

ITPC Report on Faculty use of generative AI in Teaching and Research:

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The Academic Senate Information Technology Policy Committee (ITPC) conducted three faculty surveys and one student survey to develop a report and offer recommendations on the use of generative AI in research and teaching by Northeastern University faculty. Two of these faculty surveys were carried out by the Academic Senate, another by the Center for Advancing Teaching and Learning Through Research (CATLR), and the fourth survey, focusing on student use of generative AI, was conducted by Northeastern's Centralized Decision Support.

The key findings reveal that Northeastern faculty have been using generative AI sparingly in the current academic year. According to the Fall 2023 Academic Senate survey, 32% of the faculty reported using generative AI in teaching. However, a majority of those surveyed (54%) stated that they did not use it for teaching purposes. The utilization of generative AI for research was even rarer. In the same survey, when faculty were asked, 'Have you employed generative AI tools in any part of your academic research?', a significant 76% responded in the negative, while only 24% confirmed their use of these tools. Furthermore, 6.25% of the respondents indicated that they are contemplating the use of generative AI in their research.

Faculty members have mixed feelings about using generative AI in teaching and learning. In the Spring Senate faculty survey, when asked, 'How comfortable are you using generative AI in your academic work?' out of 698 responses, only 13.5% felt comfortable, and 26% felt somewhat comfortable. Conversely, a notable 37.6% felt either somewhat uncomfortable or very uncomfortable. A somewhat concerning finding emerged from the response to Question 44, which asked, 'Have you included a policy regarding the use of generative AI technologies in your course syllabus?' It was revealed that just over 50% of Northeastern faculty do not have a policy in their syllabus addressing the use of generative AI.

In the Spring Academic Senate 2024 Survey, Northeastern faculty members were asked, "Do you promote students developing their prompt-engineering skills using generative AI?" Among the 690 faculty who responded, 34% stated they never promote prompt engineering skills. Meanwhile, 27% indicated they sometimes do, 25% said they rarely do, and only 14% reported they often or always promote it. Interestingly, while the majority of Northeastern faculty do not actively promote prompt engineering skills, there is a strong consensus on the importance of developing digital literacy for students. When asked "How important do you believe developing digital literacy, including the use of generative AI, is for students' future success?" 27.10% (187 responses) considered it extremely important, 31.59% (218 responses) viewed it as very important, and 28.70% (198 responses) deemed it moderately important. Only a minority, 8.99% (62 responses), felt it was slightly important, and a mere 3.62% (25 responses) believed it was not at all important. These responses collectively underscore a

general agreement on the significance of cultivating digital literacy, inclusive of generative AI skills, for students' future success.

Using generative AI in Teaching:

From the 136 who responded yes to using generative AI in their teaching, the top colleges they came from were:

1. D'Amore-McKim School of Business: 23 responses
2. College of Professional Studies: 18 responses
3. College of Social Sciences and Humanities: 16 responses
4. College of Arts, Media and Design: 16 responses
5. Mills College at Northeastern: 14 responses

From the 231 who said no to using generative AI, they top colleges they came from were:

1. College of Science: 56 responses
2. College of Social Sciences and Humanities: 27 responses
3. Bouve College of Health Sciences: 24 responses
4. College of Arts, Media and Design: 24 responses
5. College of Engineering: 22 responses

From those who responded yes, the integration of generative AI into educational settings has sparked diverse applications in teaching. Analyzing the 113 faculty who said they do use it from Fall survey reveals five key areas where generative AI is being utilized:

1. Content Creation and Course Material Development: Many educators are harnessing AI for generating course materials. This includes creating PowerPoints, drafting course outlines, and developing novel exam questions. For instance, one comment mentions, "Help generating PowerPoints, multiple choice questions, and ideas for structuring lectures."

2. Research and Project Assistance: AI is being used to aid in research-related activities, both for instructors and students. Faculty members are employing AI for initial research drafts, finding related papers, and guiding students in project ideation. A notable example is using AI "for project ideation; writing and revising ad copy in a marketing class."

3. Enhancing Writing and Language Skills: Generative AI is applied in improving grammar, writing, and language skills. Educators are using AI to assist students with writing exercises, revisions, and language refinement. As one educator mentions, "aid in grammar and writing."

4. Interactive Learning and Classroom Activities: AI tools are being used to create interactive classroom activities, stimulate discussions, and facilitate learning through in-class demonstrations. This includes generating topics for discussion and creating engaging learning activities.

5. Ethical and Critical Engagement with AI: A significant application is teaching students about the ethical use of AI. Educators are discussing the pros and cons of AI, its limitations, and appropriate uses in academic settings. For example, "Teaching students how to use it ethically."

Conclusion with Unique Applications: In addition to these primary areas, some unique applications of AI in teaching have emerged. These include:

- Utilizing AI for generating creative feedback and brainstorming session ideas.
- Developing AI-based support programs for specific community projects, as indicated by the use of AI in designing support programs for formerly incarcerated women.
- Specialized course offerings, such as courses on AI art, showcase an innovative approach to integrating AI into curriculum.

These diverse applications of generative AI in teaching underscore its potential as a versatile tool in education. While its use enhances teaching and learning experiences, it also brings forth new challenges and opportunities for ethical and critical engagement.

Common uses of generative AI in teaching include:

1. "Course materials, assessment innovation."
2. "Setting up frameworks for initiatives."
3. "Case development."
4. "I use it to get first drafts of short descriptors of topics. Or to generate alternative ways to describe complex topics for different audiences."
5. "I discuss with students appropriate and inappropriate uses."
6. "Getting students to find useful ways for it."
7. "Wrong answers to multiple choice questions."
8. "In my teaching and external responsibilities."
9. "In-class activities, and allow students to use for some out-of-class work."
10. "Informed students about sites to help with identifying related papers to their research project."

