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Research Article

The Impact of EFL Teachers' Demographic Backgrounds on the Perceptions of Ethical AI Use

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Abstract

Exploring teacher perceptions of AI tools is essential for understanding practices in the classroom. This study investigates EFL teachers' views on the ethical use of AI in education and examines how these views relate to demographic factors such as country of origin, gender, age, and teaching experience. Sixteen teachers from a Japanese national university participated in a survey exploring these aspects. The findings reveal that demographic variables notably influence teachers' perceptions of AI ethics. Non-Japanese teachers generally found AI tools to be more ethically acceptable than Japanese teachers, though with some reservations. Additionally, male teachers showed slightly higher acceptance of AI use compared to female teachers. Younger teachers also perceived AI use as more ethical than their older counterparts, despite a generally positive attitude towards AI across all age groups. These results suggest that educational institutions should consider teachers' varying perceptions when implementing AI to enhance educational practices.

教員のAIツールに対する認識を調査することは、学習者のニーズを理解するために重要だ。本研究では、AIを教育に使用することの倫理性について、EFL教員の意見を調査し、それらの意見が出身国、性別、年齢、教育経験などの人口統計的要因とどのように関連しているかを分析した。日本の国立大学に所属する16人のEFL教員が、これらの側面に関する調査に参加した。調査結果によると、人口統計的要因がAIの倫理に対する認識に大きな影響を与えていることが明らかになった。非日本国籍の教員は、AIツールを倫理的に受け入れやすいと考える傾向がみられたが、懸念も示した。また、男性は女性よりもAIに対してやや高い受け入れ度を示した。さらに、若い教員は年配の教員よりもAIの使用を倫理的と見なす傾向がみられた。これらの結果は、教育機関がAIを導入する際に、これらの認識を考慮する必要があることを示唆している。

There is little doubt that artificial intelligence (AI) has become an integral aspect of modern life. Lyu and Wu (2023) postulate that the presence of AI holds "tremendous opportunities to unleash human creativity and catalyze economic growth" (p.1). This, however, signifies the need for research on the use of AI to truly understand its implications in all areas of society, including education. Prior to 2022, AI use in education was limited to specific roles like grammar and spelling, but the introduction of ChatGPT in November 2022 has revolutionized the application of AI in the classroom and beyond (Hong, 2023). Within a short period, the term AI, as well as branded examples of AI like ChatGPT, have become part of the fabric of education (Moorhouse et. al., 2023). This rapid development has caused uncertainty among teachers and their students as to what implies acceptable use of these tools (Luo, 2024).

As for teaching English as a foreign language (EFL) and learning, AI offers both benefits and drawbacks. EFL teachers may, for example, use AI to prepare lesson plans, generate materials and images, and provide feedback, including scoring students' written work (Mizumoto & Eguchi, 2024). However, the use of AI also has profound ethical implications, especially with regard to how language learners use AI to complete their assessments (Lu, 2024).

It is important to recognize that ethical issues surrounding the use of AI are frequently emphasized in education (Cotton et al., 2023). Among the principles defined and synthesized, for instance, by the EU, 'human autonomy' stands out, highlighting the necessity for users to retain decision-making power (European Commission, 2022). Despite the crucial role of human autonomy in AI ethics, few studies have explored EFL teachers' perceptions of the ethical use of AI tools. An exploration of this area is essential because the primary stakeholders of AI in language teaching tend to be teachers with different backgrounds, perceptions, beliefs, knowledge, and experiences situated within the contexts in which they teach. It is, therefore, vital to not only understand teachers' views that inform their teaching practices, but also foreground their voices to inform guidelines and policies on the ethical use of AI in English language programs.

Against this backdrop, the present study examines how EFL teachers employing AI in their university English classes perceive its ethical use. Of particular interest is the potential relationship between their perceptions and their country of origin, gender, age, and number of years teaching. By analyzing these aspects, the study will contribute to an understanding of the possibilities and the role that AI may take within EFL contexts. The results of this research

may also inform existing and assist with creating future educational policies and practices. Ethics and ethical behavior are equally unique to the individual but also recognized as an integral part of a functioning society, be that a nation or a single classroom. Thus, ensuring that both the teacher and the students are aware of and in agreement as to what constitutes ethical behavior regarding AI tool use is necessary to ensure an environment conducive to learning.

