Scaling Student Assessment Podcast Series

Episode 5 - Scaling Assessment with AI

Intro

Doug Ward: Students can feel when instructors are being real, being authentic and being sincere, they can really tell whether or not they see it out loud is a different story. But I think people truly can tell where whether you are serious about this. And I think by experimenting and trying, we are also are encouraging the next generations of our students. They have thoughts, encourage them to just speak out more, to express themselves.

Drew Vartia: Welcome to the next episode of Scaling Assessment. Today we are talking about scaling Student voice. Joining me today is Yvonnes Chen. And Yvonnes, could you introduce yourself?

Doug Ward: The bots and generative A.I. helped create more of an interactive approach.

To looking at this data rather than just looking at the data You're trying to analyze it. This can be almost a conversation with the chatbot where it's looking at the data and you can ask it questions. That's one of the really nice things that I found with generative AI..

Drew Vartia: Hi, I'm Drew Vartia. I'm a documenting learning specialist here at the Center for Teaching Excellence at the University of Kansas, and this is Scaling assessment. In today's episode, we will be looking at the potential for AI has to use an assessment. So it's been about a year since the public release of Chat, JPT and the responses from academic instructors have been varied from fear and added vigilance over student work to careful adoption and work with students to uncover AI's strengths and weaknesses.

In this episode of Scaling Assessment, we're going to refocus this conversation. How can instructors, especially those with more students than they're used to employ AI to improve and streamline assessment? Joining me for this discussion are Doug Ward and Sarah Wilson. Sarah, could you introduce yourself?

Sara Wilson: Hello, My name's Sarah Wilson and I'm an associate professor in mechanical engineering, and I teach programing and control systems and biomechanics courses. I'm also a Center for Teaching Excellence fellow.

Drew Vartia: Great to have you here. And Doug,

Doug Ward: And I'm Doug Ward. I am associate director at Center for Teaching Excellence and an associate professor in Journalism and Mass Communication.

Drew Vartia: All right. Thank you both. Okay. So just for some framing, you know, courses with high enrollment can have hundreds to more than a thousand students, many of them providing feedback in their courses, evaluations with words or sentences or paragraphs. While we can have honorable intentions for performing some analysis ourselves, whether that's jotting down notes on a pad of paper or making entries in a spreadsheet where people.

Scaling Student Assessment Podcast Series

So that process ends up being pretty valuable. One strategy might be to let air do the analysis and allow humans to do the part that humans do best, right, which is to uncover the human elements in the student feedback and look for opportunities to connect. And before we jump in, I do want to say this. This is not replacing the need to read through evaluations.

And there are a couple of really important reasons for that. One, I think that it's incumbent upon an instructor to read what students write. But to and this might be more important, students sometimes either identify themselves or reach out with important issues for them through this mechanism. You want to be able to see that in their feedback and not have it glossed over by some AI system.

So this is viewing a supplemental key and not as a replacement for people who just want to be really, really clear about that.

Doug Ward: Can I jump in? And I think one of the things that people have to be aware of, too, is if you're going to use A.I. with the feedback or with anything, you've got to make sure that it's de-identified, that there's nothing there that you are putting in that you're concerned about, or that might somehow create problems with privacy with the students.

You don't want to do anything like that. You know, it's really important to be careful with it. And right now, with Bing or with Microsoft Copilot, it's being renamed Microsoft Copilot. We have as faculty members, we have some protection. We have more privacy protection there. It's the same privacy protection that we have with other elements in Microsoft, whether it's OneDrive or Word or things like that.

The challenge with Copilot is that there's a limit of 4000 characters that you can enter into it along with a prompt. So that cuts back a lot on what you could use in terms of trying to do some kind of qualitative analysis. I hope that that will open up at some point, but right now it's fairly limited Chat GPT, the pro version especially, allows you to put in a lot more into it. Other models due to cloud allows you to put in a lot of tokens or words or upfront. So that you're not as restricted in what goes in. So you probably know.

Sara Wilson: You pro has a lot of other features to it as well that that can that could analyze different parts of data, can look at graphical data as well as text data. But yes yet one it's $20 a month and that that can be a limiting factor. But also it doesn't have the privacy protections It does.

