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Navigating the Generative Artificial Intelligence Landscape: Insights from a Physics Education Survey

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Abstract. A survey of physics students at Durham University, UK, sheds some light on their current use and understanding of Generative Artificial Intelligence (gAI) and their concerns for the future and the education sector. Physics students highlight that the main use of gAI is for computational assistance, followed by its use as a valuable tool for simplifying complex physics concepts and providing alternative explanations. Overall, students do not trust gAI and cross-check its output. They agree with the department's policy concerning gAI and express mixed views regarding its use for providing feedback and assessing students' work. Differences across levels (student academic years) have been found, with the students' confidence in effectively using gAI increasing with level and resistance to the possibility of using gAI to assess their work. Though online assessments remain popular, their popularity decreases with the level.

Keywords: artificial intelligence, survey, physics, assessment, policy, students

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Introduction

The release of a Chat Generative Pre-Trained Transformer (ChatGPT)[1] by OpenAI in November 2022 has rapidly increased the general public's interest and usage of gAI. Two main factors can be identified as being responsible for such an increase. First, ChatGPT can produce detailed and contextually coherent responses across a broad domain of knowledge. Second, its accessibility is a publicly available system that is easy to use. Since then, the number of chatbots available has multiplied, their performances have improved, and their use has spread rapidly. By the summer of 2023, gAI had become a mainstream topic in the media and public conversations to the extent that it became impossible for the higher education sector to ignore it. Currently, the impact of gAI on higher education has been the focus of an increasing number of investigations (Kuhail et al., 2023), which have highlighted, almost in equal measure, both opportunities and concerns associated with this technology. For instance, Mollick & Mollick (2023) suggest five evidence-based teaching strategies that can be implemented with the support of gAI, potentially creating more effective lessons and enhancing student learning. However, Zeb, Ullah, and Karim (2024) highlight the challenges ChatGPT poses in higher education, including the ethical dilemmas and the potential for academic dishonesty. To overcome these challenges, they suggest that universities should develop policies and provide training in academic integrity, ensuring students understand the value of authentic learning and the consequences of plagiarism. Preliminary studies suggest that the use of ChatGPT is widespread among students. For instance, a survey conducted by Study.com (2023) in the US among college students found that 89% of them claim to use ChatGPT to assist them with their homework, while 48% and 53% of them, respectively, admit to using it for at-home quizzes or tests and writing essays.

The current study aims to gather students' opinions regarding the use of gAI in the academic setting, specifically inside the Department of Physics at Durham University, UK. Four areas of exploration were identified: i) the usage and understanding of gAI among our students, ii) their attitude toward gAI, iii) their perspectives on the new department

[1] For a short and comprehensive overview of what gAI and ChatGPT are, the reader can refer to Gimpel et al. (2023).

policy on gAI and iv) their opinions on some assessment-related items. As a department, we were eager to understand the extent to which gAI is utilised among our students and where it is primarily employed. This information will guide the next step of the authors' current investigation and either validate or invalidate the department policy, which was formulated without student consultation due to the urgency of having a policy in place by the beginning of the academic year 2023/24. The study is largely explorative. Rather than testing any specific hypotheses, we seek to examine the current state of thinking about these issues and capture a snapshot of the current student population's perspectives.

The authors have identified two studies that aimed to gather students' perspectives on similar issues, one by Jisc and the other by the University of Liverpool, UK, which can be used for comparison with the current investigation. In the summer of 2023, Jisc, through its National Centre for AI in Tertiary Education, issued a report (Jisc, 2023), updated in January 2024, on the student perception of generative AI. Data were obtained through discussion forums with students whose level and course of study were not specified. The report indicates that students are already using gAI in academic settings for writing, coding, research and understanding purposes. They advocate for assessment reform, additional teaching methods beyond traditional lectures, and curriculum designs that consider the evolving job market.

Furthermore, they express the need for clear guidance and policies, as well as the desire to be involved in conversations that universities have around gAI. Johnston et al. (2024) conducted a survey across the University of Liverpool to gather information on student perspectives on gAI technologies, including their knowledge and usage, with the aim of creating a student-informed academic integrity code of practice. The survey succeeded in collecting the opinion of 2555 students, approximately 8.89% of the total student population, and found that only 35% of them had never used or considered using these technologies. They also found that students believe that such technologies should not be banned from the university, but rather clear guidance should be provided, with the majority, 41.1%, in favour of a university-wide policy clarifying when they are or are not appropriate to use.

The survey: a representative sample

The study is part of a level 4 (L4) integrated master's degree project in the Department of Physics. The survey was drafted using JISCJisc online surveys by the authors, incorporating feedback from the departmental gAI Working Group. The survey was completely anonymous. Informed consent was obtained from all participants and ethical approval was granted by the university. A total of 21 queries were submitted to students. All but one, which related to consent, were not compulsory. In addition to questions designed to collect key demographic information, the survey contained a combination of *yes/no*, *select all that apply* and *scaled-response* questions. It also included statements with a level of agreement using a *five-point Likert scale (strongly disagree, disagree, neutral, agree, strongly agree)*. The possibility for students to leave *free comments* was also provided in association with specific questions or statements for further insights.

Responses were collected over a month in the Michaelmas term of the academic year 2023/2024. All Durham University students taking at least one module in the Department of Physics were invited to participate in the survey by email. A single reminder was sent when the survey was open. A total of 135 students, representing about 15% of the students reached by the survey, submitted their responses. All questions were answered by all respondents except for questions Q11, Q12, Q13, Q15 and Q16, which had 134 responses, and Q14 with 133 responses. Excel and, in part, Python were used to analyse data. Given the manageable number of free comments, no special software was needed for the thematic analysis.

Figure 1 shows the percentage of students who participated in the survey divided by year and gender. The data highlight that students are almost equally split among levels and that 33% identify as female. Given that the percentage of female students studying physics at Durham is in line with the percentage of female students taking physics at A-level, which is around 23%, we can deem our student sample representative (IOP, 2022 & WISE, 2023) to the extent that the survey was not compulsory.

