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PERCEPTIONS OF FINAL-YEAR ENGLISH MAJORS AT A PUBLIC UNIVERSITY CONCERNING THEIR JOB READINESS IN RELATION TO 21ST CENTURY SKILLS

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Abstract: Among 21st century skills, critical thinking (CT), creativity or creative thinking (CR), collaboration or teamwork (CL), communication (CM), and information and communication technology (ICT) competence (collectively referred to as 4Cs-ICT) are considered essential for job readiness, particularly for English majors preparing to work in multicultural and technology-driven environments. This study investigates the perceptions of final-year English majors at Hanoi University of Industry (HaUI) regarding the importance of 4Cs-ICT, their self-assessment of proficiency in these skills, and their recommendations for improvement. Employing a mixed-methods design, the data were collected from 47 questionnaire responses and 11 semi-structured interviews. The findings showed that students highly valued 4Cs-ICT, especially CT and CL, but remained less confident in their own proficiency, particularly in CT and CR. Both subjective and objective factors were identified as barriers to skill development. The students suggested integrating 4Cs-ICT more systematically into the curriculum, expanding extracurricular and project-based activities, and fostering a more open, technology-enhanced learning environment. These results highlight an urgent need to strengthen 21st century skills among English majors to enhance their job readiness in an increasingly competitive and globalized labor market.

Keywords: job readiness, 21st century skills, 4Cs-ICT

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NHẬN THỨC CỦA SINH VIÊN NĂM CUỐI NGÀNH NGÔN NGỮ ANH TẠI MỘT TRƯỜNG ĐẠI HỌC CÔNG LẬP VỀ MỨC ĐỘ SẴN SÀNG NGHỀ NGHIỆP LIÊN QUAN ĐẾN CÁC KỸ NĂNG THẾ KỶ 21

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Tóm tắt: Trong số các kỹ năng thế kỷ 21, tư duy phản biện (CT), sáng tạo hoặc tư duy sáng tạo (CR), hợp tác hoặc làm việc nhóm (CL), giao tiếp (CM), và năng lực công nghệ thông tin – truyền thông (ICT) (gọi chung là 4Cs-ICT) được xem là thiết yếu cho sự sẵn sàng nghề nghiệp, đặc biệt đối với sinh viên chuyên ngành tiếng Anh chuẩn bị làm việc trong môi trường đa văn hóa và định hướng công nghệ. Nghiên cứu này khảo sát nhận thức của sinh viên năm cuối ngành tiếng Anh tại Đại học Công nghiệp Hà Nội (HaUI) về tầm quan trọng của 4Cs-ICT, sự tự đánh giá về mức độ thành thạo các kỹ năng này, cũng như những đề xuất cải thiện. Với thiết kế phương pháp hỗn hợp, dữ liệu được thu thập từ 47 phiếu khảo sát và 11 phỏng vấn bán cấu trúc. Kết quả cho thấy sinh viên đánh giá cao 4Cs-ICT, đặc biệt là CT và CL, nhưng vẫn chưa thực sự tự tin vào năng lực bản thân, nhất là ở CT và CR. Các yếu tố chủ quan và khách quan đều được xác định là rào cản đối với việc phát triển kỹ năng. Sinh viên đề xuất tích hợp 4Cs-ICT một cách hệ thống hơn vào chương trình đào tạo, mở rộng các hoạt động ngoại khóa và dự án, cũng như xây dựng môi trường học tập cởi mở hơn, được hỗ trợ bởi công nghệ. Những kết quả này nhấn mạnh sự cấp thiết trong việc tăng cường kỹ năng thế kỷ 21 cho sinh viên chuyên ngành tiếng Anh nhằm nâng cao mức độ sẵn sàng nghề nghiệp trong thị trường lao động ngày càng cạnh tranh và toàn cầu hóa.

Từ khoá: sự sẵn sàng nghề nghiệp, kỹ năng thế kỷ 21, 4Cs-ICT

1. Introduction

In the 21st century, the widespread application of artificial intelligence, automation, and interconnected systems has not only restructured employment patterns but also created both significant opportunities and challenges for the workforce, particularly in Vietnam, as the country increasingly integrates into the international economy. In this context, employees are required not only to possess professional knowledge but also to develop soft skills and digital competencies to meet the rising demands of the labor market (Nguyen & Doan, 2021).

According to Tran (2015), the transition from higher education to the workplace remains a major challenge for most Vietnamese graduates. Labor market reports indicate that many graduates fail to meet employers' expectations, especially regarding soft skills and technological adaptability (Nguyen & Doan, 2021).

English majors are not exempt from these challenges. Beyond language proficiency, they are expected to perform a variety of professional tasks, including cross-cultural communication, effective teamwork (a key aspect of collaboration), information technology use, and critical thinking to adapt to a globalized working environment (Phan et al., 2022).

To prepare adequately for the labor market, students in general, particularly those

majoring in English, need to assess their own readiness and develop appropriate skills. Therefore, investigating final-year English majors' perceptions of their 21st century skill preparedness is of vital importance. However, little is known about how English majors in Vietnam perceive their readiness in terms of 21st century skills.

This research focuses on exploring the perceptions of final-year English majors at Hanoi University of Industry (HaUI) regarding the importance of 21st century skills, as well as their self-assessment of these skills. The skills under investigation include critical thinking (CT), creativity (CR), collaboration (CL), communication (CM), and information and communication technology (ICT) — collectively referred to as 4Cs-ICT — given their consistent presence across multiple 21st century skills models and their relevance to the professional demands of English majors in the digital age. Specifically, the study seeks to address the following research questions:

- *What are the perceptions of final-year English majors at HaUI regarding the importance of 4Cs-ICT?*

- *How do those final-year English majors self-assess their proficiency in 4Cs-ICT?*

- *What recommendations do the students propose to improve 4Cs-ICT?*

2. Literature Review

2.1. 21st Century Skills

The framework for 21st century skills (P21), as synthesized by Joynes et al. (2019), identifies three overarching skill groups essential for success in the modern workforce: Learning and Innovation Skills (4Cs), ICT literacy, and Life and Career Skills. Within the Learning and Innovation Skills, the 4Cs comprise CT — the ability to evaluate, analyze, and synthesize information to address problems; CM — the ability to express ideas clearly and persuasively in both spoken and written forms; CL — the capacity to work productively with others across diverse contexts; and CR - the ability to innovate, think flexibly, and generate original ideas.

Joynes et al. (2019) further categorize 21st century skills into five domains: (1) CM skills, (2) CL skills, (3) personal thinking skills (including CT, metacognition, and learning agility), (4) autonomy (adaptability, flexibility, and entrepreneurial mindset), and (5) technological and digital skills for learning, CM, and CL.