This paper is part of a larger research project which examines the perceptions of both students and teachers. However, in the present study, only the teachers' perceptions are examined to obtain an in-depth understanding of teachers' unique backgrounds in relation to how they perceive ethics in AI usage. The study is guided by the following research question: To what extent do EFL teachers' countries of origin, gender expression, and age/teaching experience impact their perceptions of ethical AI use?

Literature Review

Studies examining teacher's perceptions of AI in educational contexts are just beginning to emerge. STEM Teachers in the United States participating in Kim and Kim's (2022) study, for example, showed that teachers' perceptions of integrating AI in learning situations were shaped considerably by the amount of exposure to AI the teachers received. This meant that targeted professional development and hands-on experience with AI played a crucial role in shaping teachers' positive attitudes and effective integration of AI. The study also revealed an increase in teachers' enthusiasm to adopt AI tools as practitioners become more comfortable with using the technology. Similarly, Ulla et al.'s (2023) research demonstrated that Thai EFL teachers felt that AI was useful for lesson planning and that AI tools made up an important part of their teaching tool kit. Teachers also noted that instead of students solely relying on AI, they should use AI tools in combination with other sources, including books and web resources, to maximize their learning.

Demographic variables appear to play a crucial role in shaping teachers' perceptions of AI. Viberg et al.'s (2023) study, for instance, showed that K-12 teachers in more masculine societies (e.g., US or Japan) tended to be more comfortable with potential outcomes of AI use in educational settings. Alharbi and Khalil (2023), on the other hand, suggest that practitioners' age contributes to their perceptions of AI use. Their research conducted in Pakistan showed that teachers younger than 35 years of age had a more positive attitude toward the use of AI than their older colleagues. More specifically, younger teachers were willing to adopt new technologies and incorporate innovative concepts into their teaching repertoires, while teachers aged 36 to 45 were more skeptical toward these issues. The more mature group of teachers seemed to be aware of the positive nature of AI use but expressed concerns about AI reducing a teacher's significance in the classroom and the impact of technology on their students, especially the reliance on technology comprising their students' acquisition of problem-solving abilities.

It seems that younger teachers tend to be more aware of the potential of AI use in their classroom while more seasoned practitioners prefer a somewhat simpler – less technology-driven – approach to teaching and learning (Al-khresheh, 2024). However, the same study also showed that practitioners holding higher qualifications are also likely to be frequent AI users. Such diverse usage postulates the importance of examining the exact relationship between teachers' backgrounds and their perceptions of AI use.

Further highlighting the need to explore and, ultimately, understand the relationship between teachers' backgrounds and their perceptions is the fact that few studies have focused on EFL teachers in Japan. To the best of our knowledge, our research (Neff et al., 2024) is one of the few studies that has demonstrated that although EFL university teachers in Japan and their Japanese undergraduate students were generally aware of AI tools, their perceptions of the ethical use of AI in an English language program varied among and within the two groups. For example, students considered using AI to complete an assignment as acceptable, but their EFL teachers thought this was unfair and unethical because they expected students to complete homework without using AI.

Importantly, our research suggests that while there are differences in the perception of AI tools amongst EFL teachers, these are often subtle differences in opinion rather than disparate points of view. However, the study did not take specific demographic factors into account, and therefore drawing on the same data set (a survey), this paper examines the teachers' ethnic backgrounds, stated genders, ages, and breadth of experience (i.e., length of time they had been working in the field) in relation to their perceptions of the ethical use of AI in an English language program in Japan. There has been little research in this particular area and so this paper makes a crucial and timely contribution to the field of English language teaching.

Methodology

The research presented in this paper is part of a larger, ongoing study in which we compare EFL teacher and student perceptions of the ethical use of AI tools. With the aim of providing additional understanding of an area that our previous paper (Neff et al., 2024) was unable to address, this paper examines the relationship between participating teachers' backgrounds and their perceptions of the ethical use of AI.

