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Exploring the Impact of Generative AI on Language Education: Insights from Teachers

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Author biographies

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Katherine Halley is a PhD student and early career researcher in Language Assessment at the Centre for Research in English Language Learning and Assessment (CRELLA), University of Bedfordshire. Research projects that she has worked on involve speaking test validation and generative AI. Her research interests are in speaking assessment/skills, the assessment of interactional competence, multimodality, and embodied resources.

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Generative AI and global educational trends

Generative AI (GenAI) has emerged as a disruptive force in society, bringing substantial changes to language education. As technology improves, we're seeing the integration of GenAI into language teaching, learning, and assessment, which prompts careful consideration of the opportunities and challenges it brings.

The emergence of accessible GenAI tools, such as ChatGPT (for generating text) or DALL-E (for generating images), has provided opportunities for teachers and learners to bring GenAI into the learning process. ChatGPT, which is an example of the large language models (LLMs) that GenAI is powered by, reached an amazing 100 million users in just two months after release (Hu 2023).

The widespread discussion of GenAI in language education has led to many opinion pieces, but only a few research studies have looked into how teachers actually employ and relate to this technology[1]. The research presented here explores the ways in which language teachers and educators have been affected by the introduction of GenAI. Our aim is to use the insights from this initial exploration to inform **well-targeted teacher support and professional development** for language teachers and others involved in language education.

Successful professional development requires an in-depth understanding of the varied contexts in which teachers work, and also their attitudes, practices, challenges and concerns. Through the research presented in this paper we aim to help teachers **become 'AI ready'** – a term used by Professor Rose Luckin and colleagues from University College London to capture the knowledge and skills educators need in order to use AI (and GenAI) successfully (Luckin, Cukurova, Kent, & du Boulay, 2022).

The influence of GenAI on education more broadly, and language education specifically, is significant. At the same time, **reactions to educational technology and AI in education are often polarised.** At one end of the spectrum is, for example, UNESCO, which has called for a global ban on smartphones in schools (UNESCO 2023), or Sweden, and the government policy to move (The Guardian 2023) away from digital devices and back to print books. At the other end of the spectrum are countries and organisations which are actively investing in digital textbooks and AI tutors. An example of this approach is seen in the implementation of AI use cases by the Singapore Ministry of Education.

[1]At the time of writing, research studies have started emerging; see for example Oxford University Press (2023): https://corp.oup.com/feature/ai-in-education-where-we-are-and-what-happens-next/ and the British Council (2023): https://teachingenglish.britishcouncil.org/artificial-intelligence-and-english-language-teaching-research-british-council.

Guidance on the use of GenAI in education is starting to emerge, as seen in reports from UNESCO, the UK government Ofcom (2023), and the United States Office of Educational Technology (2023). Technology firms are also putting resources into investigations of AI and education, for example the Capgemini report (2023) on future-ready education and the JISC report (2023) on student preparation for using GenAI. Academic research is also growing, providing information on the positive aspects of GenAI for students and teachers, as well as highlighting concerns around unethical uses, plagiarism, and privacy (Chan & Hu 2023, Sumakul, Hamied, & Sukyadi, 2022).

These varied approaches to GenAI, and the complexities of using this new technology successfully, create exceptional challenges for teachers. They need to make daily macro and micro decisions about their use of GenAI in a rapidly evolving and often contradictory educational world, often with little or no guidance. The need for targeted professional development and guidance is, as such, considerable.

The focus of this paper is to provide such guidance for English language teachers through:

- Reporting on the research insights gathered from a global group of English language teachers on their practices and concerns around using GenAI
- Recommending a framework to guide language teachers in using GenAI in a principled and impactful way

We believe that this two-way focus is vital to allow those involved in language education to respond appropriately and successfully to the ever-changing demands of the GenAI era.

We will start with a description and discussion of the research insights, and will then move to the areas of knowledge and expertise underpinning the use of GenAI in English language, and which aim to enable teachers to become 'AI ready'.

Research study: Focus and approach

Aim

In designing this research study, our objective was to focus on all stages of language education from pre-primary to adult, and to:

Gather empirical insights about language teachers' GenAI practices; the way they use GenAI tools in their everyday teaching and their attitudes towards them; and the challenges they have faced.

In order to gather varied and in-depth educator perspectives, it was important to collect different types of data. As such, our data came from online surveys and focus groups. The surveys allowed us to collect views on a wide range of topics from questions, and the focus groups provided an opportunity to investigate some of those topics in more depth. Combining these different types of data allowed us to capture nuanced insights from teachers working in a range of settings.

Survey and focus group data

The online survey was distributed to language educators worldwide in July and August 2023. It included a mix of questions which had pre-determined options for the respondents to select from (selected-response survey items) and open-ended questions for comments. The latter focused on teachers' opinions and reasons for their selections, and also provided a space for them to include examples of their practices with GenAI.

There were 27 survey questions in total, based on these areas of interest:

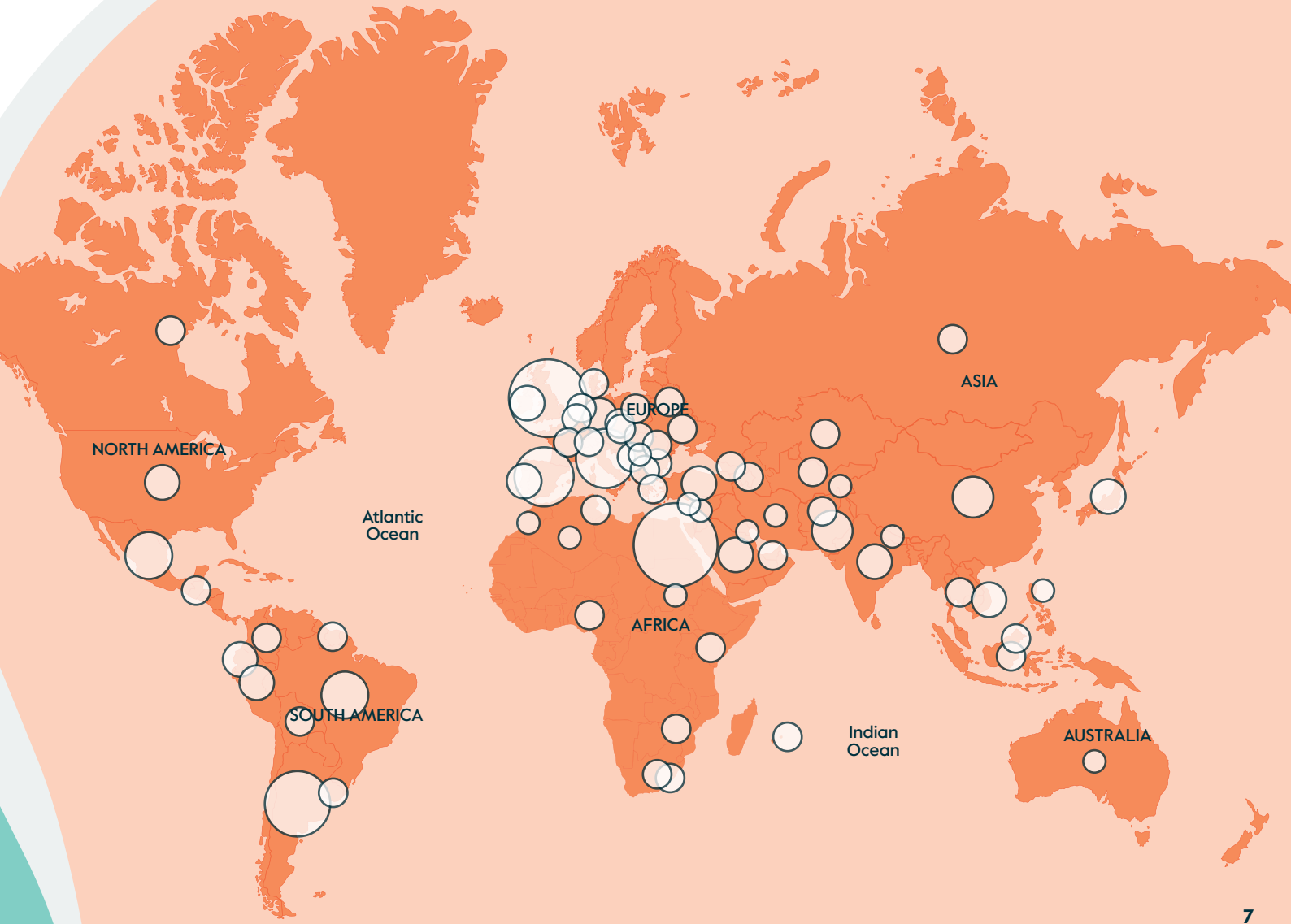
- Familiarity with and uses of GenAI in teaching
- Perceived benefits and challenges of GenAI in language teaching
- GenAI training needs and professional development opportunities
- Institutional policies in relation to GenAI for teachers and students
- Attitudes towards GenAI

Three focus groups were conducted online in different global locations. These sessions provided a more in-depth exploration of teachers' experiences, challenges, and perceptions related to GenAI in their teaching contexts.

Participants

A total of **386 teachers** completed the full survey and **9 teachers** took part in the focus groups. The background of the participants is given below.

- **Geographic representation: 70 countries** globally, across 6 continents, thus providing a broad international perspective. The map below shows the spread of countries the participating teachers came from. Each bubble in the map represents the country participants came from, and the size of the bubble indicates the number of participants from that country.
- **Educational level of students:** pre-primary (5%), primary (22%), secondary (39%) and adult education (34%).
- **Gender:** the majority (73%) the majority identified as female.
- **Teaching experience:** mostly aged 36 to 55 (60%) and with 10 to 29 years of teaching experience (60%).
- **Institutional settings:** public (37%) and private (63%) schools.
- **Class size and focus:** the size of their classes was mostly 11 to 30 students (64%), and the most popular type of classes were General English (38%), followed by Academic English (27%) and Test Preparation (26%).



Tapping into the opportunities of GenAI

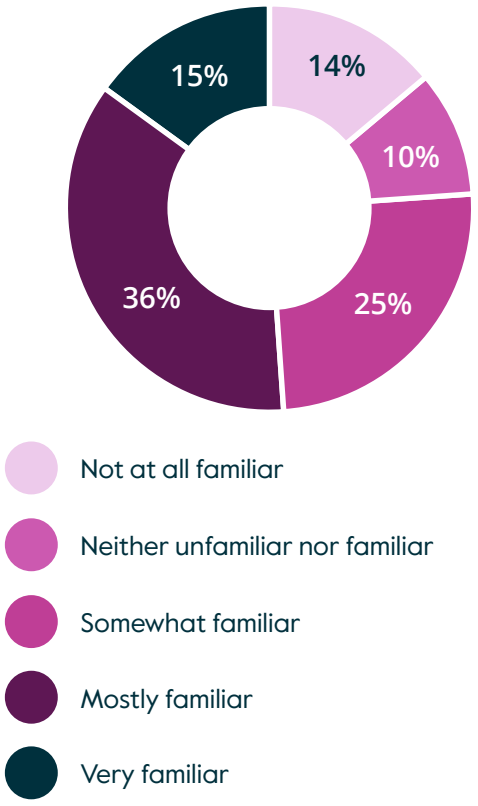
In this section, we will look into educators' perspectives on the integration of GenAI in language education. We will overview trends in the data and also comment on any statistically significant differences across (i) those teaching in private versus public sector schools and (ii) teachers with different years of teaching experience. Teaching experience did not seem to affect how they responded to the survey, although private sector teachers did respond more positively to some of the questions; this is indicated where relevant.

It is important to note that we carried out this research in July–August 2023 – i.e. 8–9 months after the public release of ChatGPT in November 2022. These findings, therefore, can serve as a useful indication of how English language teachers were responding to GenAI in the *initial stage* of it being available. The findings can also provide a useful baseline to future studies exploring the use of GenAI in language education.

Positive attitudes to GenAI

Educators participating in this study demonstrated a high level of familiarity with GenAI, with many incorporating the technology into their teaching practices. This familiarity reflects the widespread recognition of AI's potential benefits in enhancing the teaching and learning experience. Specifically, **1 in 2** (51%) teachers said they are mostly familiar or very familiar with GenAI tools, with only **14%** stating they are not familiar at all.