In a more discipline-specific perspective, Bernardini and Petrović (2021) identify skill clusters particularly relevant for language and linguistics graduates in the digital marketplace. These include: (1) core domain knowledge (language mastery, linguistic analysis, translation, terminology, and semantics), (2) (inter)cultural awareness (understanding cultural differences, local contexts, and effective localization and personalization of content), (3) CM and entrepreneurial skills (teamwork, marketing, market analysis, project management, and quality assurance), (4) technological competences – basic (ICT literacy, processing text in multiple formats, using computer-assisted translation tools) and advanced (process automation and AI literacy), (5) data processing skills (collecting, managing, and analyzing linguistic data), and (6) research skills (critical information processing, research design, problem-solving, logical reasoning, CR, and technology evaluation).

Drawing from these frameworks, 4Cs-ICT emerge as essential skill sets for English majors, particularly in preparing for employment in international and technology-driven work environments.

2.1.1. CT

CT has been defined in various ways by scholars, but it is generally regarded as a structured cognitive process involving the analysis, evaluation, and processing of information to make sound decisions. Key assessment criteria include interpretation, analysis, evaluation, inference, and explanation (Maryuningsih et al., 2020). Multiple studies (Facione et al., 1995; UNESCO, 2015, cited in Bernardini & Petrović, 2021) identify CT as one of the core 21st century skills, playing a vital role in learning, work, and everyday life. In professional contexts, CT enables individuals to address complex problems, make effective decisions, adapt to change, and enhance CL. A lack of CT can limit job-seeking opportunities and hinder career development. Sim et al. (2021) also notes that CT is essential for students, as it enables them to analyze problems from multiple perspectives and make sound decisions in both academic and professional contexts.

2.1.2. CR

CR is defined as the ability to approach and solve problems from a novel perspective, going beyond conventional solutions, and transforming ideas into reality (Gafour & Gafour, 2020). It is considered one of the most sought-after soft skills by employers, playing a crucial role in adapting to change, fostering innovation, and developing personal potential (World Economic Forum, 2016). In Vietnam, global integration and workforce competitiveness demand that students cultivate both CT and CR to take ownership of their learning and career paths (Bui, 2012). Within the language sector, CR enables students to perform translation, content editing, and digital marketing with flexibility, cultural appropriateness, and originality (Tran, 2023; Phan et al., 2022; Bernardini & Petrović, 2021). Furthermore, it is vital in customizing machine translation systems and leveraging AI to optimize output quality.

2.1.3. CM

CM is widely recognized as one of the most critical skills demanded by employers (World Economic Forum, 2020) and has been defined from multiple perspectives. Scholars emphasize that CM goes beyond the transmission of information, involving both verbal and non-verbal elements such as tone, body language, and active listening (Johnson & Johnson, 2014). It also serves as a tool for CR, academic debate (Dannels, 2001), and effective message delivery (Lucas, 2009). Effective CM enhances CL by fostering trust, cohesion, and problem-solving, while also developing related skills such as persuasion and negotiation (Adu-Oppong & Agyin-Birikoran, 2014; Johnson & Johnson, 2014). Employers value candidates who can express ideas clearly and professionally, especially in diverse and international contexts (Dannels, 2001).

For English majors, CM is vital for academic and professional success, involving clear expression, feedback exchange, and cross-cultural interaction (Phan et al., 2022). It also includes multilingual proficiency and the ability to adapt messages to local markets, particularly in translation and language-related fields (Bernardini & Petrović, 2021).

2.1.4. CL

CL skills are defined as the ability to voluntarily and equally cooperate with others by applying knowledge and techniques flexibly to achieve common goals (Nguyen, 2019) and as emphasized by Rana et al. (2024), enhance performance, foster innovation, strengthen problem-solving, and improve organizational efficiency. The components of CL skills include subject knowledge, CM, relationship-building, design, organizational, and coordination abilities (Nguyen, 2019).

For students specializing in English, these skills involve idea-sharing, and mutual

support in translation and communicative tasks (Tran, 2023). Moreover, Bernardini and Petrović (2021) underline CL as an integral element of both education and the modern workplace, particularly for language-major students.

2.1.5. ICT Skills

ICT skills have evolved from being understood as basic technical abilities (Anderson, 2008) to encompassing broader competencies such as searching, evaluating, organizing, and applying information across contexts (Van Laar et al., 2017). They involve not only technical proficiency but also CT, CM, problem-solving, and adaptability in digital environments (Martin, 2008).

For English majors, ICT skills also play an important role in meeting modern workforce demands. They include the effective use of digital tools for research, teamwork, and task management, particularly in translation training (Bernardini & Petrović, 2021; Tran, 2023). Tools such as Google Translate, online dictionaries, Microsoft Teams, and Google Drive not only enhance efficiency but also expand access to diverse resources, thereby strengthening students' translation competence. In this study, ICT skills are conceptualized broadly to include basic digital tools (e.g. office applications), collaborative platforms, and language-support technologies. Given this broad operationalization, findings related to ICT skills are interpreted cautiously and discussed in relation to students' perceived readiness rather than specific technical competencies.

2.2. Job Readiness

Job readiness — also referred to as work readiness or labor market readiness — is a key indicator of graduates' employability (Bridgstock et al., 2016) and their potential for workplace success (Caballero et al., 2011). It is shaped by education and training aimed at enhancing task performance and problem-solving abilities (Usman & Choirunnisa, 2020).

In the knowledge economy and globalized labor market, graduates must possess not only domain-specific knowledge but also a broad set of transferable skills (Harvey, 2001). Employers value competencies such as CM, problem-solving, CL, flexibility, and CR (Suarta et al., 2017). Time management, prior work experience, CT, and CR are also critical for labor market competitiveness (Picatoste et al., 2017).

For English majors, potential career paths include teaching, translation and interpretation, media, marketing, public relations, and other language-related fields (Le et al., 2022). To increase employability, they require 21st century skills such as 4Cs-ICT, self-directed learning, time management, problem-solving, negotiation, leadership, and job-search skills.

In summary, job readiness is the integration of professional knowledge, personal skills, and workplace attitudes that are generally associated with graduates' ability to secure employment, adapt to job requirements, and sustain performance. These qualities are cultivated through academic learning, skills training, and real-world experiences that prepare individuals to meet diverse professional responsibilities.

2.3. Previous Studies on 21st Century Skills and Job Readiness

Research on 21st century skills highlights the competencies students need to thrive in the modern workplace and indicates that students generally highly value their importance; however, the extent of their actual application remains limited, particularly in CT, CR, and leadership skills. Gagalang (2020) examined employers' perceptions of English majors, finding high appreciation for persistence, discipline, and fluency in CM in English, but lower satisfaction with organizational and leadership skills. Tran (2023) explored 4Cs-ICT skills in

translation training, revealing students' recognition of their importance but a lack of confidence in CT, limited flexibility in CR, and overreliance on machine translation tools. Nguyen et al. (2021) surveyed education majors and found strong perceptions of CL and CM, but weaknesses in CT and CR due to dependency on teachers and limited practice opportunities. Phan et al. (2022) identified CM and confidence as key strengths among senior English teaching and translation students, though job readiness varied with real-world experience. Nguyen et al. (2022) emphasized the role of soft skills — problem-solving, adaptability, CM, CL, and presentation - in employability, though students' awareness and application remained limited.