Doug Ward: Yeah. And I think where I have worked with this is with you and we were talking one day and you said this would be really interesting to see what it could do with this data that I have from students from a course of years at 100 or 200 students and it and there's all of these comments. And I think from my perspective, what I hear from faculty is that it's difficult to make sense if you have a class of 200 or 300 or even 100 or 50, it can be hard to kind of make sense.

What are those comments saying or is there a pattern to them? You're reading through them and they you may or may not pick up on the most important parts of it. And that's where I can help you find patterns. And when we were working together with this, and I use the pro version of Chat GPT and we made sure there was no student information in it, it still had your name in it, but it didn't have any student information in it, and we loaded it up and then ask it to categorize the comments.

Scaling Student Assessment Podcast Series

What were the what? How could you categorize the most negative comments? How could you categorize the most positive comments? What kinds of comments fell outside those ranges that may have been neutral? What I found is a real strength of the chatbot right now, a generative AI in its ability to to categorize the specific information you give it. And specifically qualitatively, it does a really good job of it that I found.

It's not always perfect, but nothing is. And I think it's it can be very enlightening. I think what I remember you saying was that this seemed to characterize your feedback on those surveys pretty well.

Drew Vartia: And, you know, maybe that's a third or perhaps this point, fourth point to make. It's useful to read through all the comments at least once, also as a check on the eye. So if it's doing this pattern finding or the summarizing, you want to make sure that what you're getting back squares with your intuition, right. I know there's a lot of concern out there that sometimes these large language models give you back things that aren't necessarily expected or rooted in reality.

And so having put an eye to these first can be particularly helpful.

Doug Ward: Absolutely. And it does help my experience. The fabrications are more likely if you're asking generalized questions where it's drawing from its own training or looking for information. If you're giving it information and saying, focus on this, I found it much more reliable. I don't have too many problems with it when it focuses on the data that I give it.

Sarah, I'm curious about your your experiences. Have you found.

Sara Wilson: Yeah, you know, it's hard to predict sometimes where it's going to fail and where it's going to do well. But yes, things where there's a knowledge base that you would think was obvious but isn't isn't necessarily that it will look good, but not really have substance. But then if you yeah if you're very specific about the question like you know how many times is it a positive comment.

It can it seems to be able to do those kinds of things fairly well.

Doug Ward: Another thing that I liked about chat CBT with this is with a big class. What I did is there's a plug in for creating word clouds that I activated and then ask it to create a word cloud of the comments from your surveys. And by doing that, I could also then say avoid the articles and conjunctions, things like that, and focus only on the important words.

And it came back with a pretty good word cloud.

Sara Wilson: And for that plugin you would need the chat.

Doug Ward: That you have to have the pro version.

Scaling Student Assessment Podcast Series

Sara Wilson: To that one of those additions it has that the others don't.

Drew Vartia: Yeah. So I guess along those lines and kind of steering toward actual use, what air platforms will you be using today? So I think I'm going to be tinkering with clog. So that's what I'm familiar with.

Sara Wilson: Sarah I have the GPT Pro opened with some settings set to it, so there are some some things you can do to, to tell it. You have a custom instructions that you can give it. So I haven't instructions that I'm an engineer and a college professor and what I teach and I want it to give me, for instance, code in a certain language and I want it to give me the confidence level of its answers and what sources it uses.

So I have some settings that I use on chat that will give me answers that may be different than if Doug uses Chat GPT with different setting.

Doug Ward: I have the same thing. I have the paid version of Chad's CBT. I also primarily have been using Microsoft Copilot or Bing Chat. I used the Edge browser and then there's a sidebar that's available with Edge that has been chat in it, and it's great for doing analysis of pages of PDFs or for asking questions and looking information up.

That's the platform that I use the most. And again, it's because I can use it through the Q account. I have that privacy protection. I don't have to worry as much about what I'm putting in. It's not like I'm not it's not like I'm putting in private information ever anyway. But I don't have to think about it as much as when I use chat GPT or Clod.

I'm not a big fan of Barred from Google. Now there's the new model, but even with the new model I haven't been very impressed with the little that I've done with it. So I've found again, I found being chair or copilot which is charged GPT with Microsoft's filtering and interface on it.

