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Teachers' Emotional Engagement with Artificial Intelligence: The Case of Algerian EFL University Teachers

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Abstract

In today's world, technological advancements serve to simplify learning and teaching,. That said, the abundance of tools and information can overwhelm both teachers and learners, sometimes causing technology-related anxiety. The present research aims to identify EFL university teachers' emotional engagement with Artificial Intelligence. Unveiling teachers' sources of fear and anxiety towards Artificial Intelligence and understanding their emotional responses can have practical implications for their effective implementation of these new technological tools, To achieve the aim of the present study, an Artificial Intelligence emotional survey was designed and administered to 21 Algerian EFL teachers at Mouloud MAMMERI University, in the Department of English, to assess their emotional engagement with various Artificial Intelligence tools. The survey comprises three sections. The questions were designed based on Y.Y. Wang and Y.S. Wang's (2022) artificial intelligence anxiety scale. The findings indicate that most teachers do not display negative emotions towards learning Artificial Intelligence technology. However, they view it as a significant contributor to dependency and laziness.

Keywords: Algerian EFL teachers, anxiety, Artificial Intelligence, AI anxiety scale, emotional engagement

الملخص:

التقدم في مجال الحوسبة والتقنيات الأخرى ساهم في تطوير الروبوتات وروبوتات الدردشة الهادفة إلى تعزيز عمليات تعلم الطلاب والمهن الأكاديمية للمعلمين بداية من مرحلة التعليم الابتدائي إلى مرحلة الدراسات الأكاديمية العليا. بالرغم من توفر العديد من الأدوات التكنولوجية عبر الإنترنت لتسهيل عملية التعلم والتعليم، إلا أن تدفق المعلومات مع إمكانية الوصول المفرط إلى الأدوات المناسبة قد يؤدي إلى إرباك المعلمين والطلاب. حيث يقول العديد من الباحثين بأن تطور الذكاء الاصطناعي من شأنه أن يؤدي إلى القلق والارتباك التكنولوجي (وانج ووانج 2022). البحث الحالي يهدف إلى تحديد الارتباط العاطفي لمدرسي اللغة الإنجليزية كلغة أجنبية مع الذكاء الاصطناعي. ولتحقيق هذه الأهداف، تم إجراء استطلاع عاطفي للذكاء الاصطناعي مع 21 معلملتقييم مدى تفاعلهم العاطفي مع مختلف أدوات الذكاء الاصطناعي. وقد شمل هذا الاستطلاع قسمين، القسم الأول يضم معلومات أساسية عن جنس وعمر وخبرة المعلمين السابقة في الذكاء الاصطناعي، والقسم الثاني يركز على جمع المعلومات عن قلق المعلمين عند استخدام أدوات الذكاء الاصطناعي. تم وضع الأسئلة في قسم القلق والخوف من الذكاء الاصطناعي بناءً على مقياس قلق الذكاء الاصطناعي (وانج ووانج 2022). تكشف البيانات بأن معظم المعلمين يعترفون بفوائد بعض أدوات الذكاء الاصطناعي، ولكن الكثير منهم يتخوفون من مدى تأثيرها.

الكلمات المفتاحية: معلمي اللغة الإنجليزية كلغة أجنبية، المشاركة العاطفية، الذكاء الاصطناعي، استطلاع عاطفي للذكاء الاصطناعي

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Introduction

With the rapid growth of technology that education is witnessing, it is more necessary than ever for teachers to develop themselves both academically and professionally to keep up with the innovative Artificial Intelligence (AI) tools that are dominating the education sector and use them to their advantage. Teachers are generally viewed as responsible for the teaching aspect, with less consideration given to the fact that they are learners themselves, who have to constantly reflect on their beliefs, emotions, and actions. Undoubtedly, working on improving teachers' cognitive and affective skills in relation to AI use can lead to better teaching implementation methods and, by extension, better student outcomes. Kelly (2006) defined teacher learning as "the process by which teachers move towards expertise" (p. 506). In other words, because teachers are considered learners themselves, they must constantly find ways to expand their experiences both inside and outside the walls of the classroom. In today's digital and information age, EFL teachers are required to build a wide range of 21st-century skills, among which are digital information literacy skills. Bundy affirms that "the sheer abundance of information and technology will not in itself create more informed citizens without a complementary understanding and capacity to use information effectively" (as cited in Koltay et al., 2016, p. 5). Thus, digital information literacy skills mean the ability to use various technological tools to manage and use information online effectively.