How familiar are you with using generative AI tools (such as ChatGPT)?



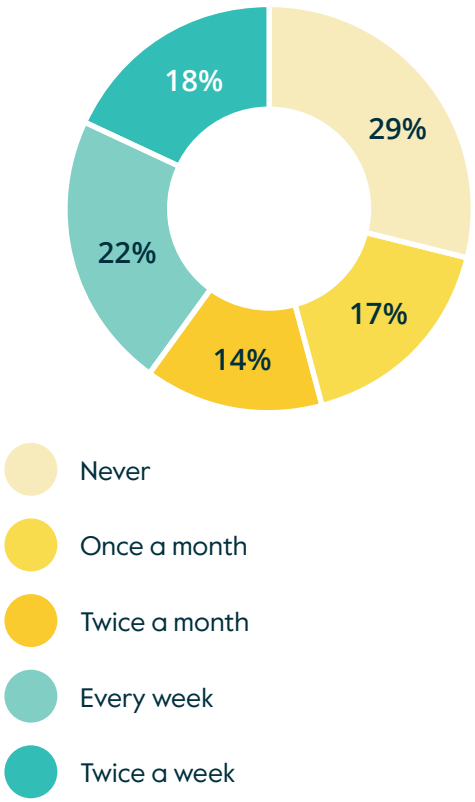
A majority **(71%)** reported using GenAI in their teaching, with **40%** using it on a weekly basis and **31%** monthly.

> "I use it every week to help with creating new activities and get ideas on how to teach certain topics."
>
> **Private primary-level teacher, Uruguay**

> **"AI is so far my best teaching tool."**
>
> Public and private secondary level teacher, Kenya

> **"By incorporating AI technology into your teaching methodology, you are at the forefront of educational innovation."**
>
> Private secondary and adult education teacher, China

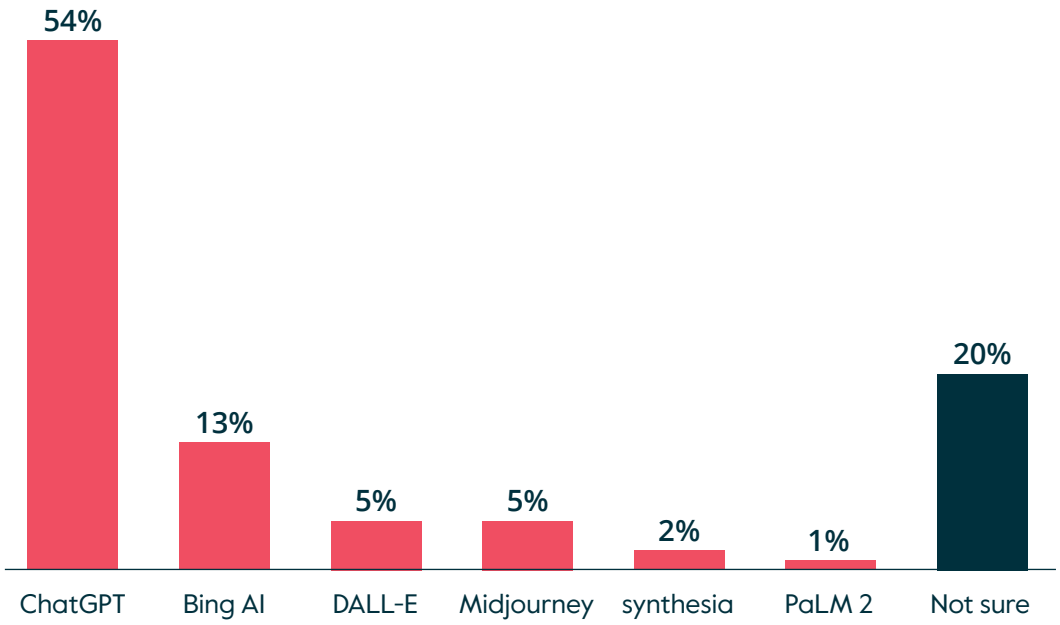
On average, how often do you use generative AI tools in your role as a teacher?



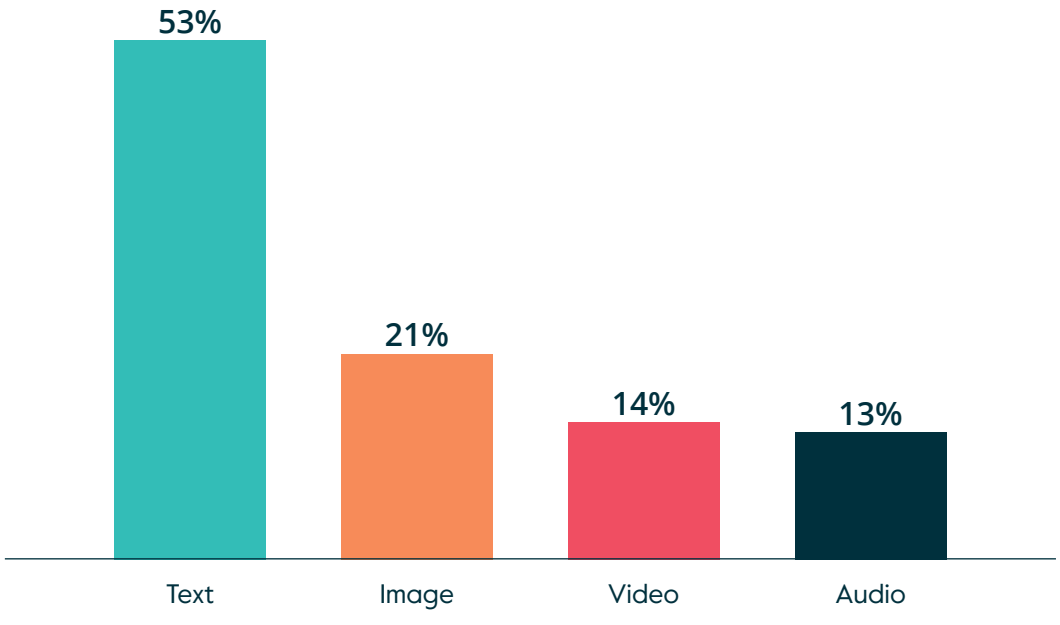
These comments indicate a highly positive attitude towards GenAI. However, almost **one third** (29%) of teachers reported not having ever used GenAI. Limited access may therefore be placing some teachers and students at a potential disadvantage.

