



UNIVERSITY OF
LIVERPOOL



THE BIG AI CONVERSATION

Widening Participation and Outreach
The University of Liverpool



www.liverpool.ac.uk/widening-participation

Summary

The University of Liverpool prides itself on working with new technology. This can be seen in our digital research theme, which transforms lives, industries and society through groundbreaking research solutions and innovation. The Big AI Conversation looks to understand how we might use artificial intelligence (AI) to support our local schools under the Place and Innovation pillar of our Strategic Framework.

The Big AI Conversation started with a scoping exercise undertaken by students in the Computer Science Department, using research and their own knowledge of AI to develop plans for potential outreach activities with local students.

Following this, the Widening Participation and Outreach team conducted a survey with teachers and young people across the Liverpool City Region. The purpose of this was to understand the needs and interest in AI across the region, and see what students and teachers wanted to learn if they undertook outreach under this topic.

The findings from the survey are outlined in depth in this report. The key findings are as follows:

- There is a substantial knowledge gap for Teachers/Advisors in relation to AI, which should be addressed via CPD
- Key stage 3 students have a low understanding of what AI is and how it is used in their lives
- Concerns regarding how AI could be used to cheat on assessments was apparent across teachers and students of all ages

Since the survey began, outreach related to AI has developed organically, including AI focused taster sessions delivered as part of the Liverpool Scholars Academic Skills Day, which will be adapted and delivered as part of the Year 10 Summer Schools. A series of 6 campus visits delivered in collaboration with an academic from the Department of Computer Science, provided KS4 students from 7 schools across Liverpool with the opportunity to take part in a full day of hands-on activities. In addition, the Widening Participation and Outreach team, along with IntoUniversity North Liverpool and Kirkby Centres, are supporting a grant application from the Computational Biology Facility at the University of Liverpool, to enhance the uptake and embedding of Data Science within the UK. One of the pillars of this grant application is outreach focused and will make up the bulk of IntoUniversity subject focused deliver in the next academic year.

The next step in the Big AI Conversation is to link the results of the survey of what students and teachers want, to the AI outreach being undertaken.

A recommendation is to create a teacher CPD webinar or session, as this is where the largest knowledge gap is. This CPD should include an overview of what AI is, fun ways to use it in the classroom, ways it can be used to reduce teacher workload, and how The University of Liverpool developed the AI use policy for assessments. This should reduce the knowledge gap in the teachers, as well as providing information on how to prevent students cheating on assessments using AI.

Introduction to the survey

Between October and December 2023, the Widening Participation and Outreach team at the University of Liverpool conducted The Big AI Conversation surveys with teachers/advisors and students across the Liverpool City Region, to find out more about knowledge and confidence in relation to artificial intelligence (AI), how AI is currently used, concerns about AI and the perception of how AI will be needed in the future.

These surveys formed a part of our wider work to explore the potential for outreach focused AI, which has also included funding current students from the Department of Computer Science at the University of Liverpool to complete exploratory research around potential outreach and student success activities using AI. Feedback from the surveys will be used to inform AI focused outreach work going forward.

The survey was hosted on Microsoft Forms and was promoted to schools in the Liverpool City Region via social media and direct email to schools with existing relationships with the Widening Participation and Outreach team at the University of Liverpool.

Some key findings from the survey responses included:

- There is a substantial knowledge gap for Teachers/Advisors in relation to AI, which should be addressed via CPD, covering both the basics of AI and how they could use AI to improve their practice and streamline their workload.
- The majority of students across all Key Stages felt they had some, or excellent knowledge of AI.
- The majority of students across all Key Stages rated their confidence in using AI positively.
- Students interest in increasing their knowledge of AI was varied, with more interest in lower years.
- KS3 students, when giving examples of how they used AI, gave many examples which were not actually AI (like viewing timetables on phones), suggesting a fundamental lack of knowledge about what AI is.
- KS4 students reported they were interested in AI, but didn't know which part, or were interested in all of it, suggested a higher level of interest than current knowledge.
- Although KS5 students reported a lower level of interest in finding out more about AI and did not report a significantly higher level of knowledge about AI than other year groups, they gave much richer responses when asked which part of AI they were most interested in, their concerns and what they would like to see from AI focused outreach, suggesting a higher level of knowledge than reported.
- All Key Stages reported a substantial number of concerns about AI, with potential malicious use, impact on jobs (particularly those in the creative sector) and the idea of AI 'taking over' being common themes.
- Each Key Stage had different interests in relation to outreach, suggesting that work would need to be closely targeted to a specific year group.