Studies on job readiness show significant variation among student groups, often linked to practical experience. Potgieter et al. (2023) found that South African students with higher self-assessed career certainty and job fit adapted better to professional environments. Doe (2015) identified six core work-readiness skills — problem-solving, CM, CL, initiative, adaptability, and professional standards awareness — and noted that internship or teaching-assistant experience strongly enhanced readiness. Le et al. (2022) found that most English majors at Can Tho University preferred English teaching or freelance work, but many lacked clear career goals, with preparation levels depending on study year and practical experience.

Overall, prior studies suggest that while students value 21st century skills, practical application — especially in CT, CR, and leadership — remains limited. To date, limited research has specifically examined final-year students' self-assessment of job readiness based on the 4Cs-ICT framework. This gap forms the focus of the present study, aiming to provide deeper insights into this transitional stage from academia to the labor market.

3. Methodology

3.1. Pedagogical Setting and Participants

The study was conducted during the 2024-2025 academic year with final-year English majors at HaUI. In this period, students attended classes for only 10 weeks in the first semester before starting their internships. Most had part-time jobs and had begun considering their future career plans.

The target population comprised fourth-year English majors (cohort 16) from the Faculty of Foreign Languages, School of Languages and Tourism, HaUI. Although a larger sample was initially intended, only 47 valid responses were collected due to access and participation constraints. This limited sample size provides context-specific and exploratory insights into the perceptions of final-year English majors at HaUI (Dillman et al., 2014). Graduates were expected to enter diverse fields such as translation, interpreting, tourism, hospitality, marketing, business, diplomacy, media, digital content, management, academia, and other English-related careers in multicultural and globally integrated contexts. Their curriculum included core language skills (listening, speaking, reading, writing), specialized courses such as Translation Theory, Translation Practice, Interpreting Practice, Intercultural Communication, and English-Speaking Countries' Studies. Practical projects — e.g., bilingual magazine production, translation portfolios, subtitling tasks, and group presentations — were designed to develop both professional expertise and soft skills. ICT courses focused mainly on office applications, with 4Cs skills integrated into teaching activities rather than taught as separate modules.

3.2. Data Collection and Analysis

An explanatory sequential mixed-methods design was adopted in this study. Specifically, quantitative data were collected and analyzed first to identify general trends in students' perceptions and self-assessed proficiency in 4Cs-ICT skills. Subsequently, qualitative

interviews were conducted to explain, elaborate, and contextualize the quantitative findings by exploring students' lived experiences, specific examples, underlying reasons for their self-assessments, and suggestions for improving employability-related skills within the curriculum.

The survey consisted of three demographic questions and thirty items adapted from Tran (2023), Facione et al. (1995), Gafour and Gafour (2020), Adu-Oppong and Agyin-Birikorang (2014), and Rana et al. (2024). These sources were selected because they share a similar focus on developing skills within educational or training contexts, thereby facilitating individuals' readiness for the labor market, and their research participants are also comparable to those in the present study. Items 1–11 assessed perceptions of the importance of 4Cs-ICT skills, while items 12–30 measured self-rated proficiency in 4Cs-ICT skills on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Steps were taken to enhance the content validity of the questionnaire. All items were adapted from established instruments and reviewed to ensure relevance to the Vietnamese higher education context. The questionnaire was translated into Vietnamese and pilot-tested with 10 final-year English majors prior to the main data collection. Overall, the items were evaluated as relatively easy to understand; however, one item was removed due to redundancy in meaning, and minor wording adjustments were made to improve clarity and contextual appropriateness.

The reliability of the questionnaire was analyzed using Excel software. Overall, the Cronbach's Alpha coefficients range from 0.77 to 0.93, indicating good internal consistency and acceptable reliability for exploratory research in educational contexts.

The semi-structured interviews were conducted with 11 students who voluntarily consented to participate. The number of interviewees was considered sufficient for diverse perspectives and data saturation (Guest et al., 2006). A flexible interview guide allowed open discussion of key topics, and anonymity was maintained using coded identifiers (S#1–S#11). Each interview lasted approximately 15–20 minutes and was conducted offline and in Vietnamese to allow participants to express their views freely. Due to participants' preferences and ethical considerations, the interviews were not audio-recorded. Instead, detailed notes were taken during and immediately after each interview, focusing on key ideas, illustrative statements, and recurring patterns. The notes were completed shortly after each interview to add missing contextual details while maintaining participants' original wording and intended meanings.

The data from both methods were collected and analyzed using Microsoft Excel. Survey data were summarized using descriptive statistics and presented in tables and charts. Interview data were analyzed thematically following a structured coding process guided by the research questions. Specifically, initial codes were assigned to meaningful segments of the interview notes, which were then grouped into broader categories and further refined into themes through iterative comparison across participants. Representative quotations were selected to illustrate each theme.

4. Findings

4.1. Survey Results from the Questionnaire

4.1.1. HaUI's Final-Year English Majors' Perceptions of the Importance of 4Cs-ICT

Students' perceptions of the importance of 4Cs-ICT for their future careers are illustrated in Figure 1 and Table 2 below.

Figure 1

Perceptions of the Most Important Skill Among 4Cs-ICT

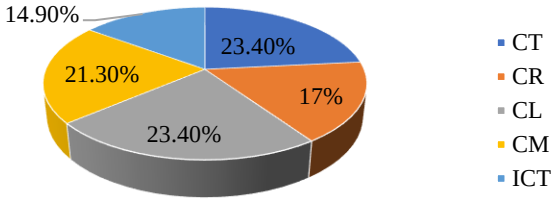

Table 1

Perceptions of the Importance of 4Cs-ICT

No	Skill	Item	1	2	3	4	5
1	CT	Improvement of reasoning, problem-solving, and career success	2.13%	0.00%	6.38%	34.04%	57.45%
		Enhancement of analytical ability, information evaluation, and sound decision-making	2.13%	0.00%	2.13%	40.43%	55.32%
2	CR	Irreplaceable skill despite AI advancement	2.13%	2.13%	8.51%	46.81%	40.43%
		Core element of human resource development in the knowledge economy	2.13%	0.00%	12.77%	46.81%	38.30%
3	CL	Enhancement of emotional security, self-confidence, and decision-making ability	2.13%	4.26%	2.13%	59.57%	31.91%
		Improved problem-solving and work performance”	2.13%	4.26%	17.02%	36.17%	40.43%
4	CM	Strengthening of cohesion, trust, and job satisfaction	2.13%	0.00%	6.38%	53.19%	38.30%
		Fostering of a positive and productive work environment	4.26%	0.00%	10.64%	42.55%	42.55%
5	ICT	Essential requirement for job readiness and career advancement in globalization	4.26%	2.13%	10.64%	46.81%	36.17%
		Promotion of knowledge-sharing culture and connectivity	2.13%	2.13%	14.89%	53.19%	27.66%

The results from figure 1 indicate that CT (23.40%) and CL (23.40%) are considered the two most important skills, reflecting students’ awareness of the necessity of analyzing, evaluating issues, and working in teams in both academic and professional contexts. CM (21.30%) ranks third, indicating students also recognize the role of effectively conveying ideas in learning and work. Meanwhile, CR (17.00%) and ICT (14.90%) have lower percentages. This pattern may reflect students’ perception that CT and CL have higher practical applicability and that because technology has become an integral part of daily life, students consider ICT skills less critical than other skills.