11. "Generate solutions for students to critique."
12. "I had an assignment where students were to write an essay entirely using ChatGPT and we evaluated their prompts."
13. "Help generating PowerPoints, multiple choice questions, and ideas for structuring lectures."
14. "I teach a unit called 'Is AI Art Art [in the context of the history of conceptual art]?'"
15. "Discussing pros/cons with students."
16. "Many of my assignments use AI."
17. "Idea generation, brainstorming, notes."
18. "Students have been assigned a term project in which they are to design an AI-based support program for formerly incarcerated women of color needing reentry support."
19. "I have generative AI write novel exam questions for me."
20. "Demonstrated how to use for research support."
21. "Assignment creation, quiz creation, image creation."
22. "Demonstrating limitations and acceptable usage."
23. "I have shown my students how to use AI search engines and used ChatGPT in class to show them the quality of the information it outputs."
24. "Aid in grammar and writing."
25. "Teaching courses about generative AI, having students and TAs explicitly use generative AI in their work."
26. "Generating examples to fact-check with class."
27. "To demonstrate how these tools can be helpful in reading scientific literature. Also, exploring generative AI tools that are specifically for Biology research such as Chroma."
28. "Demonstrating appropriate use in job search materials."
29. "Assignments, project, tests."
30. "I use AI tools to help me create lesson plans and activity ideas. I worked with students to develop a class AI policy and guidelines for use that encourage (rather than replace) learning."
31. "For project ideation; writing and revising ad copy in a marketing class; drafting emails."
32. "This box is too small: planning sessions, generating topics, creative and fun classroom learning activities, compare-and-contrast analysis, table generation, graphic design work for relevant and hyper-realistic imagery, etc."
33. "Simplify instruction documents, syllabus formatting (dates, subject matter timing)."

34. "Encourage students to use chatbot as an organizational tool as well as encourage them to spend time with it to assess its strengths and limitations. I strongly feel that all students will need a deep understanding of AI and where it is headed."
35. "I instruct students on utility and limitations of GPT."
36. "Sometimes I ask for help making connections between concepts. I have also asked for help writing multiple choice questions."
37. "To generate computer programs."
38. "My students use GenAI for writing and editing."
39. "I allow students to use them when programming. I also use it to generate in-class quiz questions aimed at facilitating discussion."
40. "Getting students to use AI to help them with improving their work."
41. "Teaching students how to use it ethically."
42. "I require students to use AI in some of their write-ups."
43. "I actively use them and ask my students to do so. I even co-wrote a paper with my students on using AI in the classroom."
44. "Students can consult AI at the start of their projects."
45. "Built assignments and helped give creative feedback."
46. "Encourage use as a way to help with papers, information gathering."
47. "Using AI to start research."
48. "In-class demonstrations and discussion."
49. "I used it in teaching and students' project development."
50. "Exam question generation."
51. "Give me ideas for questions (which I then wrote on my own), ask students to use it for 'fun' stuff like naming their inventions."
52. "Analyzing muddiest point comments from students."
53. "Brainstorming ideas."
54. "Students analyze AI-generated content for accuracy."
55. "I teach a course on AI art."
56. "Lots of ways!"
57. "Suggestions for using chatGPT for resume and cover letter refinement and interview prep."
58. "Writing exercises and revision."

59. "Craft slides and review assignments."
60. "Brainstorming sessions."
61. "Use ChatGPT as an idea generator, to assist with generating exam items and answer rationale for test review, case study development."
62. "Help students identify and evaluate target employers."
63. "Help me generate examples, clip art. Recommend students use it for learning."
64. "Brief examples in my coding courses."
65. "Search for resources and article/reading summaries."
66. "Had students experiment with them."
67. "As a foundation for video script writing and lesson planning."
68. "For coding, as research assistants, to improve technical writing."
69. "Helping students with their writing and editing."
70. "Use it to help create course materials, as part of certain activities, and as a topic of discussion with students so they learn appropriate and inappropriate uses for my course."
71. "Generate test questions for student practice, to see what is out there on specific health related topics."
72. "Class collectively used ChatGPT to initiate diagramming exercise and then critical review of limitations."
73. "Basic exploratory exercises in class, plus lots of discussions about the technology's potentials and perils."
74. "Writing cover letters."
75. "Editing help for writing assignments."
76. "I use Copilot for my coding."
77. "I have worked with students to use AI ethically and meaningfully."
78. "Plagiarism check."

Generative AI Utilization in Academic Research

The usage of generative AI in academic research among Northeastern University faculty showcases a diverse array of applications, as evidenced by responses to question Q77, "Have you employed generative AI tools in any part of your academic research?" The survey revealed that 69.47% of

respondents have not used generative AI in their research, while 24.04% affirmed its usage, and 6.25% are considering its implementation.

Faculty members who use generative AI are leveraging it for tasks like literature searches, with responses citing the use of "AI lit search tools." Additionally, it's being employed for activities such as "Recommendation writing" and to "Improve my coding" skills. The tool's versatility is further highlighted in its application for "Coding, researching, text editing, image creation for academic presentations," and even in contemplating its use for student projects. Furthermore, generative AI is assisting in exploring "Research topics" and in "Improving my English." Some faculty have utilized it to "Point me towards sources in the public domain," or in AI research itself. The technology aids in various academic aspects, including summarizing information, identifying topics of interest, aiding ongoing projects about the perception of generative AI, manuscript writing, drafting, and practical tasks like formatting bibliographies. This wide-ranging application underscores generative AI's versatile role in the academic research landscape.

The colleges from which faculty members who responded "Yes" to using generative AI in their research (question Q77) come from are as follows, along with the number of responses from each:

1. College of Arts, Media and Design: 15 responses
2. D'Amore-McKim School of Business: 12 responses
3. Khoury College of Computer Sciences: 12 responses
4. College of Social Sciences and Humanities: 12 responses
5. College of Engineering: 11 responses

At the start of Fall 2023 there were guidelines sent to different colleges to help faculty prepare for the Fall Semester. 54% said they received the official guidelines, 30% said they were not sure, and 16% said they did not receive it. Of those who received it, 48% found it somewhat useful. 12% found it very useful. 33% were neutral, and 5% did not find it useful.

Adopt or Avoid: Faculty Dilemmas and Decisions on Generative AI in Teaching and Research: results to question 80:¹

Faculty Perspectives on Integrating Generative AI in Academia

Introduction: The integration of generative AI into academic settings has elicited a diverse range of opinions among faculty members. This report synthesizes these views, underlining both the positive and negative perspectives, and supports these positions with direct quotes from the faculty comments.