Sara Wilson: And they both use the GPT four model as a base. So they're using the same model and being.

Drew Vartia: Okay, I'm going to sign into Clod and you can just google Clyde dot I on that page. There's a continue with Google. So I just log in that way. Sarah You had mentioned some priming and it seemed like you told your chat bot about yourself and.

Sara Wilson: Yeah, so there's a couple of things I've done in chat GPT. First, I pay for the, the fancy version once you've got it, if you look under your, your name, it has custom instructions. So there's a question what would you like chat. Good to know about you to better your responses. And so I can say details about my profession, where I am based, what I'm interested in.

And then the second question is how would you like chat CBT to respond? And this is where I've said that I want that confidence level on its answers. So how sure is it in of itself and then sources of information? So I've put those to customer instructions in there because they seem to help me understand how good the answer is.

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I've turned on plug ins and you can have up to three plug ins active and I vary those at different times. I'm almost always have stable firms Alpha, because I do a lot of math related stuff, but there's some other plug ins that you can do. And I think you were talking about word clouds in the minute ago, so that might be a plug in that you'd turn on, that they change the settings change every once in a while.

So what they're looking like now is different than they were looking at a week or two ago. But yeah, you can you can do a variety of things to tailor it to your interests and needs.

Drew Vartia: Okay. I think my cloud interface is.

Sara Wilson: Finally up.

Drew Vartia: Simpler.

Doug Ward: Well, change can be simple. It just has added functionality to it. So it's kind of been using this plug in model where it created the data interpreter and added that, and now it's added plug in so that other people can create those plug ins. You can now create your own what's called GPP, where you're focusing it and giving it instructions that you want.

Yeah, you.

Sara Wilson: Can. There's one GB here where you can have an answer as Santa, as a Christmas theme, but also things like you can have it be a creative writing coach or the got negotiator help with data analysis.

Doug Ward: And that is one of the nice things about chat cheap tea. They dropped it a year ago as a company that nobody knew much about and didn't think that much of the model that they released, but thought, let's see what people do with it. And it took off. And as a result, you know, that's why we're sitting here today open.

I was willing to take that leap and others, other bigger companies had tried it and then backed off with their AI models. The model that GPT has taken then is to create add ons to it, but then also to open up with the GP to let others create their own functionality. For GPT. So you could create your own assessment bot or your own assessment.

GPT I won't call it a bot. It's not, it's a, it's an assessment. GPT where you're giving it very specific instructions about how you want it to handle this information and the kinds of things that you're asking it to do that challenge again, though, you have to have the pro version of Chat GPT to make it work.

Drew Vartia: Speaking of free versions A here I am and clawed my priming is pretty simple. I just said Hi Claude, I'm Drew. I've worked teaching college chemistry and I'd like to analyze some comments from students that they provided on the course ended. I'm uploading a PDF of these comments now. Can you help me analyze them and make sense of them?

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Nothing particularly fancy there, and it's very polite. Sure Drew, I'd be happy to help analyze student comments you've uploaded. Just share the PDF with me whenever you're ready. Some things I can help with and then it actually has a list of things that it is willing to do for me. Yes. Which I kind of like, especially if you're somebody new to this.

Just the framing and this kind of conversation style that you have with this API, it lets you know some things you might do next.

It does and you can prompted to ask you questions and to follow up with you and say, I want you to follow up with me or to ask me questions if I'm not asking the right questions or to point me in the direction that might be most helpful from the data that we're examining right now or the topic that we're looking at.

Yeah, so it does offer things, but you can also prompted specifically to do some things like that. You could, you could prompt it that you wanted to respond in the voice of a college freshman or you could be you want it to be very formal language or you want it to be scholarly language or you want it to be free from jargon and things like that so that you can make it more conversational.

Drew Vartia: I should say, as I'm uploading this file, something that I did encounter Clod won't necessarily let me select a file from Dropbox that seems like too many stops, so I did have to put it on my local machine and then upload it to the cloud from there. And all of this has been scanned already for any personal student information.

This particular file doesn't need any redaction.

