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Digital Plagiarism in EFL Education during the AI Era: A Comparative Study of Perceptions among Learners and Instructors in Korea, Mongolia, and China

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ABSTRACT

This study aimed at examining the issue of digital plagiarism within EFL education across Korea, Mongolia, and China in the era of Artificial Intelligence, focusing on how AI technologies affect academic integrity. It investigated both learners' and instructors' perceptions of digital plagiarism, shedding light on the impact of cultural and role-specific factors. The research utilized 11 scenario-based survey items, categorized by the extent of AI usage, from direct to indirect use. Through a quantitative analysis of these survey items, the study uncovered variances in perceptions of digital plagiarism not only between nationality groups but also between instructor and learner groups within particular cultures. The findings highlighted the imperative for explicit policies, ethical

	guidelines, and pedagogical strategies that are culturally attuned to confront digital plagiarism and uphold academic integrity, especially in L2 writing education. **Keywords**: digital plagiarism, comparative study, perception survey, use of AI-based tools in L2, writing practice

Introduction

In the era of Artificial Intelligence (AI), the landscape of academia has seen an increase in cross-language plagiarism (Longoni et al., 2023; Tripathi et al., 2024), particularly within the domain of second language (L2) writing classes (Al-Sofi, 2024; Jarrah, et al., 2023). Moreover, the introduction of advanced technologies and the availability of digital resources have revolutionized the way learners at higher education approach research, writing, and learning in L2 (Zhang & Yi, 2023; Zhao, 2023). Although these digital advancements offer unprecedented opportunities for academic growth, they also create a new challenge for plagiarism (Sharma & Verma, 2020), thereby posing complex problems for upholding academic honesty. Consequently, this trend introduces the issues of academic plagiarism in L2 writing classes, where the intersection of language barriers and technological progress can significantly influence learners' perceptions toward digital plagiarism and their performance.

Furthermore, plagiarism has emerged as a widespread issue within the academic community, with instances detected in various types of student assignments, including reports, homework, and projects, among others. Specifically, academic plagiarism involves the use of ideas, content, or structures without proper attribution to the source (Fishman, 2009). Learners utilize various strategies for plagiarism, ranging from severe forms like directly copying source material to subtle methods such as partially paraphrasing by altering grammatical structures or replacing words with synonyms, as well as using online paraphrasing services to rephrase texts (Elkhatat, 2022; Meuschke & Gipp, 2013; Sakamoto & Tsuda, 2019). Thus, plagiarism represents a serious breach of ethical conduct (East, 2010) and is considered one of the most severe forms of research misconduct, endangering the development and evaluation of essential competencies (e.g., writing ability). Therefore, implementing measures to reduce plagiarism is crucial for sustaining academic integrity and preventing such dishonest practices in students' future academic and professional efforts (Elkhatat, 2022; Foltýnek et al., 2020).

In light of this recent change involving AI-powered educational tools and chatbots, it is imperative to understand the perceptions of learners and instructors, as a means to effectively educate and prevent such academic misconduct. A body of research identified various factors contributing to plagiarism, including time constraints (Eret & Gokmenoglu, 2010 ; Rustan & Thaha, 2023), linguistic barriers (Marom, 2022), and ambiguity in institutional policies on plagiarism (Williams, 2020). While cultural ethical factors are not determined as the primary cause, they nonetheless played a significant role in the occurrence of plagiarism among L2 learners (Bretag, 2013; Li, 2017; Park, 2003; Pecorari, 2003). Given this trend, the question arises regarding what constitutes digital plagiarism in academic writing. Thus, this study aimed to examine L2 learners and instructors' current understanding of plagiarism and AI-generated writing, focusing on individuals from diverse cultural backgrounds, including Korea, Mongolia, and China.

Literature Review

This literature review intends to provide a comprehensive overview of the complex issues of academic plagiarism within the context of technological advancements in the AI era. It explored the definition of plagiarism, the impact of technology, and perceptions of plagiarism from both students' and instructors' perspectives, while also considering the influence of cultural differences.

Definition of Plagiarism

Plagiarism is a multifaceted concept that extends beyond mere copying to involving a broad spectrum of actions influenced by cultural, educational, and technological factors. Zare-ee and Khalili (2016) conducted a comprehensive review of relevant literature, engaging in an in-depth discussion of the complex interplay among cultural, educational, and technological factors that contribute to instances of plagiarism. The authors emphasized that plagiarism should not be seen simply as an act of copying but rather as a phenomenon shaped by a complex interplay of various factors. Additionally, they suggested a set of recommendations that aimed to enhance awareness, prevention, and management of plagiarism, with a particular focus on the essential role of instructors in guiding learners through the challenges of maintaining academic integrity within the context of L2 writing.

This view is echoed by Park (2003) and Kim and Uysal (2021), who observed that plagiarism is a complex and subtle concept, characterized by a "wide, murky borderland" between imitation and theft, borrowing and

plagiarism (p. 475) while Freedman (1994) has defined plagiarism as "an attack on individuality, on nothing less than a basic human right (p. 517)." Leatherman (1999) and Wagner (2014) further explored these themes, focusing on the unaware use of content and the evolving definitions of plagiarism in academic discourse. In some cases, authors may unknowingly use content from original sources, treating it as their own work without proper citation. As Leatherman (1999) notes, this highlights the moment when an idea becomes part of general knowledge and no longer requires attribution.