Positive Views: A section of the faculty expresses optimism about the potential of AI to enhance teaching and research:

1. **Innovation and Efficiency:** Some educators see AI as an innovative tool that can aid in research and teaching. One faculty member remarks, "I would like the university to subscribe to more platforms that harness generative AI, like an AI video generator."
2. **Educational Enhancement:** Others believe that AI can play a constructive role in education if used correctly. For instance, one comment suggests, "Teaching toward cognitive skills that are outside the purview of AI."
3. **Resource Availability:** The availability of AI resources is seen as a positive development. "The university should reimburse the cost of using ChatGPT or other generative AI in teaching and research," one respondent states.

Negative Views: However, concerns regarding AI's application in academia are predominant:

1. **Academic Integrity:** The most voiced concern is the potential for AI to facilitate cheating. A faculty member notes, "Avoid cheating," highlighting the need for integrity.
2. **Over-Reliance on AI:** Some faculty worry about students becoming overly dependent on AI. "Making sure students do not rely on AIs for their final drafts," comments a respondent.
3. **Ethical and Practical Concerns:** Ethical issues and the practicality of AI integration are also major concerns. One educator states, "Clear and consistent rules about use of AI that violates academic integrity."

Unique Perspectives: Several faculty members offered perspectives that do not neatly fit into the positive or negative categories:

1. **Wait-and-See Approach:** A few are adopting a neutral stance, as one comment reads, "I'm taking a wait-and-see approach for the most part. Pretty neutral about it all."

¹ [Response to Questions 80, regarding additional guidance or support for integrating generative AI in teaching and research.] Fall Survey 2023.

2. **Need for Comprehensive Understanding:** Some express the desire for more knowledge about AI before integrating it into their work, suggesting a cautious but open-minded approach.
3. **Combining AI with Critical Thinking:** There is an acknowledgment of AI's potential when combined with critical faculty guidance. One respondent suggests, "Education about its purpose, use, ethics, how to manage cheating."

Conclusion: The faculty's views on the use of generative AI in academia are multifaceted. While there are optimistic perspectives on the potential for AI to enhance academic practices, the predominant sentiment is one of caution, underscored by concerns about academic integrity, over-reliance, and ethical implications. Additionally, some unique views suggest a desire for a balanced approach, combining the use of AI with critical thinking and ethical guidelines. This diverse range of opinions indicates the complexity of AI's integration into the academic realm and underscores the need for ongoing dialogue and policy development.

Suggested Actions for Administration: To address these diverse views, university administration should consider:

1. Developing and disseminating clear, practical guidelines on the ethical use of AI, tailored to various academic disciplines.
2. Organizing regular workshops and training sessions to familiarize faculty with AI tools and their potential applications in teaching and research.
3. Creating platforms for sharing best practices and real-life examples of AI integration in academia.
4. Offering resources and support for AI-related pedagogical innovations and research.
5. Actively addressing concerns about academic integrity and the potential biases of AI tools to ensure equitable and responsible use.

There were 117 responses to Question 80, regarding what additional guidance or support would enhance faculty members' integration of generative AI in teaching and research. Here is a sample of the response of what faculty need and their view of generative AI in teaching and research.

1. "Funding for ChatGPT 4.0."
2. "I need to learn more to better understand and integrate the AI into my work to apply the guidelines."
3. "Avoid cheating."
4. "Requiring students to turn in assignments through an AI checker as well as a plagiarism checker."

5. "For most of my core teaching which involves design through iterative processes I don't have strong concerns yet about the use of ai. I would welcome tips or best practices for making weekly written assignments like reading responses more resistant to ai, as I'm sensing a disconnect with some students between what is written in their weekly responses versus what I hear from the same students in class discussions."
6. "Examples of proper use."
7. "I will not be integrating generative AI into my teaching or work."
8. "Teaching toward cognitive skills that are outside the purview of AI."
9. "Clear and consistent rules about use of AI that violates academic integrity."
10. "Students need to understand that using chatGPT to write essays is cheating. They will not learn how to write if they use this. The university seems to support the use of chatGPT which I don't understand. Perhaps it can be used effectively in some disciplines, but in the humanities it should not be used to write essays."
11. "I would like the university to subscribe to more platforms that harness generative AI, like an AI video generator. We can use this to continue improving our course resources, and to stay aligned with the student experience."
12. "I need to know everything about it. My knowledge is only anecdotal at this point."
13. "The university should reimburse the cost of using ChatGPT or other generative AI in teaching and research."
14. "Subscriptions to AI for faculty and students."
15. "None for the time being."
16. "I only want to use it in the context of detecting AI-written student papers."
17. "Intro to AI for Dummies?"
18. "I'd like to see the guidelines again. My department provides support in the form of a course. I have not had free time to take an online course. Need content in more digestible formats."
19. "It would be helpful if there was some indication of what is the appropriate course of action if you think a student has used AI to complete an assignment and how to document it. For example, I call them into my office and ask them to explain the assignment to me and then use my judgment based on what they are able to explain about the assignment."
20. "The academic integrity people and the university need to get on the same page."
21. "Guidelines for grading."
22. "It would be great if there was a bootcamp on this, maybe in the summer. Ways my students are using it, ways I could use it kind of thing."

23. "No additional guidance needed. I have been using generative AI in my work since 2014—well before commercial products existed."
24. "Effective ways to use AI in research (for example- how to use it for literature reviews (and know that the information is valid and from reputable sources))."
25. "Lots of hands on workshops for what has worked for folks and how."
26. "I participate in the Writing Program's ChatGPT working group and have found it very helpful."
27. "Education about its purpose, use, ethics, how to manage cheating."
28. "Webinars describing the usage of these commonly used tools."
29. "Definitely would like to make sure I have the proper guidelines from the university... I wonder if the university should email these out at the start of each semester going forward (if not already doing so... I honestly can't remember). I appreciate the work that CATLR and the Provost's office has done around AI, and I've collected documentation from them. I'm just not sure if this is the 'official' guideline."
30. "The university should provide tools to faculty members for free to detect the use of ChatGPT in students' homework."
31. "I don't want to use generative AI, at least not yet. I want the university to provide more support for faculty who want to ensure students are not using it for coursework. We should be able to decide that this is not what we want our students to do in our field."
32. "Writing and use - and what does academic integrity look like?"
33. "Best practices from other faculty and researchers."
34. "Nothing from the university other than covering the cost of accounts."
35. "Continuation of seminars and working sessions that allow Faculty to experiment with AI capabilities in a mentored environment."
36. "Not sure yet."
37. "Support deep learning rather than defending deep faking. Provide AI detection tools."
38. "I just can't picture how I would use it."
39. "I have just modified my assignments to avoid AI use--this means no secondary research papers. I do all hands-on primary research projects, in class essay tests (hand written) and oral presentations."
40. "Specific online practices that we can put into place quickly and effectively. It's hard to have to figure this out on our own."
41. "Guidance on how to mitigate improper student use of AI in the classroom."
42. "Support of meetings, workshops, and research on utilization of chatGPT and other AI for all aspects of teaching and research, but especially in pedagogy. Regarding research, it is essential