Teacher Participants

In the larger study, 16 teachers and 543 first-year students at a Japanese national university took part in a

survey designed to assess their perceptions of AI tools. In this present paper, however, the focus is only on the teachers who were a mix of full-time and part-time employees at the university and tasked with teaching English to first and second-year students in the university's English program. All teachers were highly proficient English speakers irrespective of their country of origin. As depicted in Table 1, the participating teachers came from several different countries, including Japan. Six of the teachers were female with the remaining 10 teachers being male. The teachers reported having broad teaching experience with most of them having taught English in Japan between 10 to 15 years.

Table 1

Demographic Background of EFL Teachers

	Stated Gender	Country of Origin	Age
Teacher 1	Female	Japan	Prefer not to say
Teacher 2	Female	Japan	Between 25 - 35
Teacher 3	Female	The United States	Between 35 - 45
Teacher 4	Female	Outside Japan	Between 25 - 35
Teacher 5	Female	Japan	Between 35 - 45
Teacher 6	Female	Malaysia	Between 25 - 35
Teacher 7	Male	Philippines	Between 25 - 35
Teacher 8	Male	Japan	Between 25 - 35
Teacher 9	Male	Japan	Between 25 - 35
Teacher 10	Male	Japan	Between 35 - 45
Teacher 11	Male	Japan	Between 35 - 45
Teacher 12	Male	Japan	Between 35 - 45
Teacher 13	Male	The United States	Between 45 - 55
Teacher 14	Male	Australia	Between 45 - 55
Teacher 15	Male	The United Kingdom	Between 45 - 55
Teacher 16	Male	Indonesia	Between 25 - 35

Research Design

Surveys are often used for efficiently obtaining large amounts of quantifiable data in a cost-effective and controlled method (Dörnyei, 2010) with modern survey tools (e.g. Google Forms, SurveyMonkey, Qualtrics etc.) being versatile enough to allow for efficient distribution and effective online data collection. The research tool used in this study was developed to investigate teachers' and students' perceptions of AI tools, including their ethical (or unethical) application. The students' and the teachers' survey tool consisted of four parts. The first section asked for participants' demographic data (e.g., country of origin, gender, age) while the second section asked for their familiarity with AI tools. In the third part, participants were asked about their experience with AI tools, and in the final section, participants were asked to read six short, fictional scenarios in which an English language learner used a specific AI tool. Research participants were asked to rate each scenario on a Likert scale where 1 was equivalent to the learner's tool usage being completely unethical and a 4 meant the usage was completely ethical. The survey tool also included an additional short qualitative component consisting of an open question that asked participants to share their experiences regarding AI tool use in the university setting and specifically in their classrooms. Finally, all scenarios were translated into Japanese to avoid any errors in comprehension and to ensure that the participants had a good understanding of the term "ethical."

The survey for the teachers was modified slightly to allow them to add their thoughts with their personal experiences with AI and comments to scenarios provided in the survey. The survey was sent to the teachers at the same time it was distributed to students. The student and teacher version of the survey was approved by the university's ethics committee. Each participant had to indicate that they understood what data would be collected and how it would be used before being allowed to complete the survey. The results presented in this paper are derived from the teachers' responses to the survey tool.

Data Collection and Analysis

The survey was conducted in November of 2023. The tool itself was designed in Google Forms and sent by the first two authors to all eligible teachers through email.

Due to the relatively small number of teacher participants ($N = 16$), the authors decided to examine the teachers'

survey data more holistically by creating a scoring system that placed each participant in a category of 'Mostly Ethical' (ME) or 'Mostly Unethical' (MU). To do so, the survey results were downloaded to a spreadsheet. For each scenario, the Likert-scale answers of 1 and 2 (i.e., 'completely unethical' and 'unethical') were combined into the MU category while answers of 3 and 4 (i.e., 'ethical' and 'completely ethical') were combined into the MU category. The results were organized into categories (see Table 2) to separate the demographic and experiential data from the scenario results, as well as providing valuable visual cues that facilitated the interpretation of the data. This enabled the researchers to identify, for example, whether a Japanese male teacher with 5-10 years of teaching experience considered AI use to be ethical or whether a non-Japanese female teacher with less than five years of teaching experience perceived using AI to be unethical. To supplement this data and aid the discussion, the qualitative answers to the open-ended questions were also included in the data analysis.