Sara Wilson: So, and in parallel with you, I'm doing this on chat due to some comments of my own. Okay. And I started off with a very similar prompt and have just uploaded the file.

Doug Ward: Very good. One thing that Bing can do is in the browser version, the Edge version, when you're open, you can point it toward a PDF if that's online, and then have it analyze that PDF directly and interact with it and ask it questions. If it's in a place that it can get access to, It still doesn't allow you to go into, say, OneDrive.

It still has to be someplace else that's been published. So that it can get access to it. But it is convenient if when something is published online that you can go in and interact with that online component directly from from Edge.

Drew Vartia: So, all I did was upload the file and it just jumped in without me giving additional prompting.

Sara Wilson: As the chat. Okay. Okay.

Scaling Student Assessment Podcast Series

Doug Ward: Now, sir, can I ask you because I've had trouble loading PDFs into GPT. So how did you load your data?

Sara Wilson: It was how it is from from the local machine rather than from somewhere else.

Drew Vartia: It sounds like for particularly large classes with say 1200 students and we have a few of those that it might be necessary to to split it out into multiple documents.

Doug Ward: So yeah, if you have a lot of pages and how many pages was yours. I'm not I don't know whether where the line is. At some point it will have trouble loading everything.

Sara Wilson: And I only have a couple of pages.

Doug Ward: I don't know what the limit is. I mean, I would be totally guessing because I don't remember what the limit is. Claude has, I think, the largest input availability of any of the chat bots that I know about.

Drew Vartia: What I uploaded, it is about eight pages and I had no problem with that. I'm kind of looking at what Claude gave me back. Interestingly, it did some analysis that was already present in that end of semester report. You know, 53% had strongly agree across this many questions, etc., which is something that you can read in the little bar graph that the university provides.

The part that relates to text, though it pulled out some common themes and let's see affective aspects and then less effective aspects and I didn't have to prompt it to give me any of those. And it looks like it is intentionally pulling for bullet points for each of those. I mean, looking at it kind of gives me a rough sense of what the overall sentiment was right in the course.

What is Chat GPT providing.

Sara Wilson: And the first thing I probably should be clear that I did not feed the university's survey, but my own survey and particularly the written question. So you know, questions on what was most challenging, what was what was most helpful type questions. And so what I get is not numeric, but I haven't asked it to be numeric yet. But positive feedback highlights and says availability of online resources help.

Well this of the to the value of group work the labs and particularly the tools that we were teaching them just Arduino and MATLAB and then it says challenges mentioned include lack of prior coding experience difficulties with one of the languages time management translating code to knowledge to the exams. And then there was it gave me some suggestions for improvement, including more resource integration work, better integration of labs and homework, additional office hours and more in-person instruction for coding.

So that gives you an idea. This is why coding courses.

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Drew Vartia: Okay. Yeah. Then that feedback makes a lot of sense. You know something that I would be curious about as an instructor then is to figure out what to work on. Right? In some sense, you, you hope to get student feedback to figure out what you need to keep doing that. That seems to be working, but also what you can adjust.

And so I'm going to ask. Hi Claude, Would you please tell me the percentage of negatively worded sentences and the feedback? Could you also rank the negative comments by frequency?

Sara Wilson: And I am doing similar for my set of comments and chat CBT okay.

Drew Vartia: Wow. So get a sure percentage of negatively worded sentences there. 162 Total responses. Of those, 28 contain explicitly negative critical comments. That comes out to 17.3 negatively worded sentences. So that's very broken down for me. It feels pretty transparent about what it's doing, which I think I like. As for ranking the topics of critical comments, one quiz exam, difficulty and preparation, and then, you know, it actually gives me sort of the top five.

So now I kind of have a list of to work from. If I were thinking about what to focus on, you know, I'd be inclined to look at quiz exam difficulty and preparation, but I might want to drill down on that more with my next interaction with I right before I do that, you know, what are you seeing in terms of how chat handles this?

Sara Wilson: Okay, so I'm going to start off with chat. You gave me a fairly long essay about how it was going to analyze the data.

Drew Vartia: interesting.

Sara Wilson: And it is still working on it.

Drew Vartia: Okay.