that we consider potential inequities that AI might foster, given biases that humans encode into language."

43. "The policy was fairly general, but I liked its advice and actually appreciate that there is room to create my own policy for my course. It's important that the university continues to curate resources and offer workshops and training for faculty who lack familiarity with AI. Perhaps there could be stipend to encourage those reluctant to attend."
44. "It's not always necessary or useful."
45. "Shared workshops and research AI integration approaches in my college (one event in past and one coming up)."
46. "Examples of its usage."
47. "Embracing it."
48. "I tell students they are adults - if they want to cheat by having AI write their papers, then make sure they invite AI to graduation to receive its degree."
49. "I'd like to know what is and is not allowed when using AI in our classrooms."

Faculty Perspectives on Generative AI: Survey Insights from Question 81

Introduction Question 81 asked: "What reservations or concerns, if any, do you harbor regarding the deployment of AI in your teaching or research activities?" The 117 responses provide a window into the faculty's collective mindset regarding the positives and negatives of using generative AI in an academic setting.

Positive Views: A section of faculty members showed enthusiasm towards AI, emphasizing its innovative potential in teaching and research. The positive aspects highlighted include:

1. **Innovation in Pedagogy and Research:** AI is seen as a tool for brainstorming, creating educational content, and streamlining research processes.
2. **Efficiency and Assistance:** The ability of AI to save time and enhance efficiency, especially in administrative and preliminary research tasks, is well-regarded.
3. **Adaptation and Learning Opportunity:** Acknowledging AI's growing presence, some educators advocate for adapting pedagogical methods and using AI as a tool to teach students about its ethical use and the importance of critical thinking in the digital age.

Negative Views: The predominant sentiment, however, skews towards caution and skepticism, with several concerns:

1. **Academic Integrity and Plagiarism:** The most pressing concern is AI's potential role in facilitating plagiarism, undermining original thinking and writing skills in students. This is succinctly encapsulated by one faculty member who simply stated, "Plagiarism."

2. **Dependence and Skill Erosion:** Over-reliance on AI tools is feared to erode crucial academic skills like research, analysis, and writing.
3. **Ethical and Bias Issues:** Ethical use of AI, encompassing data privacy, intellectual property rights, and the risk of perpetuating biases, is a major concern.
4. **Reliability and Authenticity:** Doubts about the reliability and authenticity of AI-generated content are prevalent, with worries about its ability to mislead students or provide inaccurate information. One faculty member's emphatic response, "Ban it," highlights the extent of these concerns.

Faculty Views and Needs: The survey results from Question 81 indicate a prevailing apprehension about the role of AI in academia. Concerns about academic integrity, skill erosion, and ethical implications significantly outweigh the potential benefits. This cautious stance suggests an urgent need for comprehensive guidelines and strategies for responsible AI integration in academic settings. The demand for clear guidelines and strategies is evident, underscoring the importance of preserving academic integrity and fostering critical thinking skills in the era of AI.

There were 117 responses to question 81 on Faculty Needs and Perspective of generative AI in Teaching and Research. Here is a sample of 68 of them:

1. "Students have been using ChatGPT to cheat. This has been a major problem."
2. "I have serious concerns about the negative impact the use of these tools by students will have on thinking and learning. I see them being used inappropriately and there is little that can be done about it (because often it is impossible to prove how the tools are being used)."
3. "No concerns for me - worry a bit about the students (but not too much)."
4. "Ethical concerns regarding intellectual property, data privacy, humanizing technology, etc."
5. "I am actually considering leaving teaching altogether, in part because the effect of generative AI on students' willingness and capacity to conduct their own research and write their own work in the humanities seems so low. This is compounded by NU's clear disregard for the humanities, meaning that students don't get any message that learning to do these things for themselves will have short-term or lifelong value."
6. "AI uses work without attribution to work. Faculty should not be encouraged if they have professional or ethical qualms with the technology."
7. "I don't fundamentally trust the output."
8. "None. I love AI, I just need to figure out how or if I can use it in teaching."
9. "Plagiarism."
10. "AI plagiarism."

11. "I worry that AI will have a reductionist impact on how we all encode meaning in writing and other forms, further favoring mainstream norms and modes. Further, we need to anticipate unexpected consequences of what is clearly a disruptive new tool."
12. "I have many concerns about students relying too much on AI, and their critical thinking, writing, and other skills becoming underdeveloped as a result. However, its use is inevitable, so my role is to teach students how it should and should not be used. I think many faculty are not sure how to incorporate it into their teaching effectively."
13. "I'm worried about plagiarism."
14. "We're all grappling with what plagiarism is and how assignments need to change. I have not been badly affected so far due to the nature of my assignments--human plagiarism is problem enough, thanks!--but I expect this to change as the technology advances. I would also like to see if it could help me teach more productively. I have used it to brainstorm assignments and create images for presentations, and I teach a session to all my undergrad and some of my grad classes. Despite claims in the outside world, I find it useless for grading. In terms of my research, the tools are helpful but not lifechanging in terms of literature review. That too may change. I am very interested in this topic. Feel free to reach out. Bruce Clark, DMSB."
15. "I am comfortable researching and thinking about AI -- it is my job. I just disagree with the current Northeastern policy."
16. "Mostly, I'm concerned about the outsize concern/freakout about these tools and the culture of fear. I'm also concerned that some faculty are saying things like, "most writing is boring and useless anyway, so why not have the AI do it." Both the fears and the dismissive attitude serve students poorly. Generative AI tools are tools — we need to be teaching with them as such and showing students how they can be used ethically."
17. "We need to embrace to protect your intellectual intelligence or we will be run by computers and decisions about us will be done by computers. That is SCARY - why bother learning if I can have an external brain make all the decisions...no need to continue to populate the world if computers / AI will run it. Scary scary scary..."
18. "Concerns are centered around access and equity to Gen AI tools."
19. "I worry my students will use it to get good grades without considering the impact to their learning."
20. "I worry it might diminish some skills like the ability to create without a prompt as well as some writing skills."
21. (Continuation of the 15th comment) "...not sure how to incorporate it into their teaching effectively, but I would love to learn how to create multiple choice tests - I think that's brilliant."
22. "I am concerned about students believing them as reliable sources and that generative AIs do not accurately cite the sources of their information."
23. "I am concerned that students will use it to complete their work and won't learn valuable life skills that they would otherwise be exposed to if they did the work themselves."