Technological Impact on Plagiarism

Technological advancements have significantly influenced plagiarism, with digital resources and AI tools reshaping how information is accessed and utilized (i.e., Hajrizi et al. 2019; Roostaee et al. 2020; Sakamoto & Tsuda 2019; Yang et al., 2019). A recent study conducted by Anders (2023) attempted to cover the ethical implications and potential misuse of AI technologies like ChatGPT in the educational context. The author mentioned the necessity of adapting curricula to address challenges posed by AI-assisted assignments and highlighted critical concerns related to this emerging technology. Alser and Waisberg (2023) conducted a study expressing concerns regarding the increasing utilization of ChatGPT in academia and medicine, particularly addressing issues related to authorship and plagiarism. The authors advised exercising caution when incorporating ChatGPT into academic work, recommending acknowledgment of the AI tools' assistance without granting authorship, and addressing potential concerns related to plagiarism and biases.

The advent of AI technology in academic writing has introduced "AI-giarism," a term coined by Chan (2023) to describe the unethical use of AI to produce content that plagiarizes human-authored works or AI-generated content without proper citation. This development requires a reevaluation of traditional definitions and strategies to resolve plagiarism issues.

Students and Instructors' Perceptions of Plagiarism

Studies by Comas-Forgas and Sureda-Negre (2010) and Kauffman and Young (2015) investigated how L2 students understood and engaged with plagiarism, highlighting factors like time management and digital accessibility. Comas-Forgas and Sureda-Negre (2010) employed a dual-method approach involving quantitative and qualitative study to explore the factors associated with academic plagiarism. A total number of 724 Spanish university learners participated in the study. The research identified critical factors such as time

management, the accessibility facilitated by information and communication technology (ICT), and assignment characteristics as essential in comprehending plagiarism from the learners' viewpoint. These findings shed light on the multi-layered nature of academic plagiarism and emphasized the importance of developing holistic approaches to address this issue effectively.

Kauffman and Young (2015) investigated the occurrence of digital plagiarism among undergraduate students, with a particular focus on how instructional goals and the presence of copy-and-paste functions impact plagiarism behaviors. Participants were randomly assigned to various conditions that manipulated instructions and completed given tasks. The research findings revealed that a significant proportion of the participants, approximately 79.5% of the writers, engaged in digital plagiarism during the study. The significant interaction effect indicated that instructional performance goals were associated with a higher incidence of plagiarism. These findings suggested that plagiarism tendencies may be best explained by the interplay between instructional objectives and the affordances of digital environments in influencing learners' engagement in plagiarism.

Similarly, Blau and Eshet-Alkalai (2017) examined academic dishonesty (AD) among 127 eighth-grade students in Israel. They compared learner behaviors in both digital and non-digital learning environments. The participants were presented with scenarios related to various academic dishonesty types, as outlined in Pavela's (1997) framework, which encompasses cheating, plagiarism, fabrication, and facilitation. They were asked to assess the pervasiveness of these AD types in their classrooms and their perception of the acceptability of such behaviors. The findings indicated that the participants often engaged in academic dishonesty despite recognizing it as unethical. In the digital learning environment, plagiarism emerged as a more prevalent and was perceived as more acceptable. In contrast, in non-digital settings, cheating and fabrication are more prevalent, similarly perceived as highly acceptable. The study called for further research in this area, emphasizing the impact of technology on academic integrity and the need for strategies to promote ethical behavior in both digital and non-digital educational settings.

Chang et al. (2015) investigated the prevalence and underlying reasons for academic misconduct behaviors among learners in Taiwan. The research utilized a large-scale provincial survey combined with targeted items to assess learners' attitudes and justifications related to plagiarism. The results of the study uncovered that plagiarism practices were more prevalent between 10th to 12th graders. Additionally, it was found that male students engaged in plagiarism behavior more frequently than their female counterparts. It was also found that the participants often held incorrect concepts regarding the proper use of the Internet information. The study recommended the

implementation of academic misconduct prevention curriculum at elementary, junior high, and high school levels. It advocated for teaching strategies to address and correct misconceptions about plagiarism. This approach aimed to equip learners with the knowledge and skills necessary to utilize online resources responsibly and uphold academic integrity effectively.

Zhang and Deng (2019) examined the perception and detection capacity of Chinese EFL postgraduates regarding plagiarism in academic English writing. Through questionnaire surveys and testing, the study revealed that while participants generally recognized blatant plagiarism, their perception of subtle plagiarism and inappropriate referencing was relatively inadequate. Moreover, their detection capacity for both types of plagiarism is weak, indicating a gap between their declarative and procedural knowledge about plagiarism. Although academic writing experience can predict postgraduates' competence in referencing and source use, it cannot adequately facilitate their perception of plagiarism. Therefore, it is proposed that postgraduates' awareness and skills in plagiarism avoidance should be systematically developed through the provision of explicit plagiarism-related instructions and output-bound academic writing practices.

In summary, studies by Comas-Forgas and Sureda-Negre (2010), Kauffman and Young (2015), Blau and Eshet-Alkalai (2017), Chang et al. (2015), and Zhang and Deng (2019) collectively highlight the multifaceted nature of learners' perceptions and actions regarding plagiarism, underscoring the importance of holistic approaches to foster academic integrity and develop effective anti-plagiarism skills in different cultural settings.