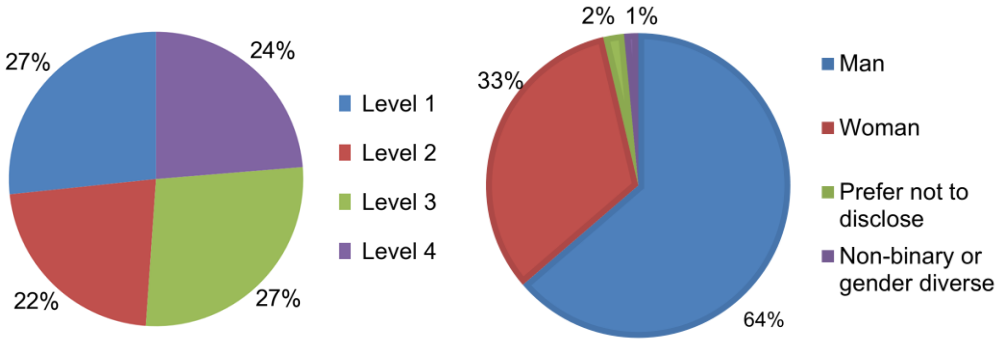

Figure 1. Left: Distribution of participants by level of study. Right: Distribution of participants by gender.

Results: Students' usage and understanding of gAI

When asked if they have ever used gAI, 79% of students across all levels claim they had. If we look at the single level, such a percentage changes significantly only for level 1 (L1) students, for whom it reduces to 61%. The majority of students, 68%, used ChatGPT-3.5 (free version), and only 25% claim they have used two or more platforms, notably ChatGPT-4, Bing Chat, CoPilot, Google Bard, Snapchat AI in descending order of usage. When asked to self-assess their level of understanding of how gAI tools work, 36% claim they have a basic understanding, followed by 35% with a moderate understanding and 29% with a good understanding (Figure 2). A basic understanding seems dominant at L1 and L2, with 39% and 40%, respectively. In comparison, a moderate understanding is prevalent at L3 and L4, with 52% and 38%, respectively.

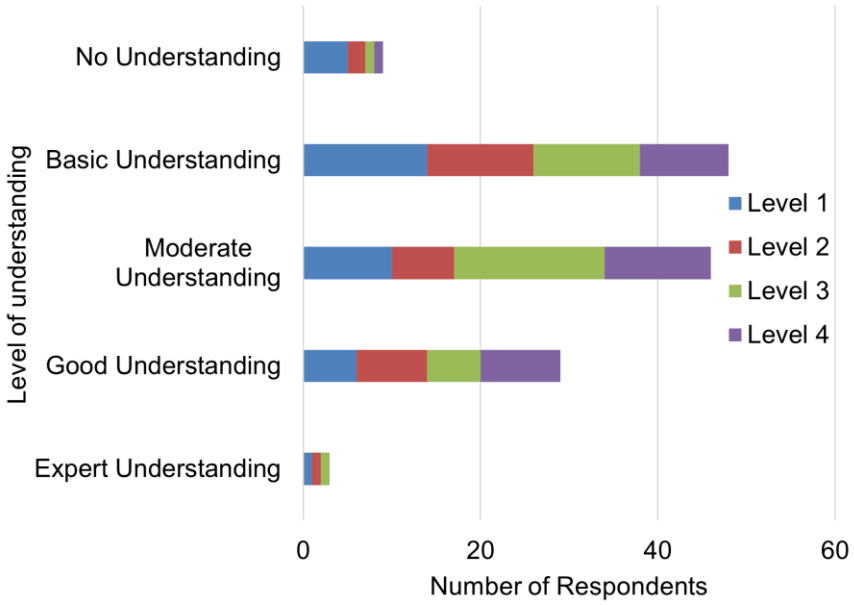

Figure 2. Q6: '*How do you assess your level of understanding of how gAI tools (e.g. ChatGPT) work?'* The two preferred options, Basic and Moderate Understanding, are clearly visible.

Focussing on the percentage of students that have used gAI, we learnt that the most common frequency of usage for academic purposes is weekly, at 32%, followed by less than monthly, at 25%, as seen in Figure 3. On the other hand, noticeable differences in engagement with gAI can be observed across the levels.

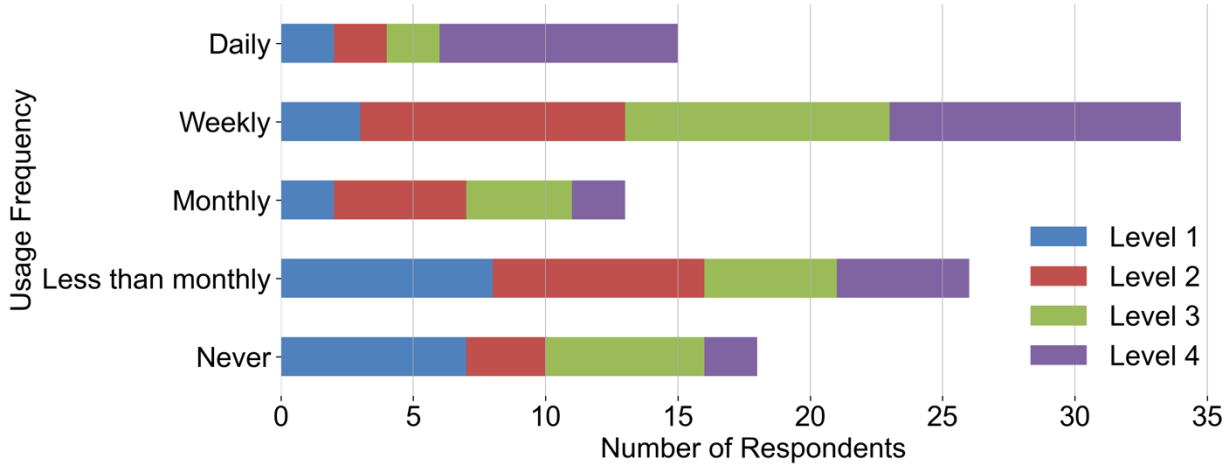

Figure 3. The usage frequency of respondents to Q7: *'How often do you use gAI to help with academic studies/work?'.* Data only includes students who answered yes to having used gAI.