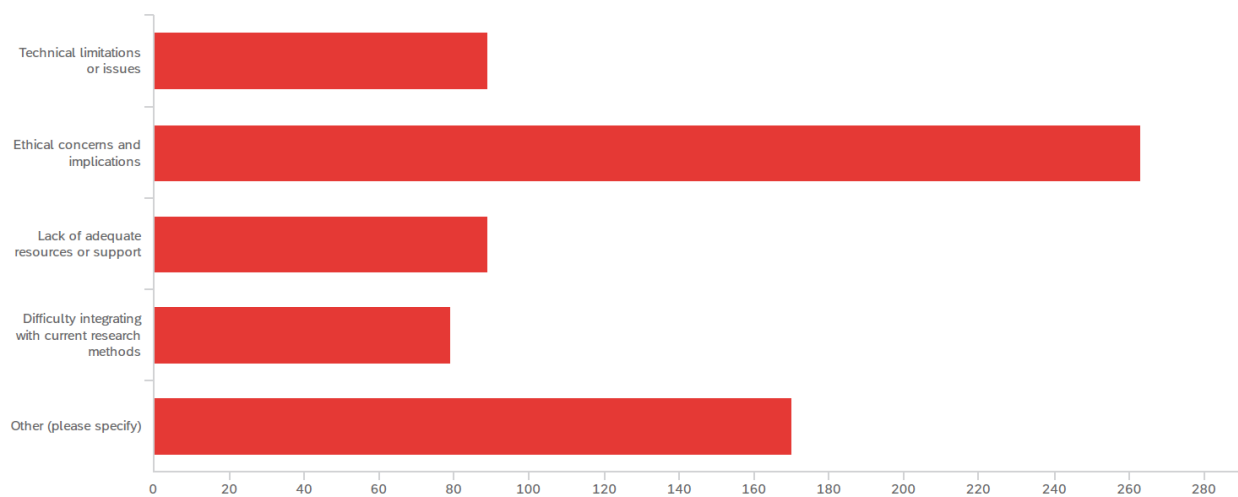
24. "Having students use AI decreases their ability to write for themselves."
25. "I don't use it in my own research. For students, my concerns are 1) that they will see it an easy way to avoid developing good writing and research skills, 2) that they will be satisfied with the very broad and vague answers that AI generates (at least, at the moment) for research questions. I want them to see it (like Wikipedia) as a useful starting point for work, not as a substitute for work."
26. "Making sure I understand it well enough to determine how it can be used (ethically) and when it should not (or be used with attribution)."
27. "It can produce biased results with made-up sources - so an analog to humans I guess."
28. "Inaccuracies in aggregate data."
29. "This term I was worried about student plagiarism and encouraging a robot to do the work for them."
30. "Confusing students on proper protocols with respect to employers in job search."
31. "I am concerned about plagiarism. Also, how does AI enhance students' learning?"
32. "I only worry about the suppression of these tools and the lack of direct discussion and guidelines with faculty and students from the university."
33. "Elimination of jobs."
34. "Discerning violations of academic integrity."
35. "My lack of enough knowledge."
36. "Needing to ensure equitable and sustained access to the service for all. Concerns regarding biases in material AI is trained on."
37. "Plagiarism."
38. "I fear that it becomes very hard to teach the old way, and faculty need to change the way they create assignments and how they assess students. In terms of research, I fear my published works and original ideas might be stolen and refurbished and published under someone else's name! I fear the book publishing industry might collapse."
39. "I do not trust ChatGPT."
40. "Not having good enough reason to make it worthwhile."
41. "I'm worried, like a lot of faculty, about how much students are offloading their thinking and writing onto AI. I worry that deploying it on purpose while teaching may be taken as an 'okay' to use it however they like. However, I do understand that the right set of guidelines will help them to understand what AI can and can't do for them."
42. "None at present."

43. "When students use AI to generate assignments they hand in there is a discrepancy in their understanding of the material which is evident in their other interactions such as class discussion or presentations."
44. "Confidentiality, intellectual property."
45. "Ban it."
46. "Efficient use assisting with faster learning focus."
47. "1. Intellectual Honesty: Lack of attribution when used by students - and faculty for that matter.
2. Missed opportunity: Reduction of critical thinking and systems thinking despite the reality that genAI could be used to develop those very competencies."
48. "It's a terrifying journey into uncharted territory."
49. "Loss of creativity or thinking on one's own; risk of losing the willingness to exert or have one's own voice."
50. "I'm concerned that if we don't bring it into the classroom we are doing our students a terrible disservice. These tools will be in our lives now so we need to put them front and center and work with them constructively but also with deeply critical awareness and forethought to what they portend for human creativity, agency, etc."
51. "Not sure how actually useful it will prove to be."
52. "Deteriorating models."
53. "No concerns. Not an issue."
54. "My primary reservation centers around ensuring ethical use and understanding the broader implications of AI in education. There's a need for clear guidelines and policies that address privacy, data security, and potential biases in AI algorithms. Another concern is the risk of over-reliance on AI tools, which might overshadow critical thinking and problem-solving skills in students. In research, the challenge lies in maintaining the integrity and originality of work amidst the ease of generating content through AI. It's crucial that we provide adequate training and resources to faculty and students to navigate these complexities effectively, ensuring that AI serves as an aid to learning and research, not a substitute for fundamental academic skills."
55. "I'm taking a wait-and-see approach for the most part. Pretty neutral about it all. Happy to let others think it through first and then I'll pay more attention. I'm rather tired of it sucking up so much oxygen."
56. "Making sure students do not rely on AIs for their final drafts."
57. "I think generative AI is not as promising or revolutionary as anticipated. It may be more useful in background-oriented processes, such as with spell-check and generative text prompts like we've had in Gmail."
58. "The potential for misuse and replacement of critical thinking."

