

Oral Exams in CS-Education

Pros and Cons in the Age of AI-Assisted Programming

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Oral Exams

- What? : Assessing student knowledge via verbal interaction.
 - Whiteboard, written work, visual aids, code, etc.



Oral Exams

- What? : Assessing student knowledge via verbal interaction.
 - Whiteboard, written work, visual aids, code, etc.
- Why? Eliminate unauthorized support
 - Generative and other “A.I.” tools
 - OCR, chatGPT, GitHub CoPilot, etc.
 - Hired “tutor” services
 - Traditional “cheating” / hidden notes
- Why? Improve communication skills
 - Build confidence
- Why? Rich demonstration of knowledge
 - “Binary” questions vs free response



Oral Exam Challenges



- Too many people / not enough time
 - Who? And When?



- Too subjective



- No appropriate place / logistical concerns
 - Where?

Prior Projects / Experiences

- Peter Ohmann: Oral / whiteboard final exams in college undergraduate introductory courses
 - CS0, CS1, CS2, and “Software Development”
 - “Suppose I want to solve problem X. Which search algorithm would be a good choice? Why?”
- Ed Novak: Code comparison oral final exam during a college undergraduate course
 - “Which version of this C++ function is better and why?”
- Scott Reckinger & Shannon Reckinger (collaborators): oral exams in large classes (using T.A.s for support), impacts on under-served groups.
- Birds of a Feather at SIGCSE 2022

Further Details & Insights

- After actually doing oral exams
 - Reduces resource use ***aggressively***
 - Cheating is diminished, but also legitimate use of resources
 - Conversational
 - Adjust expectations, normalize answering questions, allow limited resource usage
 - Enforcing the rubric in the conversation is hard
 - Writing a rubric with that in mind is hard too!
 - Social / Emotional impact