EDCI 339 Online Learning Presentation Transcript

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Hello everyone, thank you for tuning into our EDCI 339 Open Learning Presentation. My name is Eleonora Stoynova and with me is my pair partner Mandy Song. We are very excited to share our project with you.

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Our topic addresses AI-Powered Automated Grading: Can machines provide accurate feedback on complex learning tasks.

To begin, we will provide some background on AI-Powered Automated Grading and link the topic to learning and teaching. We will then walk through its pros, cons, and risks and finally, we will wrap up our presentation by sharing some tips, strategies, and best practices we have come across when faced with AI grading tools.

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AI-Powered Automated Grading refers to using artificial intelligence algorithms to provide immediate feedback on student assignments, as opposed to having educators do so themselves.

AI-Powered Automated Grading tools can vary in the complexity of their analysis but generally complete their task one of two ways.

Using predefined answer keys, educators provide the AI tool with answer keys which the AI uses to compare against student responses. The AI then assigns grades based on how many of the responses match the answer keys. This is especially effective for objective testing formats such as multiple-choice, true/false or fill-in-the-blank.

For subjective responses like essays, the AI software will use natural language processing or machine learning algorithms to analyze responses. Educators have the option of training certain AI tools to provide more accurate and comprehensive feedback overtime. To clarify, training in this context means providing the AI with more reference material.

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Some examples of AI-powered automated grading tools include:

EssayGrader, which provides feedback and grades based on a grading rubric provided by the educator,

Graded Pro, which streamlines the assessment process for various subjects like math, science, English and art,

And Quizizz, which is an automated grading short response tool great for things like multiple choice or fill in the blank assessments.

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Al grading has the potential to transform teaching and learning by reshaping how student work is assessed. Traditionally, providing personalized feedback has been time-consuming for teachers, especially for complex assignments like essays or projects. With AI, classes can deliver faster, more tailored responses that help students understand their strengths and areas for improvement more efficiently.

If done well, AI-grading can have great implications for the future of teaching and learning. Students can gain even more value from personalized and timely feedback, which they can apply to their learning and future assignments.

On the other hand, AI-grading comes with challenges and institutions must address them to ensure it actually benefits students.

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Al grading offers several clear advantages. They provide fast, immediate feedback, which can be helpful for students in large classes where individual attention is limited. They also ensure consistency in grading and help free up instructor's time to focus on more meaningful teaching tasks.

However, there are some drawbacks. AI still struggles to understand nuance and context, especially in open-ended or creative assignments. In this case, AI grading may be less effective and could even misrepresent a student's true understanding. There can also be technical issues, and the system's accuracy heavily depends on the quality of data it was trained on.

Finally, we need to consider the risks. Like all AI systems, automated grading can reflect and perpetuate biases present in the data or introduced by its developers. This is especially concerning in educational settings, where biased feedback can unfairly impact students based on language use, cultural background, or writing style. If this is left unchecked, these biases can reinforce inequality and lead to grading outcomes that aren't fair or accurate. There is also the danger of educators and institutions becoming over-reliant on AI, which can weaken the human element that's essential in teaching and learning.

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In a previous course Mandy and I were in, our professor asked us to buy an AI-graded discussion forum tool called PackBack. Similar to WordPress, through PackBack we were able to interact with classmates and content via posting our own thoughts and responding to others. Immediately after each post, PackBack would tell us what grade we received on our work based on how many points we achieved.

This point system was based on criteria the instructor provided and if we achieved said criteria, we received full marks. However, we were able to figure out that the criteria was not based on content but on the use of headings, word count, number of references, and images in our post. We also found out that PackBack tells you how many points you've achieved before submitting your work which allows you to modify your response until you achieve a grade that you like.

While we received high marks on this portion of the course, we found the use of PackBack a little strange since it didn't assess the quality of our analysis or even our ideas, just the formatting of our

posts. We found this especially perplexing since we were asked to critique various electronic medical record and health information exchange diagrams. AI-Powered automated grading tools are a great concept but as we found, not the right fit for every assignment.

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Based on our research, we compiled a list of best practices for AI-grading. First, understand that AI should act as a supplement, not a replacement, for human judgement. It works best when used alongside an instructor's expertise, not in place of it.

Always review and evaluate AI-generated feedback before sharing it with students. This helps catch errors or misinterpretations and ensures that the feedback is meaningful and fair. Use AI sparingly but strategically, to support students' learning process, not dictate it.

And finally, be transparent with students. Let them know when AI is involved in grading or feedback so they can understand how their work is being assessed and maintain trust in the process.

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To spark some reflection, here are a few questions to chew on:

Can AI truly understand the depth and nuance of student learning, especially in complex or creative tasks?

Do you personally believe that AI grading will be used as intended - to support learning, not just save time?

How can we ensure fairness and transparency when AI is involved in grading?

What does a healthy balance between using AI tools and human teaching look like?

And finally, if your professor used AI to grade your assignment, what would make that feel fair or acceptable to you?

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Thank you for listening to our presentation. We hope that you're leaving with a bit ore insight into AI grading. Alongside its potential benefits, it's important to us that you understand the challenges too, and what it might mean for the future of teaching.