Doug Ward: That is one of the things with the bots that you can do. I will sometimes say read this and let me know when you're finished. And if I do that, I will come back and it will say, This appears to be this and this and this. And here are the main things that I'm seeing within that can get you some information right away or give you some ideas of how to go about asking the questions that you might want.

Drew Vartia: Okay.

Sara Wilson: So I was H.A. is finished for me now and it gave me an error. So that's interesting. So it said it's process, but then it said it appears the text I extracted for analysis was truncated, leading to an incomplete dataset for determining percentage of negatively worded sentences. Now I have a feeling some of my comments are not full sentences because my students don't always answer in full sentences.

I'm wondering if it's maybe the the sentences or something that they had trouble with just because they weren't sentences. Yeah. Yeah.

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Drew Vartia: Okay. So if you were to re re interrogate this.

Sara Wilson: And try it negatively worded words.

Drew Vartia: Okay.

Sara Wilson: I'm going to do it again here. Analyze the percentage negative and negative and positive words. So I spell all that right. So I've changed it to and says sentences. We're doing this with words.

Doug Ward: And that is a good point that when Chante GPT was released, it was done in a hurry and one of the last things they did was create an interface that they put on it that was done in a hurried way. And it I think that's what's confusing to some people. There have been some user experience articles about this where it looks like the same kind of input that you would do for searching the web.

And it's different from that. You, you can put terms in and it will do something, but you have to be much more specific about what you wanted to do.

Drew Vartia: That's good framing when trying to use this while chat GPT is knowing on your comments.

Sara Wilson: it didn't like this one either. So the text was truncated. So there's something we tried putting them in.

Drew Vartia: While I might interrogate this top comment about quizzes and exams being difficult, but there's also a note about preparation, so I might see what insights that might offer with respect to each of those separately. Could you tell me more about student issues with, you know, what I'm going to focus on quiz difficulty, see what pops out? Absolutely. Let me summarize the key points students made about quizzes, difficulty in prep and preparation.

Okay, So it's lumping those together again. They felt that the quizzes covered different or more complex material than what was focused on in class. Let's see. And I felt like broad advice about studying was not enough to properly prepare. The volume of content between quizzes made it difficult to know what to study on. Sort of interesting. Let's see.

And it looks like every well, and this was sort of intentional that every quiz had sort of one question that was harder than the others. And it looks like they noticed that and mentioned that sometimes it was difficult to do as well as they wanted to. So in terms of what I would be willing to change, I have a good reason for including a difficult question.

It should be challenging, but it sounds like I could better prepare students for that experience by maybe more intentionally structuring my homework sets, maybe in the same way where a lot of it is at sort of a similar level. And then maybe there's one question that is a little bit above and beyond, but in addition to preparing them that way, to also tell them that very explicitly in class.

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Right. And probably not just once this is probably something that needs to be reiterated throughout the course of the semester. So I could definitely improve my my next round of teaching that way. So that's one insight I think that that has fallen out of this.

Doug Ward: One thing that could be useful in this regard is if you're changing something in your class, you've noticed something that needs to be changed and you do make that change and then you can start the next time, the next survey that comes around. You can ask specifically, you can use the chat bot, then to ask what kinds of what did students have to say about this, whether it was a different kind of reading or it was a different approach to an assignment or whatever it is that you did, it allows you then you can The bots and generative A.I. helped create more of an interactive.

Drew Vartia: Approach.

Doug Ward: To looking at this data rather than just looking at the data you're you're trying to analyze it. This can be almost a conversation with the chat bot where it's looking at the data and you can ask it questions. That's one of the really nice things that I found with generative AI is its ability to have that kind of an interrogated conversation where I have pointed it toward a specific set of data or specific text.

Doug Ward: Now I want to ask it questions and it can bring those questions back to me or bring answers back to me.

Sara Wilson: So, with mine, I restarted my dad's DVD, reloaded it rather than as a PDF. I actually copy and paste the comments in which it seems to prefer them. So that's good to know and was able to get it to give me a frequency distribution of positive and negative comments at that point. So I think to some extent I had to nuance the prompts a little bit to get to get at what you were trying to get at as well.