Teacher/Advisor Response Summary

An online survey was shared with schools across the Liverpool City Region, through a range of methods including social media and direct mail. The survey was open between October half term and the Christmas break, in parallel with the Student Survey. The Teacher/Advisor Survey covered a range of topics including current use of AI schools, staff confidence and the potential impact of AI for students.

Respondents

We received 16 responses, from 10 different schools. A range of staff responded, from SLT to teaching and pastoral staff, providing a broad overview of thoughts on AI at different levels across schools. The table below shows the split between job roles in responses.

Job Role	#
Headteachers/SLT	2
Heads of Year/Head of Subject	5
Teaching Staff	7
Pastoral staff	1
No job title provided	1

Within Heads of Subject/Teaching staff, a range of subjects were represented, demonstrating interest in AI across the curriculum. These subjects included PHSE, Maths, English, RE, Performing Arts and Health and Social Care, with the highest volume of responses from Maths teachers.

Knowledge/Confidence in AI

The survey initially asked respondents to rate their existing knowledge of AI and their confidence in using AI within their job role. Knowledge of AI was a 50/50 split between respondents reporting **very little knowledge** or **some knowledge**, with no respondents reporting **excellent knowledge**. 75% of respondents reported they were **not at all confident** in using AI within their job role. While 25% of respondents reported they were **somewhat confident**, no respondents were **very confident**.

To enable us to get a better understanding of the current picture of AI use in schools, we asked whether staff were currently using AI in their job role. Most respondents (11 out of 16) answered **no**. Where respondents were using AI it was at a fairly basic level to support their workload, such as:

- Resource creation (worksheets, exam questions, comprehension tasks and policy documents)
- Text simplification (adapting reading excerpts for different levels of comprehension)
- Research (finding additional books to support curriculum and ideas for lessons)

Building on this, we asked respondents if they would be interested in embedding AI into their practice in future. Responses gave a mixed picture, with staff not currently using AI reporting they were **unsure** or **uninterested**. Later in the survey, we asked whether CPD would be of interest, with similarly mixed results (7 **interested**, 6 **unsure** and 3 **uninterested**). Feedback on potential CPD highlighted that respondents were unsure of what CPD could be, or what they could get from it.

This feedback suggests that there is a substantial knowledge gap related to AI within schools, which would need to be addressed to enable school staff to improve their confidence with AI and subsequently embed AI into their job role as appropriate.

Views of AI

We asked respondents to share any concerns they had about using AI in schools, to which a broad range of issues were raised, including:

- Students using AI to cheat/plagiarise, and the resulting impact of AI on the validity of homework
- Students using AI to complete tasks inappropriately e.g. skipping steps which are key to learning objectives, leading students to be overconfident in their knowledge or abilities
- Students becoming reliant on AI for classwork/homework and consequently struggling in exams
- AI providing misinformation to students
- Staff and students unsure of how AI can/should be used, with this lack of knowledge prohibiting them from making informed decisions around AI

We also asked respondents to consider what they thought their students would need to know about AI, with responses falling into four main categories:

