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Artificial intelligence and teachers: augmentation not replacement

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Artificial Intelligence (AI) is the current wave of change flowing through school education. The education sector is facing other significant challenges, including teacher shortages, growing student populations, and the increasing complexity of teaching roles.

These issues have led some to propose a "Reductionist Model" that suggests replacing teachers with AI and lower-skilled workers. This approach oversimplifies the multifaceted nature of teaching and ignores the crucial human elements involved in education. AI tools can assist us to meet these more complex demands by augmenting our thinking and our efforts to help every child learn and grow.

Teaching is a highly complex, context-dependent profession that goes far beyond mere content delivery. It involves building relationships, understanding individual student needs, and creating a conducive learning environment. Previous attempts to replace teachers with technology, such as the Lancasterian system in the 19th century or more recent e-learning initiatives, have failed to replicate the full spectrum of a teacher's role.

Often these changes have been managed by systems and schools, the traditional gatekeepers of access to technology for learning. So whilst there is much hype around the arrival, and perceived failure, of different waves of digital technology, the difference with AI is that it is in the hands of our students, whether we like it or not.

Frameworks like TPACK (Technological Pedagogical Content Knowledge) and SAMR (Substitution, Augmentation, Modification, Redefinition) emphasise the importance of human teachers in integrating technology effectively. As AI becomes more prevalent, these frameworks may need to evolve to reflect the changing dynamics between teachers, students, and technology. For now, they are useful in identifying to what extent AI tools can change or improve learning, teaching, wellbeing, or any other area we wish to explore.

Students are already beginning to use AI tools to augment their learning experiences, without the approval or supervision of school.

These tools can help explain concepts, assist with problem-solving, and even foster creativity. This trend has the potential to level the playing field in terms of access to educational resources, similar to how the internet has expanded access to legal services. However, it's important to note that AI tools are supplements to, not replacements for, human teaching and learning, in the same way that educational videos or textbooks can do some of the work, but few would argue that is sufficient for a meaningful education.

Maintaining a productive learning environment presents challenges that AI alone cannot address. These include managing student behaviour, accommodating varying attention spans, addressing individual student needs, and ensuring a suitable physical environment for learning.

Moreover, there are legal and duty of care responsibilities that require human oversight. The suggestion that digital replacements could manage these aspects while AI handles content delivery is problematic, as it underestimates the skills required and the interconnected nature of teaching tasks.

Rather than **replacement**, the future of education likely lies in **augmenting** teachers with AI. AI can serve as an assistant, enhancing teachers' capabilities in areas such as differentiation, providing additional resources, or offering personalised support to students. This augmentation allows teachers to focus on higher-order aspects of education, such as fostering critical thinking, emotional intelligence, and social skills.

Lumpy

The adoption of AI in education will likely be gradual and varied, depending on individual teacher needs, school contexts, and technological capabilities. Ethan Mollick calls this the “jagged frontier”, but I might call it “lumpy”. Some teachers may use AI for administrative tasks, while others might leverage it for curriculum planning or real-time classroom support. The key is to view AI as a tool that expands, rather than diminishes, the teacher's role.

We need to accept that this is not a normal technology roll-out: change will come in different forms and at different paces.

As we move forward, it's clear that teachers will need to adapt to this new landscape. Building "AI-armour" – a suite of AI-enhanced skills and tools – will be essential for educators to thrive in an increasingly technology-driven world. This doesn't mean becoming a slave to AI, but rather learning to harness its potential to enhance teaching practices and student outcomes.

We have done this with many types of technologies - YouTube, file sharing, digital photos and videos, Google - adopting what helps us thrive and shedding what doesn't.

While AI has the potential to significantly impact education, it won't be as simple as "replacing teachers". As we navigate this transition, it's essential to maintain a balance between technological innovation and the irreplaceable human elements of education.

The biggest difference to previous technological change is that schools and systems are no longer gatekeepers. Thinking we can control access to AI is like thinking we can control access to television, or the weather. By equipping and upskilling teachers to engage with this new reality, we can shape a better future for education than letting the army of robots take charge.

This is an edited extract from [*The Next Word: Teachers and AI*](#), co-authored by Matt Esterman and Dr Nick Jackson, to be published in late August.