With regard to teachers' perceptions of plagiarism, Romanowski (2022) examined preservice teachers' perceptions of plagiarism within the context of the Gulf Cooperation Council (GCC) countries, involving 128 participants through a mixed-method survey. This study aimed to explore several critical aspects, including the participants' understanding of plagiarism, reasons for its occurrence, and their responses when presented with scenarios. The findings indicated that preservice teachers, despite having a broad understanding of plagiarism, often blame their engagement in plagiarism on various factors including insufficient knowledge on how to cite sources, undeveloped writing skills, time constraints, and limited experience with the research process. These findings highlighted the need for thorough education and guidance on plagiarism within teacher training programs.

Culture-Based Differences in Perceptions of Plagiarism

An additional dimension to consider is the influence of cultural differences on the perceptions of plagiarism among L2 learners (Rodrigues et al., 2023). It is known that cultural backgrounds play a significant role in

shaping learners' attitudes toward academic integrity, with varying standards and values influencing their comprehension of plagiarism (Chein, 2014; Jian et al., 2019; Li, 2017; Rodrigues et al, 2023; Shamoa-Nir, 2024).

Student plagiarism is a pervasive issue at all levels of study in Higher Education Institutions (HEIs) around the world. Plagiarism is considered as a cultural phenomenon and learners from certain cultures are often stereotyped as 'persistent plagiarists' (Handa & Power, 2005). Li (2017) conducted a study to examine the issues of academic dishonesty reported by Chinese students in New Zealand universities. Four lecturers and six university graduates participated in the interviews and the focus group discussion. The study had identified seven forms of disguised plagiarism deriving from four interrelated variables: inadequate language proficiency, lack of discipline knowledge and conventions, issues of assessment, and situational variables. The university is morally responsible to teach the students the concept of Academic Integrity (AI) and plagiarism, discipline conventions and rules of academic writing, and develop their language, writing, and research skills to help them avoid the traps of plagiarism.

Chein (2014) conducted a study to examine Taiwanese teachers' perceptions and cultural interpretations of plagiarism in student writing. Utilizing a mixed-methods approach comprising surveys and interviews with 23 Taiwanese teachers, the study uncovered that cultural factors significantly influenced perceptions of plagiarism. The findings highlighted a cultural emphasis on social relationships and reciprocity in writing tasks, coupled with learners' inexperience in proper citation practices. These insights suggested that plagiarism in the Taiwanese context may unconsciously stem from the Confucian educational ethos, which prioritizes memorization and repetition, potentially leading to unintentional plagiarism. This study not only contributed to an in-depth understanding of plagiarism from the perspective of non-native English-speaking teachers but also emphasized the need for culturally sensitive pedagogical strategies to address this particular issue.

Jian et al. (2019) conducted a qualitative study to explore how the academic cultural background of Chinese international graduate students influences their ethical beliefs and adaptation to the U.S. academic environment. Through semistructured interviews at a U.S. public university, the authors examined students' perceptions of the contrasts between Chinese and American academic integrity practices. The findings indicate that Confucian philosophy, collectivist values, and a "convenience mindset" (Jian et al., 2019, p. 64) prevalent in Chinese universities shape students' views on academic integrity. These cultural norms often conflict with U.S. academic expectations, leading to adaptation challenges. Participants also suggested ways U.S. institutions could better support their transition, which the authors further discuss, providing actionable recommendations for university staff.

Rodrigues et al. (2023) examine the cultural, educational, and institutional factors contributing to plagiarism and research misconduct across Asian countries. The study used a systematic review approach, analyzing research articles, policy documents, and reports on academic misconduct across China, India, Pakistan and Malaysia. They argue that cultural norms, such as collectivism and hierarchical education systems, combined with a strong emphasis on rote learning, shape unique perceptions of plagiarism. These perceptions can lead to unintentional academic misconduct due to differing definitions of academic integrity and limited training in ethical standards. Rodrigues et al. (2023) suggest that addressing these issues requires culturally tailored education on academic ethics and the implementation of clear institutional policies to promote ethical research practices across Asia.

The literature review examined academic plagiarism in the AI era, focusing on definitions, technological impacts, and perceptions across cultures. It identifies plagiarism as a complex issue influenced by cultural, educational, and technological factors. Research on AI's role in plagiarism and its impact on academic integrity, particularly across diverse cultures and among different stakeholders such as learners and instructors, remains limited. It is commonly known that China, Korea, and Mongolia share many similarities within the East Asian cultural sphere. It is also assumed that these similarities may allow for some examination of the influence of culture on university learners and instructors' perceptions regarding digital plagiarism. Therefore, investigating these areas is essential to effectively address digital plagiarism in academia and to develop robust guidelines and strategies. This study will address the following research questions:

1. How do perceptions of digital plagiarism differ between learners and instructors within specific cultural contexts including Korea, Mongolia, and China?
2. What are the differences in perceptions of digital plagiarism among learners and instructors from various cultural backgrounds?

Methods

This research was implemented as a quantitative analysis, utilizing an online survey distributed via the Qualtrics platform for data collection. Convenience sampling was employed for selecting participants, a strategy that matched the scope of the study. The survey items were designed to capture detailed perceptions of digital plagiarism from both learners and instructors in the context of L2 writing. The aim was to explore the differing viewpoints

of L2 learners and instructors, particularly across diverse cultural settings.

Participants

Using convenience sampling, participants were invited to the survey through a Qualtrics link. They were briefed on the study's objectives and their rights prior to responding the survey items. Table 1 outlined the participants' profiles from Korea, Mongolia, and China, indicating that all learners were university students with majors in humanities, English education, economics, or engineering. In contrast, instructors differed in terms of teaching level, age, and years of teaching experience.