The data in table 2 provides a more detailed view of respondents’ agreement levels regarding the importance of 4Cs-ICT. Overall, the majority of respondents either agreed or strongly agreed with the statements on the roles of these skills, while the proportion of

disagreement was relatively low (2.13%–6.39%). Specifically, CT received the highest level of agreement, with over 90% stating that it improves reasoning, problem-solving, and work success (91.49%), as well as enhances the ability to analyze, evaluate information, and make sound decisions (95.75%). Neutral responses ranged from 2.13% to 6.38%, and almost no respondents completely disagreed.

CR also received strong support, with about 87% agreeing that it remains irreplaceable even in the age of AI, and a similar proportion (85.11%) viewing it as a key factor in human resource development within the knowledge economy. However, compared to CT, CR had a higher proportion of neutral responses, particularly regarding its role in workforce development (12.77%).

CL was also highly valued, especially for enhancing emotional safety, confidence, and decision-making (91.48%). However, agreement was lower (76.6%) when considering its role in problem-solving and improving work efficiency, with 17.02% remaining neutral, suggesting some uncertainty about its significance in the modern workplace.

For CM, 91.49% believed it strengthens cohesion, trust, and job satisfaction, while agreement on its role in creating a positive and productive work environment was slightly lower (85.1%) but still predominant. Very few respondents disagreed, indicating this skill is widely appreciated.

Finally, ICT skills, while still rated important, had lower agreement levels compared to other skills. About 82.98% agreed it is essential for job readiness and career development in a globalized context, yet the neutral rate was relatively high (10.64%). Notably, the statement on ICT's role in promoting a culture of knowledge sharing and connection had the lowest "strongly agree" rate (27.66%) and the highest neutral rate (14.89%), suggesting this remains a debated area.

In summary, within this cohort of final-year English majors at HaUI, students affirmed that 4Cs-ICT are essential 21st century skills, particularly CT and CL. Although ICT skills are recognized as important, a portion of respondents remain uncertain about their role in fostering knowledge sharing and connectivity.

4.1.2. Self-Assessment of Final-year English Majors at HaUI Regarding Their Proficiency in 4Cs-ICT

Figures 2-5 and table 3 illustrate the self-assessment of final-year English majors regarding their readiness to enter the labor market based on their 4Cs-ICT.