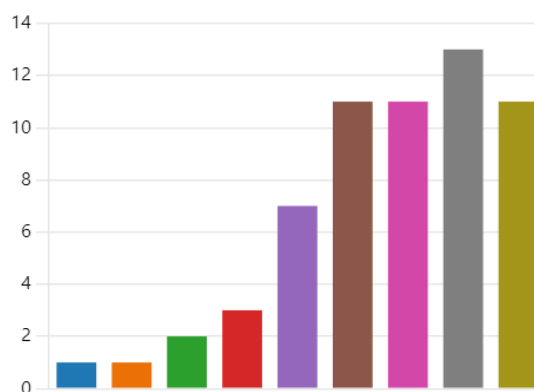
- The theory of AI and how it works
- The 'correct' way to use AI and how it can be used to enhance their studies, potential benefits
- Dangers of AI, limitations and potential for harm
- How to critically assess AI provided information

AI and Outreach

As we intend to use the feedback from The Big AI Conversation to inform AI based outreach going forward, we asked respondents to what they would like to see from outreach in this area, as well as which year groups would benefit most.

Respondents fed back that outreach focusing on the basics of AI would be most useful, covering what it can be used for, how it can be used effectively and the risks and benefits, including ethical issues and how to critically evaluate AI provided content. Respondents felt outreach should be practical in nature, with some raising that subject specific outreach would be most useful. One respondent reported that the most useful outreach would be CPD, supporting schools to learn to use AI in lesson planning etc.

When asked which year group would benefit most from AI focused outreach, respondents were able to select multiple Year Groups. All Year Groups included (based on Year Groups the Widening Participation team current work with) were selected, with KS4 and KS5 most popular.

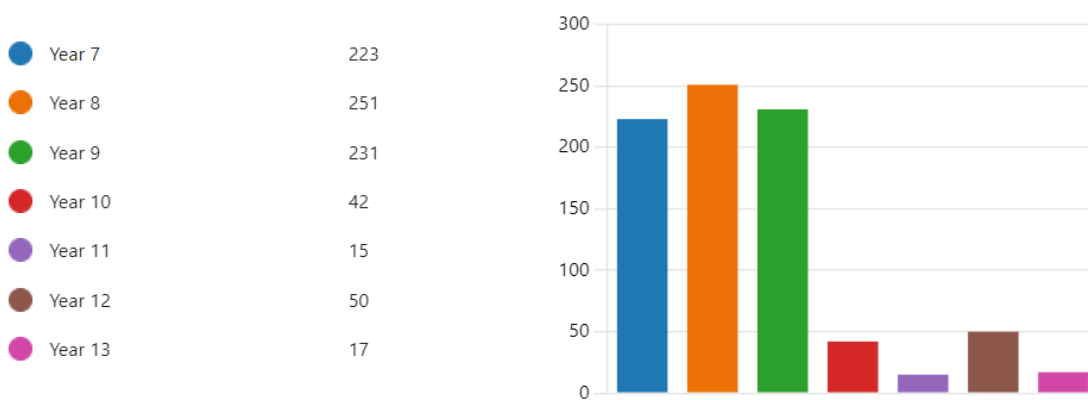


Student Response Summary

An online survey was shared with secondary schools across the Liverpool City Region, through a range of methods including direct mail and social media promotions. Schools were asked to share the survey with students, to be completed either independently or within a lesson. The survey was available for completion between October half term and the December Christmas break, in parallel with the Teacher/Advisor Survey. The Student Survey covered a range of topics including knowledge of and confidence in AI, current use of AI within schools and concerns around AI.

Respondents

We received 829 responses to the Student Survey, from 8 schools, with responses from students in all year groups from 7 to 13 as below. There was a substantially higher number of responses from students in KS3, which may have been due to the survey being completed in IT/Computing classes, as these are whole cohort in KS3, but optional subjects (and therefore smaller classes) in KS4 and KS5. Responses are summarised by Key Stage in the rest of this report.



KS3 Student Response Summary

We received 705 responses from student in KS3 (Year 7, Year 8 and Year 9).

Knowledge/Confidence/Interest in AI

Students were asked to rate their existing knowledge of and confidence in using AI. A large proportion of students (63%) reported **some knowledge**, while 24% of students reported **very little knowledge**. Small number of students reported **excellent knowledge** (4%) and **no knowledge** (9%). The majority of students (64%) felt **somewhat confident** in using AI. 10% of students felt **very confident**, in comparison to a quarter of students who were **not at all confident**.

