Artificial intelligence and language teaching

Introduction

On 13 February 2024, the Instituto Cervantes in Madrid hosted the second conference in the series **Four challenges in foreign language teaching** organised by the British Council and the Instituto Cervantes.

The event opened with a welcome address from Luis García Montero, Director of the Instituto Cervantes, who cautiously highlighted the potential benefits that artificial intelligence (AI) could bring to the field of language teaching and learning.

Following this, **Mark Levy**, Head of English Programmes for the British Council Spain, acknowledged the important role of AI in language education, while sharing reservations about reliability.

Highlighting the importance of cultural immersion in preparing learners for a multilingual and multicultural world, Mark Levy referenced the Bilingual Education Programme in Spain and its overarching dedication to cultural awareness and diversity.

There followed a panel discussion moderated by **Carmen Pastor Villalba**, Academic Director of the Instituto Cervantes, between two renowned experts in the field of artificial intelligence and learning:

Rose Luckin, University College London and founder of Educate Ventures Research, and **Miguel Rebollo Pedruelo**, Universitat Politècnica de València.

The experts explored the challenges and possibilities for the integration of AI in language teaching and learning in the evolving landscape of education.

The discussion revealed several challenges and questions, raising the issue of responsible use of AI. Determining where responsibility lies – whether it is the collective responsibility of humanity or specific stakeholders such as governments, businesses, educators or individuals – requires careful consideration.

Conclusions

Beyond transactional language

The discussion highlighted the nuanced nature of language, going beyond its transactional features. The profound connection between language, culture and identity was a centra theme that stressed the importance of language immersion for a deeper experience and understanding. Indeed, Luis García Montero highlighted this fundamental connection between our lived experiences and the carefully chosen words that may evoke these.

While acknowledging the irreplaceable role of human teachers in conveying these nuances, Luis García Montero, drawing from Borges' literary example about rain, demonstrated how language carries rich layers of meaning beyond dictionary definitions:

The experts acknowledged significant improvements in AI language translation for many languages, while pointing out its limitations in the translation of less represented languages, facilitating meaningful relationship-building conversations and conveying cultural differences.

Currently, the most widely used large language models (LLMs) are trained on vastly more data in English than other languages. While translation for many languages works surprisingly well, less commonly spoken languages have received far less attention. As a result, there is a perceived need for LLMs trained in other languages to improve translation and reflect cultural and linguistic diversity.

For those interested in the teaching and learning of language and culture, an important question remains. Where, when and how might we transition between the need for language for transactional purposes, for example for work purposes or to meet an immediate need, and the desire to express ourselves and our identity, form meaningful relationships, be creative in another language and even contribute to intercultural understanding? How can we encourage and facilitate this?

> "It's an experience that takes me to a courtyard in Buenos Aires and a grapevine where I used to sit with my father to discuss literature. The word 'rain' is much more than a dictionary definition, it holds the essence of a memory.'

Luis García Montero

Do AI models have a role in assisting with such a transition? The speakers seem to suggest perhaps not. AI, while proficient in transactional language tasks, might struggle with the deeper aspects of language use, such as expressing identity, forming meaningful relationships and being creative.

Moreover, perhaps our deep personal investment in crafting language, along with our active use of it to build relationships, is what makes such communication meaningful.

There is a need to distinguish between AI tools for completing tasks and AI tools designed to support the learning process. This difference has long been recognised in historical AI for education communities.

To foster learner development, there is a presumed requirement to gradually reduce the help a learner receives to ensure that personal investment remains high, often referred to as fading scaffolding.

AI tools to support learning to express yourself and form relationships in another language, rather than simply exchange information, may require mechanisms for assessing the developing competence of the learner in order to gradually reduce support and challenge learners sufficiently.

AI literacy training for teachers

Resistance to changes in teaching practice prompted reflection on the challenges for teachers to keep up with the speed of advances in technology and the urgent need to adapt to change.

