When the results of these three lines of research are combined, there is much promise in integrating IL development with experiential learning. When integrated with structured and reflective educational learning, internships allow students to apply their disciplinary knowledge in practical contexts. They also help improve technical and cognitive skills, ethical judgement, and digital resilience.

Institutions should incorporate IL and MIL into project-based and applied learning frameworks rather than treating them as stand-alone workshops or additional material.

Teacher development becomes crucial in this effort because educators must be prepared to foster critical thinking and digital judgment and guide student content acquisition. Similarly, institutional infrastructure and digital resources must support iterative engagement with real information challenges.

In short, the data shows that participants who experience both literacy programmes and professional settings feel more confident and secure in handling information, making them more likely to question digital content, spot misinformation, and share their views. This means that disinformation becomes a significant challenge in education, culture, and technology.

For all the above, universities should consider the initiative to promote ethical judgment and intellectual independence as essential components of higher education in a tangible way in their curricula, and a good route would be to improve students' preparation for a world that is becoming more complex and mediatised. This means 'building bridges' between theory and practice by incorporating work immersion, applied learning, and personalised digital literacy programmes.

4.2. Curriculum-level Implications

Bringing together information literacy (IL) and media and information literacy (MIL) with hands-on learning methods like internships provides a beneficial way to tackle both digital misinformation and job readiness. The findings of all three applications underscore a consistent theme: students gain the most significant advantage when they can integrate theoretical knowledge with genuine, practice-oriented experiences, especially when supported by analytical and systematic reflection frameworks.

The experiences in the labour field offer a vision of the professional panorama, but without the essential frameworks of IL, this vision may remain superficial. Conversely, IL-independent education may not develop the adaptive skills that employers desire. This work shows that transformation occurs at the intersection of lived experience and critical reflection.

Students who encounter real information problems during internships while learning about ethics, communication, and digital thinking tend to learn more and feel better prepared. This leads institutions to change their strategies, as these skills should be part of hands-on education instead of being treated as separate programmes.

This implies that internship guidelines, final projects, community service, and practical research should incorporate essential digital skills. Recent reviews show applied, reflective curricula outperform stand-alone workshops in durable outcomes (Jackson & Dean, 2023; Tembrevilla et al., 2024).

4.3. Teacher Development and Institutional Support

Additionally, teachers need more training and resources to help combine academic learning with new digital skills, such as understanding algorithms and using AI ethically, to enhance the job readiness of future professionals.

In addition, findings around misinformation point to an urgent need to treat MIL not only as a protective skill set but as a formative educational goal. Students demonstrated a relatively strong awareness of media responsibility but struggled to identify manipulation or misinformation, particularly on fast-moving digital platforms. The data shows that the issue is

not just access to technology or information, but also the ability to interpret, resist, and act on it wisely. Universities must take on this challenge as part of their public mission.

Ultimately, the study reinforces the notion that 21st-century skills are hybrid. They combine technical knowledge with social vision, ethical reasoning, and adaptive communication. To promote these skills, universities in Latin America and elsewhere should opt for educational approaches that cross several disciplines, that are practical, and that focus on teaching how to function in the world of information.

Bridging IL, MIL, and learning by doing makes sense from a teaching perspective and helps students prepare for the challenges they will encounter as workers, citizens, and people who never stop learning.

This study highlights how meaningful learning arises when instruction, practical experience, and critical reflection are thoughtfully combined, providing students with the capacity to adapt, evaluate, and engage responsibly in uncertain environments.

Instead of viewing IL and MIL as isolated courses or separate topics, schools should include them in project-based curricula and learning by doing. For this to happen, teacher development is significant because teachers must be able to help students learn new things and help them develop digital judgement and critical thinking skills. Digital resources and institutional infrastructure should also make it easier to work on real-world information problems.

The data in this work demonstrate that students who have been immersed in professional environments and participated in literacy programmes report feeling more confident and independent. They are more likely to spot false information, question what they see online, and clearly say what they mean. This data would reinforce the notion that disinformation is not only a technical issue but also a pedagogical and cultural dilemma.

Therefore, universities must be more active in teaching students to think for themselves and make moral decisions as essential parts of higher education. Bridging theory and practice through internships, applied learning, and customised digital literacy programmes substantially enhances students' readiness for an increasingly intricate and mediated environment.

4.4. Limitations and Transferability

This discussion reflects evidence from a single large public university in north-eastern Mexico, which may limit transferability across institutions and regions. Self-report IL-HUMASS scores can misestimate competence; we tempered this with qualitative triangulation and pre-/post comparison.

The workshop window captures immediate change rather than durability. Internship contexts varied, so exposure was heterogeneous, and findings are reported descriptively rather than causally. Finally, the integrative synthesis required harmonising scales and codebook labels across sources A–C; decisions were logged to maintain transparency. See Section 2.9 for methodological assumptions.

5. Recommendations for Institutional Action

To make a tangible impact, universities need to adopt a blended approach that integrates the teaching of theoretical concepts with the practical application of digital skills. The following steps can operationalise this approach at the programme level:

- **Integrate across curricula:** Embed IL and MIL across curricula; they should be integrated across all programmes rather than offered as stand-alone courses.
- **Personalised vision**: Develop information literacy programmes tailored to each academic discipline. For instance, in communications, students will critique the processes involved in news dissemination as well as the influence of algorithms, whereas nursing students will assess the veracity of medical information.
- **Social media campaigns:** Develop engaging but straightforward initiatives centred around themes like artificial intelligence utilization, identifying misinformation, and exploring digital literacy. Such themes can be organised into digital challenges or week-long events focusing on a particular topic.
- **Teacher development:** Enhance educators' competencies in media analysis, information literacy pedagogy, and responsible integration of AI through regular workshops and micro-credentials.
- **Student agenda**: The objective is to cultivate engagement and ownership while also offering backing for student-initiated ventures such as IL clubs and peer-to-peer or group workshops.