When asked if they would be interested in finding out more about AI, nearly half of students (46%) reported they **would be interested**. 26% of students responded **they were not interested**, while 24% were **unsure**.

Students were asked which part of AI they were most interested in, with the bulk of responses relating to how AI works. However, some students did mention specific elements of AI they'd like to find out more about, including applications of AI in robotics, gaming, fitness tracking, art, Alexa/Siri and ChatGPT.

Current use of AI

Students were asked about whether they currently use AI in school, with over half (53%) of students reporting they were **unsure** if they currently use AI. Roughly the same proportion of students **did use AI** (24%) as students who **did not use AI** (23%). Some students had used AI within computing lessons, while others reported using AI for research and using ChatGPT for a range of different purposes, including revision, answering questions and for help with homework.

When asked for examples of how they used AI in school, some students gave examples which were not AI (such as viewing your timetable on your phone), suggesting a lack of understanding of what AI actually is.

Views of AI

Students were asked if they had any concerns about AI, and over one third of students (38%) opted to share a concern. Concerns varied from practical to more fantastical worries related to the idea of AI 'taking over'. More practical concerns included:

- AI being used for cheating on coursework, homework and exams
- Potential for malicious use of AI, including scams
- Impact of AI on job availability
- Risk of hacking on AI systems
- Risks of AI in relation to personal data security
- AI providing incorrect information
- Impact of AI malfunctions
- Risk of humans becoming lazy and over-reliant on AI

Students were asked if they believed they would need AI in their future studies or careers, with a mixed response. 44% of students were **unsure**, while 39% of students responded **yes** and 17% of students responded **no**.

AI and Outreach

As feedback from The Big AI Conversation will be used to inform AI based outreach going forward, we asked respondents what they would like to see from an AI outreach activity. Most student responses focused on introductory AI activities, such as how AI works, how it differs to machine learning, how it was

developed, the history of AI and future uses. The responses suggest students would favour more interactive outreach sessions, where they take part in hands on experiences.

Some students also provided feedback that alongside an AI focus, they would like more general HE content on an outreach activity, including tours of campus and an opportunity to meet current students.

KS4 Student Response Summary

We received 57 responses from students in KS4 (Year 10 and Year 11)

Knowledge/Confidence/Interest in AI

The survey initially asked students to rate their existing knowledge of AI, as well as their confidence in using AI. Most students (79%) reported **some knowledge** or **excellent knowledge**. Only two students reported **no knowledge**. Most students also felt positively about their confidence in AI, with 88% reporting they felt **very confident** or **somewhat confident** about using AI.

When asked if they would be interested in finding out more about AI, over half of students (56%) responded that they **would be interested**. A quarter of students felt that they were **unsure** if they would be interested and 12% responding **they were not interested**. 4 students responded that they **currently use AI**, so felt the question wasn't applicable.

Students were asked which part of AI they were most interested in, with responses falling into 5 main categories:

- How AI works/was developed
- Impact of AI on the future/jobs
- How AI could help us
- How AI could be used in business
- AI and image generation

Many students stated that they **didn't know** which part they were interested in or were interested in **all of it**, suggesting a higher level of interest than level of knowledge.

Current use of AI

Students were asked whether they currently use AI in school. Responses were varied, with 45% of students reporting they **did not** use it, 31% of students reporting they were **unsure** if they currently used it and only 23% of students reporting that **they did use AI**. Where students reported using AI, the most common uses were ChatGPT or like support with homework and revision. A small number of students reported using AI within coding or robotics.

Views on AI

Students were asked to share any concerns they had about AI and over half of students (54%) opted to share a concern. Their concerns fall into the below categories:

- Potential for malicious use of AI, including deep fakes
- Impact of AI on job availability, including making jobs and skills obsolete and a disproportionate impact on jobs in the creative and arts sector
- Risk of AI 'taking over'
- Risk of AI in relation to personal data security
- AI providing incorrect information

Students were also asked if they thought they would need AI in their future studies or careers, with over half of students (54%) responding **yes**. 39% of students were **unsure** and 7% of students responded **no, that they would not need AI in the future**.