At L1, most students claim to use gAI for academic purposes less than monthly or even never, at 36% and 32%, respectively. However, at L2, the number of students claiming never to use gAI drops to 11%, surpassing almost all other options. From L2 onward, weekly usage of gAI for academic purposes becomes the most common choice. Notably, at L4, weekly usage of gAI stands at 38%, followed closely by daily usage at 31%. The high number of students at L1 who have never used gAI or used it less than monthly for academic purposes prompts further investigation into barriers to adoption and awareness of resources. Finally, 51% of students agree or strongly agree with the statement. '*My use of gAI has increased in the last 6 months'*, against 35% who disagree or strongly disagree.

Figure 4 shows how students use gAI to assist their physics study. Students were able to select multiple options. Computational assistance, such as writing code or debugging, is the most common use of gAI, followed by gAI for understanding physics questions and writing assistance, such as grammar and rephrasing. Notably, 57% of students who did not indicate any specific usage of gAI sit at L1, suggesting a lack of clarity and awareness in the potential use of gAI for their degree for students entering university. Understanding physics concepts is the most widely used at L1, while activities such as research, gathering information, and problem-solving become more relevant in the following years. Additional uses mentioned by students and not listed in the question were planning and Socratic questioning[2] of gAI.

[2] For an explanation of what Socratic questioning entails in the educational context, the reader can refer to Paul and Elder (2007).

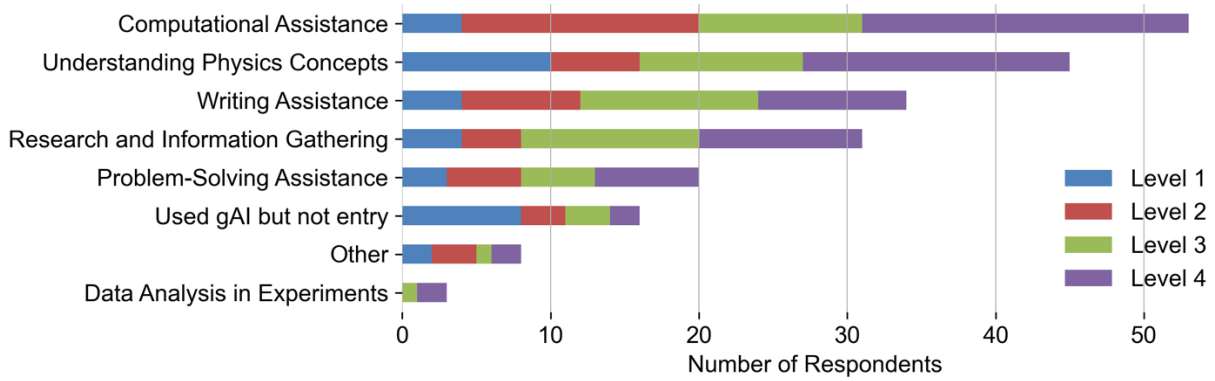

Figure 4. Selection of usage of gAI for *'How do you utilise gAI to assist in your physics studies? Please select all that apply'*. Data only includes students who answered yes to having used gAI.

Free text student comments provide valuable insight into the specific use of gAI for academic purposes. The use of gAI for writing, debugging, and editing code is emphasised, but the use of gAI for learning new functions that students can apply in their code is also mentioned. Respondents also stressed using gAI to simplify complex physics concepts and provide alternative explanations. According to students, gAI can break down questions and enhance comprehension of lecture material and solutions to weekly problems/workshops. Writing assistance is also popular, including grammar checking and LaTex formatting. Generative AI is also used for researching topics - for instance, selecting BSc projects - understanding publications, structuring presentations, and collecting basic ideas to start writing lab reports.

Results: Students' attitude concerning gAI

Responses to the Likert scale on the statement '*I trust gAI to produce precise and reliable results'*, show that students do not trust gAI, as 58% disagree or strongly disagree with this statement. Notably, none of the surveyed students strongly agreed with the statement, indicating that gAI's inaccuracies are a recognised issue (Figure 5 vertical axis). Interestingly, even among the 15% of students who agree with such a statement, 65% of them cross-check the outputs produced with gAI, as indicated by the statement '*I always cross-check and verify the output generated by gAI'*, as highlighted by the different

colours in Figure 5. This suggests that students are reluctant to accept information at face value and prefer to conduct additional research.

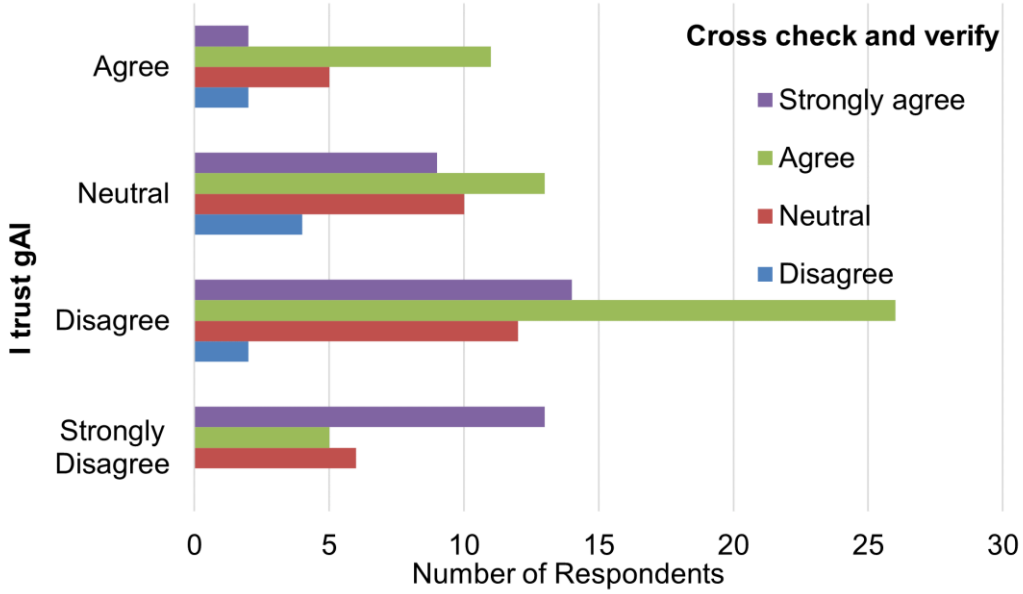

Figure 5. Q11: '*I trust gAI to provide precise and reliable results*' and Q12: '*I always cross-check and verify the outputs generated by gAI*' combined. Students that trust gAI, indicated by the cluster of bars at the top of the figure, still cross-check the gAI output, as shown by the combined length of the top two bars, which surpasses that of the bottom two bars.