Out of the available free GenAI tools, the most popular to date is ChatGPT: **54%** of teachers said they use it and about **1 in 10** (13%) reported using Bing AI. DALL-E and Midjourney (tools used for generating images) were also named by 5% of teachers. In terms of type of output, **53%** of teachers reported using GenAI to create text outputs, and **1 in 5** (21%) were also using it to generate image outputs.

What generative AI tools do you use in your teaching?



What type of outputs do you create with generative AI?

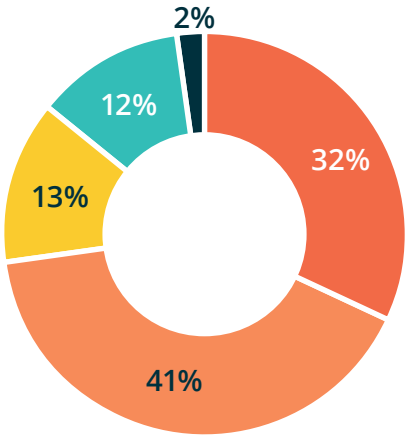


GenAI is a collaborator, not a replacement

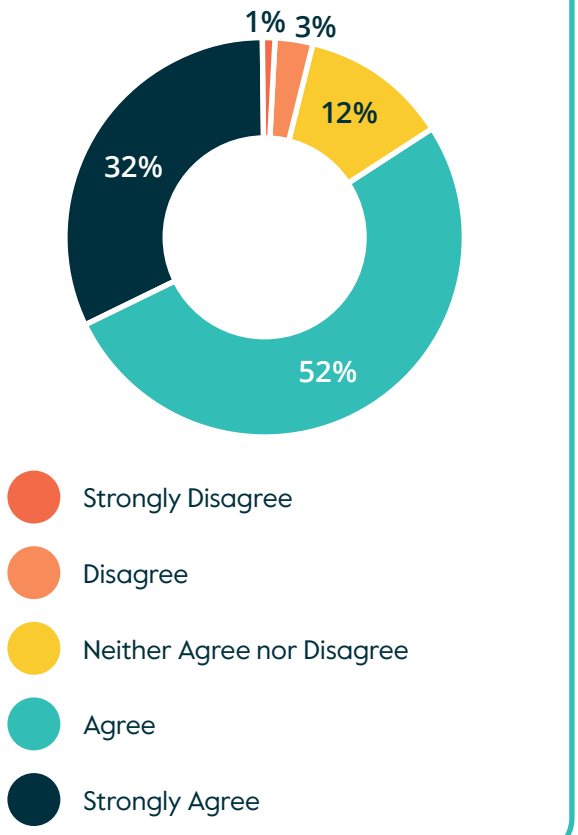
The participating teachers largely viewed GenAI as a *collaborator.* About **3 out of 4** (73%) teachers do not believe that GenAI will replace their jobs, and approximately **8 out of 10** (84%) believe that GenAI can usefully complement teaching and as such can be integrated with the teacher's role. Private school teachers were more positive about this statement than public sector teachers.

The participating teachers elaborated on this in their comments in the survey and focus groups. They believe teachers will continue to be responsible for directing and coordinating their students' learning journey:

"I think that generative AI tools might replace the role of the teacher as the main educator."



"I think a teacher's role and generative AI technologies can be successfully integrated."



This optimism was not necessarily shared by everyone. Over **1 in 10** (14%) fear that GenAI may overtake teachers and make their roles redundant. This predicament is captured in this teacher comment from a previous study carried out by Cambridge:

> "AI is only a tool not the teacher."
>
> Public adult education teacher, Ecuador

> "But the skill, the choice and the ...decision, it is still under our own responsibility."
>
> Head of a private language school, Argentina

> "The role of a human teacher is necessary to draw out the humanness and not merely transfer knowledge which is freely available."
>
> Private secondary teacher and tutor in India, UK and Malaysia

> "GenAI will be extremely valuable when it comes to customising learning, i.e., dealing with SEN [Special Educational Needs] creating suitable texts for reading/exam training/project works) and promoting lateral/divergent thinking ... to boost creative writing skills or storytelling."
>
> International school English teacher trainer and supervisor, Italy and UK

What's the difference going to be between having you, dear reader or listener, or an AI robot teach you your next English class[?] I can see zillions of ways the robot will be better than you. It doesn't need pay, doesn't go on strike. No bathroom breaks. Never feels tired. Never feels fed up. Can quote from millions of books by heart and teach grammar as well as the best. And I'm sure that it will soon be quite as entertaining as you because of its fabulous memory. And who will the students like better as a teacher?

While there is perhaps a nugget of truth here, it is reassuring to see that in our current study the strong majority think that humans will prevail in terms of the unique value they add in the context of language education. Language learning is, after all, not just a cognitive endeavour but one with strong social and emotional elements (Lantolf, 2011; Long, 1981; Vygotsky, 1978). The social and emotional realms of learning are seen as falling within the domain of the human teacher.

GenAI is a resourceful teaching assistant

Educators frequently used GenAI as a teaching assistant, leveraging its capabilities to:

- Generate ideas
- Adapt learning materials
- Provide personalised learning and support

The theme of work buddy or teacher collaborator/assistant continually surfaced across the surveys and the focus groups. Teachers referred to GenAI as a 'team member' or a 'conversation buddy' who the teachers could ask to review students' work, provide feedback, help with multi-level classes, and better address individual learner needs.

> "I've told my students to think of it as a tutor – anything they would ask me, they can ask it.
>
> **Private adult education teacher, UK**

> "It's like a team member you can count on even on a Sunday afternoon when ... you need somebody to exchange ideas with."
>
> Head of English and secondary school teacher, Argentina

> "It also served as a second pair of eyes when reviewing materials."
>
> Private, pre-primary, primary, secondary, and adult education teacher, Bosnia Herzegovina

Teachers told us that they use GenAI in a range of ways to facilitate their teaching practice and to support their learners.