Figure 2

Self-Assessment of CT

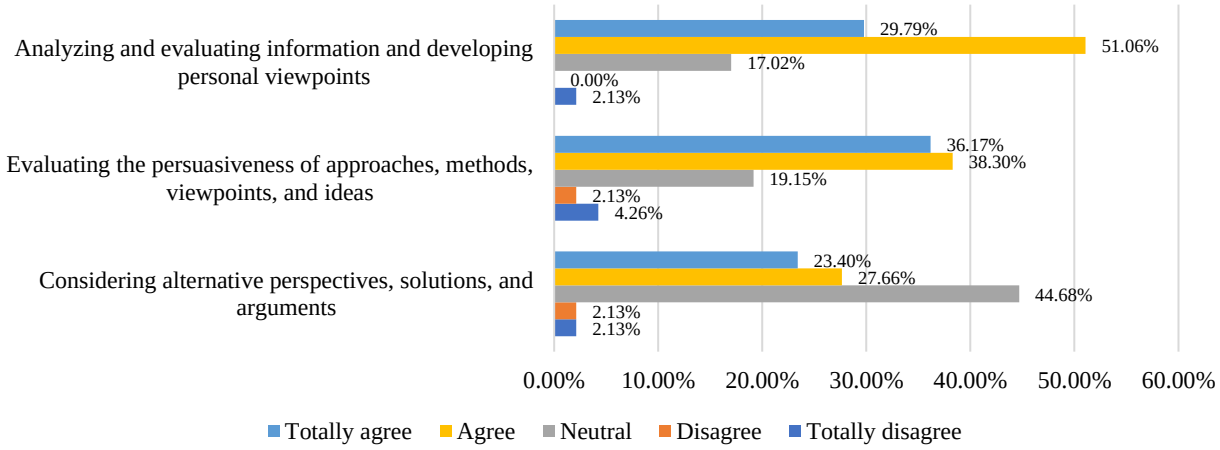

Figure 3

Self-Assessment of CR

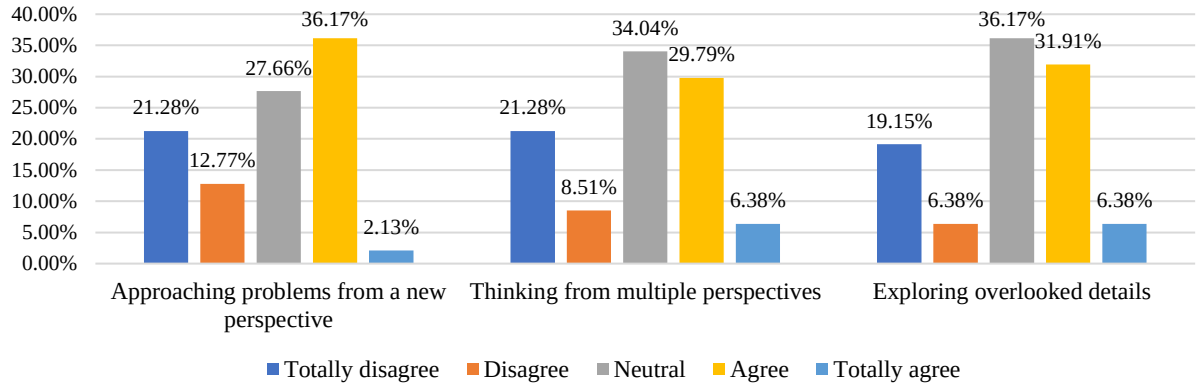

Figure 4

Self-Assessment of CL

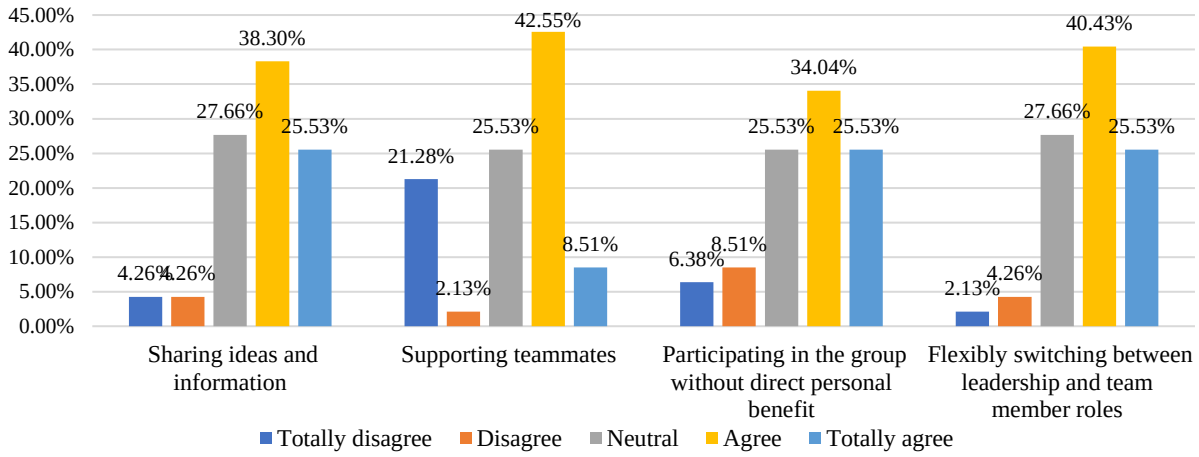

Figure 5

Self-Assessment of CM

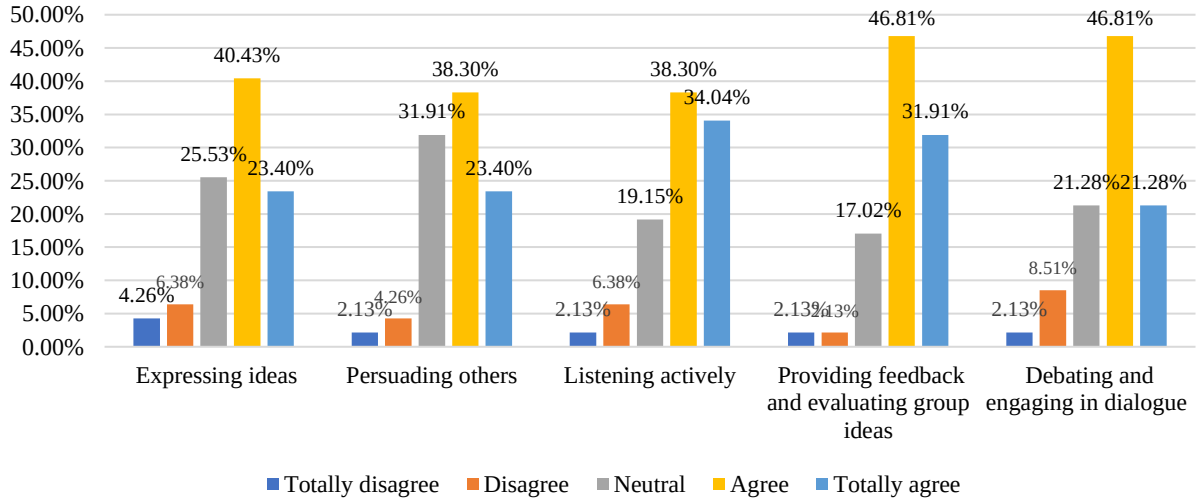

Table 2

Self-Assessment of ICT

Item	1	2	3	4	5
Identification of trustworthy sources of information.	2.13%	6.38%	23.40%	46.81%	21.28%
Effective use of supporting tools such as Google Translate, Mobile Dictionary Apps, or similar software	27.66%	8.51%	25.53%	29.79%	8.51%
Effective use of collaborative digital tools such as Microsoft Teams, Google Drive, Google Doc, Google Slides, or OneDrive.	4.26%	8.51%	17.02%	42.55%	27.66%
Adaptability to new technology related to my studies.	2.13%	10.64%	27.66%	29.79%	29.79%

It can be seen from the above figures and table that the participants in this study demonstrated a fairly high level of CT, particularly in evaluating arguments and analyzing information, with 74.7% agreeing on the need to assess the persuasiveness of ideas and 80.85% showing strong agreement on analyzing information before forming a viewpoint. Additionally, 51.06% of respondents agreed that they consider alternative perspectives before accepting information, reflecting a tendency toward thoughtful decision-making. Nonetheless, a significant proportion, such as the 44.68% who remained neutral about considering alternative possibilities, still does not thoroughly explore different options. This means that while they have developed the habit of evaluating information, some students are not yet proactive in seeking or analyzing opposing perspectives and alternative solutions. These findings highlight that, despite having a solid foundation in CT, students still need to strengthen their ability to evaluate from multiple angles and enhance flexibility in problem-solving approaches.

Meanwhile, the students' CR abilities remain limited, especially in approaching problems from new perspectives (34.05% agreed), thinking from multiple perspectives (29.79% agreed), and identifying hidden details (25.53% agreed). The proportion of students ready to change their approach or connect multiple ideas simultaneously is still relatively low. This underscores the need to foster flexible thinking and CR through innovative teaching methods and practical training. Such development is particularly critical for English majors, who require CR not only in CM but also in analyzing, interpreting, and applying language in a flexible manner.

In addition, the respondents show moderate CL skills, particularly in role flexibility (65.96% agreed) and idea/information sharing (63.83% agreed), indicating a proactive spirit in teamwork. However, mutual support appears weaker, with only 51.06% agreeing to help teammates and 59.57% willing to join group activities without direct personal benefits. A notable proportion of students remained neutral across CL criteria (25.53%–27.66%), indicating uncertainty or limited practical experience. This suggests that while students display strengths in role adaptability and information sharing, there is room for improvement in fostering mutual support and group responsibility to enhance team cohesion and effectiveness.

CM skills are relatively strong among the cohort, particularly in providing and evaluating group feedback (46.81% agreed, 31.91% strongly agreed) and active listening (38.30% agreed, 34.04% strongly agreed). However, some students remain less confident in persuasion (6.38% disagreed, 31.91% neutral), expressing ideas (10.64% disagreed, 25.53% neutral), and engaging in debate (10.64% disagreed, 21.28% neutral). Taken together, while students show strengths in listening and feedback, there is a need to further develop their ability

to express ideas, persuade others, and participate in constructive debate to enhance CL and CM effectiveness in academic and professional contexts.