AI has become increasingly widespread in the field of language education. When AI tools' benefits, such as the development of various language and literacy skills (Bozkurt et al., 2023; Huang et al., 2023), as well as the assistance of teachers in their lesson-planning and evaluation tasks, are well documented and researched, little is known about teachers' feelings, which can influence their adoption or rejection of these tools. Because teachers have the most crucial role in implementing AI technology, their emotional engagement can provide valuable insight into the factors that predict teachers' effective use of AI.

Researchers like Eyüp and Kayhan (2023) argued that when looking at the literature on EFL teachers' professional development, there are a limited number of studies that look at teachers' engagement and use of AI. An important number of these studies have emphasized teachers' perceptions and applications of AI (N. Kim & M. Kim, 2022; Park, 2021). However, studies investigating EFL university teachers' emotional engagement with AI remain relatively scarce, with most studies conducted with K–12 teachers (Hsu et al., 2023; Nazaretsky et al., 2022).

A case in point of a study on teachers' emotional engagement with AI is the research conducted by Y.Y. Wang and Y.S. Wang (2022), which aims at developing a standardized tool to measure AI anxiety. Another study was conducted by Eyüp and Kayhan (2023) to analyze 232 pre-service Turkish language teachers' levels of anxiety towards AI. The researchers made use of an Artificial Intelligence Anxiety Scale and a General Attitudes toward Artificial Intelligence Scale. The analysis of the data reveals that the two variables of gender and time spent on the internet did not make a meaningful distinction in the pre-service teachers' anxiety and attitudes towards artificial intelligence. That said, differences were noticed in the job replacement and sociotechnical blindness dimensions of anxiety. A third study was conducted by Terzi (2020), in which teachers' AI anxiety levels, based on various demographic factors, were analyzed. The researchers conclude that male and female teachers do not show any significant differences in the sociotechnical blindness dimension of the anxiety scale. However,

considerable discrepancies were found in terms of learning, job replacement, AI configuration dimensions, and the overall scale. In other words, female teachers exhibited more feelings of anxiety towards AI than male teachers did. Haseski (2019) conducted a qualitative research with 94 pre-service teachers, aimed at identifying their views on artificial intelligence. The semi-structured interview revealed that the participants believed that AI could be both beneficial and risky. The researcher also concluded that teachers display negative feelings towards its use. Terzi (2020) studied teachers' anxiety when using Artificial Intelligence, using an AI scale that was adapted into Turkish. He concluded that their negative feelings are not directly related to their age, gender, or years of experience in teaching.

All in all, it is noteworthy that the affective factors influencing EFL university teachers' beliefs and actual use of AI, to help them improve their teaching and learning practices, need to be examined.

To contribute to filling the gap in the literature and based on all these considerations, the present research sets out to investigate students' emotional engagement with AI tools, mainly chatbots and other Natural Language Processing (henceforth NLP) tools, with a focus on the negative emotions of anxiety and fear as well as the positive emotions of enthusiasm, interest, and enjoyment. The aim is also to identify the types of emotions that EFL university teachers exhibit towards AI. Exploring teachers' fear and anxiety regarding Artificial Intelligence, as well as understanding the sources of their emotional responses, can provide valuable insights for the successful implementation of these emerging technological tools. This process is essential for achieving the aim of the current study.

The objectives of the present study are twofold:

- To identify the types of emotions that EFL university teachers display when interacting with AI
- To understand the sources of EFL university teachers' emotional engagement with AI

The present study aims to provide answers to the following research questions:

- What emotions do EFL university teachers display when interacting with AI?
- What are the sources of EFL university teachers' emotional engagement with AI?