- **Creating learning materials and customising educational content**

  > "I can generate a variety of learning materials, such as curriculum, lesson plans, reading texts, and sample essays."
  >
  > Non-profit adult education teacher, Saudi Arabia

- **Language skills enhancement**

  > "I've used ChatGPT to create [tailored] texts for reading comprehension activities."
  >
  > Private adult education teacher, Spain

- **Speeding up tasks and improving work efficiency**

  > "I think that AI helps save lots of time when preparing lessons and designing activities. This allows me to focus on other aspects of my teaching."
  >
  > Private, secondary, and adult education teacher, Peru

- **Adapting materials to student abilities and tailoring content to diverse proficiency levels**

  > "You just ask [GenAI] to produce an easier version or a simplified version in terms of the language input, and it comes out with a ... version of the same test adapted to the special needs of a certain student."
  >
  > Primary bilingual schoolteacher, Argentina

- **Developing assessments**

  > "I used AI to create a reading text for my students level with multiple-choice questions to test comprehension of the text for a reading exam. I regularly use it to make questions (with answers) for reading and listening. I sometimes use it to make questions for Kahoot and Quizizz."
  >
  > Public adult education teacher, Saudi Arabia

- **Synthesising and summarising of information for teachers and learners**

  > "I needed to have a collection of information and ChatGPT helped me to have a holistic view of many articles."
  >
  > Semi-gov primary and secondary teacher, Pakistan

- **Generating new ideas for teaching and increasing variety in the classroom**

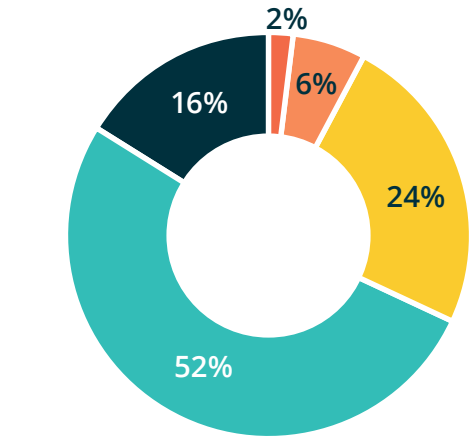
  > "It is great for helping students generate ideas for collaborative speaking exercises."
  >
  > Private independent, primary, secondary, and adult education teacher, Spain

- **Bringing in unique insights**

  > "[GenAI affords] The ability to perceive ideas from a different point of view."
  >
  > Public and private adult education teacher, Argentina

The ability of GenAI to equip teachers with new ideas was a strong theme — **2 out of 3** (68%) teachers reported that GenAI provided them with new insights and perspectives they had not thought of on their own. Again, private school teachers were more positive about this statement than public sector teachers.

"I believe generative AI can give me unique insights and perspectives I haven't thought of myself."



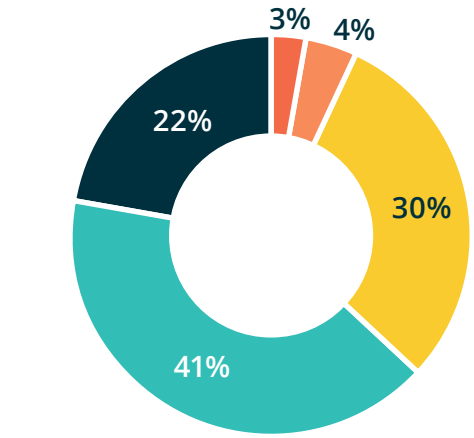
- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

GenAI enhances job satisfaction

GenAI was perceived as an innovative, versatile tool that can provide teachers with more options, ideas, and variations. It enables personalisation, and helps improve efficiency and reduce workloads. The effect of these GenAI capabilities is that teachers and students alike become more motivated, engaged, and confident —**2 out of 3** (63%) teachers reported that GenAI enhances their job satisfaction. Private sector teachers responded more positively to this statement than public sector teachers.

> "I believe it gives me my job satisfaction in the sense that it's something else that I'm able to use that will contribute for my students progress in the language ... learning."
>
> **Teacher, a language school in Brazil**

"Using generative AI helps with my job satisfaction."



- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

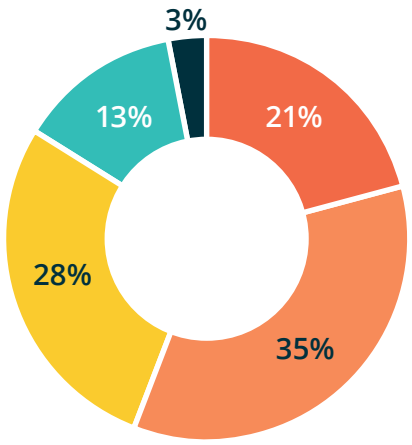
Language learning will remain important, but different sub-skills may take on greater prominence

The importance of language learning in the era of GenAI was also explored, and educators expressed a diversity of views. A significant portion believed that language learning would remain essential, albeit with potential shifts in focus toward specific sub-skills. Over **half** (56%) do not believe that GenAI will make language learning less important, while **16%** believe it might.

The nature of the skills that will become prominent in language education might change. For example, oracy could take on a bigger role than it currently has, and writing might become more dependent on GenAI.

> I think the subskills we teach students will change a bit (more reading and evaluating output) and be more speech-based in class.
>
> **Private adult education teacher, the UK**

"I think generative AI tools will make language learning less important in the future."



Emerging challenges: Navigating the complexities of GenAI integration

A number of challenges and concerns were identified by the participating teachers.

Cheating and plagiarism

- Academic integrity was identified as a primary challenge, with **1 in 5** (21%) teachers reporting that they have encountered issues with cheating and plagiarism.

> **"Although students are not allowed to use AI to complete assignments, some students have used it to write their research essays."**
>
> Private adult education teacher, Australia

> **"It is hard to tell what is AI text. Even the plagiarism detection tools are not reliable."**
>
> Public adult education teacher, USA

Misinformation and blurring truth/ fiction boundaries

- The challenge of discerning accurate information in an era of information overload and misinformation emerged as another challenge.
- The tendency of GenAI systems to generate content that contains inaccuracies or reflects biases (known as hallucinations) is now well established (McIntosh et al. 2023). A key issue is that students who use this technology may not know how to verify this information and fact-check it for accuracy, which can result in the widespread challenge of misinformation. Indeed, a 2022 study by Ofcom in the UK found that 1 in 3 internet users fail to question false and biased information.