English majors in this study generally demonstrate adequate ICT skills, particularly in using CL tools such as Google Drive and Microsoft Teams, with 70.21% expressing confidence. More than two-thirds also reported feeling capable of identifying reliable information sources. However, proficiency with language-support tools like Google Translate is lower, with only 38.3% agreeing or strongly agreeing and 36.17% disagreeing or strongly disagreeing. Regarding learning new academic technologies, 59.58% reported no difficulty, while 27.66% were neutral and 12.77% disagreed. Overall, the students show solid ICT skills for study and CL, but limitations remain in specialized language-support tools, highlighting the need for practical technology training to prepare them for professional environments.

4.2. Interview Results

4.2.1. HaUI's Final-Year English Majors' Perceptions of the Importance of 4Cs-ICT

The interview findings regarding the importance of 4Cs-ICT were largely consistent with the survey results. All interviewed students affirmed that 4Cs-ICT skills are crucial for their future careers as well as their current studies and daily life. They perceived these skills as closely related to their adaptability and success after graduation. Participants also explained in detail why 4Cs-ICT were important, with particular emphasis on CT and CR. Analysis of the interview data revealed one overarching theme concerning the perceived relevance of 4Cs-ICT to discipline-specific professional practices, particularly in teaching and translation-related contexts.

For example, S#2, who aspires to become a lecturer and open an English center, stated "CT helps me choose appropriate teaching materials for my students and support their progress. CR enables me to design engaging games to make lessons more interesting and inspiring. CL helps me find like-minded people, expand my professional network, and develop more classes. CM is especially important for conveying ideas clearly and building good relationships with students, colleagues, and parents. ICT skills are essential for better CM and online information access, as well as for sharing knowledge and collaborating - core elements in most work environments."

Similarly, S#4 — another participant pursuing a teaching career — shared "4Cs-ICT forms a solid foundation for my professional growth in education. CL allows me to share knowledge, co-develop curricula, and create better learning outcomes while fostering a positive working environment. CR helps me design innovative teaching methods, improve lesson delivery, and make classes more engaging, stimulating curiosity and CR in students. CT supports me in analyzing and evaluating information to ensure teaching and learning quality."

S#3 further added "ICT skills enhance teaching effectiveness, help design appealing lessons, and apply technology to improve students' skills," and emphasized that CM is "particularly important in an educational setting."

While S#10, S#5, and S#1 did not specify their future careers, they highlighted the value of ICT in enabling quick information search, efficient sharing, and enhanced CL.

From a translation-oriented perspective, S#8 remarked: "4Cs-ICT plays a vital role in translation. CM helps me interact effectively with clients to fully understand requirements and context -especially in legal contracts, where accuracy and clarity are critical. CL is essential in translation projects; for example, in game localization, translators must work closely with programmers and designers to ensure translations match the user interface and gaming experience. CR is indispensable when translating advertising content, ensuring not only

meaning accuracy but also delivering an engaging message tailored to the target audience. Proficiency in translation tools like Trados or Google Translate can improve both speed and accuracy, but post-editing is still necessary for quality. This is why CT is especially important —it enables contextual evaluation to select the most appropriate rendering, particularly for polysemous terms." This perspective highlights the discipline-specific relevance of 4Cs–ICT, demonstrating how these skills are perceived as essential for handling complex translation tasks that require accuracy, contextual judgment, and cross-functional CL. Taken together, these accounts indicate that students primarily understood the importance of 4Cs–ICT through their applicability to concrete professional tasks rather than as abstract or standalone competencies.

4.2.2. Self-Assessment of Final-Year English Majors at HaUI Regarding Their Proficiency in 4Cs-ICT

When asked about their confidence in 4Cs-ICT skills, most students expressed confidence in only one skill (S#7, S#9) or a few skills (S#1, S#2, S#3, S#5, S#6, S#8), and only to a moderate extent. S#11 admitted being fairly confident in all five skills but still felt the need for improvement. Meanwhile, S#4 and S#10 reported to be quite confident in all skills, but in-depth interviews revealed that this confidence was primarily associated with basic or familiar applications rather than advanced or strategic use. Specifically, they only demonstrated abilities such as "identifying reliable information sources" (S#4); "using office software for drafting documents, common translation tools like Google Translate, ChatGPT, Gemini, and online design platforms like Canva for magazine layouts, as well as software like Kahoot and Quizlet to create games" (S#4, S#10); and "using Excel to manage project progress" (S#4). However, they admitted "not knowing how to explore and learn about newly emerging AI tools that could benefit their work" (S#4, S#10). S#10 also stated "I don't know how to evaluate information before making a final conclusion." This indicates that these students primarily associated ICT and CT proficiency with basic functional use, indicating potential gaps in more advanced or reflective application of these skills.

The skills students felt most confident in were CM, CL, and ICT. S#2 shared: "I'm talkative but also a good listener. I can empathize with others, understand their mindset, and know how to persuade them. I'm currently working part-time at an English center, and I can express my ideas clearly, adjust my speech for different audiences, and make my message easy to understand." S#4 added: "I can encourage everyone to share their ideas and make jokes to ease a tense atmosphere." S#9 stated: "Even in a new and unfamiliar environment, I can present my views, listen to others, and communicate effectively."

Regarding CL, several students affirmed their ability to "work in teams, listen, and discuss to achieve common goals" (S#11, S#2, S#4, S#7). S#4, S#5, and S#7 provided specific examples: "When working on major assignments such as translation projects, I'm always ready to share ideas and support teammates. I not only contribute to writing but also help others edit and improve the content."

For ICT skills, most students reported that they identified reliable information sources by "checking if it is published by a credible expert or organization, or if it includes references" (S#6, S#11), "looking for websites with .edu or .gov domains", or "checking if the information is regularly updated" (S#4, S#9). S#5 and S#6 also mentioned being able to "self-learn new applications". S#6 elaborated: "I usually watch online tutorials or read user manuals to learn how to use technology. Once I grasp the basics, I try to apply them to my assignments." S#3 noted: "I can use Google Classroom, Zoom, Kahoot, and Liveworksheets to support online teaching and create interactive exercises for students".

The skills students felt least proficient in were CT and CR. Only three students (S#4, S#10, S#11) felt confident in CT, and four students (S#4, S#10, S#11, S#9) in CR. However, even these students faced challenges applying these skills in practice. S#11 admitted "struggling to construct logical arguments to refute or support others' opinions" and "still not knowing how to dig into the hidden nuances of words when translating." S#9 confessed "mainly relying on ideas from the internet instead of developing my own original ideas." In particular, regarding CT, S#1 explained: "Before making a conclusion, I usually weigh the pros and cons. If there are more pros, I'll decide in favor, and vice versa."

The interviewed students also discussed the causes of their limitations in 4Cs-ICT skills, citing both subjective and objective factors, with subjective reasons being the most common. A summary of the identified barriers is presented in the following table.