These recommendations are not just about listing specific actions; they are about reshaping instructional approaches in a constantly changing context. This paradigm shift will better equip adopters of this integrated approach—wherein media and information literacy are incorporated into the curriculum rather than treated as supplementary—to nurture socially responsible, adaptable, and purposeful graduates.

The responsibility of fostering the connections between human values and digital technologies, theory and practice, is now a shared obligation. The path ahead consists of building collaborative spaces where instructors and students actively engage in the processes of learning, reflecting, and growing together.

6. Conclusions

Higher education's responsibility in times of uncertainty is not limited to the provision of information since, at the same time, it must also encourage the development of adaptability, accountability, and discernment.

This article provides valuable information for an 'educational paradigm' that combines internships and information literacy, not as separate or simultaneous initiatives, but as processes that work together; student growth is most significant. These findings reaffirm the pedagogical value of combining real-world exposure with reflective literacy frameworks. In addition, the research discussed here shows that this dual approach improves students' transversal skills, boosts their confidence, and encourages them to think about their actions.

It is significant to note that, in addition to the institutional application of this dual strategy, instruments like IL-HUMASS provide a valuable means of evaluating students' self-perceived skills and modifying instructional tactics as necessary. Identifying students' knowledge, comprehension, and material application creates new opportunities for purposeful learning experiences.

These tools motivate educators to consistently reflect and cultivate a deeper understanding of the processing and communication of information in practical scenarios. Finally, universities that combine applied learning with digital literacy are not only preparing their students for work.

They are also improving their citizens, ensuring that they can think, speak, and act honestly. In a world of complexity and misinformation, empowering students with both skills and critical awareness is not optional—it is urgent. In the current information ecosystem, shaped by both truth and opportunity, only education that bridges competence and conscience will empower students for the future.

Ultimately, this model seeks to contribute to the formation of a sustainable, ethical, and critically engaged generation of early-career professionals prepared to thrive in digital and professional ecosystems.

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Declaration Statements

This study adhered to ethical standards for educational research involving human participants. All respondents participated voluntarily and provided informed consent.

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Analysing Student Participation in the Life and Governance of Hungarian Higher Education Institutions: A Qualitative Case Study for University X (UX)

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Abstract

This study paper explores the student participation in the life and governance of Hungarian higher education institutions with a focus on University X (an anonymised institution). It aims to answer two questions in regard to the key factors influencing the students' participation and the differences that emerge between the Hungarian and the international students at University X. As higher education becomes more diverse and internationalised, understanding how students from different backgrounds engage with institutional governance is crucial for promoting inclusive and integrative practices. Using a qualitative case study design, this paper involved semi-structured interviews with five participants from University X: two staff members from two different international offices, two student representatives (one representing the Bachelor and Master students' union, and another one representing the doctoral student union), and one international student representative. These interviews provided insights into both formal and informal mechanisms of student participation in the university life or the university governance, the opportunities offered, and the students' challenges in influencing policies and institutional practices. The analysis revealed that the key factors influencing the students' participation are connected to the effective communication, the inclusive environment, the support systems, the different available events, the collaboration between the administration and the student bodies, and the feedback mechanisms. Alternatively, differences arise between Hungarian and international students due to language, cultural and social integration, student representation and decision-making, and information access. This study concludes that fostering great student participation requires not only structural changes but also cultural adaptation and institutional efforts to ensure all students have equitable opportunities.

***Keywords*:** higher education institution, student participation, university life, university governance, Hungary

1. Introduction

Student participation and integration in university life are critical components of a thriving academic environment. Higher education institutions must address the diverse needs of their student populations to foster a sense of belonging (Trowler & Trowler, 2011) and ensure equitable access to resources and opportunities (Cserny & Cardoso, 2021). Research indicates that student participation enhances the quality of governance and ensures that student needs and perspectives are considered in institutional policies (Haque & Sultana, 2021). Hence, student participation in university governance is essential for fostering a democratic and inclusive academic environment. It involves students taking part in decision-making processes at various levels, including academic and administrative committees (Zuo & Ratsoy, 1999).

This study can be particularly relevant for policymakers, university staff and students interested in enhancing the student involvement in university life and university governance. The research this study reports is part of a larger research project conducted across seven Hungarian higher education institutions (hence the anonymity of the university). The research itself aims to explore the factors that influence student participation in the life of a higher education institution, including the differences in levels and forms of participation. Additionally, it seeks to investigate the nature and extent of student involvement and perceived effects of regulatory frameworks on student representation and influence. For this article, we focus on one of the investigated universities, because this one has a significant number of international students and a long history of internationalisation, making it an ideal subject for examining the dynamics behind both Hungarian and international students' participation. Following our research ethics protocol, we anonymised this institution and called it University X (or UX). Regarding the size limits of this paper, we focus only on the first two aspects mentioned above. The study utilised a content analysis technique to analyse the interviews with various student unions and international offices within University X; its purpose was to identify key themes affecting differences in participation.