Table 1

Participants Profiles

Variables		Korea		Mongolia		China	
		Learner	Instructor	Learner	Instructor	Learner	Instructor
Gender	Female	41	25	20	21	94	28
	Male	20	11	9	6	45	8
Age	Mean	21.82	-	22.5	-	19.8	-
	Range	-	45~55	-	25~30	-	36~45

Survey Items

In this study, an online questionnaire developed by Chan (2023) was utilized, comprising 11 items that assess perceptions of digital plagiarism. It was developed by conducting an extensive review of existing literature on AI in education (Crompton & Burke, 2023; Kong et al., 2021; Kumar, 2023) and policy development, alongside a detailed analysis of university forum discussions, which addresses current debates and issues related to the application of AI technologies in academic settings. These items employed a five-point Likert scale, ranging from "strongly disagree" to "strongly agree," to explore participants' concerns regarding the integration of AI technology in L2 writing practices. Each item prompted respondents with the question, "To what extent do you agree or disagree with the following actions as forms of digital plagiarism?" Higher scores indicate a stronger perception of the described scenario-based items as instances of digital plagiarism.

Data Collection Procedure and Data Analysis

The invitation link was distributed through Qualtrics during the fall semester of 2023, a time more than a year after the release of AI technologies such as ChatGPT. Additionally, two researchers visited China and Mongolia for academic exchanges and data collection during this period. A systematic review by Rodrigues et al. (2023) highlighted that plagiarism remains a common cause of unethical publications and retractions in Asia, particularly in South, East, and Southeast Asia. The review also pointed out that researchers often lack training in scientific writing and have significant gaps in understanding various forms of plagiarism, further validating the timing of this research and data collection.

The respondents were asked yes or no questions regarding their experience with AI. If they indicated no experience with AI, they were free to opt out of the survey. The participants from these universities were provided with courses on academic writing, and their institutions had varying policies regarding plagiarism. These differences in academic training and institutional policies could influence their understanding and perspectives on AI and plagiarism, which may play a role in shaping the study's findings. Once data had been gathered from the three countries, descriptive analysis, along with ANOVA and post-hoc tests, was employed to analyze mean differences by nationality and the participant's role.

Ethical considerations

The ethical considerations of this study were carefully addressed to ensure participant rights and confidentiality were upheld throughout the research process. At the beginning of the questionnaire, participants were presented with a clear and concise informed consent form that outlined the study's purpose, procedures, and their rights. They were assured that their participation was voluntary and that they could withdraw at any time without consequence. Furthermore, strict measures were taken to ensure participant confidentiality, such as anonymizing all responses and securely storing data to prevent unauthorized access. These steps were implemented to uphold the ethical integrity of the study and protect participant privacy.

Results

Descriptive Analysis of the Survey Items

The survey items were categorized into three groups: Items 1 and 2 focused on the most direct uses of AI tools, illustrating straightforward applications. Items 3 to 7 expressed more subtle applications of AI in

academic writing, while items 8 to 11 expressed the use of AI for ancillary tasks. Table 2 presents the results of descriptive analysis of the survey items.

Table 2

Descriptive Analysis of the Survey Items

		Item Description	Gr.	Korea M (SD)	Mon. M (SD)	China M (SD)
		The most direct uses of AI tools				
More direct	1	The student input a prompt into an AI-based tool, copied the generated response, and submitted it to the teacher. The student acknowledged the use of AI-based tools.	I	3.33 (0.96)	3.52 (0.98)	3.17 (1.30)
			L	3.54 (1.10)	2.76 (1.21)	3.21 (0.96)
	2	The student employed AI-based technologies (i.e., ChatGPT or Bard) to paraphrase some of the texts for their assignment from other sources without acknowledgement. However, the student acknowledged the use of AI-based tools.	I	3.53 (0.94)	3.22 (0.89)	3.11 (1.14)
			L	3.07 (0.95)	2.90 (1.05)	3.31 (0.87)
		More subtle applications of AI in academic writing				
	3	The student input a prompt into an AI-based tool. After verifying all the facts, making edits, adding references, and formatting the generated response, they submitted it to the teacher. The student acknowledged the use of AI-based tools.	I	2.61 (1.08)	3.19 (0.88)	3.58 (1.11)
			L	2.34 (1.00)	2.97 (0.94)	3.66 (0.74)
	4	The student used their own ideas to generate prompts with inputs from AI-based technologies to produce multiple AI responses for their assignment. After verifying all the facts, the student then used the best parts, made edits, and submitted the work. The student acknowledged the use of AI-based tools.	I	2.39 (1.18)	2.67 (1.07)	3.61 (0.87)
			L	2.48 (0.99)	2.86 (1.27)	3.68 (0.82)
	5	The student employed AI-based technologies to assist in generating initial ideas, and then supplemented them with their own ideas. After verifying all the facts, the student submitted the assignment with parts generated by AI-based tools and parts written by the student. The student acknowledged the use of AI-based tools.	I	2.44 (1.11)	2.44 (1.15)	3.56 (0.97)
			L	2.20 (0.93)	2.66 (1.11)	3.70 (0.86)
	6	The student employed AI-based technologies to assist in generating initial ideas, and then supplemented them with their own ideas. After verifying all the facts, the student rewrote most sections and submitted the assignment. The student acknowledged the use of AI-based tools.	I	2.58 (1.20)	2.41 (1.28)	3.61 (0.99)
			L	2.13 (1.12)	3.14 (0.95)	3.58 (0.95)
	7	The student employed AI-based technologies to rephrase some of their own written content for their assignment in order to improve the writing quality. The student acknowledged the use of AI-based tools.	I	2.44 (0.94)	3.04 (1.06)	3.50 (0.88)
			L	2.03 (0.91)	2.83 (1.26)	3.62 (0.85)