Literature Review

Influential Factors in Teachers' Professional Development

Many external and internal factors actively influence teachers' professional development. Aliakbari and Malmir (2017) postulated that EFL teachers' learning is a function of their cognition, beliefs, work environment, motivation, and emotions. First, teachers' cognition and beliefs refer to the "unobservable cognitive dimension of teaching—what teachers know, believe, and think" (p. 4). This includes their knowledge about the subject matter and instructional strategies, as well as their values and prior language learning experience. The problem with the cognitivist view is that it looks at teacher expertise as solely located within their minds and thus embraces a simplistic understanding of teacher knowledge that overlooks what Schön (1987) termed "knowledge-in and knowledge of practice" (as cited in Kelly, 2006, p. 507) and what Sternberg and Horvath (1999) referred to as "tacit knowledge" (as cited in Kelly, 2006, p. 508).

To have a clear understanding of the factors that influence teachers' professional growth, it is equally important to look at the wider social context in which teachers work. The contextual factor comprises teachers' workplace environment, time, teaching resources, and flexibility. Additionally, teachers' relationships with other colleagues and faculty members can have a major influence on their professional development. Furthermore, both extrinsic motivation, such as social prestige and job salary, and intrinsic motivation, like intellectual fulfillment and an inner sense of purpose, can have a major impact on teachers' professional growth (Kelly, 2006).

The present research focuses on EFL teachers' affective factors. Hu and Li (2017) stated that emotional engagement mainly denotes a wide range of emotional reactions, including interest, boredom, happiness, sadness, and anxiety. They added that emotional engagement can be understood "as a sense of belonging and values" (p. 40). It was not until the late 1990s that researchers began to recognize the significance of emotions as deserving the attention of scholars. Following this period, both student and teacher emotions gained prominence. It's now accepted that without interactive communication facilitated by affective processes, neither learning nor teaching is possible (Schutz & Lee, 2014). Undoubtedly, teachers' emotions have a close connection with teachers' successful learning and teaching practices, as well as the choices they make regarding which resources to use. Research suggests that both negative emotions like burnout, fear, and anxiety, as well as positive emotions such as enjoyment and enthusiasm, can significantly impact teachers' beliefs, decision-making, and overall professional development (Gregoire, 2003).

The Impact of Teachers' Emotional Engagement on their Beliefs and Practices

Skinner et al. (2008) made the distinction between emotional engagement and emotional disaffection. The former refers to the positive emotions that fuel motivation and behavior, while the latter plays a leading role in losing engagement and interest. Essentially, feelings of boredom, distraction, and anxiety can undermine behavioral participation in various educational activities.

Table 1. *A motivational conceptualization of engagement and disaffection*

Emotional Engagement	Emotional Disaffection
Enthusiasm	Boredom
Interest	Disinterest
Enjoyment	Frustration/anger
Satisfaction	Sadness
Pride	Worry/anxiety
Vitality	Shame
Zest	Self-blame

Note 1. Adopted from Skinner et al. (2008, p. 766)

Most researchers confirmed that there is a direct relationship between teachers' negative emotions of exhaustion, boredom, reduced personal accomplishment, burnout, and the quality of their teaching and learning practices (Aliakbari & Malmir, 2017; Chan, 2003). Others argued that negative emotions do not systematically lead to negative influences on teachers' beliefs and practices (Gregoire, 2003). For instance, anxiety and fear are almost the biggest affective obstacles in language learning and are closely connected to negative affective experiences such

as tension, sadness, and unease. It is natural for teachers to feel particularly wary of adopting radically different methods. That being said, when such negative feelings are not balanced with the positive emotions associated with high efficacy, it results in avoidance behaviors and limited processing (Gregoire, 2003). Conversely, when such negative feelings are tempered by high self-efficacy, they can lead to teachers' readiness to take up the challenge of adopting new practices and learning new technological tools. Gregoire added that "stress in and of itself is not wholly negative, however. It can lead to greater learning and adaptation if approached from a perspective of growth and challenge" (p. 166). Some researchers went as far as to argue that "affective states, such as positive moods, are a peripheral route to persuasion; it is still unclear how affect and cognition interact, except that affect is seen as biasing cognitive processing." (Wegener, 1999, as cited in Gregoire, 2003, p. 161). In other words, emotions impact not only how open teachers perceive and receive change, but also their subsequent actions.

