The promises and perils of remote proctoring using artificial intelligence

Les promesses et les dangers de la surveillance d'examens à distance au moyen de l'intelligence artificielle

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The COVID-19 pandemic forced institutions to adapt quickly to ensure learner safety while supporting continued training. With little time to innovate, many of us delivered existing teaching and assessment remotely.[1,2] While using online meeting tools to deliver lectures and facilitate small group learning were effective,[1] these strategies were impractical long-term solutions to administer and proctor online computer-based assessments (CBAs) as more staff than expected were required to virtually monitor students. Remote proctoring using artificial intelligence (AI) to flag and record events during assessment sessions for review may be a more feasible solution for educators helping learners complete CBAs anytime and anywhere while still monitoring for academic integrity. In this commentary, we discuss our experience with remote proctoring using AI, outline its risks and benefits, and propose directions for research to develop further understanding of this new area of assessment.

With limited evidence to guide our efforts, we tried a remote proctoring tool using AI (Smart Exam Monitor by Edufide)[3] that was offered at no charge to our medical program. Following approval from the university's Office of the Chief Information Security Officer, the software was built into the university's digital infrastructure. With no requirement for installation, the software uses the student's computer webcam, microphone, and computer screen to confirm student identity, monitor the assessment environment, and flag and record issues such as conversations, unrecognized faces, and disallowed websites. Flags could be reviewed synchronously or asynchronously to identify breaches in academic integrity that warrant sanctions as outlined in the university's Code of Student Behaviour. We used this tool in the third-year clerkship in Family Medicine, where students are distributed throughout northern Alberta.

Our experiences were consistent with the distance education literature on this issue.[2] In an unpublished local program evaluation, our staff and students expressed appreciation for the opportunity to remain in their remote setting and the flexibility of assessment scheduling. On the other hand, for some students, the use of the tool resulted in uncertainty regarding the consequences of being flagged for review, anxiety around using the technology, difficulties finding private space to complete the exam, and worry about poor internet connectivity. If an institution chooses to implement remote proctoring using AI, we recommend being transparent about the risks and benefits of remote proctoring and the consequences of being flagged, providing opportunities to test the system and mitigate anxiety surrounding connectivity and software, and ensuring that students have private space and adequate internet access in remote locations.

While these strategies can help address confusion, stress, and potential technological issues, fundamental questions regarding this tool remain: What assessments warrant remote proctoring using AI? Is it effective in ensuring academic integrity? Does it impact student learning and/or performance? Does it offer exam security? What are the costs and benefits of using software compared to employing more staff? Without evidence for or against remote proctoring using AI, some educators have opted to use open-book examinations while others have removed written examinations all together. These approaches, however, have their own limitations and require more evidence and resources.

Finally, despite the promises of remote proctoring using AI, its use does not promote academic integrity nor address reasons for academic misconduct and dishonesty.[4,5] In addition, it comes with other risks related to equity (access to technology), privacy (feeling a sense of invasion), and discrimination (inappropriate flagging by some facial recognition algorithms).[2]

With ongoing adaption to a global crisis that has been in flux since the start of the pandemic, we need to be proactive in delivering our assessments in a new reality. Students are frequently unable to complete in-person examinations and alternative options for assessment are needed. In addition to the pragmatic strategies, we have suggested for mitigating concerns with remote proctoring using AI, we all have an opportunity to determine when using remote proctoring is appropriate, re-think assessment approaches, gather evidence for use of technology in supporting assessment, and address concerns about equity, privacy, and discrimination associated with this technology. We encourage other educators to produce evidence to support informed decision-making about online assessment and remote proctoring via AI.

References

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