Table 2

Teacher Demographics and Ethical Perceptions

Teacher ID	S1	S2	S3	S4	S5	S6	Ethical Perception (ME/MU/NA)
1	2	2	3	1	4	3	NA
2	1	2	4	1	4	3	ME
3	1	3	3	1	4	4	ME
4	1	3	4	3	4	3	ME
5	3	3	4	1	4	2	ME
6	2	2	4	1	4	2	ME
7	1	2	4	2	2	4	ME
8	2	1	4	2	4	2	ME
9	1	2	3	1	4	3	ME
10	3	3	3	1	3	4	MU
11	4	4	4	1	4	4	MU
12	2	3	4	3	4	4	MU
13	1	4	4	1	4	4	ME
14	1	3	4	3	3	4	ME
15	2	4	4	4	4	4	ME
16	1	3	3	1	3	3	NA

Note. S = scenario; respondents were assigned a value of either MU – Mostly Unethical – or ME – Mostly Ethical – based on the number of positive (a numerical score of 3 or 4) or negative (a numerical score of 1 or 2) results. Participants whose positive and negative values were equal were assigned NA (Not Applicable). The table format organizes the data into clear categories, facilitating interpretation.

Results

The analysis of the survey data demonstrated that the demographic backgrounds of the teachers had some impact on their perception of the ethical use of AI tools. Younger, male, and non-Japanese teachers appeared to react more favorably to the hypothetical uses of AI presented in the scenarios.

Ethnic Background of Participating EFL Teachers

As can be seen in Table 3, the data showed that teachers from outside Japan (85.7%; n = 6;) viewed AI use as more ethical than their Japanese colleagues (44.4%; n = 4). Also, no teachers from outside Japan thought this was mostly unethical, while three Japanese teachers (33.3%) considered the use of AI to be mostly unethical. Optional comments provided by the non-Japanese teachers provide some insights. One teacher stated that "My answers would change depending on the type of class, goals of the course, and most importantly, how the use of such tools was prescribed/prohibited in the syllabus" (T13), while a second comment mentioned that "In many cases, determining whether AI is ethical depends on the type of course, objectives and teacher instructions" (T14). While both teachers fall into the 'ME' category, they seem to be aware of the contextual nature of education and AI use, perhaps suggesting that the foreign teachers with their broad range of teaching experience were more receptive toward the idea of using AI to facilitate their students' English language learning process. Different scenarios would have likely elicited different responses, but our data indicated that teachers' ethnic backgrounds quite possibly influence their perceptions of the ethical use of AI.

Table 3

Ethnic Background of EFL Teachers

	Japan (n = 9)	Outside Japan (n = 7)
ME	4 (44.4%)	6 (85.7%)
MU	3 (33.3%)	0 (0%)
NA	2 (22.2%)	1 (14.3%)

Note. ME = mostly ethical; MU = mostly unethical; NA = not applicable.

Gender

Data also suggested that male EFL teachers viewed the use of AI slightly more ethical than their female counterparts. While 70% (n = 7) of the male teachers perceived the use of AI to be ethical, only 50% of the female EFL teachers (n = 3) shared the same view on this issue (see Table 4).

Table 4

Gender of EFL Teachers

	Female (n = 6)	Male (n = 10)
ME	3 (50.0%)	7 (70%)
MU	1 (16.7%)	2 (20%)
NA	2 (33.3%)	1 (10%)

Age

In terms of age, 85.7% (n = 6) of the teachers belonging to the age group 25-35 viewed students using AI tools to be ethical. While this group reported having no unethical views on AI tools, the 36-45 age group showed a slight split between the ethical (40%; n = 2) and unethical categories (60%; n = 3). Meanwhile, the age group 46-55 (n = 3) viewed AI use as ethical with a ratio of 2:1 in the ME and NA categories, respectively (see Table 5).