	8 The student drafted their assignment, sought feedback from AI-based technologies, and made improvements based on the suggestions provided, which may have entailed modifications to grammar and sentence structure. The student acknowledged the use of AI-based tools.	I	1.92 (0.55)	2.89 (1.31)	3.81 (0.86)
		L	1.92 (0.88)	2.34 (1.23)	3.55 (0.85)
	The use of AI for ancillary tasks				
	9 The student employed AI-based technologies only to assist with the checking of grammar for their assignment.	I	1.53 (0.61)	2.48 (1.37)	3.33 (1.29)
		L	1.75 (1.12)	2.86 (1.25)	3.41 (0.94)
Less direct	10 The student employed AI-based technologies and the Internet as search engines for resources to assist in completing their assignment, but did not incorporate any text directly from these resources in the assignment.	I	1.61 (0.73)	2.63 (1.24)	3.28 (1.14)
		L	1.72 (0.78)	2.59 (1.09)	3.35 (1.00)
	11 The student completed their assignment without using any AI-based technologies or referring to the Internet.	I	1.17 (0.38)	2.52 (1.22)	3.33 (1.20)
		L	1.30 (0.61)	2.48 (1.18)	3.15 (0.88)

I: Instructor group L: Learner group

Instructors from all three countries consistently rated the initial set of items (1-2) higher than learners, indicating more concern or awareness regarding the direct utilization of AI tools in academic misconduct. Among these, Korea exhibited the highest mean scores for both instructors and learners, signaling a comparatively greater acceptance of such acts as digital plagiarism relative to the other countries. In contrast, Mongolia showed the lowest mean scores for learners, suggesting a lower recognition of these practices as digital plagiarism compared to Korea and China.

For the intermediate set of items (3-7), instructors generally assigned lower scores than for direct AI tool usage, indicating a reduced awareness of these less overt applications. Korea reported consistently lower mean scores for both instructors and learners, reflecting a lesser awareness of these subtle practices as digital plagiarism in comparison to Mongolia and China. Notably, Korean participants' mean scores decreased gradually with the higher numbered items. Conversely, China recorded the highest mean scores for both groups in these items, implying a stronger perception of these indirect practices as digital plagiarism than observed in Korea and Mongolia. Despite this, both learners and instructors across all nations demonstrated high attention to the subtle use of AI, with learners generally rating these items lower than instructors, highlighting a potential perception gap regarding the severity of these actions as digital plagiarism.

In the final group of items (8-11), both Korean learners and instructors rated them lower than those compared to both direct and subtle AI tool uses, indicating lesser concerns about employing AI for ancillary tasks

as digital plagiarism. China, however, consistently marked the highest average scores for both groups, reflecting a higher awareness of using AI for ancillary tasks as digital plagiarism relative to Korea and Mongolia. Mongolia's scores were moderate, placing it between Korea and China concerning the perception of various AI-related behaviors.

Overall, China demonstrated the highest mean scores across the majority of items, indicating a broader awareness of AI-related misconduct than Korea and Mongolia. The trend observed among Korean participants aligned with findings from Chan (2023), revealing a decreasing concern for items with higher numbers. This pattern suggests a gradation of perceived seriousness, with Items 1-2 viewed as most severe, Items 3-7 as moderate, and Items 8-11 as least severe in terms of digital plagiarism. A significant perception gap between learners and instructors was evident, with instructors typically regarding these behaviors as more problematic. Distinct patterns in the perception of AI-related behaviors emerged among learners and instructors within Korea, Mongolia, and China, highlighting varied levels of awareness and concern.

Results of the Survey Items by Nationality

The results of the ANOVA, as presented in Table 3, revealed discrepancies in perceptions towards digital plagiarism among participants from Korea, Mongolia, and China, particularly in relation to the use of AI tools in academic writing.

Table 3

The Results of the Survey Items by Nationality

#	Gr.	Korean (L:61, I:36)		Mongolia (L:29, I: 27)		China (L:139, I:36)	
		M (SD)	F (Sig.)	M (SD)	F (Sig.)	M (SD)	F (Sig.)
1	I	3.33(0.96)	0.882	3.52(0.98)	6.601*	3.17(1.30)	0.047
	L	3.54(1.10)	(.350)	2.76(1.21)	(.013)	3.21(0.96)	(0.829)
2	I	3.53(0.94)	5.424*	3.22(0.89)	1.559	3.11(1.14)	1.303
	L	3.07(0.95)	(.022)	2.90(1.05)	(.217)	3.31(0.87)	(0.255)
3	I	2.61(1.08)	1.527	3.19(0.88)	0.809	3.58(1.11)	0.259
	L	2.34(1.00)	(.220)	2.97(0.94)	(.372)	3.66(0.74)	(0.612)
4	I	2.39(1.18)	0.149	2.67(1.07)	0.382	3.61(0.87)	0.218
	L	2.48(0.99)	(.700)	2.86(1.27)	(.539)	3.68(0.82)	(0.641)
5	I	2.44(1.11)	1.396	2.44(1.15)	0.484	3.56(0.97)	0.746
	L	2.20(0.93)	(.240)	2.66(1.11)	(.489)	3.70(0.86)	(0.389)