2. Literature Review

The literature review presented in this study paper was developed through a targeted and exploratory approach; academic resources were identified through key terms, concepts, and ideologies related to student participation in university governance and then were selected based on their direct relevance to the research questions. This method involved identifying authors and papers that provide a foundational insight within the field of student participation in the university governance, and then tracing relevant citations within those papers or research works in order to build a concise and meaningful overview. Thus, this literature review plays a valuable role in guiding practice and decision-making for all stakeholders, including students, faculty, and university policymakers (Ahmad, 2025) as it presents in a broad perspective (Green et al., 2006) the most relevant factors influencing the participation of students in university life.

Student engagement is a multidimensional construct that encompasses behavioural, emotional and cognitive dimensions. Behavioural engagement involves participation in academic and extracurricular activities, whilst emotional engagement includes feelings of belonging and attachment to the institution, and cognitive engagement involves investment in learning and intellectual development (Wong & Liem, 2022). Student engagement has a dual component framework as it differentiates between learning engagement and institution engagement, highlighting the importance of both academic and social aspects of student life (O'Regan et al.,

2023). This engagement empowers students to contribute meaningfully to their learning process and their educational environment, fostering a sense of ownership and agency with their co-creation and their participation in decision-making (Cook-Sather, 2006; Mitra, 2004).

This participatory role leading students to see that their inputs are acknowledged and acted upon makes their voice a mechanism through which engagement is not only expressed but actively constructed (Quaglia & Corso, 2014). Thus, student voice arises to the inclusion of students' perspectives in decision-making processes within educational institutions, and it emphasises the importance of student representation and partnership in shaping educational practices and policies (Abla & Fraumeni, 2019). Effective student voice initiatives involve creating platforms for students to express their views and actively participate in governance and decision-making (Planas et al., 2011).

In an international environment, fostering meaningful student participation becomes more complex and more critical; indeed, higher education institutions strive to create a globally responsive place by attracting international students, developing international partnerships, and incorporating global perspectives into the curriculum (Yuxin, 2023). In fact, the internationalisation of higher education involves integrating an international dimension into the teaching, research, and service functions of universities. It aims to enhance the global competencies of students and staff, promote cross-cultural understanding, and improve the quality of education (Robson & Wihlborg, 2019). In this context, the integration of student voice emerges as a key dynamic for ensuring relevance and inclusivity in institutional practices (Leask, 2009; Marginson & Sawir, 2012), and it enhances the quality of engagement, serving as a catalyst for intercultural understanding and co-creation (Cook-Sather, 2006) of internationalised institutions.

3. Study Objective and Questions

This study paper adopts a meso-level perspective by focusing on one higher education institution in Hungary that welcomes international students and implements the internationalisation of higher education over a long period of time. This offers an insight into a well-developed system, while generating conclusions based on decades-long student experiences. Thus, the main objective of this study is to investigate and interpret the qualitative variations in university students' participation and engagement in the university life and governance of University X. This individual case offers a perspective that may be transferred to other universities in Hungary with similar contexts such as a history of internationalisation, or the mobility of international students. Hence, by using a content analysis technique, this study seeks to identify commonalities within these variations and shed instructive light on the principal enquiry at hand.

Two research questions guide this study:

1. What are the key factors that influence student participation at University X?
2. How does the participation in university life differ between Hungarian and international students at University X?

4. Research Design

4.1. Qualitative Case Study

This study adopts a qualitative case study design (Stake, 1995; Yin, 2014) focused on University X, one of the seven Hungarian higher education institutions involved in larger research on student governance. This design allows an in-depth exploration of student participation in the life and governance by situating their experiences within a specific institutional context.

While the study adopts the qualitative case study design, it employs the content analysis technique as a way to identify recurring patterns and themes (Braun & Clarke, 2006), which helps structure and compiles the data efficiently (Bardin, 2011; Krippendorff, 2018). As a matter of fact, content analysis facilitates the comprehension and validation of inferences derived from textual data (Krippendorff, 2018). According to Castro and colleagues (2013), content analysis goes beyond immediate comprehension to observe text meanings more deeply, requiring connections between analytic premises and textual elements. This leads to in-depth text interpretation and inferences about the research world, and as Lopes (1993) and Bardin (2011) describe it, creating categories leads to uncover implicit discourse elements.

Thus, this technique allowed for understanding, validating, and making inferences from texts and contexts in this case study as it assisted in processing information, describing, and organizing data from interviews with students and university staff.

4.2. Participants

The study was conducted with 5 key entities with University X, and the sample included students and staff members in presidential roles of the different student unions and international offices. Initial contact was made with University X's top leaders, administrative leaders and student leaders through email letters. This initial contact facilitated the connection with the individuals who either considered partaking in the study or identified potential interviewees relevant to the study's focus on student participation in university life and governance.

The selection of the participants was determined by staff members and students who agreed to participate in the study. This selection was thus a purposeful sampling (Creswell & Creswell, 2018) based on the roles and responsibilities within student governance and international managerial structures at University X, the inclusion criteria required that participants hold a leadership position directly responsible for international students' affairs. These roles were essential for providing informed and elaborated perspectives on student participation, representation and student support.

The sample included one representative from the student union (that covers Bachelor and Master students, indicated in the following section as HÖK), one representative from the doctoral student union (that covers doctoral students, indicated in the following section as DÖK), one representative from the international student union (indicated in the following section as ISU), and two representatives from two offices that are responsible for international students from different aspects. In the following, we refer them as international office 1 and 2 (indicated as IO1 and IO2).