> "ChatGPT ... has been known to invent citations."
>
> **Private pre-primary, primary, secondary, and adult education teacher, Spain**

Language level of output

- Generating learning or assessment content at the right language level emerged as another concern.

> Most of the times the level of English in the texts that it creates is not what I ask for, it tends to be more difficult even when I remind to create it to according to a CEFR level.
>
> **Public secondary level teacher, Spain**

Diminishing critical thinking and encouraging shallow learning

- One of the concerns expressed by teachers was students' over-reliance on GenAI.

> **"It is too easy for Ss [students] to create content without having to work for it and/or apply what they've learned in class."**
>
> Private primary, secondary, and adult education teacher, Mexico and the USA

- There was also a concern that GenAI might contribute to diminishing critical thinking skills among students. The ease of obtaining quick answers through AI could potentially discourage in-depth analysis and thoughtful consideration of learning materials.

> Sometimes students tend to look for answers on ChatGPT instead of analyzing and thinking critically.
>
> **Private secondary and adult education teacher, Ecuador**

> Fast access to problem solving might result in shallow learning.
>
> **Public and private secondary and adult education teacher, Argentina**

Unequal access to technology

Beyond academic concerns, educators highlighted the issue of unequal access to technology. **1 in 10** (9%) teachers cited this as one of the challenges they have experienced. Access to advanced AI tools and technologies may be limited in certain educational settings or regions, creating a disparity in the opportunities available for language learning.

> "... there are students who have no access to AI and I feel they are disadvantaged as compared to those who do have access"
>
> **Private adult education teacher, Kenya**

Other researchers (Oxford University Press 2023) have argued that GenAI could either be a leveller or a divider. It could mostly benefit those students and teachers who can afford or easily access these technologies, contributing to a divide in language proficiency and educational outcomes.

> **"... if you want just to get some additional features, you have to pay extra."**
>
> Pre-sessional course teacher, UK

Addressing these challenges and implementing equal access is critical to ensure that the benefits of GenAI in language learning are available to a broader and more diverse population.

There is also the interesting and important consideration around limited access as a choice and limited access due to socio-economic factors. Well-resourced contexts with trained teachers can choose what technology to use and to what extent, but less well-resourced contexts can only afford cheap AI alternatives.

Need for prompt engineering skills

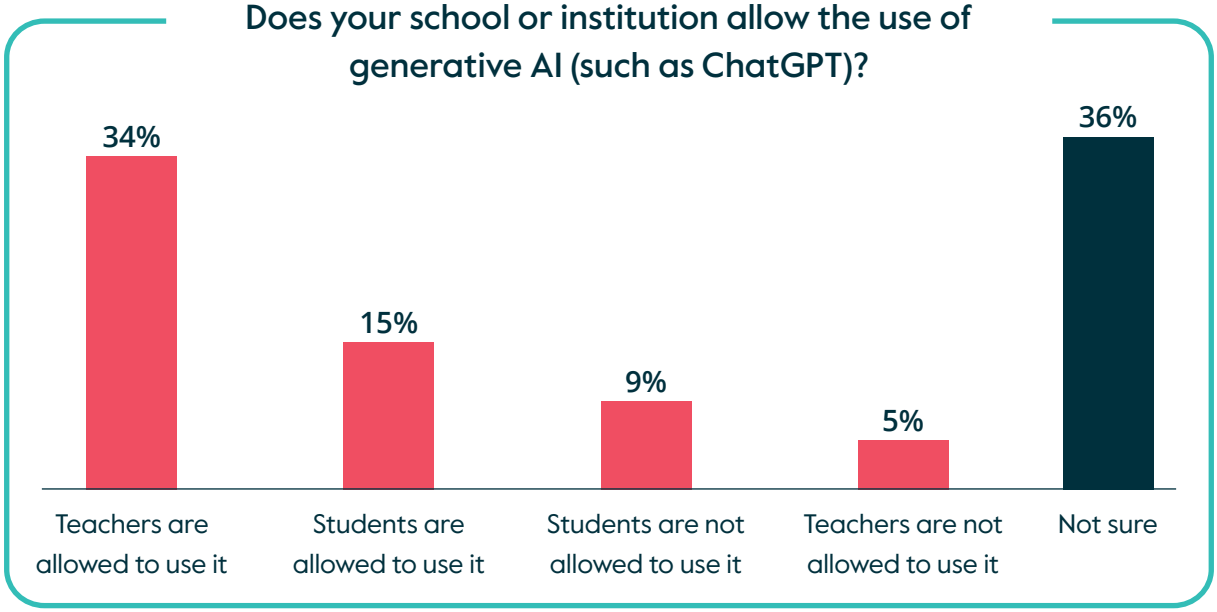
Often the output produced by GenAI is heavily dependent on the quality of the prompt submitted (Memmert, Cvetkovic, & Bittner, 2024; Zhao, Wallace, Feng, Klein, & Singh, 2021). As such, the participating teachers stressed the increasingly important skill of prompt engineering (Oxford University Press 2023), which refers to designing instructions to give to an AI tool to get the best possible answers. It may eventually become an additional skill that students are taught, but educators will have to deepen their own understanding of prompt engineering before undertaking such teaching.

Institutional policies and ethical considerations

The insights gathered in the study also shed light on GenAI policies and ethical considerations.

Mixed and non-transparent institutional policies

Educators revealed that institutional policies regarding the use of GenAI often lacked transparency. The highest proportion – approximately **1 in 3** (36%) – reported that they are unsure if their institution has a GenAI policy, highlighting the critical need for clearer guidelines. Whilst **1 in 3** (34%) teachers are allowed to use GenAI, **5%** of institutions prohibit teachers from doing so, potentially driving further inequality due to issues of access.



Ethical implications and data safeguarding

The ethical implications of GenAI, particularly concerning students' data, emerged as a prominent theme. Educators stressed the importance of promoting safe and participative use of AI, underlining the need for ethical considerations in AI integration.