Table 3

Barriers to 4Cs-ICT Skills

	Subjective reasons	**Objective reasons**
CT & CR	- Fear of making mistakes, lack of confidence, anxiety about negative evaluation, or concern that their ideas will not be accepted. (S#1, S#2, S#4, S#5, S#6, S#9, S#10, S#11) - Habitual thinking patterns, being accustomed to traditional approaches, reluctance to change, or lack of initiative to explore new perspectives. (S#2, S#6, S#10, S#11) - Difficulty in objectively analyzing information, limited ability to ask questions and seek information. (S#6, S#10) - Distracted by online entertainment platforms, making it difficult to focus on developing thinking skills. (S#1) - Lack of motivation and curiosity due to disinterest in subjects or no habit of in-depth exploration. (S#6) - Poor time management: heavy class schedules, part-time jobs, and extracurricular activities leave little time for reflection and analysis. (S#6) - Limited practical experience: few opportunities to apply knowledge in real-world contexts hinder the ability to view problems from multiple perspectives. (S#5, S#8, S#7, S#10) - Lack of practice in CT to evaluate and challenge opposing viewpoints. (S#2)	- Traditional teaching methods: lecturers mainly deliver one-way lectures, with few opportunities for discussion and debate. (S#3, S#4, S#6, S#10, S#11) - Non-open learning environment: students are not encouraged to express creative ideas or try new approaches. (S#6, S#11) - Pressure from grades and expectations: students focus more on achieving high marks than experimenting with new ideas. (S#6, S#9, S#10) - Lack of guidance from lecturers: no clear direction on flexible problem-solving, limiting students' ability to self-assess and make sound decisions. (S#3, S#4, S#10) - Limited access to diverse references and information sources, making it difficult to gain multi-perspective views. (S#6) - Unclear assessment criteria: uncertainty about evaluation standards discourages proposing new ideas. (S#6)
CL	- Limited sense of responsibility, reliance on others to complete tasks. (S#1, S#2, S#4, S#5, S#6, S#8, S#9, S#10, S#11) - Not seeing personal benefits in participating in group work. (S#2, S#4, S#5, S#8, S#10) - Lack of motivation or interest in group tasks. (S#6, S#8) - Lack of self-confidence, fear of negatively affecting the group. (S#7)	- The learning environment does not encourage cooperation or recognize individual contributions. (S#4) - Poor CM, leading to misunderstandings and weak connections among members. (S#4, S#10, S#11) - Pressure from grades and personal achievements encourages competition instead of cooperation. (S#6)

	- Conflicts among members due to personality differences. (S#1, S#3, S#11) - Lack of trust, reluctance to share ideas or support others. (S#6, S#11) - Unclear task allocation, leading to shirking responsibilities. (S#2, S#4, S#6, S#10, S#11) - Individualistic mindset, focusing mainly on personal tasks without assisting others. (S#6) - Lack of initiative to practice CL skills. (S#2)	
CM	- Lack of confidence: uncertainty about ideas, fear of mistakes, rebuttal, or negative evaluation; concern that contributions may lack value compared to others. (S#1, S#6, S#7) - Inability to express ideas clearly, coherently, and persuasively; lack of mastery over tone, body language, and logical reasoning. (S#5, S#6, S#11) - Fear of conflict: reluctance to debate for fear of causing disputes or offending others. (S#4, S#8, S#9, S#10) - Insufficient knowledge and information, causing insecurity and inability to defend or rebut effectively. (S#4, S#6, S#11) - Conservative or indifferent mindset: unwilling to seek common ground or change opinions. (S#8) - Lack of real-world experience, resulting in slow responses and low confidence in CM. (S#6, S#10)	- Non-open learning environment that does not encourage debate or argumentation. (S#3, S#6)
ICT	- Poor self-learning habits, lack of initiative in exploring and updating applications. (S#4)	- Curriculum mainly focuses on office computing, with little diversity in ICT content, limiting exposure to modern software. (S#4) - Limited instruction in translation software and support tools, resulting in ineffective usage. (S#4) - Lack of guidance on using technology in learning. (S#11)

In addition, S#11 emphasized that the university "lacked early orientation regarding the importance of 4Cs-ICT".

4.2.3. Proposals for Enhancing 4Cs-ICT Skills Among English Majors at HaUI

Through interviews, students also expressed several expectations for lecturers and the university to help English majors improve their 4Cs-ICT skills. Specifically:

- S#2, S#3, S#4, S#6, S#9, S#10, and S#11 expected the university to integrate these skills into the official curriculum and organize a variety of extracurricular activities. S#2, S#4, and S#6 emphasized that designing assignments and projects requiring students to think critically, act creatively, and work collaboratively is very important. S#6 also provided detailed suggestions for teaching activities such as encouraging students to analyze and evaluate different perspectives, promoting debates, and organizing brainstorming sessions, workshops,

and projects on translation, editing, and creative writing. This student also stressed that competitions and events related to English, translation, culture, and the arts would help students practice and showcase their skills.

- S#4 shared that enhancing group discussions on topics related to language and culture is also an effective way to encourage students to develop CT and CM skills. S#3, S#10, and S#11 believed that the university should encourage and create opportunities for students to participate in real-world projects to develop their CT and CL skills.

- S#3, S#4, S#5, S#6, S#7, S#10, and S#11 also expressed their desire for the university to organize short courses or workshops on 4Cs-ICT skills so that students can learn these skills systematically (S#5).

- Students also mentioned creating a positive learning environment, such as encouraging self-learning and exploration (S#4), providing online learning resources and establishing study clubs (S#3, S#5), and organizing thematic seminars, offering practical experience through group projects, as well as developing flexible and friendly learning spaces to foster interaction and CL among students (S#9, S#8).

In summary, the interviews revealed that English majors are aware of the importance of 4Cs-ICT; however, they are not yet fully proficient or confident in these skills due to various subjective and objective factors. To address this, students proposed several solutions involving both lecturers' and the university's roles.

5. Discussion

Firstly, in terms of perceptions about the importance of 4Cs-ICT, the survey and interview results both indicate that final-year English majors at HaUI have a high awareness of the essence of 4Cs-ICT for their future careers. This finding reinforces and expands upon previous discoveries regarding 21st century skills among English majors. Similar to the studies by Nguyen et al. (2021) and Tran (2020), students in this study highly appreciate CT and CL, reflecting a common recognition of the importance of analytical skills, problem evaluation, and CL. This result also aligns with the conclusion of Phan et al. (2022), where both students and employers emphasized the role of CM skills and confidence.