We also aimed to understand students' confidence level in gAI concerning their academic study. Hence, we asked them to react to the statement, '*I feel confident in my ability to use gAI tools effectively to improve my coursework marks'*. We find that most of them, 44%, either agree or strongly agree with this statement, as opposed to 29% who disagree or strongly disagree. Notably, differences were evident across the academic levels, with student confidence increasing from L1 to L4 (Figure 6).

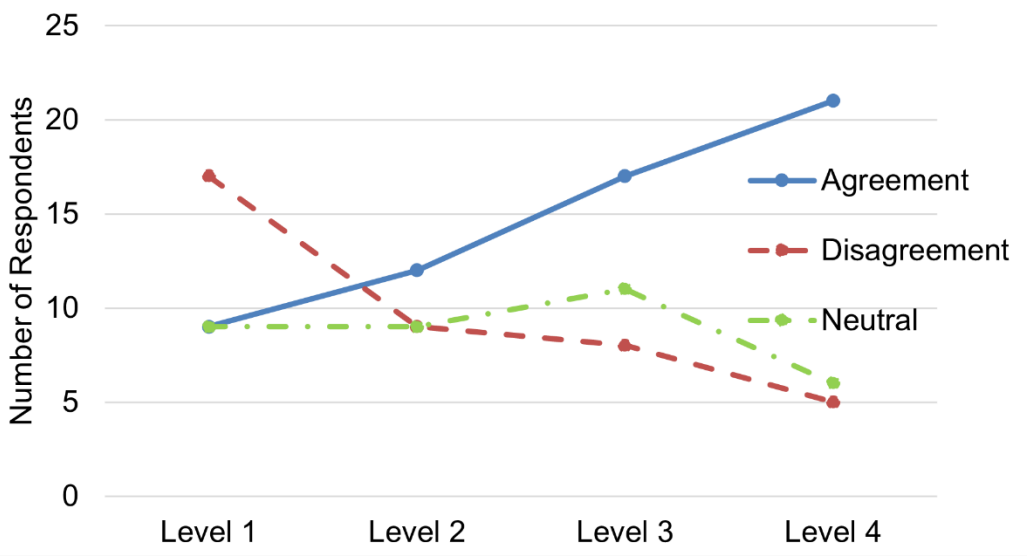

Figure 6. Q14: '*I feel confident in my ability to use gAI tools effectively to improve my coursework mark'.* The plot clearly shows that students' confidence increases with the level (see solid line).

Table 1 shows details of the number of respondents and the associated percentages for the level of study and the level of agreement. As can be seen, the Likert-type items `*Strongly agree'* and `*Agree'* have been combined into a single nominal category called `*Agreement'*, and the items `*Strongly disagree'* and `*Disagree'* into the category `*Disagreement*.'

Table 1: Q14: Number of respondents and percentage for Q14: '*I feel confident in my ability to use gAI tools effectively to improve my coursework mark'*

	Level 1	Level 2	Level 3	Level 4
Agreement	9/35 (25.7%)	12/30 (40%)	17/36 (47.2%)	21/32 (65.6%)
Disagreement	17/35 (48.6%)	9/30 (30%)	8/36 (22.2%)	5/32 (15.6%)
Neutral	9/35 (25.7%)	9/30 (30%)	11/36 (30.6%)	6/32 (18.8%)

Figure 7 shows that regardless of their confidence level expressed along the vertical axis, students want to be taught prompt engineering[3], as shown by the length of the bar associated with the choice `*Agree*'. In fact, the percentage of students who agree or strongly agree with the statement '*I would like to be taught how to prompt gAI to get desired outcomes'* is 62%. This outcome supports the suggestion that prompt engineering is a new academic skill (Wallbank 2023) and, therefore, the idea it should be taught in the setting of higher education.

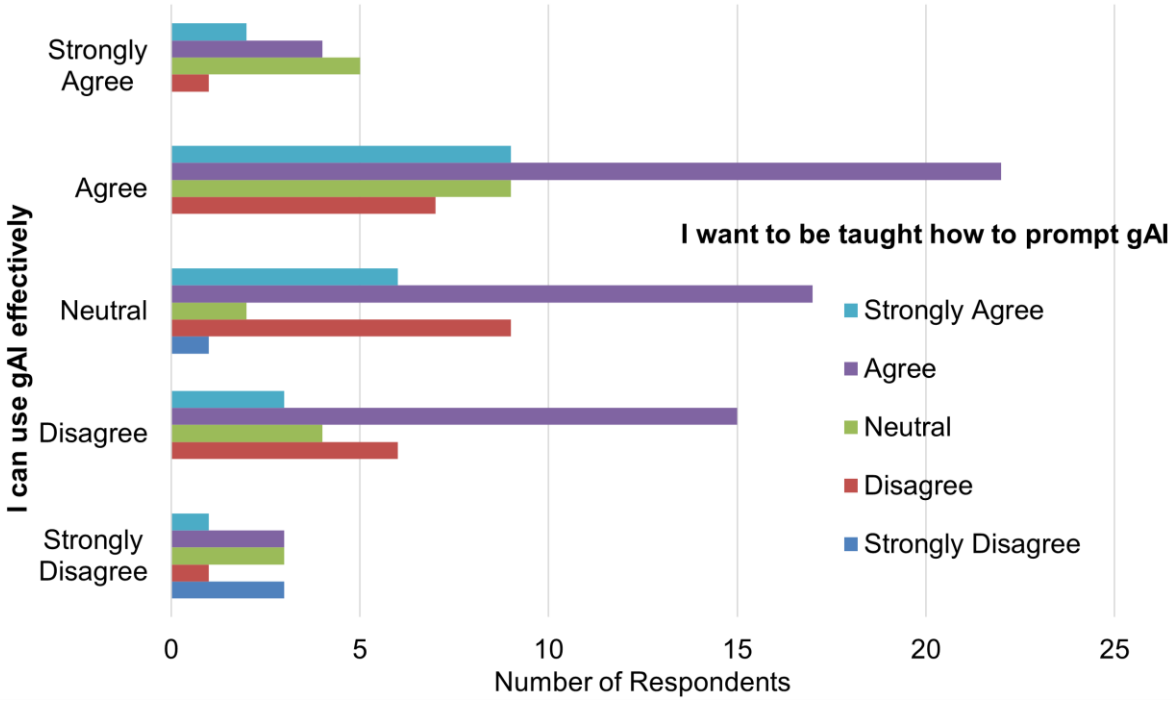

Figure 7. Q14: '*I feel confident in my ability to be able to use gAI tools effectively to improve my coursework mark'* and Q15: '*I would like to be taught how to prompt gAI to get desired outcomes'* combined. The predominance of the bar associated with the choice `*Agree*' strongly suggests that students want to be taught how to use gAI tools.