Teachers' Emotional Engagement with Artificial Intelligence

Teachers' emotions play an important role in influencing their beliefs and behavior and, by extension, their perception and use of AI. If we take AI anxiety, a term "used to refer to the fear and trepidation being expressed about out-of-control AI" (Johnson & Verdicchio, 2017, p. 2), this negative feeling can be either facilitating, that is, it can enhance performance and favor the development of various digital information literacy skills, or debilitating, and can lead to inhibited performance or avoidance of AI tools altogether. Shahid et al., (2024) explored the impact that psychological factors can have on university teachers' attitudes and adoption of Artificial Intelligence using a quantitative survey. The findings revealed that anxiety hurts both their adoption and perception of the technological tool.

Y.Y. Wang and Y.S. Wang (2022) developed an artificial intelligence anxiety scale (henceforth AIAS), in which they distinguished between four sources of AI anxiety: sociotechnical blindness, job replacement, AI configuration, and learning to use AI. His AI anxiety scale differs from previous computer-anxiety and robot-anxiety scales in that it focuses primarily on artificial intelligence anxiety, which helps predict motivated learning behavior.

Sociotechnical blindness refers to the wrong perception of technological development. Feelings of fear and trepidation may come from a lack of understanding of the relationship between AI programs and the human beings who create and imbue AI program operations with meaning. Johnson and Verdicchio (2017) maintained that "those who have sociotechnical blindness fail to recognize that AI is a system and always and only operates in combination with people and social institutions" (p. 2). The second cause of anxiety is the idea that AI may lead to job replacement. This fear comes from the fact that more and more jobs are being automated, which, shortly, will lead to human redundancy. Some researchers argued that this type of anxiety and AIA may affect professional skill development positively 'as individuals with a high degree of AIA tend to have a higher degree of motivated learning behavior" (Y.Y. Wang & Y.S. Wang, 2022, p. 4). The fourth leading cause of anxiety is AI configuration, or the idea that AI systems and the way they operate are scary and intimidating. Such fear comes from the belief that AI tools are so complex that only engineers who are specialized in the field of computer science can have the right skills to use them. The last type of anxiety comes from teachers' apprehension about learning to use AI tools. This includes the anxiety that comes from learning to understand all of the special functions associated with an AI technique or

product, such as learning to use AI techniques or products and learning to interact with an AI technique or product, to name a few.

Positive emotions have also been the object of interest of many researchers, as they play an equally essential role in teachers' technology integration into teaching and learning practices. For instance, Pekrun (2006) found that having a clear idea and a good mastery of teaching and learning goals has the potential to increase the enjoyment of learning, together with a sense of hope and pride, and prevent being bored (as cited in Du et al., 2019). In other words, the greater the level of positive emotions individuals exhibit, the greater the likelihood of fostering positive aspects of themselves (Fredrickson, 2001). Though a relatively large body of research already exists at the international level, studies on Algerian EFL teachers' emotions towards the use of technology in general, and Artificial Intelligence in particular, for teaching and learning purposes, remain relatively scarce. By addressing this gap, the present research contributes to a more comprehensible understanding of the types of emotions that dictate Algerian teachers' effective use of Artificial Intelligence.

Research Methodology

Participants

The 21 participants who took part in the study were all Algerian EFL teachers. All the participants are either substitutes or full-time teachers in the Department of English at Mouloud MAMMERI University, Algeria, in the academic year 2023-2024. Since the research participants must not be traceable when revealing the data, the researcher made sure that all information about their identities would remain confidential. Phakiti argues that, because what happens during and after a study can be consequential for particular individuals in a social context, researchers must consider and respect individuals' right to privacy (2014). The teachers were randomly selected as they did not teach the same subject and at the same level. Overall, the results of the first section of the survey revealed that out of 21 teachers, 17 are female teachers and four are male teachers. Additionally, 15 respondents are between 25 and 35 years old, four are between 35 and 45 years old, and only two are above 45 years old. 10 teachers claim to have never used AI tools before, and 11 confirm having resorted to some of them. Most of the respondents have mentioned ChatGPT as their first AI tool of choice.

Research Instruments

To reach the goals of the present research, an AI emotional engagement survey was administered to 52 EFl university teachers. The survey consists of three parts. The first section aims at gathering background information about the teachers' gender, age, and previous experience using AI. The second part includes questions about teachers' anxiety and fear when using AI tools. Y.Y. Wang and Y.S. Wang's (2022) artificial intelligence anxiety scale was used to design the questions in the AI anxiety and fear section. The statements are about teachers' anxiety to learn how to use AI, sociotechnical blindness, and job replacement. The third part of the survey is about teachers' enjoyment, interest, and enthusiasm when using AI.