Specifically, while CL is highly valued for its ability to enhance teamwork efficiency and foster a positive environment, CM helps build good workplace relationships; CT and CR assist students in improving reasoning skills as well as problem-solving and approaching issues from new perspectives, thus increasing work effectiveness. These skills were also emphasized in interviews as important factors for students with clear career orientations, such as lecturers or translators, who acknowledged that these skills significantly support their learning and professional practice. These results are consistent with Bernardini and Miličević Petrović's (2021) research regarding labor market demands on language students.

However, some differences exist between the survey and interview results. In the survey, ICT skills received a lower level of agreement compared to other skills. Meanwhile, interviews revealed that many students consider ICT as an important supportive tool in teaching and translation. This discrepancy may be because students were less aware of the role of ICT when answering the survey but were able to relate it more clearly to real study and work situations during in-depth interviews.

In addition, in terms of students' self-assessment about their proficiency levels in 4Cs-ICT, both survey and interview results show that students are not very confident in their

competence in 4Cs-ICT, especially in CT and CR. Survey results indicate that although students highly value CT, nearly half of respondents remain neutral about their ability to consider multiple viewpoints before drawing conclusions. Similarly, students' CR is at an average level, with a lower agreement rate than other skills. In interviews, only a few students (S#4, S#10, S#11) expressed confidence in their CT and CR abilities. However, even these students admitted difficulties in applying these skills practically, such as logical reasoning or developing creative ideas. This reflects that students may feel more confident in some contexts but still face limitations in real work situations. The findings are consistent with Tran's (2020) research which found that students, while aware of the importance of 4Cs-ICT, lack confidence in CT and face challenges in CR.

Notably, CM and CL skills received higher self-confidence ratings in both surveys and interviews. Students feel comfortable working in teams, listening to, and responding to others' opinions. However, some still struggle to express ideas persuasively or debate effectively. This result aligns with Gagalang's (2020) study, where employers appreciated English major students' CM skills but were less satisfied with their organizational and leadership abilities, and suggests that leadership skills and the ability to defend personal viewpoints in teamwork remain areas needing attention.

However, although the training program aims to equip students with competencies to work in various fields such as media, tourism, business, diplomacy, digital content, or academic research, in practice, most students in this study mentioned only familiar fields like teaching or translation. This suggests that students' career vision may still be limited. In other words, they appear to lack a comprehensive understanding or clear visualization of the practical application scope of their field. This limitation may affect their ability to flexibly and creatively apply 4Cs-ICT skills across diverse fields and impact their professional confidence when entering the labor market.

Another notable difference is that in the survey, students tended to be neutral when self-assessing proficiency, but in interviews, they shared more specific difficulties and factors affecting their 4Cs-ICT proficiency. This means that interviews help clarify points that surveys might not fully capture.

The reasons students mentioned include both subjective and objective factors. Subjective factors include fear of making mistakes, lack of confidence in expressing opinions, fixed thinking habits, reluctance to change, lack of motivation and curiosity in learning, poor time management influenced by class schedules and part-time work, and lack of proactiveness in skill training. Objective factors include teaching methods that do not encourage debate and CT, lack of opportunities to practice skills in real environments, and curriculum content not fully integrating 4Cs-ICT. These reasons are also mentioned in Phan et al.'s (2022) study, which pointed out that although students recognize the importance of professional skills, their readiness depends greatly on teachers and practical experiences. This aligns with Doe's (2015) study, where students with internship or teaching assistant experience showed significantly higher work readiness.

6. Conclusion and Recommendations

In conclusion, the results indicate that, although final-year English majors at HaUI are well aware of the importance of 4Cs-ICT for their future careers, they are not fully confident in their proficiency in these skills, particularly in CT and CR. This suggests that within this cohort, students' job readiness may still require further development, especially in higher-order cognitive and creative skills to enter the highly competitive labor market of the 21st century. Students also

identified the causes of these limitations, including both subjective factors related to the learners themselves (confidence, motivation, and learning habits) and objective factors stemming from the curriculum and learning environment, and expressed certain expectations of the university to enhance these skills. Their suggestions include integrating 4Cs-ICT skills into the curriculum, increasing extracurricular activities with practical components, and improving the learning environment to promote self-directed and active learning.

Based on these findings, it can be asserted that enhancing 21st century skills in general, and 4Cs-ICT in particular, for English majors is an essential and urgent requirement, especially as the current labor market increasingly demands soft skills, ICT competencies, and the ability to adapt to multicultural work environments. This also provides a practical basis to propose actionable solutions for universities, instructors, and students, contributing to improved training quality and graduates' professional competitiveness. The following are some specific recommendations:

For the university: The university should integrate 21st century skills, especially 4Cs-ICT, into both foundational and specialized courses by redesigning the curriculum. Project-based and problem-based learning, combined with diversified assessments (group/individual work, peer review, instructor feedback), can foster CT and CR. Interdisciplinary and cross-cultural group activities, academic exchanges, and competitions can strengthen CM and CL. Specialized modules on digital technology for language learning should be included, focusing on information searching, source evaluation, and the use of CAT tools and writing assistants. Investment in technological infrastructure, updated software, digital resources, and AI-integrated LMS platforms is also vital. Regular seminars with industry experts and alumni can also connect students with real work.

For lecturers: Lecturers should adopt integrated teaching approaches (blended, project-based, cooperative learning) to develop 4Cs-ICT skills, while creating classrooms that encourage critique, debate, and independent thinking. They need to stay updated on new technologies and embed ICT/AI applications in lessons, guiding students on ethical and critical use of AI tools. Lecturers should also encourage participation in extracurricular activities, clubs, and projects to help students practice and apply soft skills in real settings.

For students: Students should proactively cultivate 4Cs-ICT, continuously update themselves on labor market trends, and build personal learning plans. CT can be developed by questioning, cross-checking information, and reflecting on AI outputs; CR through content creation such as podcasts, subtitled videos, and skits; CL and CM by joining group projects and building a personal brand on digital platforms; ICT through online courses, practice with translation tools and AI applications, and participation in professional forums or international student communities.

In summary, to enhance 21st century skills, particularly 4Cs-ICT, for English major students, a coordinated effort among the university, lecturers, and students is essential. The combination of measures above will not only help English majors at the university improve their 21st century skills but also contribute to forming a generation of dynamic, flexible graduates ready to adapt to a global labor market that is increasingly volatile and digitalized.

7. Limitations

Despite the valuable insights gained from this study, some limitations remain, such as a limited survey sample size due to fewer student responses than initially expected. The study also only focused on 4Cs-ICT and did not explore relationships between awareness, usage levels of 4Cs-ICT skills, and students' work readiness. In addition, in this study, job readiness is conceptualized as perceived readiness based on students' self-assessment rather than objective

performance measures. Accordingly, the reliance on self-reported data may limit the accuracy of the findings, as students' perceptions of their 4Cs–ICT proficiency may not fully reflect their actual skill performance in authentic academic or professional contexts. These limitations could be topics for further research both within and beyond Hanoi University of Industry.

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