AI and Outreach

As the feedback from The Big AI Conversation will be used to inform AI focused outreach in the future, the survey asked respondents what they would like to see on an outreach activity. Student responses indicated they would be most interested in introductory activity around AI, covering:

- What AI is
- How AI works
- How to use AI

Some students also indicated an interest in outreach linked to AI focused careers and there was a high level of interest in outreach featuring demonstrations.

KS5 Student Response Summary

We received 67 responses from students in KS5 (Year 12 and Year 13).

Knowledge/Confidence/Interest in AI

The survey initially asked students to rate their existing knowledge of AI, as well as their confidence in using AI. Students were generally positive about their knowledge of AI, with over 70% reporting **some knowledge** or **excellent knowledge**. Only one student reported **no knowledge**. Responses were more varied when students were asked to rate their confidence in using AI, with 22% describing themselves as **very confident**, 50% describing themselves as **somewhat confident** and 27% describing themselves as **not at all confident**.

Students were asked whether they'd be interested in finding out more about AI and responses were mixed, with 35% of students responding **yes**, 22% of students responding that they were **unsure**, 28% of students responding **no** and 13% of students responding that they **already used AI** so felt the question was non-applicable.

We also asked which part of AI they were most interested in and provided a wide range of responses, including:

- AI within art and the creative industries, including Generative AI
- Robotics and AI
- Impact of AI within coding, programming and data management
- Social media and gaming
- Chat bots
- Development and potential of AI
- Psychological/behavioural impact of AI
- Safe use of AI and ethical implications
- Impact of AI on jobs
- Impact of AI on problem solving/ease of access to learning

Some students listed multiple areas of interest in AI, including one student who responded "*Problem solving capabilities, creativity of response, accuracy, extent to which AI can handle complex instructions, the ability of AI to learn and adapt and the speed at which they do so.*"

Current use of AI

Students were asked whether they currently use AI within school. Over half responded that they **did not** use it and almost a third were **unsure** whether they used it. For the 15% of students who reported using AI in schools, they used it at a basic level, using it to:

- Check grammar and punctuation
- Check for errors in coding
- Find references
- Proof read work
- Create summaries

Views on AI

We asked students to share any concerns they had about AI, with over half of students (54%) opting to share a concern. Their concerns fall into 4 main categories:

- Potential for malicious use of AI, including deep fakes

- Impact of AI on job availability, including making jobs and skills obsolete and a disproportionate impact on jobs in the creative and arts sector
- Risks of 'out of control' AI, becoming more intelligent than people
- Unintentional bias' becoming embedded in AI

Several students felt particularly negative, including one student who responded *"I am sure that AI is a dangerous invention. I don't think we're able to control it's growth, the expansion of its capabilities is exponential and the rapidly increasing speed at which it evolves is concerning. I think the vast majority of people don't have so much as a clue about the true dangers of AI."*

Students were also asked if they felt they would need AI in their future studies or careers, and gave a mixed response. 24% responded **no**, 31% were **unsure** and 43% **yes**.

AI and Outreach

As we intend to use the feedback from The Big AI Conversation to inform AI based outreach going forward, we asked respondents to what they would like to see from outreach in this area. Responses were broad ranging, including:

- | | |
|---------------------------|-----------------------------------|
| - Positives of AI | - How AI works/capabilities of AI |
| - Negatives/Dangers of AI | - How AI was developed |
| - Ethics of AI use | - Future of AI |

Some students had very specific requests from AI focused outreach, including (Direct quotes):

- *Utilising local (non-online) AI models*
- *Using AI in non-text and image generation (e.g. Generative Design and CAD programs)*
- *How to ensure AI produces accurate data and how to check this*
- *What the mundane risks of AI are, such as oversurveillance and affecting public opinion and policy in the direction of people who control the algorithms influence*