Research Procedures

In the present study, the quantitative research method was used to provide insightful data. Quantitative data analysis is primarily related to numerical data measurement. The data

from the present research were analyzed using a set of mathematical procedures presented in the form of descriptive statistics. After having collected the necessary data, the researcher followed sequential stages to perform statistical analysis. First, it was necessary to check whether all the participants 'data were complete. It was found that out of 52 teachers who were emailed the emotional engagement scale, only 21 took the time to fill out the form. Another problem encountered when organizing the data was that some participants did not answer all the questionnaire's items.

Results

This section displays the results of the analysis of the emotional engagement survey. The respondents were asked about the degree to which they agreed or disagreed with a range of statements related to their anxiety, fear, enjoyment, interest, and enthusiasm when using AI tools. A 5-point Likert scale, from 1 for "strongly disagree" to 5 for "strongly agree," was used to explore the patterns of teachers' emotional engagement with AI.

Table 2. *AI anxiety and fear: Learning how to use AI*

Items	1	2	3	4	5
1. Being unable to keep up with the advances associated with AI techniques/products makes me anxious.	9.5%	33.3%	38.1%	14.3%	4.8%
2. As a whole, I am afraid to use AI techniques/products.	9.5%	42.9%	23.8%	23.8%	00%
3. I am not afraid to learn AI-related skills.	4.8%	4.8%	4.8%	61.9%	23.8%
4. If I were to use an AI technique/product, I would be afraid of making mistakes.	14.3%	28.6%	47.6%	9.5%	00%
5. I find humanoid AI techniques/products (e.g. humanoid robots) intimidating.	4.8%	19%	57.1%	19%	00%

Overall, the data in Table Two reveals that most teachers shared mixed feelings about their ability to learn how to use AI-related tools. When asked about their fear of keeping up with the advances associated with AI techniques and products, the majority remained neutral (38.1%), and many disagreed (33.3%). Likewise, the majority disagreed with the statement, "As a whole, I am afraid to use AI techniques and products" (42.9%). And confirm that they are not afraid to use AI techniques and products (61.9%). A small percentage of teachers agree that they find AI products and techniques intimidating (19%), and a limited number of teachers are afraid to make mistakes when using them (9.5%).

Table 3. *Artificial intelligence anxiety and fear of job replacement*

Items	1	2	3	4	5
1. I am afraid that an AI technique/product like ChatGPT and Quillbot may replace teachers.	23.8%	42.9%	4.8%	19%	9.5%
2. I am afraid that the widespread use of humanoid robots will take jobs away from teachers.	9.5%	47.6%	9.5%	9.5%	23.8%
3. I am afraid of new technologies because one day they will make us (humans) obsolete.	4.8%	57.1%	14.3%	19%	4.8%
4. I am fearful that new technologies will someday take over my job.	4.8%	57.1%	9.5%	19%	9.5%
5. I am afraid that an AI technique/product may make us dependent.	4.8%	28.6%	9.5%	42.9%	14.3%

6. I am afraid that an AI technique/product may make us even lazier.	00%	14.3%	19%	33.3%	33.3%

Interestingly, the results in Table Three indicate that the majority of teachers do not feel threatened by the idea that AI tools may replace them (23.8% strongly disagree and 42.9% disagree) or will make them obsolete (57.1% disagree with this statement). However, when asked whether they fear that AI techniques and products may make them dependent and lazier, the overwhelming majority agree with the two statements (42.9% agree with statement 5 and 33.3 agree with statement six).

Table 4. *AI anxiety and fear: Sociotechnical blindness*

Items	1	2	3	4	5
1. I am afraid that an AI technique/product may lead us to lose our autonomy.	00%	14.3%	9.5%	61.9%	14.3%
2. I am afraid that an AI technique/product may lead us to lose our human contacts.	4.8%	19%	14.3%	42.9%	19%
3. As a whole, I am anxious about the development of AI techniques/products.	4.8%	9.5%	38.1%	38.1%	9.5%

Table Four shows data related to sociotechnical blindness as a source of teachers' anxiety and fear. It is clear from the results that the vast majority of teachers exhibit feelings of fear and anxiety when asked about AI's potential harm. Sixty-one point nine percent agree that it may lead to their loss of autonomy, and 42.9% agree that it may lead to their loss of human contact. Additionally, 38.1% are anxious about the development of AI techniques and products as a whole.