59. "While I do not have any personal reservations or concerns regarding the deployment of Artificial Intelligence (AI) in my teaching or research activities, I do believe it is crucial for students to have clear guidelines on how to appropriately use these tools. The integration of AI in academic settings offers numerous advantages, such as enhanced learning experiences, access to a wealth of information, and more efficient research processes. However, to fully harness these benefits, students must be properly trained. This training should focus on ethical usage, understanding the limitations of AI, and the importance of critical thinking in conjunction with AI outputs. Ensuring students are well-equipped to use AI responsibly and effectively is key to maximizing its positive impact in an educational context."
60. "Accusing students of AI text is a dangerous and time-expensive game."
61. "No consistent policies across the university."
62. "My only reservation is understanding that my use of AI will inform my students' use of AI but they do not have the maturity or context that I have as someone who's been in a professional working environment for years."
63. "Just having the time to learn how it works and use it effectively. I think it will be really important for students to learn, so I will need to as well."
64. "Trust in the output."
65. "People not being super aware of black box data etc."
66. "If students want to use it I want them to use it for refinement and not to entirely do an assignment for them."
67. "It's such a complex subject... I'm honestly still wrapping my head around it. My biggest fear (as with many professors) is that students use it for writing papers and discussion posts, etc."
68. "I am concerned about the students relying on these tools for research and analysis instead of their own critical thinking skills."

Research using generative AI: Question 50

Q50 - What are the main challenges you face when using generative AI in research?



In response to question 50 regarding the breakdown of issues faced when using generative AI in research, the survey highlights several key concerns among respondents. Ethical concerns and implications stand out as the most significant issue, cited by 38.12% (263 respondents), indicating a strong awareness and consideration of ethical dimensions in AI research. Following this, 24.64% (170 respondents) have identified other unspecified challenges, reflecting a variety of unique or less common issues not captured in the predefined categories. Technical limitations or issues, as well as a lack of adequate resources or support, are both identified by 12.90% (89 respondents each). These figures suggest that technical barriers and resource constraints are equally prevalent, posing significant challenges to effectively integrating AI into research practices. Finally, the difficulty of integrating AI with current research methods is noted by 11.45% (79 respondents), highlighting a challenge in merging new AI technologies with established research methodologies. This diverse range of concerns underscores the complexities and multifaceted nature of incorporating generative AI into academic research.

To analyze the common themes in the provided responses to Q50, I will categorize them based on their underlying sentiments and concerns. Here's a breakdown of the themes:

- Lack of Use or Relevance:**

- Responses such as "I don't use it," "Do not use," "I don't currently do research," "Not involved in research," "I do not plan to use AI," "No need," "Don't do research," "I don't use it in research," "Not a researcher," "I do not use generative AI in research," "no research," "don't do research," "I don't use it," "I'm not interested in using it in my work," "I do not do research," "Not applicable to me," "I don't use it." These indicate either a lack of use, relevance, or need for generative AI in the respondents' current roles or fields.

2. Ethical Concerns and Misinformation:

- Statements like "AI is plagiarism," "ethical concerns," "both ethical concerns and implications and also WRONG INFORMATION generated by AI," "plausible deniability when I suspect the blatant use of gen AI," "Ethical and AI hallucinations (false information)," "Significant security and reliability concerns." These reflect worries about ethical issues, misinformation, and security concerns associated with generative AI.

3. Lack of Knowledge or Familiarity:

- Responses such as "I don't know enough about generative AI tools," "NA," "N/a," "lack of familiarity with its potential," "I had not seriously considered using it," "Lack of awareness of potentialities," "I don't know what I am doing," "None." These suggest a lack of awareness, understanding, or sufficient knowledge about generative AI and its potential applications.

4. Concerns about Quality and Accuracy:

- Comments like "Lack of fidelity," "It is pretty useless," "it is terrible for the research I do as it is too lossy a system," "The contents I receive back tend to be too inaccurate for me to use," "I have low confidence in current models to produce novel research results," "inaccuracy." These point to concerns about the quality, fidelity, and accuracy of the outputs from generative AI.

5. Impact on Learning and Critical Thinking:

- Observations like "My concerns: the effect AI generated materials have on independent, critical thinking," "It robs them of the opportunity to think and learn," "Students create documents they haven't read," "I want students to learn to write on their own," "students relying on it for answers rather than a start...," "Students should learn the statistical models behind 'generative AI'." These emphasize concerns about the impact of AI on learning processes, critical thinking, and academic integrity.

6. Resource and Time Constraints:

- Remarks such as "lack of time to explore and learn," "time to invest in staying up-to-date," "No time to do this since I joined Northeastern," "need more training on various AI tools." These indicate constraints related to time and resources needed to explore and effectively integrate AI into research or teaching.

7. Specific Application Challenges:

- Points like "Generative AI is a private product that has shown some limited promise," "it is good for some things and bad at many," "Often AI generation is neither accurate nor real." These suggest specific challenges in applying generative AI effectively in certain contexts or for particular purposes.

8. General Disinterest or Disinclination:

- Comments such as "It's both bad and wrong!," "it just isn't a normal part of my practice," "Not relevant to my field," "I am opposed to its use in much of my field." These reflect a general disinterest or opposition to the use of generative AI in the respondents' field of work or research.