6	I	2.58(1.20)	3.498	2.41(1.28)	5.928	3.61(0.99)	0.025
	L	2.13(1.12)	(.065)	3.14(0.95)	(.018)	3.58(0.95)	(0.874)
7	I	2.44(0.94)	4.509*	3.04(1.06)	0.453	3.50(0.88)	0.545
	L	2.03(0.91)	(.036)	2.83(1.26)	(.504)	3.62(0.85)	(0.461)
8	I	1.92(0.55)	0.000	2.89(1.31)	2.562	3.81(0.86)	2.628
	L	1.92(0.88)	(.993)	2.34(1.23)	(.115)	3.55(0.85)	(0.107)
9	I	1.53(0.61)	1.248	2.48(1.37)	1.186	3.33(1.29)	0.162
	L	1.75(1.12)	(.267)	2.86(1.25)	(.281)	3.41(0.94)	(0.688)
10	I	1.61(0.73)	0.476	2.63(1.24)	0.019	3.28(1.14)	0.151
	L	1.72(0.78)	(.492)	2.59(1.09)	(.890)	3.35(1.00)	(0.698)
11	I	1.17(0.38)	1.281	2.52(1.22)	0.012	3.33(1.20)	1.041
	L	1.30(0.61)	(.261)	2.48(1.18)	(.912)	3.15(0.88)	(0.309)

I: instructor group L: Learner group * p <.05

There was a notable difference in the acceptance levels of Korean instructors and learners regarding the submission of AI-generated content as digital plagiarism, as evidenced in survey items 2 (F=5.424, p<.022) and 7 (F=4.509, p<.036). Similarly, Mongolian instructors and learners exhibited a significant difference in their perspectives, as shown in item 1 (F=6.601, p <.013). Conversely, no significant differences were observed between Chinese instructors and learners across any of the survey items.

These findings highlighted the cultural and pedagogical differences in how digital plagiarism, especially involving AI tools, is viewed across different countries. The difference in perceptions between instructors and learners in Korea and Mongolia, emphasized the need for clear guidelines and discussions within academic institutions regarding the use of AI in education. Meanwhile, the similar score patterns of perceptions among Chinese participants may indicate either a well-established consensus or a lack of debate on the issue within the academic context. The uniform response patterns among Chinese participants could indicate either an emerging stage in the integration of AI tools in their educational system or a collective stance on the ethical considerations of AI-generated content in academia, based on a broader definition of plagiarism that does not distinguish between traditional and digital forms.

Results of the Survey Items by Roles

Table 4 displayed the results of the ANOVA and subsequent post-hoc tests regarding perceptions of digital plagiarism among learners and instructors from Korea, Mongolia, and China.

Table 4

The Results of the Survey Analysis by Roles

#	Nationality	Learner group			Instructor group		
		M(SD)	F(Sig.)	Post-hoc test	M(SD)	F(Sig.)	Post-hoc test
1	Korea	3.54(1.104)	0.795 (.455)		3.33(0.956)	5.796* (.004)	K<C, M<C
	Mong	2.76(1.215)			3.52(0.975)		
	China	3.21(0.959)			3.17(1.298)		
2	Korea	3.07(0.946)	1.635 (.200)		3.53(0.940)	3.256* (.040)	K<C, M<C
	Mong	2.90(1.047)			3.22(0.891)		
	China	3.31(0.867)			3.11(1.140)		
3	Korea	2.34(0.998)	7.97* (.001)	K<M<C	2.61(1.076)	53.585* (.000)	K<M<C
	Mong	2.97(0.944)			3.19(0.878)		
	China	3.66(0.738)			3.58(1.105)		
4	Korea	2.48(0.993)	13.275* (.000)	K<C, M<C	2.39(1.177)	38.521* (.000)	M<C
	Mong	2.86(1.274)			2.67(1.074)		
	China	3.68(0.817)			3.61(0.871)		
5	Korea	2.20(0.928)	12.292* (.000)	K<C, M<C	2.44(1.106)	62.794* (.000)	K<C, M<C
	Mong	2.66(1.111)			2.44(1.154)		
	China	3.70(0.857)			3.56(0.969)		
6	Korea	2.13(1.118)	10.649* (.000)	K<M, K<C	2.58(1.204)	45.024* (.000)	K<C, M<C
	Mong	3.14(0.953)			2.41(1.278)		
	China	3.58(0.947)			3.61(0.993)		
7	Korea	2.03(0.912)	11.13* (.000)	K<M<C	2.44(0.939)	63.221* (.000)	K<C
	Mong	2.83(1.256)			3.04(1.055)		
	China	3.62(0.855)			3.50(0.878)		
8	Korea	1.92(0.881)	38.041* (.000)	K<C, M<C	1.92(0.554)	74.538* (.000)	K<M<C
	Mong	2.35(1.233)			2.89(1.310)		
	China	3.55(0.853)			3.81(0.855)		
9	Korea	1.75(1.120)	23.549* (.000)	K<M, K<C	1.53(0.608)	54.672* (.000)	K<C, M<C, K<M K<M<C
	Mong	2.86(1.246)			2.48(1.369)		
	China	3.41(0.939)			3.33(1.287)		
10	Korea	1.72(0.777)	23.371* (.000)	K<M<C	1.61(0.728)	62.572* (.000)	K<M, K<C
	Mong	2.59(1.086)			2.63(1.244)		
	China	3.35(0.999)			3.28(1.136)		
11	Korea	1.30(0.615)	43.993* (.000)	K<M<C	1.17(0.377)	97.388* (.000)	K<M<C
	Mong	2.48(1.184)			2.52(1.220)		
	China	3.15(0.884)			3.33(1.195)		