4.3. Data Collection

The data was collected through semi-structured interviews as part of a sequential explanatory mixed-methods design. This study paper is part of a larger research project; the interview questions were developed following the completion of a quantitative phase (Creswell & Creswell, 2018). This provided insights into student experiences and perceptions in participating in the university life and decision-making of seven different Hungarian higher education institutions. The results of the quantitative phase showed both Hungarian and international student population having similar perceptions regarding language barriers, information dissemination, and time constraints. However, when it comes to opportunities, perceptions were different. These findings helped to tailor interview questions that may identify themes either to support the students' perspectives or to identify new perspectives from the managerial and representative points of view.

All respondents were initially contacted via email, which provided detailed information about the study's objectives, scope, overview, the researcher's background, and ethical considerations such as confidentiality and procedures. Interviews were scheduled at times and locations convenient for the participants and were conducted both in-person and online. Before starting the interviews, all interviewees stated their consent. Virtual interviews (via Microsoft Teams) were conducted similarly to in-person interviews for a one-hour meeting time, though, the semi-structured interviews lasted between 30 and 45 minutes. All the 5 semi-structured interviews (audio recorded) were conducted in English.

The interviews of this study were conducted anonymously; therefore, each interview is recognised through the initial letter of what the person represents and a code number for how many people interviewed from the same place (doctoral student union indicated as DÖK, student union indicated as HÖK, international student union as ISU, two international officers indicated as IO1 and IO2).

The data collection received ethical permission from the Ethical Committee of Eötvös Loránd University—Faculty of Psychology and Education (no. of ethical permission with an extension deadline: 2024/318 and 2024/318-2). The language of the interviews was English.

4.4. Data Analysis

The technique used supported the study in its ability to aid with qualitative analysis, as it implies data organisation and compilation while ensuring maximum retention of the research information. Content analysis as a method to analyse the interviews transcripts involved coding and categorising the data to identify key themes and patterns. The following steps were taken:

- Interviews were transcribed verbatim to ensure accuracy.
- The transcriptions and documents were coded to identify themes and categories.
- The coded data was categorised into key themes including roles and responsibilities, communication channels, inclusivity and representation, support systems, event organisation, collaboration between students and administration, feedback mechanisms, visibility and awareness, equal opportunities, integration efforts, and addressing concerns.
- The themes were compared across the five entities to identify similarities and differences in student participation.

Since the author as a researcher is not connected to the University X, objectivity was maintained throughout the data collection and analysis; the author avoided biases and ensured analytical rigour.

5. Findings

This section presents the findings after analysing the content of the interviews, highlighting the key factors influencing student participation and the differences between Hungarian and international students.

The findings of this study are structured as categories reflecting qualitative variations in the staff and students' views in the participation in university life and governance. The first category reflects the roles and responsibilities of the interviewees in the offices and student unions as presidents/heads or their vice presidents. Below we present the following categories:

- Communication channels

This category reflects the different channels of communication in light of information sharing, visibility and awareness (highlighted in the below table 1) between the student unions and the students from one side and between the international offices and the students from another side. Visibility and awareness are viewed as both a means to inform and to empower student participation with bilingual communication.

TABLE 1. COMMUNICATION CHANNELS

Key themes	DÖK	HÖK	ISU	IO1	IO2
Institutional messaging system	x			x	x
Website				x	
Facebook	x	x	x		x
Instagram		x	x		
WhatsApp		x	x		
Emails			x		
Surveys	x				
In-person events			x		

Source: own compilation based on the interviews

As mentioned by several interviewees (the students' representatives HÖK, DÖK and ISU), it is hard to reach all students, as with different nationalities, different platforms are used. Therefore, the institutional messaging system and the website are considered as the official information dissemination platforms as they reach all students whether they are Hungarian or international students. Yet, this is perceived as the formal channel, rarely used by students' organisations in general. Therefore, the university leadership (IO1/IO2) connects with the student leadership as a way of disseminating the information through their communication channels, mostly social media. While Facebook is the most used communication channel (as highlighted by all the students' representatives), particularly by students and partially by the university leadership, the usage of different channels (Instagram/ WhatsApp) gives the students a variety of ways and levels to reach the specific entities and get the information disseminated depending on their cultural familiarity. However, one barrier still emerges with the communication between the international student union and the Hungarian students. As a matter of fact, international students often encounter difficulties

initiating contact with their fellow Hungarians due to a lack of knowledge about the effective communication channel, as mentioned by the international student union (ISU).

- Feedback mechanisms

The feedback collection is a priority across all entities. Both official student unions (HÖK/DÖK) rely on surveys and questionnaires, while the international one (ISU) employs digital platforms like email and social media. The international office IO1 has redesigned its website based on student input, indicating a data-driven approach, and the second international office IO2 conducts targeted surveys among international students. These findings suggest that student voices are increasingly being incorporated into institutional decision-making, though through varied mechanisms.

- Support systems and the collaboration between entities

The next category represents the different support systems available to students in general whether they are Hungarian or international students as seen in table 2. While the results reveal differentiated support, the international student union (ISU) seems to be only acting as a bridge between students and administration. On this level, a collaboration exists between the students and the administration, and patterns of collaboration with administration reveal structural differences. Whilst both official student unions (HÖK/DÖK) report effective collaboration, particularly around logistics such as pensions, permissions, and exam schedules, the international student union (ISU) highlights ongoing challenges in administrative collaboration, yet it notes efforts to overcome them.