Responses to the statement '*I am concerned about the future impact of gAI'*, show a notable level of concern about the anticipated effects of gAI on the future. Almost half of the respondents, 49%, agree or strongly agree with this statement. In contrast, the other

[3] Prompt engineering is the `art' of engaging effectively with gAI and learning to pose questions that force gAI to do what you want. For a discussion on the topic, the redear can refer, for instance, to Liu (2023).

half is equally divided among students who stay neutral on the matter or express various degrees of disagreement. Some students focussed their concerns on education, highlighting the potential use of gAI for cheating, which would consequently undermine equitable assessment and academic integrity. Over-reliance on gAI for information and decision-making is a concern not only in the education sector but in society as a whole, as this could lead to a potential loss of critical thinking and problem-solving skills. Concerns about lower standards, given the quality and reliability of gAI, are also emphasised both in education and the work environment. The economic impact caused by gAI replacing jobs and contributing to unemployment, exacerbating further economic inequalities, is also high on the student's list of concerns. Other concerns students express include the devaluation of human creativity and plagiarism, which impact intellectual property. More broadly, students also mentioned ethical dilemmas regarding privacy, misinformation, AI's role in warfare, and unforeseen consequences of future developments of gAI. Some of these themes, such as academic dishonesty, negative impact on learning, job insecurity and potential misuse of such tools, also emerge from the study by Abdulhadi (2023) conducted on computer engineering students.

Results: Students' perspectives on the department policy on gAI

On the 4th of July, 2023, the Russell Group published a set of principles on the use of gAI tools in education, which should guide the approach of gAI tools across Russell Group universities (Russell Group, 2023). Durham University, being part of this group, asked individual departments to create gAI policies aligned with these principles. One of the main ideas behind these principles is that universities will adapt teaching and assessment to ensure the ethical use of gAI. In doing so, they will support students and staff in becoming AI-literate and maintaining academic integrity. In October 2023, in time for the new academic year, the Department of Physics published its Student Guidance on using gAI and Related Technology (Department of Physics, 2023). The policy does not prevent students from using gAI tools except when explicitly indicated by the lecturer. At present, this is the case only for part of a module at L2 related to coding. However, the policy emphasises students' responsibility to ensure the validity of the material produced with gAI and the absence of plagiarism. Students can use gAI tools to improve the use of the

language when writing reports, and if they use gAI to produce a piece of work, they need to add statements that provide details of their use, including the name(s) of the tool(s) and how they were used.

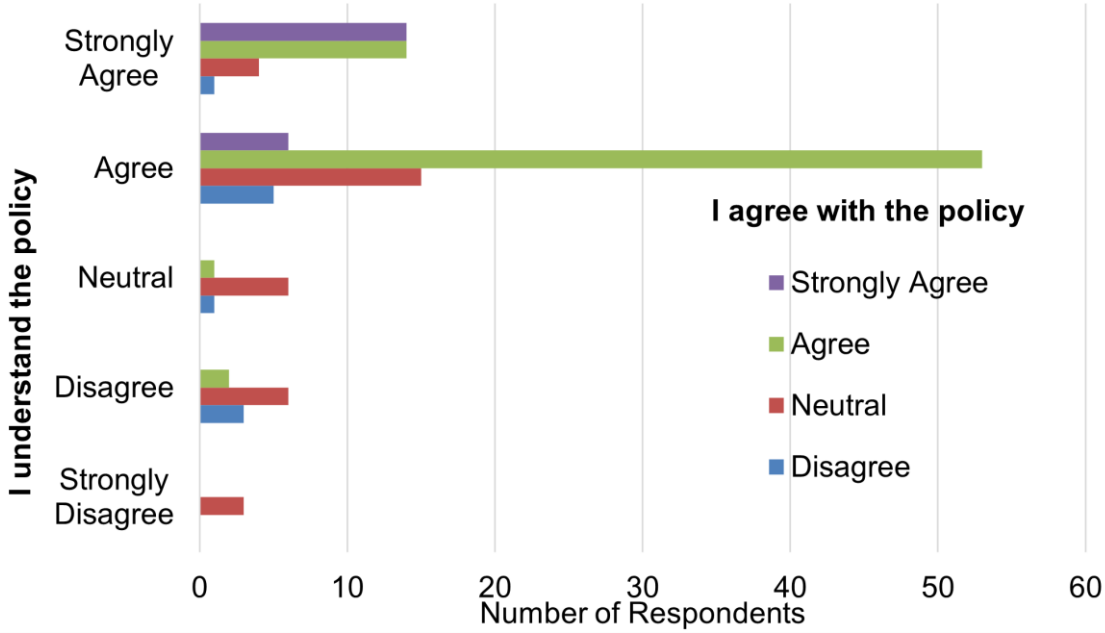

Figure 8. Q16: '*I understand the department policy on the use of gAI'* and Q17: '*I agree with the department policy on the use of gAI'* combined. Most students understand, as highlighted by the vertical axis, and agree, as indicated by the predominance of the bar associated with the choice `Agree', with the policy.