Learner (L) group (Korean=61, Mongolia=29, Chinese=94)/Instructor (I) group (Korean=36, Mongolian=27, Chinese=28)

ANOVA and post-hoc analyses identified significant perceptual differences across these groups for various survey items. Among learners, notable differences were evident across most items, except for items 1 and 2, indicating diverse levels of concern and awareness regarding the use of AI in academic settings among the countries. Conversely, instructors showed significant differences in all items, suggesting a broad spectrum of perceptions on the ethical considerations of AI-generated content in academia.

The consistent pattern of higher scores from Chinese participants across all items may reflect a greater sensitivity to the nuances of digital plagiarism, possibly due to increased awareness of its complexities and challenges (Hu & Lei, 2016). Hu and Lei (2016) found that the teachers and students in China had more similar understandings of unacknowledged copying than of unattributed paraphrasing and took harsher stances on the former. These findings highlighted complex and nuanced understandings of plagiarism and pointed to the crucial role of academic socialization in shaping knowledge of and attitudes toward plagiarism. Alternatively, this pattern could suggest a limited exposure to AI tools in academic contexts, leading to a more cautious approach. This score consistency may imply that the limited practical experience with AI tools among Chinese learners and instructors could result in merely a superficial and theoretical understanding of digital plagiarism.

Another factor may lie in the availability of online English resources (Fatima et al, 2019). Factors such as ICT and web, control, and teaching factors have a direct relationship with student plagiarism. The availability of ICT and web allows students to easily find relevant materials through the university's digital search resources (Abbas & Faiz, 2013; Fatima et al., 2018) and search engines Chinese students have comparatively limited access to English websites, which may decrease their opportunities for exploring and copying online resources. Besides, Chinese universities have internal plagiarism policies to ensure the intellectual rights of authors or owners and to maintain high-quality education (Fatima et al, 2019). In academic research, ethical policies, and guidelines, plagiarism is a major issue in Chinese universities attributed to many factors, such as culture, the large number of students without access to basic research facilities, the lack of competent faculty members, and unclear plagiarism policies in education systems (Wan et al., 2011).

Figure 1 and 2 illustrated the mean scores of learners and instructors separated by nationality, highlighting differences in the perception of digital plagiarism across distinct cultural backgrounds. These differences emphasized the significant influence of cultural factors on shaping perceptions toward digital plagiarism.

Figure 1

Learners' Mean Scores of the Survey Items by Nationality

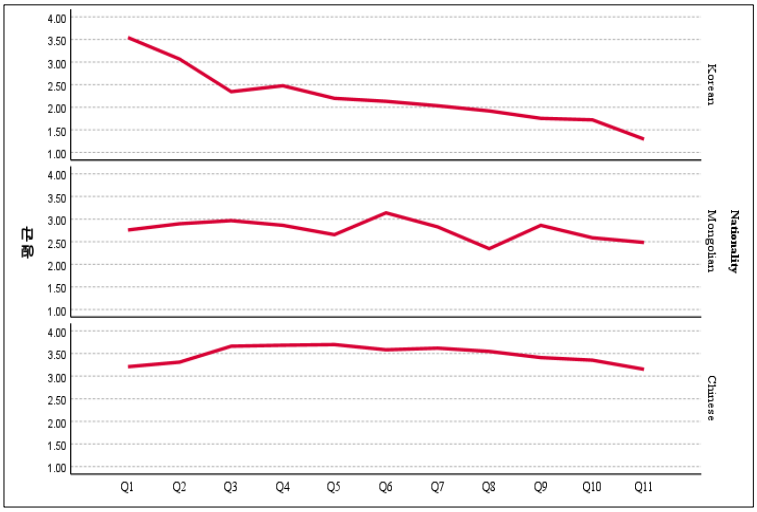


Figure 2

Instructors' Mean Scores of the Survey Items by Nationality

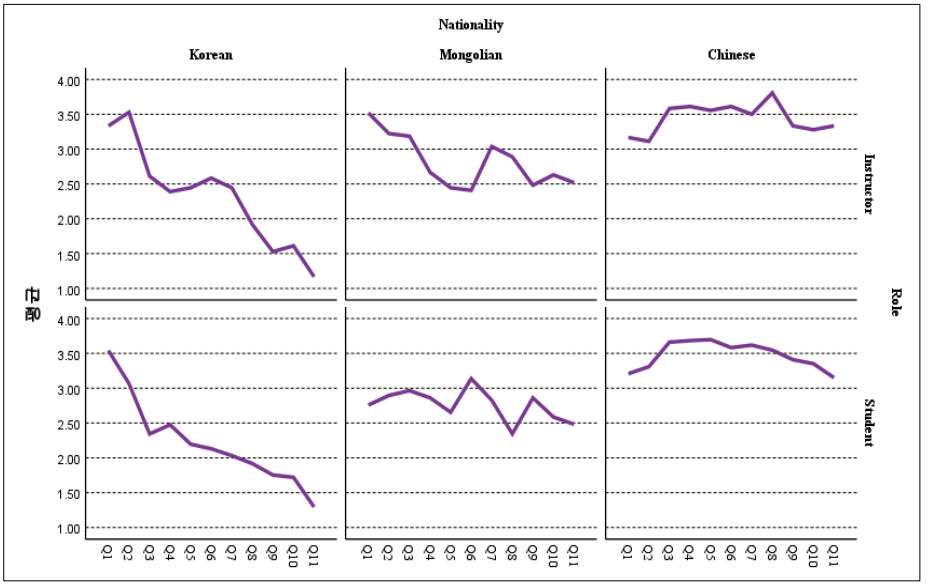
Notably, the response patterns of Korean respondents aligned with those reported in Chan's (2023) study, which observed a lesser concern for higher-numbered items. These similar findings suggested that Korean