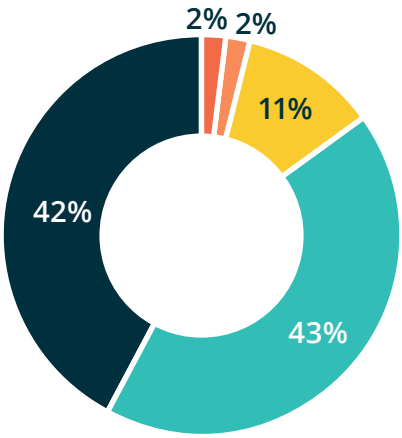
> "There's a ... conversation going on about educators, worried about the use of ChatGPT, and the ethical implications that sometimes, it carries with it.
>
> **Primary bilingual school teacher, Argentina**

Training and professional development hurdles: Nurturing educators for GenAI integration

Desire to learn and high demand for training

Educators expressed a strong desire for training and continuous learning, with **85%** reporting enthusiasm to learn more about GenAI; private school teachers responded more positively.

"I am enthusiastic to learn about generative AI in my role as a teacher."



- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

This quote reflects the need for educators to adapt to emerging technologies:

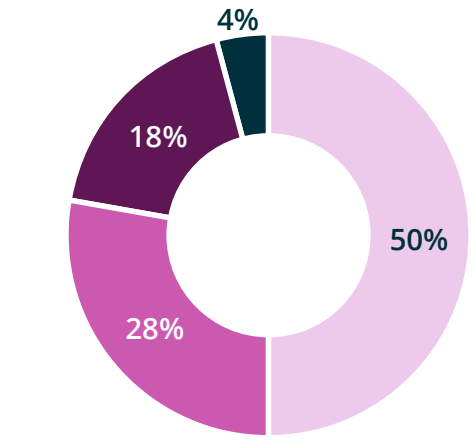
> "Any teacher who is NOT using AI is already being left behind."
>
> **Public and private secondary and adult education teacher, Germany**

Training needs and unmet expectations

Approximately **1 in 2** (50%) of the teachers felt that their training needs on using GenAI had not been met. The evident strong desire to learn is not matched by sufficient professional development opportunities to do so; this is seen as a major hurdle.

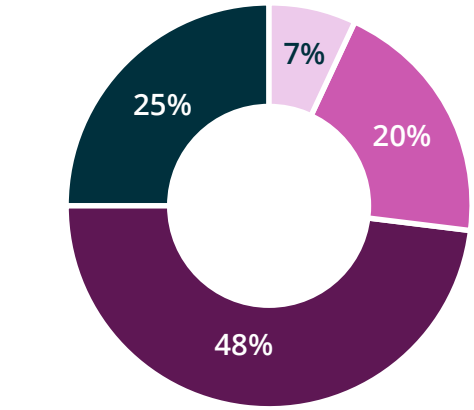
Additionally, **1 in 4 (25%)** of the teachers expressed a keen interest in ongoing monthly training opportunities; nearly half (48%) believe they need a few days of training per year.

Have your training needs on using generative AI been met?



> … I never got a training that helps me understand AI. I mostly learned it from youtube videos and articles.
>
> **Private primary teacher, Mexico**

To what extent do you think you need to have specialised training in generative AI to perform your teaching role in future?



> Things are changing so quickly that teachers must be able to keep up.
>
> **Public primary and secondary teacher, Portugal**

A range of training needs emerged:

- **General training:** Many teachers identified that they want GenAI training to benefit their teaching and student learning practice. The areas they identified included teaching students how to use GenAI, lesson/curriculum integration, content creation, developing feedback and evaluation tools, adapting material for student ability, and enhancing classroom engagement.

  > **"Unfortunately, among the trainings we have in our country and provided by our inspectorates, I have never seen any that would focus on specialized teaching like teaching English with generative AI tools or something. So that's what's missing."**
  >
  > Public secondary level teacher, Romania

- **Ensuring academic integrity:** A significant concern was voiced regarding training on guiding students in using AI within the rules of academic integrity.

  > **"I need more training in terms of helping students use AI in a way that meets academic integrity rules and also helps them understand their responsibilities."**
  >
  > Private secondary level teacher, Japan

- **Effective prompting techniques:** Educators recognised the importance of mastering the art of formulating prompts to elicit accurate and relevant responses from GenAI tools, and how training in this area is crucial.

  > **"[I need to] Know how to ask the right questions in order to receive an accurate answer from ChatGPT."**
  >
  > Private secondary and adult education teacher, Brazil

- **Technology focus:** As well as effective prompt training, teachers also expressed a desire to have training that helped them with the technological aspects of GenAI, such as learning about applications that generate text, pictures, and videos.

  > **"I need extensive details about other generative AI tools and how to generate audios and videos."**
  >
  > Private secondary level teacher, Egypt

Navigating the future of language education with GenAI: A framework of action

We end our exploration by summarising the main insights, and note some implications of GenAI for language education identified by our research.

Key takeaways

- **High familiarity with AI:** Language teachers have a high level of familiarity with AI, viewing it as a valuable tool rather than a replacement for traditional teaching.
- **A wide spectrum of GenAI uses are in practice:** Teachers leverage GenAI as a teaching assistant, collaborator, and source of creative inspiration, enriching the educational experience. Moreover, GenAI can be used to help teaching become more personalised and individualised to specific students' needs.
- **Challenges and concerns:** While optimism prevails, concerns about cheating, plagiarism, diminishing critical thinking and shallow learning are present. The need for transparent institutional policies also underscores the complex landscape of GenAI adoption.
- **Training needs:** Educators express a strong desire for training, emphasising the necessity of ongoing professional development to harness the potential of GenAI.

