'It's an educational revolution': how AI is transforming university life

AI chatbots have arrived on UK university campuses. But is the hype justified?

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Beacon is unlike any other member of staff at Staffordshire University. It is available 24/7 to answer students' questions, and deals with a number of queries every day – mostly the same ones over and over again – but always stays incredibly patient.

That patience is perhaps what gives it away: Beacon is an artificial intelligence (AI) education tool, and the first digital assistant of its kind to be operating at a UK university. Staffordshire developed Beacon with cloud service provider ANS and launched it in January this year. The chatbot, which can be downloaded in a mobile app, enhances the student experience by answering timetable questions and suggesting societies to join. Beacon can also apply for an exemption from council tax, order new student cards and connect users with lecturers.

Students can chat with Beacon via text or voice conversation, and as use increases, it becomes smarter. Eventually, it will be able to remind students about classes and deadlines.

"Beacon is one of our first steps in terms of AI," says Liz Barnes, Staffordshire's vice-chancellor. "It has the ability to provide students with immediate support", which is important "particularly as the younger generation now want instant access to answers".

For some people, the thought of AI in education may conjure sci-fi images of hologram lecturers replacing human teachers. But AI tools are already here.

(...) Toby Baker, from Nesta's Innovation Lab, co-authored a report into the use of AI in UK education, and found different tools being used across the board. Some are aimed at tailoring a personalised educational experience for learners, while others ease teachers' workloads through tools such as automated marking. Others help managers make decisions, including tools that analyse data across multiple colleges to predict which are likely to perform less well in inspections.(...) "It has the potential to widen access and participation, improve consistency of education provision and relieve some of the pressures on our teachers and lecturers who, in some cases, are drowning in administrative work. We can see that has a knock-on effect on the wellbeing of teaching staff, and the ability to retain and recruit talent."

(...) The objective of AI is to supplement teachers, not replace them, and reduce their administrative workload so they can focus on more creative or theoretical aspects of their courses. Such measures could benefit learners, too. "It could improve students' grades and their experiences by referring them to support and resources they might not be aware of," says Harley.

Digital assistants could provide one-on-one learning and – ironically – a more personal studying experience, which isn't possible for a lecturer with 500 students. AI bots could remind students to study, keep track of how long they've been reading an e-text, or assess their grades. They could also make learning more flexible for those who have other commitments, families or live in remote areas.

Ada, an AI chatbot, has been helping students at further education college Bolton College since April 2017. A typical scenario, says Aftab Hussain, Bolton's strategic ILT leader, is during freshers' week, when students might ask Ada at 5am what time their morning class is.

But Ada also measures attendance, grade profiles, and whether students are performing on par. With this information, it can nudge them, for example, if they need to get a distinction to reach their grade average.

Hussain also notes that queries aren't just limited to study-related subjects. Some students have told Ada they're feeling depressed, or alluded to self-harming. They are then informed that this information is being shared with the college's mental health team. "It's our responsibility," he says. "We have to take things seriously."

Staffordshire is exploring ways to support student wellbeing through AI, including developing a mental health chatbot. (...) Of course, underpinning all of this is are questions over ethics and privacy.

UCL Institute of Education's (IOE) Prof Rose Luckin is co-founder of the UK's first Institute for Ethical Intelligence in Education. She thinks the solution to the problems facing the education system "is at our fingertips". "But we must ensure that the ethical vacuum of much of today's commercial AI development is filled with practices, moral values and ethical principles, so that society in all its diversity will benefit."

Issues include which data is collected, who is responsible for processing it, and for what purpose.

For Harley, the most important thing is that all users are able to understand AI and the data being used. "Typically the more data AI has access to the better it's going to get to know you and provide better recommendations. But it's also important for students to only share information they're comfortable with."

(...) But if it's rolled out carefully, Goel believes AI can change the world. "We could create an educational revolution because education would become personal," he says.