We asked students to express their level of agreement on two separate statements: '*I understand the department policy on the use of gAI'* and '*I agree with the department policy on the use of gAI'*. Students overwhelmingly either agree or strongly agree with both statements, as shown in Figure 8. Specifically, the agreement stands at 84% and 67%, respectively. Respondents describe the policy as *fair, realistic,* or *reasonable*. Students feel that gAI is here to stay; therefore, there is no point in prohibiting its use. They also note that such a prohibition would not be possible. Students appreciate that the policy highlights common issues with gAI, such as hallucinations[4] and inaccurate information, and clearly states where students' responsibility lies. Students feel that it is

[4] gAI tools generate responses that are false or misleading but present them as facts. This could create confusion for the user and lead them to make misinformed decisions.

important that their work is fundamentally their own and that gAI should only be used as a tool to support that work. However, a few respondents feel that the policy does not go into enough detail in some aspects, for instance, concerning the extent to which gAI could be used to improve readability and language or the danger of using gAI maybe unknowingly once it is further integrated with existing software. Some students claim that gAI should be forbidden altogether since using it represents a form of cheating.

We also asked students to consider the following statement: '*I believe overall students will follow the department policy on the use of gAI*. Interestingly, students are equally divided, with the same percentage, 36%, agreeing or disagreeing to varying degrees with this statement. This is an important aspect to consider, as a lack of trust in peers following regulations could undermine some of the assumptions on which university works and could potentially lead to an erosion in the confidence that students have in the robustness of university degrees. It is interesting to compare this answer with the findings of White et al. (2024), who investigated the topic of academic dishonesty post-ChatGPT, among others. They found that both student and faculty respondents agree that ChatGPT will enable academically dishonest behaviours. What is clear is that students want to be involved in decisions concerning the use of gAI since a majority of 70% either agree or strongly agree with the statement '*Students should be involved in decisions about the use of gAI'*.

Results: Students' thinking on gAI in connection with teaching and assessment

During the Covid-19 pandemic, online assessments became the only available way to assess students. Universities were quick to spot the advantages of such an arrangement, for instance, in terms of logistics. At Durham, in particular, space availability is an issue, and requiring sizeable numbers of people to convene in the same space and time for assessment purposes is problematic, so much so that online assessments are still widely used at our university. The possibility of cheating and collusion has been considered from the start, but undoubtedly, the rise of gAI has exacerbated the concerns in this direction. In this context, we asked students to comment and provide their level of agreement on the following statements: '*In the new age of gAI, non-invigilated open book (online) exams*

are a fair way of assessing students'. In Figure 9, we can see that most respondents favour online assessment, with 46% of total students agreeing or strongly agreeing with the statement, compared to 29% who disagree or strongly disagree.

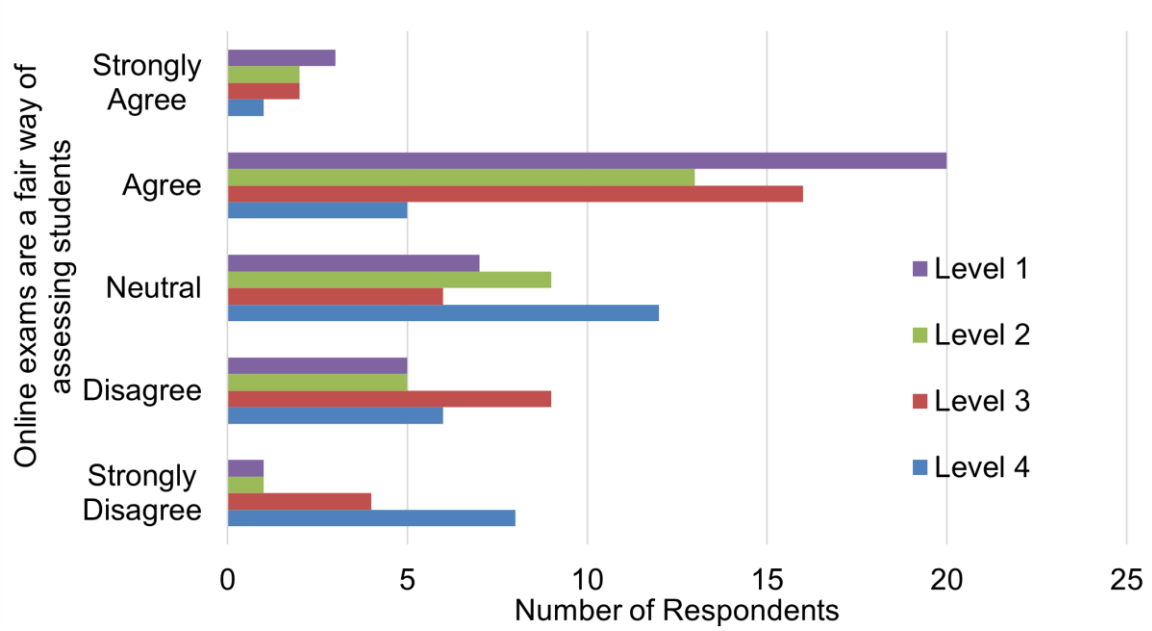

Figure 9. Q19: *'In the new age of gAI, non-invigilated open book (online) exams are a fair way of assessing students'.* A majority of students are in favour of online assessments despite gAI.

However, clear differences are noted across levels, as seen in Figure 10.

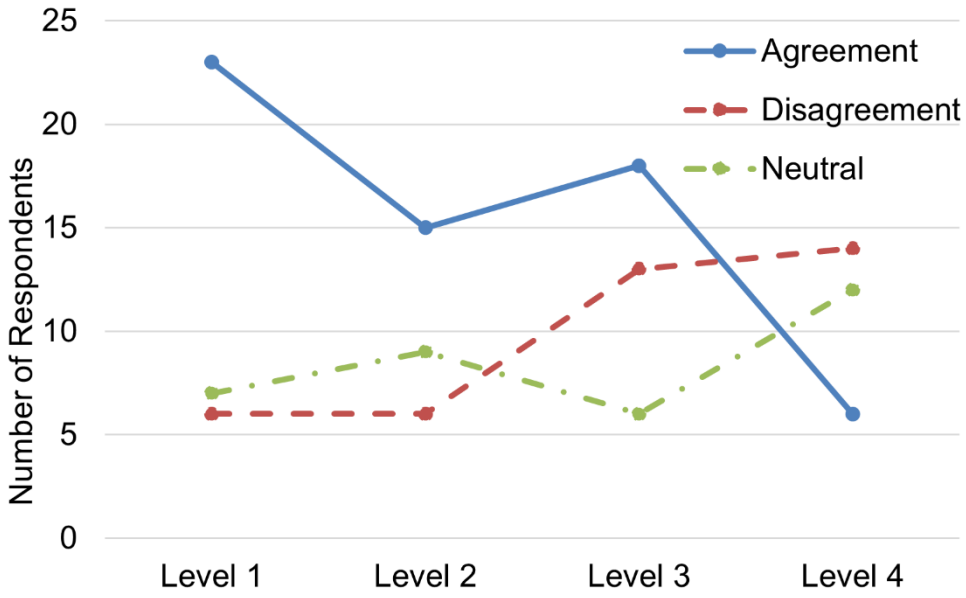

Figure 10. Q19: *'In the new age of gAI, non-invigilated open book (online) exams are a fair way of assessing students'.* The popularity of online assessment decreases with the level (see solid line).