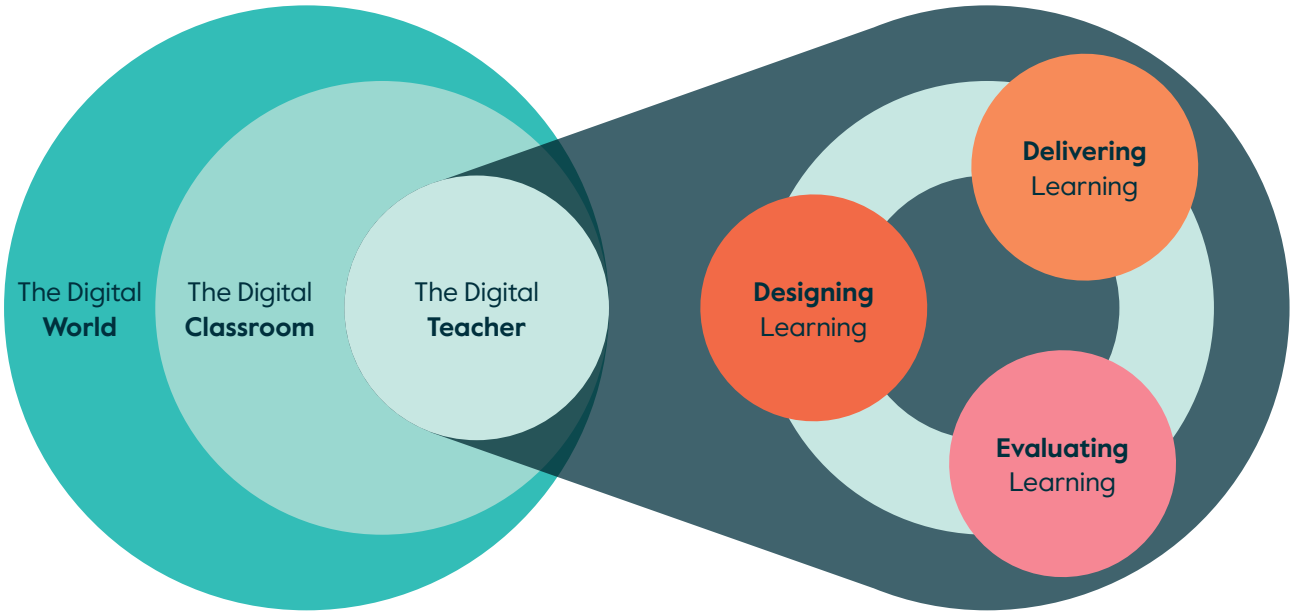
Framework of action

The GenAI tools available to teachers are fast evolving and the craft of teaching depends not just on having those AI technologies available, but on teachers being able to use them effectively. As an OECD report (2015, p.3) wisely noted about the use of education technology in general, **'adding 21st-century technologies to 20th-century teaching practices will just dilute the effectiveness of teaching**.' This is especially true now, when GenAI has fundamentally transformed possibilities within language education.

The insights gathered through this research study, alongside the growing body of research, lay the groundwork for a set of high-level principles which enable short-term and long-term changes in teacher development on using GenAI:

- **Professional Development:** Establish robust and continuous professional development frameworks, providing educators with the requisite skills to navigate the evolving landscape of AI in education.
- **Community Engagement:** Facilitate collaborative platforms for educators, policymakers, and stakeholders to share insights, best practices, and collectively shape the trajectory of GenAI in education.
- **Research and Innovation:** Foster ongoing research and innovation in AI to continually refine tools, address challenges, and enhance the overall efficacy of GenAI in language education.

A starting point in utilising the promise of GenAI is understanding the skills and new pedagogies needed to support language teachers as they venture into this new landscape. A useful springboard that provides structure and coherence to conceptualising the areas of professional development, knowledge and competencies required can be found in the **Cambridge English Digital Teacher Framework** (see below), which describes the *macro digital worlds* teachers operate in and the new *micro skills and competencies* they need to develop.



The areas covered in this framework focus on aspects of language teaching where GenAI plays an important role:

- The **Digital World**, which goes beyond the classrooms and focuses on teachers as digital citizens who need to be aware of the ethical dilemmas GenAI poses and know how to act responsibly, safely and legally to protect the data generated by them and their students
- The **Digital Classroom**, which focuses on the opportunities and challenges GenAI presents, and the need for teachers to develop their awareness of language learning theories and methodologies
- The **Digital Teacher**, which focuses on teachers' own professional development and includes communities of practice, knowledge sharing, accelerating and tracking one's development
- **Designing Learning**, which focuses on evaluating, choosing and integrating GenAI tools to support course aims and learning objectives
- **Delivering Learning**, which deals with mastering GenAI tools in order to use them effectively in the learning environment and take advantage of the opportunities provided by this technology
- **Evaluating Learning,** which focuses on the innovative and more efficient ways of assessing what language learning can and can't do linguistically, and to use that information to improve learning

The six categories cover a range of specific areas of knowledge and expertise (listed below) that teachers need to develop in order to successfully integrate GenAI into their professional practice.

The Digital World	The Digital Classroom	The Digital Teacher
• productivity • information management • digital citizenship • legal issues • digital welfare and safety	• theories and methodologies • digital tools and resources • online learning • improving language proficiency • improving language knowledge and awareness	• reflection and professional development with digital tools and resources • being part of a professional community
Designing Learning	**Delivering Learning**	**Evaluating Learning**
• sourcing and evaluating digital resources • collating and curating resources • developing materials • lesson planning • course planning	• setting up and managing digital tools and resources • preparing learners for using digital tools and resources • responding to learners • communication and interaction online	• assessing learning • evaluating lessons and materials

Striking a harmonious balance

We end with a final thought from the prominent educationalists Hamilton, Wiliam and Hattie (2023, p. 12, working paper):

> **"The best (current) chess players are not humans or machines but humans working with machines to figure out the best move."**

The collaboration between AI and human intelligence holds the key to unlocking educational excellence. Balancing the strengths of both realms ensures an effective approach to teaching and learning. When considering the use of technology in education, it is not about what any specific tool can do, but rather where and how we choose to use and develop that tool to suit our educational goals and aspirations. As we navigate this uncharted territory, the collective efforts of educators, institutions, and EdTech providers will determine the extent to which GenAI enhances the learning experience while preserving the essence of human-centric education.

In the evolving landscape of language education, GenAI stands as a powerful ally, challenging us to redefine pedagogical norms **and embrace the symbiotic relationship between human expertise and artificial intelligence**. The journey ahead holds both opportunities and responsibilities, requiring the education community to shape a future where technology serves as a catalyst for inclusive, innovative, and transformative learning experiences. As we embark on this transformative journey, the compass guiding us forward must be calibrated with principles of equity, ethics, and a commitment to empowering educators and learners alike.

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