Table 5

Age of EFL Teachers

	25-35 y/o (n = 7)	36-45 y/o (n = 5)	46-55 y/o (n = 3)
ME	6 (85.7%)	2 (40%)	2 (66.7%)
MU	0 (0.0%)	3 (60%)	0 (0.0%)
NA	1 (14.3%)	0 (0%)	1 (33.3%)

Note. One of the participants chose not to share their age and therefore they were excluded from this part of the analysis.

Discussion

It is evident from this study and others like Moorhouse et. al. (2023), that it is necessary to adopt and acknowledge multiple filters in determining the ethical use of artificial intelligence in education. This contrasts with Viberg et al (2023)'s claim that demographic influence is negligible when it comes to views on AI ethics. More specifically, it shows that, indeed, demographic factors including the country of origin, gender expression, and age can influence teachers' views regarding ethical use of AI.

EFL teachers from outside Japan were more likely to consider AI as ethically reasonable. This is, of course, speculative, but this group may be more receptive to AI and its ethical implementation because they tend to teach in varied settings, culturally, organizationally, and disciplinarily. Gender provides additional emphasis on ethical controversies in the use of AI in educational activities. Exploring the perception of learners regarding AI, Stöhr et al. (2024) observed that male learners expressed a more favorable attitude towards AI compared to female learners who were more concerned about ethical issues. As such, the present study also found that the perceived ethicality of AI was higher among male participants than the female ones. This highlights a potential gendered approach to AI ethics; male teachers may consider the technological potential of AI whereas female teachers may consider the ethical, fairness, and welfare aspects of AI as educators and caregivers. This divergence reinforces the need for institutions to foster a culture where ethical issues are viewed from different lenses, and where AI is used appropriately and fairly.

The ethical views towards the use of AI seem to be also affected by age. The mixed perceptions observed in

the 36-45 age range, where the opinions were more polarized, points to a thoughtful assessment of the value of AI in education. On the other hand, the greater acceptance of AI as being ethical by the 46-55 age group might suggest that this particular practitioner demographic is equipped with the knowledge and skills necessary to deal with ethical questions arising from new technologies due to their diverse and extensive experiences with education technology. The more seasoned academics, who have likely observed several technological and educational changes, might have a better idea of how to ethically integrate AI into educational processes, including the advantages and drawbacks of these systems.

The results have implications for EFL programs concerned about ethical AI use. First, demographic differences suggest that a universal approach to the utilization of AI should not be taken. Rather, institutions should engage in discussion with educators from diverse backgrounds and experiences when making program, curriculum, and policy-specific decisions, especially concerning ethical considerations. Thus, the observed differences in perceptions by teachers with various backgrounds suggest that all teachers in a program need to be included in the discussion about the ethical use of AI inside and outside the language classroom.

These differences also imply that the younger generation of teachers, already demonstrating a higher level of AI appreciation, could potentially act as pioneers or mentors among those less inclined to accept AI technology in the classroom. Such a mentorship approach may help in increasing the chances of an easier transition towards the use of artificial intelligence among all ages. Furthermore, the higher acceptance of AI by teachers aged 46-55 is an indication that this group could potentially help young and old teachers with harnessing their years of experience to ensure that the implementation of AI is done wisely.

It needs to be pointed out, however, that the study included responses from only 16 teachers working at one Japanese national university, and therefore the results may not be generalizable to broader groups of EFL teachers. Drawing on a larger and more diverse population in a future study will enhance the overall understanding of EFL teacher's perception of ethical AI use. Also, adding a qualitative element, such as interviews or focus groups, will likely reveal additional insights into the relationship between EFL teachers' demographic backgrounds and their perceptions of the ethical use of AI tools.

Conclusion

AI remains a fast-changing and challenging landscape for EFL teachers. To ensure that teachers and their students have an understanding of what constitutes acceptable, ethical use of AI tools, much more research is needed. More comparisons of not only demographic and experiential information but also of nuanced situational use of AI tools is recommended for institutions and educational staff. A further study is scheduled to take place in the latter half of 2024 with the aim of gathering more data on EFL teachers' and their students' perceptions of AI use.

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