The percentage of students favouring online assessment is the highest at L1 and the lowest at L4. Conversely, the opposite is true if we look into the percentage that is not in favour of online assessment, as can be seen from Table 2.

Table 2: Number of respondents and percentage for Q19: *'In the new age of gAI, non-invigilated open book (online) exams are a fair way of assessing students'.*

	Level 1	Level 2	Level 3	Level 4
Agreement	23/36 (63.9%)	15/30 (50%)	18/37 (48.7%)	6/32 (18.8%)
Disagreement	6/36 (16.7%)	6/30 (20%)	13/37 (35.1%)	14/32 (43.8%)
Neutral	7/36 (19.4%)	9/30 (30%)	6/37 (16.2%)	12/32 (37.4%)

Could this discrepancy be related to a lack of confidence in students entering university and dealing with a new study environment? It is unclear, based on the free comments. On the other hand, free comments make it clear that most students believe that gAI is ineffective in answering physics examination questions of the kind they are asked to

tackle. Phrases such as *not yet suited, ineffective tool, unreliable, not powerful enough, cannot solve physics problems*, are common in connection with gAI and physics. Respondents seem confident in physics staff members' ability to design almost gAI-proof questions. In this context, they highlight the perception, already expressed anecdotally by some students inside the department, that examination questions in online assessments are harder than those in invigilated ones. Some students believe that gAI tools are simply an addition to existing tools available and potentially useful for answering physics examination questions. Some respondents seem to be in favour of online examinations regardless of gAI. They argue that online assessments reduce exam stress, are closer to real-world scenarios and are fairer because everybody can access the same tools. However, the latter argument is overturned by students who claim online exams are unfair precisely because not everybody can access the same tools. For instance, not everyone can access the paid, superior versions of gAI tools. Another highlighted disadvantage is students' different abilities and levels of training in gAI technology. Finally, in the cohort of recipients who disagree with the original statements, some students do not `like' online assessment, full stop. If we need to embrace gAI in education and incorporate it in our teaching and assessment, it is essential to ensure access to this technology for all students and provide them with a common baseline of understanding and training on using gAI tools.

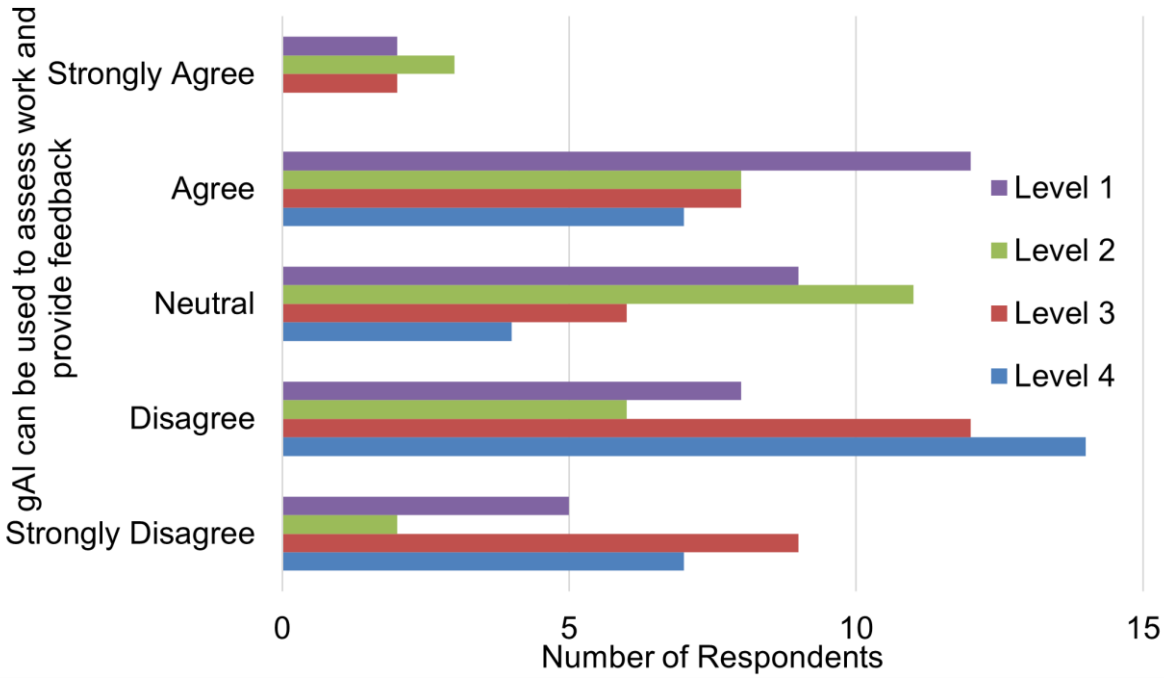

Figure 11. Q21: *'Teaching staff should be allowed to use gAI to assess work and provide feedback'*. Students' opinions on this matter are divided.

Finally, we asked respondents about their level of agreement on this sentence: '*Teaching staff should be allowed to use gAI to assess work and provide feedback'*. Students appear to be divided on this matter, as shown in Figure 11. There is a slight majority, 47%, that disagree or strongly disagree with the statement against 31% that agree or strongly agree with it. L1 students represent the group with the highest percentage of respondents agreeing to varying degrees with the statement, in Table 3.