TABLE 2. SUPPORT SYSTEMS

Key themes	DÖK	HÖK	ISU	IO1	IO2
Academic issues	x			x	
Administrative issues	x	x		x	
Financial issues				x	
Residence issues		x		x	
Mentor systems		x			
Personal support				x	x
Career support					x
Health issues				x	

Source: own compilation based on the interviews

- Inclusivity and representation

On another level, all five interviewees recognise the importance of inclusivity and representation, though their approaches vary. Both official student unions (HÖK/DÖK) emphasise dedicated structures to address international students' needs, and the international one (ISU) provides a platform for international students to voice concerns but has limited involvement in decision-making. The international office IO1 supports student associations in creating inclusive events, while the international office IO2 highlights live translation in meetings and stresses equal participation and representation of international students. A cross-institutional emphasis on inclusive communication and visibility underscores efforts to bridge cultural and linguistic gaps.

- Event organisation

Reflecting on the event organisation, the doctoral student union (DÖK) focuses on academic events, while the student union (HÖK) organises bilingual and tailored events for international students. The international student union initiates diverse events aimed at building community such as educational, cultural, and social. On the other hand, the international office IO1 supports these efforts through institutional ceremonies, while the international office IO2 organises integration-oriented events.

- Equal opportunities

Last but not least, efforts to ensure equal opportunities were emphasised by the Hungarian students' representatives HÖK and DÖK, and the international office IO1. The student unions focus on inclusive representation and access to resources, and the international offices targets academic and financial support to both populations: Hungarians and Internationals. On another level, the international student union addresses issues of inequity after being removed from the faculty council.

- Addressing concerns

Despite the different focus areas and the different disparities, all interviewees recognise the systemic barriers faced by international students and demonstrate commitment to addressing them. In fact, the different student unions (HÖK/DÖK/ISU) and international offices (IO1/IO2) have highlighted some differences between local students and internationals (see table 3 below).

TABLE 3. SUMMARY OF DIFFERENCES IN THE PARTICIPATION

Hungarian students	**International students**
Language and communication barriers	
No significant language barrier	*Language barriers (challenges in understanding Hungarian communications)*
Representation and decision-making	
More involved in decision-making processes	*Limited involvement, often feel underrepresented*
Social integration and community building	
Stronger sense of community and easier social integration	*Challenges in social integration, though efforts made through specific events*
Access to information and resources	
Better access to information and resources	*Rely on specific support systems for access*
Participation in events and activities	
More active participation in events organised by Hungarian Student Union	*Lower participation, though efforts made to organise inclusive events*
Feedback and advocacy	
More likely to provide feedback and advocate needs	*Provide feedback but face challenges in being heard*

Source: own compilation based on the interviews

The content analysis reveals a shared commitment across student bodies and administrative units to support international students. However, there are notable disparities in institutional power, communication reach, and implementation capacity. While unions focus more on community-building and representation, the international offices play a facilitative and administrative role. These findings underscore the importance of continued cross-functional collaboration and institutional alignment to holistically support the international student experience.

6. Discussion

This study aimed at exploring two key questions:

1. What are the key factors that influence student participation at University X?
2. How does the participation in university life differ between Hungarian and international students at the University X?

- *Key factors influencing student participation*

The findings of this study reveal several key factors influencing the student participation at University X such the communication, the inclusive representation including the visibility of student unions, the event organisation, the collaboration between the university leadership and the students including the support and the feedback mechanisms. We break down, below, these factors aligned with existing literature on student engagement and participation in university governance (Fredricks et al., 2004; Luescher-Mamashela, 2013; Trowler & Trowler, 2011).

Effective communication emerges as a foundation for engaging students. The use of social media platforms, emails and institutional systems ensures that students receive timely information about university events and opportunities. This aligns with the dual component framework of student engagement which emphasises the importance of both academic and social engagement (Appleton et al., 2008). However, the effectiveness of these communication channels varies, with some offices and unions reporting more success than others. In fact, university leadership uses formal networks, whereas international students often rely on different social media platforms. While these informal networks are more familiar or accessible to students, they can lead to fragmented information dissemination, as also observed in Kasza's (2020) research on Hungarian universities. Such inconsistencies can affect student participation and contribute to the isolation of international students (Arkoudis et al., 2013; Leask, 2009).

On another level, inclusivity and representation are vital for ensuring that all students including international students feel represented and included in university activities. The presence of bilingual communication and dedicated committees for international students highlights the efforts to promote inclusivity. This supports the concept of student voice which advocates for the inclusion of diverse student perspectives in decision-making (Fielding, 2001), going beyond simple representation to meaningful participation (Luescher-Mamashela, 2013; Mitra, 2004). However, the degree of inclusivity varies with some international students feeling underrepresented and facing barriers to integration, which is highlighted by Robson and Wihlborg (2019) as a central challenge in internationalised higher education institutions. This discrepancy underscores the need for any more unified approach to inclusivity across the university.

Promoting the visibility of student unions and their activities helps ensure that students are aware of the support and opportunities available to them. In fact, student unions are a crucial intermediary between students and leadership (Luescher-Mamashela, 2013), and this is achieved through various communication channels and active engagement with the student body. However, the visibility of these activities can be inconsistent, affecting student awareness and participation, and this aspect echoes the findings of Zuo and Ratsoy (1999), who argue that limited visibility reduces both legitimacy and engagement.