Drew Vartia: So, here are, I think, a few types of analysis that the three of us have asked it to perform previously. So, a general summary and again, I think you and I had the experience that it it did that on its own and said, well, let me tell you what I think are most frequent, positive and negative comments. You can prompt it for examples of outlier comments, and that can be particularly useful if you are worried that now you've just kind of blurred this huge data set and looking at extremes, you know, things that are going well, things that aren't going well, there might be comments in there that that don't necessarily fall into that one of those camps or that have a really unique insight about the course that's maybe phrased in a way that it's not picked up as a frequent comment. So certainly interrogate examples of outlier comments ratio or percentage of positive to negative comments, percentage of say, positive comments. Overall, something that I think I've found is that it will also categorize comments as neutral in tone.

And so there is sort of this implicit third category on that that could be missed. It will give you recommendations for where you might focus your efforts next semester or things to continue doing. And then there's also this generation of word frequency lists or histograms or word clouds like like you were mentioning. I think that's probably not exhaustive.

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Doug Ward: no. I think that the one of the things with generative AI and this the interfaces that are on there, there are a lot of things that we haven't explored. I think there's just be creative. Think about the kinds of questions that you might have because the creators of this have been looking at it and watching how people are using it.

And from what I've read about Openai, they've just been shocked about some of the ways that people have used their chat bot and hadn't even thought that that it could do that or hadn't even thought of trying it with some things like that. So there's a certain level of creativity that you can put into this and thinking about the kinds of questions that you want to ask in the data that you want to use.

Sara Wilson: It's surprising what it can do, and so it's surprising what it can't do. So sometimes, yeah, like here I just ran into this issue where it got stuck, but then if I just reformulated the prompts, then did it just fine. So, you know, sometimes it's a little bit of an exploration and even the people that made it don't know all of what it can do and can't do.

Doug Ward: And I've been sitting here with my iPad trying to use being chat and upload and see I cannot upload directly files into it, although I've been trying to do fairly big files and it won't take it if I cut and paste. I don't have any problem, but what I found with being again, it's fairly limited in what you can upload into it by design and that makes it more challenging.

You have to use it in pieces or you have to break down longer documents in pieces to try to to create that kind of analysis. I mean, if there's if there is something that is published online, a PDF that I can direct it to as a web page, it will read it and do fine. It's still fairly limited in what I can upload into it though.

Drew Vartia: So, it sounds like different platforms basically have different abilities to accept that data into them, you know, to be working with.

Doug Ward: I'm hoping that Microsoft opens up being our copilot, whatever you want to call it, to a wider spectrum of input so that you can add longer documents into it, larger amounts of data. The way that with Chat GPT it has that it has plug ins that are available that will break down that longer document and feed GPT a little bit at a time until it's all in there.

Claude has the biggest input. It's the volume of material that you can put in at the beginning to focus the bot on, but you may have a fairly long prompt and then a lot of data with it. And right now being is not very good at that because it will handle only a certain amount of data at a time.

4000 characters and GPT, you can break it down into smaller pieces and get that large amount into it with quad, it has the largest input availability of any of the bots right now or any of the big what I would call the big four, which are clod and which is anthropic chair GPT, which is Open AI copilot or being which is Microsoft.

And then Bard, which is from Google. There will be others. I mean there are a lot of others. We were talking earlier today about how many platforms there are large language model platforms there are

available out there. We're going to see it will constantly change the ability to add information or to prompt information. The interface will change, the abilities of the bots will change.

So it's just kind of have to be flexible enough to roll with it. We've talked mostly about what do you do with the results of student surveys at the end of the semester in terms of assessment, You could use the bots to analyze your learning goals, to give it an assignment and have it analyze that assignment for you and give you feedback on what students might read in it or the responses that they might give within that particular assignment.

You could give it a syllabus to try to read the syllabus or have it read the syllabus and give you feedback to try to make improvements. You could give it the directions for assignments that you have and ask for any kind of improvements in it or changes in language that might make it more accessible for students, things like that.

So there are a lot of opportunities, not just with student surveys, but just about any part of your course that you could use with the bots to try to help you improve what you're doing.