Table 3: Number of respondents and percentage for Q21: *'Teaching staff should be allowed to use gAI to assess work and provide feedback'*

	Level 1	Level 2	Level 3	Level 4
Agreement	14/36 (38.9%)	11/30 (36.6%)	10/37 (27%)	7/32 (21.9%)
Disagreement	13/36 (36.1%)	8/30 (26.7%)	21/37 (56.8%)	21/32 (65.6%)
Neutral	9/36 (25%)	11/30 (26.7%)	6/37 (16.2%)	4/32 (12.5%)

Such a percentage steadily decreases at L4, Figure 12, where no students strongly agree, Figure 11. In contrast, the percentage of students disagreeing or strongly disagreeing with the statement increases from L1 to L4.

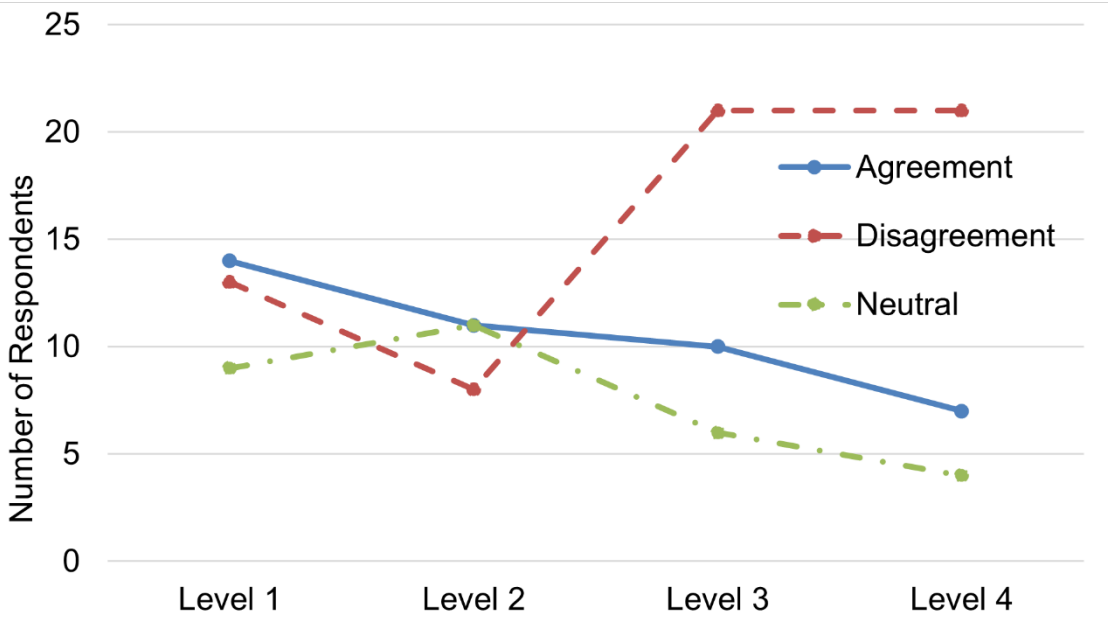

Figure 12. Q21: *'Teaching staff should be allowed to use gAI to assess work and provide feedback'*. A sharp increase in the number of students in L3 and L4 who do not agree with this statement is evident.

Assuming that it is reasonable to map the items of the Likert scale to a linear scale, we assigned 1 to *'Strongly disagree'* and 5 to *'Strongly agree'* to perform, initially, a one-sample two-tailed t-test to see which groups of students deviate significantly from the mid-point of the scale, 3, which represents the *'Neutral'* position. Statistically significant p-values are found for L3 and L4 students, with t-values of $t(36) = -2.39$ and a $t(31) = -3.48$, respectively. The minus signs in the t-coefficients highlight how these students are shifted toward the '*Disagreement*' lower limit of the scale. A lower-tailed one-sample t-test, in which the alternative hypothesis considers whether the mean values of these samples are smaller than 3, confirms a statistically significant result, $p < 0.02$, for L3 students and a highly statistically significant result, $p < 0.01$, for L4 students. The reasons for these statistics are unknown since no free comments were collected. Part of the reason could

be related to acknowledging the gAI limitations already highlighted in the previous survey questions. On the other hand, it would be interesting to know whether more fundamental reasons may be related to removing the human element from these crucial activities and to an algorithm aversion effect[5]. Dietvorst et al. (2015) demonstrated that sometimes people are less willing to take the advice provided by an algorithm than if it were offered by another person, and DeCremer & McGuire (2022) showed that human participants considered the use of autonomous algorithms as less fair when decision-making is concerned. Equally interesting would be to know the staff members' thoughts on this matter.

Conclusion

To our knowledge, this is the first time that the results of a survey used within a physics department to gain students' perspectives on a wide range of issues in connection with gAI have been published. Our study supports the finding of Jisc (2023) that students already use gAI for academic purposes. Coding, writing, and understanding complex concepts are common areas in which gAI is used. Overreliance on gAI and inaccuracies of the outcome of gAI are matters of concern for both our students and students reached by Jisc, who also highlight the importance of fair access to gAI tools. In both samples, opinions on the possibility of using gAI as an assessment tool are divided. Overwhelmingly, students want universities to provide training and guidance on using gAI and be actively involved in the decision-making processes leading to integrating gAI in education. This last point is also confirmed by the study of Johnston et al. (2023). Interestingly, our survey has detected differences across levels. For instance, students' understanding of how gAI works, its frequency in use for academic purposes and their confidence in using it as an effective tool increase with the level. We are not aware of any other studies that have highlighted clear distinctions in students' responses according to their position in their degree, that is, first, second, third or fourth year. This study suggests that this could be an important factor to consider when designing similar studies.

[5] For a systematic review of *algorithm aversion* across disciplines, the reader can refer to Burton at al. (2020).

This investigation has also highlighted the overall reluctance of students towards the idea that teachers could use gAI to assess their work and provide feedback. This suggests that care should be taken if such tools are introduced in these important components of teachers' activities, and clear motivation for this choice and an explanation of how they are used should be provided to students. Finally, students agree with the Department of Physics' policy on gAI, which allows the use of gAI - with a few caveats- emphasises students' responsibility and advocates transparency in using gAI tools.

These results helped the authors shape the second part of this study, which will focus on the computational assistance aspect of using gAI tools, particularly the creation and use of a customised gAI tool. Recently, this area of investigation has started to grow, and the reader can refer, for instance, to Chen et al. (2023). Additionally, the results presented in this article largely validate the department policy on gAI but, at the same time, suggest valid improvements, particularly related to clarification in the specific use of gAI tools.

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