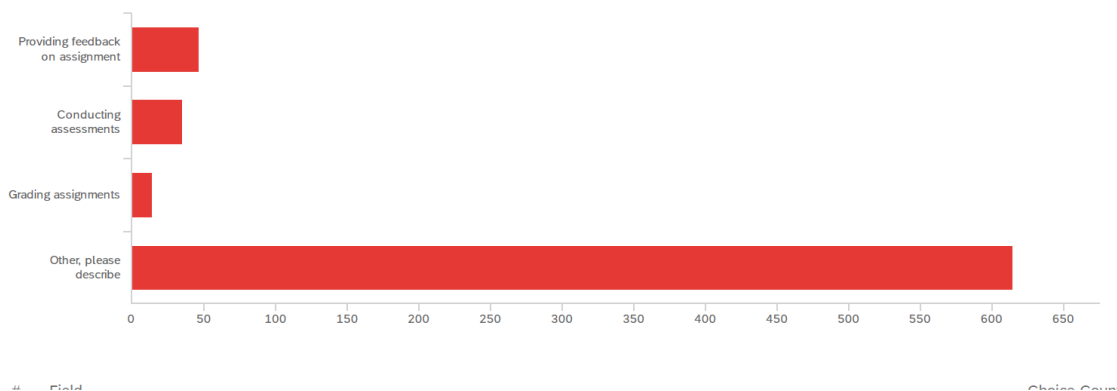
Overall, the responses highlight a range of concerns, from practical issues like lack of knowledge and concerns about accuracy, to more conceptual issues like the impact on learning and ethical considerations.

AI in Teaching: Focusing on assessment and design: Question 52

Q52 - Do you use AI for any design or assessment tasks listed below: (multiple select)

A small proportion of faculty employ AI for assessment and design tasks. Among 700 respondents, 614 (representing 86%) indicated they use AI for purposes other than assessment and design. Specifically, the utilization of AI for providing feedback on assignments was reported by only 6.62% (47 respondents), conducting assessments by 4.93% (35 respondents), and grading assignments by 1.97% (14 respondents).

Q52 - Do you use AI for any design or assessment tasks listed below: (multiple select)



In response to question 52 about the application of generative AI in various academic tasks, the survey, which involved 710 respondents, shows a range of uses, though a significant portion of the responses fall under less traditional categories:

1. **Providing Feedback on Assignments:** A modest 6.62% (47 individuals) of the total surveyed use generative AI for providing feedback on assignments. This reflects a growing but still limited adoption of AI tools in enhancing the assignment feedback process.
2. **Conducting Assessments:** Only 4.93% (35 respondents) apply AI for conducting assessments, indicating that AI's integration into the evaluation process is not yet widespread.
3. **Grading Assignments:** An even smaller group, making up 1.97% (14 respondents), utilizes AI for grading assignments. This suggests that the use of AI in grading is still in its early stages and not commonly practiced.
4. **Other Uses:** Notably, 86.48% (614 respondents) indicated 'other' uses for generative AI, a category that includes a diverse array of applications. Some of these responses reflect skepticism or even opposition to the use of AI in academic settings and even hostility to the question being asked to include AI in teaching.

Based on individual responses, faculty who are using AI in their teaching and assessments are employing it in various ways. Some of the key uses include:

- Using AI to check if students can effectively use AI to answer questions.
- Employing AI occasionally to check sample answers provided by tools like ChatGPT.
- Utilizing AI for assignment and lesson preparation.
- Implementing AI in generating ideas for assignments or for coming up with quiz questions.
- Using AI for drafting assignment instructions or designing presentations.
- Involving AI in developing cases for discussion or in project development.

Several faculty members have expressed negative views on the use of AI for assessment and teaching. Here are some direct quotes from the document:

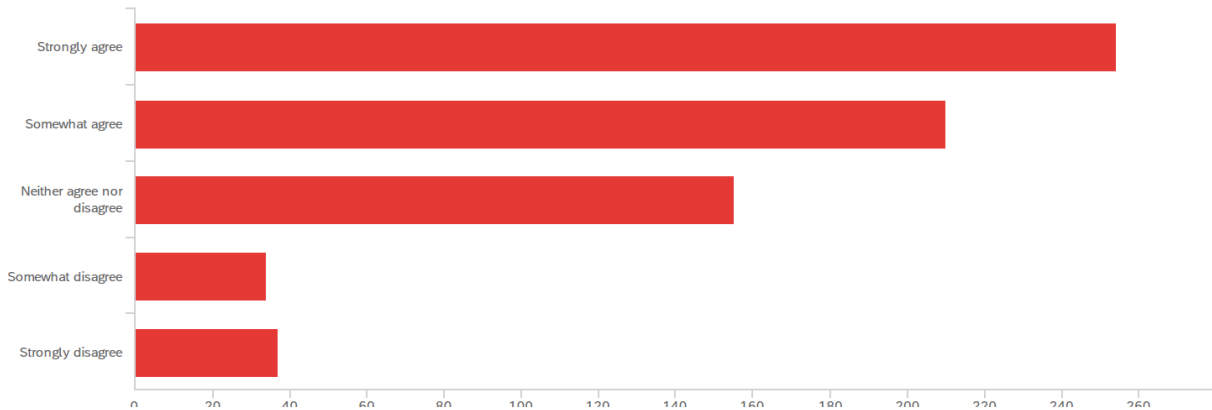
- 1.) "I don't know if they are empathetic after learning about Deaf culture on paper-based assignments. They would learn nothing after submitting with AI writing so easily".
- 2.) "I do not feel comfortable using AI in teaching or research".
- 3.) "I strongly disapprove of the use of AI in any of the work that I have my students do. They can learn how to use it in other ways and put it to use in their life if they'd like after completing my courses. But my assignments in my courses are meant to test their knowledge and to assess their ability to write and argue well. The use of AI only gets in the way of this. It's just like how math students need to actually learn how to do arithmetic, algebra, geometry, etc. before they are allowed to use calculators. In my view for my specific context, AI tools like ChatGPT are the calculator".
- 4.) "Generative AI and the original creation of intellectual work are necessarily at odds with each other. While AI could be a tool to help distill data or uncover interesting trends - but without proper supervision or intervention it is just as likely to generate false information. There is little

reason to be substituting human-led insight and intellectual generation for AI if the purpose is to generate novel and interesting research and ideas".