Ensuring that teachers gain the competences and expertise is critical for making informed decisions regarding the integration of AI into teaching practice. These competences should align with emerging frameworks, such as UNESCO, EU frameworks and legislation, highlighting the imperative for well-defined legislation, policies and guidance issued by governments and institutions.

AI literacy training persists as an area requiring immediate attention, instead of indiscriminately using AI tools simply owing to their availability. Indeed, the speakers stressed the importance of appraising AI tools and the immediate need for teachers to acquire the requisite skills and knowledge.

The question remains as to where teachers should look for guidance on how to evaluate both the advantages and the risks associated with using AI tools, how this can be kept up to date and who should take responsibility for making these assessments.

Also noted in the British Council report is the urgent need for clear guidance and legislation at government, education authority and institutional level.

However, the inevitability of change in language teaching was acknowledged. This was accompanied by a call for informed decision making that actively involves teachers in envisioning desirable AI-assisted teaching and learning futures.

Access to technology

Traditionally, concerns over access to education stemmed from a lack of infrastructure and technology. The advent of mobile devices and the rise of user-friendly technology have addressed these concerns to some extent. Notable examples include initiatives by the British Council utilising platforms such as WhatsApp and now Telegram to reach even the most remote locations.

However, in many locations the lack of trained teachers and digitally literate teachers remains an issue. In such locations, a new risk is emerging: the potential appeal of relatively cheap and easily accessible teacher bots on mobile devices. While teacher bots could improve access to education and mitigate challenges related to digital literacy, they also introduce new and underexplored digital risks.

Moreover, owing to cost constraints and a shortage of human teachers, mobile bot teaching might emerge as a more affordable alternative in many places. This shift could create a situation where access to interaction with human teachers becomes the premium option, affordable only to those who can afford it, perhaps predicted by the supposed trend for Silicon Valley parents to send their children to 'no tech' schools.

Learning a language with a machine might become a more affordable option, potentially creating a divide between those who can afford human interaction and those who cannot. How can we mitigate these challenges? Indeed, cost cutting should not lead to the exclusion of human involvement in these systems.

Potential benefits

One widely reported benefit of using AI in language learning is increased willingness to speak. In studies, students interact with a chatbot for conversational practice. Perhaps it is indeed the absence of genuine understanding and emotion that facilitates spoken practice with AI.

Tools that lack human emotions may well offer a less intimidating and more tolerant environment if they reduce the fear of embarrassment and negative reactions and, consequently, encourage the kind of playful experimentation that should support language learning.

However, the question remains whether the confidence and knowledge acquired in these AI-driven interactions can effectively translate into real-life conversations with other human beings in the learned language.

Ethical considerations

Ethical considerations place a need for human responsibility in assessment and present challenges to counter bias and ensure fairness. We must ask ourselves if it is possible to overcome bias, both within AI models and among humans.

The importance of regulation and education to protect individuals from the misuse of AI and to address disinformation and fake news is a significant challenge. Further concerns arise regarding the development of a dependency on AI and the underlying business models associated with specific AI-driven language teaching applications.

Encouraging metacognition and self-regulation in language learning

The discussion highlighted both the differences in human intelligence and current artificial intelligences in areas of metacognition and the significance of metacognition and self-regulation in language learning.

The opportunity to support learners in gaining a deeper understanding of themselves as learners was highlighted. Incorporating AI in education can offer insights into the distinctions between human and artificial intelligences, and the use of AI data systems may enhance our understanding of the learning process.

Why do anything for yourself if a machine can do it for you?

We return to the question of whether the need for language learning disappears with the advent of good enough simultaneous translation.

Numerous benefits of learning languages have been claimed, such as protection against cognitive decline and improved decision making. However, ultimately this is likely to be a personal and contextual decision.

In an increasingly AI-enabled world, we all need to be equipped to think thoughtfully about what to offload and what to do for ourselves, and what we gain and what we may lose in doing so.

Conclusion

AI is not only a tool for shaping the future of education and addressing the main challenges associated with this, it is also a catalyst to consider more carefully the nature of our own human intelligences, languages and cultures, and the reasons why it may be important to learn the languages and cultures of others, including those used by machines.

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