participants may be more familiar with the latest educational technologies and capable of effectively applying them in academic tasks. Such insights highlighted the importance of developing and enforcing clear guidelines or educational policies on AI ethics to ensure an agreed-upon understanding and use of AI technologies in academia.

Figure 3 further displayed the difference in average scores by nationality and role, shedding light on how perceptions of digital plagiarism are influenced by cultural background and by the role within the academic context. This distinction emphasized the challenges of establishing commonly accepted academic integrity guidelines in the era of AI, reflecting the subtle views on what consists of digital plagiarism with AI-generated content in academia.

Figure 3

Patterns of Mean Scores by Nationality × Roles



Conclusion

The study sought to explore the multifaceted issues related to digital plagiarism within the realm of EFL education in Korea, Mongolia, and China, particularly emphasizing the influence of AI-based technologies on instances of digital plagiarism in L2 writing practices. Through a detailed analysis of both learners and instructors' perceptions toward digital plagiarism and the generation of content by AI, the research revealed

differences in perceptions based on cultural and role-specific factors, thereby addressing complexities in understanding these challenges.

Upon investigating the first research question, which attempted to examine the varying perceptions of digital plagiarism between learners and instructors within each cultural setting, notable differences between the group were found in their views across Korea, Mongolia, and China. Perceptions of using AI-generated content in higher education as digital plagiarism can vary among learners and instructors. These distinctions, particularly in the Korean context, underscored the substantial impact of specific roles on the perception of digital plagiarism. In response to the second research question focusing on the perceptions of digital plagiarism among between academic roles, the findings from ANOVA tests and subsequent post-hoc analyses revealed significant perceptual differences among the three countries within both the learner and instructor groups. These outcomes indicated that cultural influences extend to perceptions of digital plagiarism, with each group within the academic setting harboring distinct viewpoints regarding the use of AI in academic tasks. These insights collectively highlighted the critical roles that cultural background and academic positioning played in shaping perspectives toward digital plagiarism, especially concerning the use of AI in educational contexts.

It is extremely important to promote the responsible use of generative AI to learners who do not cheat or plagiarize using ChatGPT or any other generative AI tool. Using generative AI ethically requires maintaining academic integrity. Educators are crucial in highlighting the importance of originality and appropriate citations when using AI tools. Additionally, cultivating an atmosphere of honesty and integrity within the classroom can facilitate learners' understanding of their own value of intellectual contribution and prevent the misuse of generative AI (Lui et al., 2023). Learners should internalize and adhere to the rules and guidelines set forth by their institutions to further understand academic integrity. Educators can empower learners to make ethical choices when utilizing generative AI tools by instilling a sense of responsibility and accountability. In this regard, learners must be taught to critically evaluate and verify AI-generated information. By doing so, they can avoid inadvertently disseminating inaccurate information. Integrity in the classroom provides learners with the skills they need to deal with ethical dilemmas presented by generative AI both academically and professionally (Lui et al., 2023).

The findings from the analysis suggested a need for higher educational institutions to develop clear policies and guidelines on the use of AI-generated content, while promoting ethical practices, and delivering comprehensive education on academic integrity and digital plagiarism. Drawing on insights from Zare-ee and Khalili (2016), and Chan (2023), the

findings highlighted the critical need for educational institutions to confront these challenges. Specifically, it emphasized the necessity for establishing clear policies regarding AI-generated content, as suggested by Anders (2023), and Alser and Waisberg (2023), and for promoting ethical practices. Furthermore, the integration of culturally sensitive approaches, as advocated by Chein (2014) and Tran, Hogg, and Marshall (2022), could reduce the discrepancies in plagiarism perceptions among diverse learner populations. Future research should extend this inquiry, focusing on the evolving landscape of AI technologies and their implications for academic integrity. The approach aims to bridge the gap in perceptions between learners and instructors, fostering a shared understanding of prevalent digital plagiarism and the responsible use of AI-based tools in academia.

The limitations of the current study included the narrow scope of cultural and national backgrounds, limited to three countries, potential biases in self-reported data, and the evolving nature of AI technology which could outpace the current study's findings. Another limitation of this study is the use of convenience sampling, which restricts the generalizability of the findings. Participants were self-selected through a Qualtrics survey, meaning they may not accurately represent the wider population of L2 learners and instructors. This approach could also introduce sampling bias, as those with a specific interest in digital plagiarism or L2 writing may have been more likely to respond. As a result, the findings may be skewed and should be interpreted with caution, especially when applied to broader educational contexts. Future research directions could focus on expanding the geographical scope to include more diverse educational contexts, examining the impact of evolving AI technologies on perceptions of plagiarism over time, and developing pedagogical strategies that incorporate AI-based tools ethically and effectively in academic settings. Further studies could also explore the intersection of academic integrity policies and AI tool usage across different academic disciplines.

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