Event organisation is another critical factor. Organising events that cater to both Hungarian and international students fosters a sense of community and belonging. Events like PhD scientific days, freshmen camp, and cultural exchange programs help bridge the cultural gaps and promote social integration. This aligns with the goals of internationalisation which seeks to enhance cross-cultural understanding and global competencies (Knight, 2004). However, the level of engagement in these events varies, with international students often participating less than their Hungarian peers. This uneven participation of international students in these events aligns with Green et al. (2006), who observed that cultural and linguistic barriers frequently deter participation.

Collaboration with administration is crucial for addressing student needs and implementing initiatives. The study highlights successful collaborations on initiatives like pension payments, entry permissions, and infrastructural developments. This supports the literature on university governance, which emphasizes the role of student participation in enhancing institutional decision-making (Luescher-Mamashela, 2013; Menon, 2003). However, some interviewees express frustration with limited collaboration and support from the higher management, highlighting potential communication gaps, similarly to those identified by Wong and Liem (2022).

Support systems play a crucial role in a student's well-being; the availability of mentoring programs, psychological help, and career guidance help students navigate their academic journey and integrate into university life. This is consistent with the literature on student engagement, which underscores the importance of support services in fostering student success (Fredericks et al., 2004; Trowler & Trowler, 2011). However, the support provided can be inconsistent with some students receiving more comprehensive support than others. This inconsistency echoes Mitra's (2004) critique that inequitable support perpetuates exclusion, particularly among vulnerable groups such as international students.

Regular feedback from students is essential for continuous improvement of services and addressing emerging issues. The use of surveys, questionnaires, and direct communication channels ensures that student voices are heard and considered in university policies. This aligns with the principles of student voice and participatory governance (Mitra, 2004; Quaglia & Corso, 2014). However, the effectiveness of feedback mechanisms varies, with some students feeling that their concerns are not adequately addressed. These perceptions mirror Cook-Sather's (2006) findings on feedback mechanisms and responsiveness that may undermine trust and reduce students' willingness to participate.

- *Differences of participation in university life between Hungarian and international students*

Striving for equal opportunities for all students, regardless of their background, is fundamental to creating an inclusive academic environment. The study highlights efforts to ensure equal access to

resources, representation in decision-making, and participation in university activities. However, the perception of unequal opportunities persists, particularly among international students.

The findings of this study reveal several differences between Hungarian and international students at University X in regard to the participation in the university life, such the involvement of students in decision-making, the cultural and social integration, the language accessibility, the student representation, and the access of information and services. These disparities resonate with broader literature on internationalisation in higher education, which highlights unequal access to decision-making and integration as common challenges (Lannert & Derényi, 2021**;** Marginson & Sawir, 2012).

Similarly to research conducted by the scholar Kasza (2020), the findings of this study highlighted cultural and social integration challenges as barriers for international students. In fact, Hungarians form a strong peer network through shared cultural and educational backgrounds, while internationals often remain within nationality-based groups. The present study shows a disconnection from the core of the student life and governance which may undermine the goals of the internationalisation of higher education (Arkoudis et al., 2013; Marginson, 2014) this outlines the importance of student integration in this learning environment (Lannert & Derényi, 2021).

The most immediate difference at University X stems from the language accessibility since Hungarian students operate in their native language which allows them full access to all the university communications, student unions announcements, governance documents, etc. While on the other hand, international students don't have access to the same communications, announcements, documents, unless they were translated and available in English language. We must add to these findings one of the most relevant components of the Bologna process that emphasises the commitments to inclusivity and student-centred environment across European higher education institutions and highlights the transparency for all students regardless of their background (European Higher Education Area, 2020). Krippendorff (2018) and Bardin (2011) further stress that language barriers are not just linguistic but also cultural, shaping how individuals access and interpret institutional information.

In terms of representation and decision-making, the findings reflect the student governance's dominance by Hungarian students, while international students are often formally allowed to participate but lack real influence because of the symbolic role without decision-making powers. In fact, while the doctoral student union emphasises active involvement in decision-making processes and having representatives in various committees, the student union (HÖK) and the international student union highlight a more limited involvement for international students in decision-making, indicating a distinction between the official student union and other student groups and associations, especially given that the international student union has been removed from the faculty council as highlighted by the interviewee. This aspect is particularly connected to the Hungarian Act on national higher education (Act CCIV, 2011), in which the right of all students to be represented in institutional governance is guaranteed. However, on a practical level, this right may not be accountable in a linguistically diverse environment, especially with processes and meetings held mostly in the Hungarian language, key governance documents not translated or adapted to the international population, and lastly given the unfamiliarity of internationals with the institutional culture. Similar dynamics of a

rather formal inclusion but limited influence have been documented by Planas et al. (2011) and Zuo & Ratsoy (1999).

On another level, access to information and student services at University X highlights a difference between Hungarian and international students especially with Hungarian students being embedded in the informal and language-specific networks that give them often a privileged access to academic and extracurricular opportunities. With the information being disseminated on different channels at University X, and as Leask (2009) and Marginson (2014) both argue, the participation is not only shaped by formal inclusion but also by access to informal practices and networks. However, the content may get lost with an incomplete, delayed or insufficiently translated information. In fact, in the Hungarian context, Kovács and Kasza (2018) show that such structural barriers may contribute to international students' peripheral position within the higher education institutions. In such a case, the international students' ability to make timely decisions and engage fully on campus becomes limited (Arkoudis et al., 2013**;** Leask, 2009).