Table 5. *AI enthusiasm, interest, and enjoyment*

Items	1	2	3	4	5
1. I enjoy using AI to help me with my teaching-related tasks.	00%	9.5%	61.9%	23.8%	00%
2. I find AI tools like ChatGPT interesting in helping me prepare lessons and design tests.	4.8%	19%	28.6%	42.9%	4.8%
3. I am enthusiastic about using AI to help me with my teaching-related tasks.	4.8%	23.8%	42.9%	23.8%	4.8%

As the results of Table Five indicate, most teachers do not find the use of AI tools particularly enjoyable (61.9%), and only 23.8% agree with statement one. That said, 42.9% admit that AI tools like ChatGPT can be interesting, as they have the potential to help them design lessons and tests. Regarding their enthusiasm about the use of AI tools to help them in their teaching-related tasks, teachers are divided on the matter, with 23.8% agreeing and 23.8% disagreeing with statement three.

Discussion

Overall, the data reveal that most teachers do not display negative emotions of fear and anxiety towards using and learning to use Artificial Intelligence technology in general. That being said, the overwhelming majority of participants perceive it as a significant contributor to dependency and laziness.

It can be deduced from the data displayed in the results sections that, when asked about their anxiety and fear towards AI techniques and products, most teachers are not threatened by their ability to replace them. Most teachers think that teaching as an occupation cannot be substituted by machines shortly. It is essential to note that while computerization and automation may replace certain tasks traditionally performed by humans, teachers play a central role in the field of education. The results also show that most teachers are not afraid to learn how to use AI-related skills and believe in their capacity to build new information and digital literacy skills. These results do not corroborate the conclusions of Haseski's research (2019), which demonstrates that most university teachers display predominantly negative emotions of anxiety and fear towards artificial intelligence.

When it comes to the results related to their apprehensions about the risk of becoming lazy and dependent on AI technology, the overwhelming majority of teachers share the same concerns. Most of the participants agree that artificial intelligence would inevitably passivize them and render them too reliant on its fast and easy access to information. With the majority of the participants in the present study being female teachers, the results corroborate the findings of research conducted by Terzi (2020), who concludes that female teachers exhibit high feelings of anxiety about being too dependent on AI. Though teachers' fear and trepidation are valid and justified, a strong belief in the risk of overreliance on AI tools to outsource their thinking and tasks can hamper their professional development. Teachers need to understand the source of such negative feelings. For instance, the lack of digital information literacy skills that can help them effectively integrate AI into their teaching practices can increase negative feelings towards AI, which can in turn lead to technology avoidance. Terzi (2020) asserted that teachers who are skilled in using technology for educational purposes, are more likely to create a better learning environment for their students, and are more confident in planning their lessons effectively. It remains crucial to emphasize that both experienced and novice teachers must gain essential skills and knowledge in technology to increase their sense of confidence and self-efficacy towards AI, which can enhance their teaching and learning skills. Concerning whether the participants find AI techniques and products like ChatGPT enjoyable and interesting, a definitive conclusion cannot be drawn. Some teachers agree with the statement, while others disagree.

Conclusion

The present study has shed light on the importance of EFL university teachers' emotional engagement with AI techniques and products. Furthermore, it has offered valuable insight into EFL teachers' negative feelings of anxiety and fear and positive feelings of enjoyment, interest, and enthusiasm. The findings reveal that most teachers do not exhibit negative emotions towards learning AI-related skills. However, they perceive them as a leading cause of dependency and laziness. Though some of the sources of teachers' anxiety come from their lack of digital information skills, the reasons behind their apprehension are understandable.