Drew Vartia: Yeah, this is new technology and it's a bit of the Wild West still. Maybe the best thing that you can do is to practice and figure out how it's going to best work for you and keep an eye on how it works. You know, as you as you use it.

Doug Ward: I'm sure you've created a word cloud.

Sara Wilson: I did while we were talking, I, I had a fun.

Doug Ward: Came up with.

Sara Wilson: So, I did a workout of the comments on my MATLAB course and programming course.

Doug Ward: And what did it come up with? Anything that you didn't know already or that you weren't thinking about already?

Sara Wilson: I think most of the words aren't surprising. But what may be surprising is what gets bigger and smaller and what highlights. I do see the name of my TIA in there, my own name in there, and things like office hours and certainly the material, the course where coding is the biggest word. That's what we're learning. And MATLAB is one of the languages we learn.

So that's that, that pops up big. The lab is certainly where I think the students do most of their learning, and it pops pretty, pretty broadly. And homework is secondary to that. I don't see exams very clearly here, so they must be deep in.

Doug Ward: Their homework is very big.

Sara Wilson: Homework is big, lab is big. I see some paths. I see great is a is a word that's pretty friends. We do a lot of group work and one of it is we try to do community building. So the fact that I'm seeing

things like friends and and people and help classmates, that seems like they're they are developing that community that we've been striving to have them achieve in this class.

Drew Vartia: That's great.

Doug Ward: What I like about the word cloud, too, is that when something comes up, you're seeing this in a different format. So now you may be able to go back. And homework was a very large word here, so that there were a lot of students who were talking about homework. So then you could go to the data and ask what were students saying about homework?

What positive things were they saying about homework? What negative things were they saying about homework or what did they say about coding in the course or anything that's coming up that may be surprising to you or that will guide you into areas that you might not have thought about before?

Drew Vartia: Yeah, so I like this word cloud and I think somebody a bit ago said something about I serving as an analytic colleague to to help you through this. And I like the idea that you could take words within this word cloud and then use AI again and say, Hey, now that I see this is really prevalent, could you tell me more about the comments that have this word in them?

Doug Ward: So, it could be pulling that data and using it in a way that you're not expecting? Well, I would encourage everybody to experiment with it. We don't know really what all they can do, where we're still in a very I just want to make I feel obligated to say again, we are we have to be careful about what we put into the box because it's making it available to anybody or putting it into the putting it into the box databases.

So, you want to make sure that you have de-identified people and are not exposing the students in any way or potentially creating embarrassment for yourself with with something. Yeah, that's always that's always important. And because we don't know really how they're using what we give them, that's still I mean, I kind of look at it sometimes as a drop in the ocean.

Is it that or is it that it's learning more specifically from me about how to respond, just not just to me, but to others? You talk about Wild West phase. I mean, it's a nation phase. It's an introductory phase with a lot scale anyway, in this this kind of model. So you may find things that we're not bringing up.

You may have approaches that we're not even thinking about. So if you can experiment with it, ask questions, think about the things that you might be able to do with it, and you're not going to break anything. You just need to worry about the privacy. You need to be thinking about the privacy, but you're not going to break anything simple.

You're asking questions. That's what you have to be thinking about is asking questions. It's not just putting something in and getting something back the way that you do with a web search. You're asking it and guiding it to particular questions. One of the ways that it's often described as it's sort of like an intern, it's a very knowledgeable intern, that it knows a whole lot of things, but it doesn't know what you want.

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So, you have to tell it that.

Drew Vartia: So definitely experiment, you know, tread carefully, but definitely tread, you know, forward momentum and that this can be a pretty good partner than in digesting feedback from students, particularly as we have more and more students and larger enrollment courses. So I'd like to thank both of you for being here. Thanks, Sarah. Thanks, Doug, for your insights and your willingness to to go through this process kind of on microphone.

Any final thoughts or parting words?

Doug Ward: Don't be scared. Try it. See what it can do, but be careful.

Sara Wilson: Yeah, I'd say that you know, you have to experiment and it changes over time as the other thing. So if you've tried something six months ago, it may be different now. So continue to experiment.

Drew Vartia: All right. Well, thank you both.