7. Conclusion

This study provides valuable insights into the factors influencing student participation and integration at University X (UX). The findings highlight the importance of effective communication, inclusivity, support systems, event organization, collaboration with administration, feedback mechanisms, visibility, and equal opportunities in fostering student engagement. The study also reveals significant differences in participation between Hungarian and international students, underscoring the need for targeted initiatives to address language barriers, representation, social integration, access to resources, and feedback mechanisms.

The differing views on decision-making involvement suggest that international students may not have a consistent or unified representation in university governance, which may lead to an unequal influence and advocacy for international students' needs. Thus, some departments may prioritise international students' participation while others may not, leading to an uneven support across the institution. This different level of support can create disparities in the quality of services and resources available to international students.

On another level, the frustration expressed by some interviewees regarding the limited collaboration highlights potential communication gaps between the different student bodies and the offices. These gaps may hinder the effective implementation of initiatives and support systems for international students.

Lastly, the differing perspectives on inclusivity and representation suggest that international students may perceive inequities in how they are treated and represented within the university. This may affect the students' sense of belonging and willingness to engage. Addressing these perceptions and ensuring that all students have equal access to opportunities is crucial for fostering inclusivity.

Therefore, addressing the above implications is essential for creating a unified approach to supporting and integrating international students. Thus, developing a comprehensive strategy for international student engagement, improving collaboration and communication between these entities and ensuring that all students feel represented, supported and included are crucial for fostering a positive environment at the institution.

While the findings of this study offer valuable insights into the participation of students in the life and governance of University X in Hungary, there are limitations that warrant the implications of the study. In fact, the aspect of focusing on one single university with a relatively small sample of interviewees hinders the generalisation to all universities in Hungary or the student populations. Another limitation is noticed: the interviewees' selection method. Thus, the recruitment process relying on university leaders and student representatives may have introduced bias by including only participants engaged in the topic. While on another level, a possible extended limitation is the unique cultural and institutional context of the Hungarian university which may limit the applicability of findings to institutions in a different national or cultural setting.

The implications of this study extend beyond University X, offering valuable lessons for other higher education institutions in Hungary and potentially globally, as it provides comparative insights into the research area of student participation in Central Europe, contributing to global discussions on engagement. Examining both regulatory frameworks and lived practices sheds light on the challenges and opportunities that resonate in diverse contexts. Thus, by addressing the identified challenges and leveraging the opportunities, universities can ensure that both local and international students are meaningfully engaged in university life and governance, and they can create a more inclusive and supportive environment for all students taking into consideration the factors highlighted in this study.

Therefore, some recommendations may address overcoming the identified challenges. Thus, establishing a unified representation for international students in university governance could ensure consistent advocacy and influence, adding the implementation of strategic coordination across departments and offices to create a cohesive approach to supporting and integrating international students. On another level, it could be crucial to improve communication channels between student unions, international offices and university administration to address collaboration gaps and ensure effective implementation of initiatives and to ensure that events are inclusive and accessible to both Hungarian and international students, promoting cultural exchange and social integration.

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The Case for Multimodal Assessment: Reflections from an Italian Pilot Study

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Abstract

Higher education institutions are increasingly exploring multimodal pedagogies, yet assessment still reflects the past more than the present. This short contribution explores the readiness of students and teachers for digital multimodal composing (DMC) assessment, synthesising themes from a preliminary study at an Italian university with perspectives from extant research. The project functions as a proof of concept, surfacing both enthusiasm and resistance in a context historically dominated by written and oral exams. The article proposes four guiding questions related to accessibility, transferable skills, instruction, and assessment criteria, which can help educators reflect on how multimodal assessment can be effectively designed and implemented.

***Keywords/key phrases*:** multimodal assessment, digital multimodal composing (DMC), digital skills development, assessment design, higher education

1. Introduction

This discussion follows a call to action for educators to implement multimodal assessment in their universities. Students' classroom experiences are becoming increasingly multimodal, yet assessment remains largely tied to traditional modes, despite evidence of benefits for engagement, inclusivity, and digital literacy (Tan et al., 2020; White, 2024a; Yi et al., 2020). Assessment in Italian higher education has historically relied on final high-stakes summative examinations, most commonly written tests and oral exams (Vicario et al., 2025), with portfolios or projects much less common (Lazareva & Agostini, 2024). Such practices exemplify the traditional backdrop against which multimodal approaches must be introduced in Italy.

Beyond the Italian context, although research and teaching practices in digital multimodal composing (DMC) have expanded, corresponding assessment forms have not developed to the same extent (Consalvo & David, 2016; Lund & Aagaard, 2013; Tan et al., 2020). Encouragingly, recent publications have begun to address this imbalance, focusing on cross-university projects (The Quality Assurance Agency for Higher Education, 2025), case studies (Ramsay, 2025), and institutional guidelines (University of Michigan, 2025; University of Notre Dame, 2025). Previous

research has also revealed important challenges in multimodal assessment (Yi, 2014; Tan et al., 2020; Yi et al., 2020). While studies have focused on teachers' views of multimodal assessment, students' perspectives remain less visible. This contribution brings both perspectives into view to inform questions concerning effective approaches to DMC assessment.