- 5.) "Generative AI may be appropriate in some fields of study and research. It is not appropriate in nursing. The student needs to reflect and learn how to care for patients and relying on AI to write discussion posts and provide reflection is breaking the clinical thinking process".
- 6.) "Students do not use AI as a tool; they use it as a cheat, a shortcut. There are massive ethical considerations in whether a student should earn a degree when the work they 'Do' is largely AI-generated; the student has learned nothing".
- 7.) The rapid rise of AI systems is making it clear that we need to be doing a better job at promoting human centric, embodied learning and doing. We are a stem school that is churning out tech workers who will all be obsolete within a short period of time. What are we doing to elevate the importance of those areas that are going to continue to be challenging for AI? Why are we not doing more to deeply support human centric and embodied creativity? NU you should immediately pivot towards and prioritize courses that are more "hands on" and experiential. Students should be required to take dance. Students should be required to do a certain amount of shop classes. Students should be required to go on field trips into the woods where they are not allowed to bring any electronic devices.

Questions 53: Should University Provide Training in Generative AI

Q53 - Do you think the university should provide training for faculty on using generative AI in their research and writing?



From a total of 690 respondents to question 53, which asked about their views on whether the university should provide training on AI use, the survey results reveal a varied spectrum of opinions:

1. **Strong Agreement:** A substantial 36.81% (254 respondents) strongly agree that the university should offer AI training. This significant proportion indicates a considerable demand or recognition of the importance of AI education in the university setting.
2. **Somewhat Agree:** Another 30.43% (210 respondents) somewhat agree with the need for AI training. This response suggests a general but perhaps less intense support for AI education initiatives.
3. **Neutral Stance:** 22.46% (155 respondents) neither agree nor disagree, indicating ambivalence or uncertainty about the necessity or effectiveness of AI training at the university level.
4. **Some Disagreement:** A smaller group, 4.93% (34 respondents), somewhat disagree with the proposition, possibly reflecting doubts about the relevance or implementation of such training.
5. **Strong Disagreement:** 5.36% (37 respondents) strongly disagree, highlighting a notable opposition to the idea of university-provided AI training, which could stem from various concerns such as resource allocation, the effectiveness of training, or philosophical stances on AI's role in academia.

Questions 54: Please share any additional thoughts or experiences you have regarding the use of generative AI in your teaching and research, especially in relation to the digital divide and skill development.

Some notable comments:

- 1.) It would be helpful to have a clear college/university-level guidance on this subject (if such information has been circulated, it has escaped my notice).
- 2.) COE Faculty Development Fridays held a workshop on AI in teaching & learning during Summer 2023 or Fall 2023 I believe. Led by Dean's office and COE faculty who already know a lot about generative AI in teaching and learning. That was very helpful!
- 3.) I will not prop up generative AI usage in any of my classes while we are actively witnessing so many cases of neglect (non-consensual scraping of living artists' work) & abuse (revenge porn + propaganda, mis/dis info) daily.
- 4.) In teaching legal writing and research, AI may be important in learning how to critically evaluate legal writing and analysis, but students still need the base skills of performing the work themselves.
- 5.) Generative AI is very helpful for writing tasks. We should train our faculty well to use it for proposals.
- 6.) I actively promote deeply interdisciplinary research uses of AI that educate students and guide continual learning on new topics of AI-assisted discovery.

- 7.) I welcome more training, perhaps from CATLR, regarding AI in teaching and learning, in a variety of disciplines and modalities. Things are moving so fast it is hard to keep up. Thank you.
- 8.) I came to NU from a corporate environment where companies are using this. It is critical that students understand where it is appropriate to apply from a productivity perspective and where not to apply it from an ethical perspective. It is not going away.
- 9.) I have participated in a large number of externally provided workshops and webinars. The university could do more is what I will say after hearing what is being done at other schools.
- 10.) It is hard for me to imagine how AI would be helpful in my research; it cannot think for me. In teaching, I am most concerned because for non-native English speakers, AI is an easy shortcut to do their written work. It has revealed a widespread level of insufficient English writing ability among international students, which is hard to know how to deal with in the classrooms. Advice about how to address this broader issue (rather than narrowly focused on AI use itself) would be valuable.
- 11.) Whole new landscape. I have very little idea of how best to take advantage of its utility without crossing the line into academic dishonesty.
- 12.) Genetic AI will be vitally important for almost all aspects of education, science, research, etc. The university needs to act on this promptly, providing training for faculty, staff, students, etc.
- 13.) Training in using AI in developing & grading assignments.
- 14.) I believe that as an Institution committed to high-quality instruction and "lifelong learning" that we should restrict the use of generative AI in our classrooms and in our research until, 1) the bias problem has been mitigated; 2) until we better understand the misinformation generative AI makes possible; and 3) until we better understand AI's cost--on jobs and learning.
- 15.) It affects upper-level math less than others right now because most of the AI systems are bad at math, but I expect students are already using it to cheat on assignments (as they have been using other cheating tools like paying people to write homework solutions for them) -- these systems are quite good at finding solutions that already exist and rewording them for students to copy.
- 16.) I've used A.I. to generate some things like learning objectives and even experimented with creating a few lesson plans. At first I thought, wow how miraculous, but then upon closer inspection I realized it was shit, pardon my language, and it's easier/better to just do it myself. Students are also turning in A.I. generated work that is not very good quality -- my point is, I don't think it's actually smart enough yet to do all the things we say it can do. I'm willing to be proven otherwise, but it feels like a lot of hype to me.
- 17.) Would appreciate workshops on how to incorporate AI into our teaching.
- 18.) The training that I have seen available so far has gone beyond my immediate needs and time constraints. I would very much appreciate a scaffolded, modular approach where faculty could choose short articles/trainings on topics as we need them. The most urgent need that I see is

help for faculty in figuring out class policies that make sense that assure that the student is learning the material and not just copying AI generated responses.

19.) I strongly believe generative AI is a risk to student's proper learning; while I think it can (probably) be used to support and improve learning, I don't think the way it is predominantly used is conducive to this. My impression is many students use it to actually cheat (to not think about problems and have the generative AI produce their entire answer) which makes it increasingly likely that students will get through courses without having any actual basis of understanding of the material. While if AI becomes so great that it can correctly implement all these tasks in the future, it is not there yet, and students are now "training" themselves to not be able to problem solve at all.