While the main strength of this study lies in the fact that it unveiled some teachers' sources of fear and anxiety towards AI, the current study is not free from limitations that must be addressed. The first limitation is related to the questionnaire as a research tool. An interview with the participants, as an additional research tool, would have provided more informative data to cross-validate the results of the teachers' emotional intelligence survey. In other words, qualitative approaches could be used as a supplement to quantitative investigations to explore

in-depth the reasons behind teachers' positive and negative feelings towards AI. Another limitation is related to the sample size. When the survey was initially administered to 52 teachers, only 21 respondents took the necessary time to fill out the form. Equally important is the gender variable. Female participants outnumbered their male colleagues. For that particular reason, the findings of the study cannot be generalized to male members of the population.

Pedagogical Implications

All in all, it remains crucial for teachers, policymakers, and researchers to recognize that it is not enough to increase teachers' motivation to change their beliefs about the adoption of AI tools. Pre-service and in-service training programs should prioritize teachers' reflections on their own emotions and feelings. Moreover, teacher trainers and policymakers should examine ways to increase teachers' ability to reflect upon AI emotional engagement and digital information literacy skills, as well as to successfully implement the new AI technological tools. This means giving teachers time to think through the implications of using AI techniques and products in their teaching and learning practices. In addition, teachers must be provided with the appropriate conceptual training required to scaffold their understanding of the new AI tools, along with sufficient resources, so that they are not left having to navigate the challenge of developing AI-related skills on their own. Such an initiative would help teachers approach their negative feelings of anxiety and fear towards AI from a place of challenge rather than threat.

About the Author

Amel Benaissa has been a teacher and researcher at Mouloud Mammeri University since 2011. She specialises in applied linguistics and learning. Her fields of interest are critical applied linguistics, e-learning, and language learning and teaching. She has actively participated in national and international conferences. https://orcid.org/my-orcid?orcid=0009-0007-2275-6668.

Declaration of AI Refined

This research paper has undergone language correction using AI-powered tools to address grammatical, spelling, and stylistic errors. It is acknowledged that the use of such tools may introduce standardised patterns typical of AI-generated content. Consequently, a certain percentage of content may reflect AI-generated language structures. Yet, the intellectual content and the analysis remain entirely the work of the authors.

Statement of Absence of Conflict of Interest

The authors mentioned above hereby solemnly declare that they are not and shall not be in any situation that could give rise to a conflict of interest in what concerns the findings and recommendations contained in this academic article.

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Appendices

Appendix A

Teachers' Emotional Engagement Survey

Dear colleagues, you are kindly asked to complete the Emotional engagement survey.

1-Strongly disagree

2-Disagree

3-Neutral

4-Agree

5-Strongly agree

Section 1: *Background Information*

Gender: Female/Male

Education: Undergraduate/Graduate/Postgraduate

Age: 25-35/35/45/>45

Have previously used AI: Yes/No

If yes, mention some of the AI tools that you have used as a teacher.

Section 2: *AI Anxiety and Fear: Learning*

1. Being unable to keep up with the advances associated with AI techniques/products makes me anxious.
2. As a whole, I am afraid to use AI techniques/products.
2. I am not afraid to learn AI-related skills.
3. If I were to use an AI technique/product, I would be afraid of making mistakes.
4. I find humanoid AI techniques/products (e.g. humanoid robots) intimidating.

Section 3: ***AI Anxiety and Fear: Learning: Job Replacement***

1. I am afraid that an AI technique/product like ChatGPT and Quillbot may replace teachers.
2. I am afraid that the widespread use of humanoid robots will take jobs away from teachers.
3. I am afraid of new technologies because one day they will make us (humans) obsolete.
4. I am fearful that new technologies will someday take over my job.
5. I am afraid that an AI technique/product may make us dependent.
6. I am afraid that an AI technique/product may make us even lazier.

Section 4: ***AI Anxiety and Fear: Sociotechnical Blindness***

1. I am afraid that an AI technique/product may lead us to lose our autonomy.
2. I am afraid that an AI technique/product may lead us to lose our human contacts.

As a whole, I am anxious about the development of AI techniques/products.

Section 5: ***AI Enthusiasm, Interest, and Enjoyment***

1. I enjoy using AI to help me with my teaching-related tasks.
2. I find AI tools like ChatGPT interesting in helping me prepare lessons and design tests.
3. I am enthusiastic about using AI to help me with my teaching-related tasks.

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