This preliminary study forms part of a practitioner-research project introducing DMC assessments at an Italian university. Pilot assessments were planned for English for Specific Purposes (ESP) seminars in the Department of Sociology and Social Research, and for general Italian courses in the language centre. A preliminary survey was conducted with 17 students from the ESP courses and 19 teachers from the language centre. The questionnaires explored prior experience, willingness to engage, and perceptions of benefits and challenges related to digital multimodal composing. Responses were summarised descriptively and thematically coded. As with any practitioner-led study, the findings are context-specific. Ethical approval and informed consent were secured.

2. Themes

The survey responses signal patterns that resonate with concerns and opportunities noted in the literature. These themes highlight the tensions students and educators may encounter when introducing novel DMC assessment practices.

2.1. Value and Student Engagement

Participants across both groups recognise the value of multimodal tasks for developing transferable skills, particularly digital competences and communication abilities relevant to contemporary workplaces. This view is supported by research, which emphasises the role of multimodal assessment in preparing students for real-world communicative tasks (Hafner & Ho, 2020; Kim et al., 2023; Yi et al., 2020). The responses from the present survey also show that many students and teachers perceive multimodal tasks as potentially more engaging and creative than conventional written assignments. This is consistent with conclusions from previous studies, which found that multimodal pedagogies enhance motivation and engagement (Hafner & Ho, 2020; Kustini et al., 2018; Ross et al., 2020; White, 2024b; Yi & Angay-Crowder, 2016).

2.2. Knowledge Gaps and Reticence

Knowledge gaps were identified as a key issue for both students and teachers, and the consequences of these for evaluation. Yi (2014) observed that one of the most frequently expressed challenges was students' unequal access to digital technologies. Teachers' responses in this pilot study also revealed apprehension about their own lack of knowledge and the implications this might have for teaching and managing assessment. These concerns resonate with previous studies, which highlight teachers' limited knowledge of DMC assessment as a barrier to implementation (Yi, 2014; Yi & Angay-Crowder, 2016) and indicate the need for teacher training (Aagaard & Lund, 2013).

Reticence is a notable theme in this preliminary study, evident across learner and educator perspectives. Several students stated a preference for conventional written assignments, expressing uncertainty about multimodal tasks and describing them as more demanding. Others reported feeling uncomfortable about performance in audio or video-based formats. This aligns with the teachers' survey comments that learners may resist multimodal tasks due to discomfort with public

performance or from a lack of confidence in its academic legitimacy. In fact, Tan and Matsuda (2020) observed that even when multimodal formats were offered, students showed a preference for traditional text-based compositions. Teacher respondents in the present sample also attributed reluctance to students' cultural expectations about assessment, pointing to a fear of judgment prevalent in Italian educational contexts. This dynamic parallels a qualitative account of resistance within Italian educational systems (Bussotti, 2017), where departing from traditional norms can provoke unease from peers and teachers. Reluctance, then, may be shaped not only by technical ability, but also emotional responses and culturally embedded expectations.

2.3. Assessment Criteria

A consistent pattern in both student and teacher surveys was uncertainty about how digital multimodal composing (DMC) tasks should be evaluated against assessment criteria. Students expressed concern that assessment of multimodal work might be overly subjective, particularly when it came to aesthetic elements. Several noted that these aspects might detract from the content or language use, potentially disadvantaging students with less experience in design or video editing. This anxiety was mirrored by teachers, who acknowledged difficulties in creating clear, balanced rubrics that could fairly evaluate content and language knowledge, as well as multimodal design. Research points to the same difficulty: Silseth and Gilje (2018) contend that standard rubrics often miss the richness of student meaning-making. Similarly, Hafner and Ho (2020) argue for the importance of "design-sensitive" assessment criteria that acknowledge the semiotic complexity of DMC. In response to these challenges, several teachers in this study suggested collaboratively developed rubrics and shared exemplars as practical tools to align expectations and promote fairer evaluation.

3. Strategic Questions for Implementation

From these perspectives several practical questions have emerged, illustrated with brief explanations.

1. Should DMC assessment tasks make use of platforms familiar to students and teachers? Starting with accessible formats (e.g. presentation-based videos or infographics) that align with existing teaching practices may make integration more manageable for teachers.
2. Would highlighting the real-world relevance of digital and transferable skills help reduce resistance to non-traditional assessment? Clear articulation of purpose and benefits could ease the reticence expressed by both students and teachers.
3. Should both students and teachers be provided with training and low-stakes practice activities to build familiarity with DMC tasks? Such preparation may help to mitigate differences in technical know-how, reduce performance anxiety and help teachers anticipate challenges by experiencing the tasks themselves.
4. Should assessment criteria be co-developed with teachers and, where feasible, with students? Collaborative rubric design, supported by assessment literacy activities and exemplar analysis, could balance content, language, and multimodal design without overemphasising aesthetics.

4. Conclusion

This Italian case illustrates that even within a higher education culture shaped by traditional written and oral examinations, both students and teachers recognised the potential benefits of multimodal assessment. Their responses revealed a dual perspective: valuing the creativity, engagement, and skill development that DMC offers, while at the same time expressing anxieties about digital competence, performance, and evaluation. If multimodal assessment can prompt both interest and debate in a setting where conventional exams are deeply entrenched, this suggests it may hold promise for other institutions seeking to modernise their assessment practices. These reflections gain significance when viewed in light of broader cultural attitudes in Italy, where traditional examinations continue to dominate and participants in this study expressed caution towards the use of multimodality for assessment. In this context, even modest steps toward multimodal assessment can be regarded as a valuable pedagogical innovation.

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