Remote exam proctoring: To Monitor or not?

During remote testing, faculty who have used proctored classroom exams are being challenged to ensure student integrity and maintain their exam security. Some faculty argue in today's digital information-driven world, students should be able to use any available resources when taking exams. Other faculty propose high-stakes exams should be completely abandoned and replaced with other assessments such as group projects, papers, or presentations (Eckenrode et al., 2016). To deter misconduct, some faculty choose to create unique exams using large test banks or use essay questions or different problem sets that require individual answers. While I agree with using other methods of assessment, for many courses with high enrollment numbers this isn't feasible. For those who teach in disciplines that require a license or certification exam upon program completion, the need for rigorous, secure exams is essential to the programs' reputations and ultimately student employment success.

The purpose of this Teaching Tip is to describe the use of remote exam proctoring software. Since NMU has adopted and provides technical support for Respondus Monitor, I will focus specifically on this product and share some of my experiences piloting Monitor this semester. This Tip is not meant to be an ethical debate on remote exam proctoring but rather to provide some basic information for faculty to consider.

What is Respondus Monitor? Many faculty are familiar with Respondus Lockdown Browser. This program will prevent students from printing, copying, using another URL, or accessing other applications during a web-based exam (Respondus, 2019). While Lockdown Browser works well in the proctored classroom, in the remote or online environment, it will not prevent students from accessing other resources such as their notes, textbooks, a second device, or another person. Respondus Monitor is a program that uses the student's webcam to capture audio/visual recordings during a non-proctored exam administered within EduCat. The Center for Teaching and Learning (CTL) has compiled several Monitor resources within the Modified On-Campus Teaching Toolkit. These resources include: an overview page with links to additional faculty/student materials, a recorded CTL workshop *Using Monitor for Remote Exams*, and links to Respondus training sessions and an instructional video.

How does it work? Monitor uses algorithms to analyze data from three sources: the student's webcam video, their computing device/network used for the assessment, and the student's interaction with the assessment (Respondus, 2019). The student's webcam video is examined using facial detection technology which may flag events such as 'missing from the frame' or

'another person in the frame.' The analysis related to the computing device/network examines interruptions, auto-restarts, attempts to switch applications, and interaction with the device such as keyboard/touchpad use. The student's interactions with the assessment such as start/end times and when answers are saved are also recorded. It's important to note that facial detection is <u>not</u> the same as facial recognition. "Respondus Monitor doesn't store biometric templates of facial data, nor compare facial data to an existing database of known names/identities" (A. Sowers, personal communication, August 13, 2020). Respondus also does not download students' website histories nor does it involve other persons watching the students in real time during the exam.

Set-up: Students need to have Respondus Lockdown and Monitor installed on their computers. The company provides clear instructions for students to check their system and webcams along with trouble-shooting tips. Prior to using Lockdown and especially Monitor, it's essential that faculty create an ungraded practice quiz for students to ensure the software and their webcams are working properly. This practice quiz is necessary because if Monitor doesn't work, the student won't be able to take the exam. Advise students to complete the practice quiz during a time when the Helpdesk is open, so that they can seek assistance if needed. The CTL also recommends keeping the practice quiz open all semester so students can recheck again especially if using a different device. Respondus also offers sample syllabus information with exam day guidelines for students.

Prior to taking the exam, in addition to setting the desired EduCat quiz features, faculty also need to select their preferences in Lockdown and Monitor. Before the exam can be accessed, students are prompted through a series of start-up steps which may include: taking a headshot photo, confirming their identity by showing a picture ID, and conducting a camera scan of the immediate area around their computer. The aims of these Monitor measures are to confirm that the persons taking the test are the people they claim to be and to ensure that materials not approved by the instructor are not being used (Eckenrode et al., 2016). Respondus has created a video which includes faculty instructions and student start-up directions for Lockdown and Monitor.

During the exam, Faculty do not actually have to 'watch' students taking their exams in real time as the videos are available in EduCat. Students may receive alerts if they move out of their webcam's view. If students need to look down to compute problems on scratch paper this 'alert' feature can be turned off. If faculty have set a time limit within EduCat, the timer will appear during the exam. To learn more about the student's perspective during an exam, watch the video listed above

After the exam closes, data are analyzed at two levels. First, it is compared to other baseline Monitor videos and then it is compared to data from peer test-takers within the same assessment. Faculty are provided with a visual summary and video recording of each student. The visual summary uses a color-coded bar which flags suspicious behaviors using red for high frequency, yellow for moderate, and green for little to none. Faculty need to review the flagged

segments where certain behaviors have occurred. After review, the faculty decide whether or not the student has violated an exam rule or the institution's honor code (A. Sowers, personal communication, August 13, 2020).

Adoption considerations: Faculty should carefully consider the pros and the cons.
Pros:
- Online courses that do not provide secure means of assessment may not be looked at as reliable by some universities, accrediting agencies, or employers (Eckenrode et al., 2016).
- Online webcam proctoring systems do effectively deter most misconduct, although determined students may still find creative ways to cheat. (Eckenrode et al., 2016; Hylton et al., 2016).
- When an exam is administered in a nonproctored environment, students' attitudes change and they perceive cheating as more acceptable (Dyer et al., 2020).
- Students report they are more likely to cheat on a nonproctored exam (Dyer et al., 2020).
- Proctoring systems help to create a 'level playing field' for all students (Flaherty, 2020).
  - Some students may not have access to a second device or printers to make copies of their notes.
  - Without remote proctoring systems, some students might seek assistance during an exam from persons who have already completed the exam or course.
  - Some students might have access to persons with expertise in the content area while other students do not.
- Student convenience
  - Online proctoring allows for a longer exam window.
  - Students can select a preferred testing environment such as their bedroom or a library.
  - Students also do not have to travel to campus or a testing center.

Cons:
- Faculty need additional time to review webcam videos flagged high to moderate risk.
- Faculty need to determine based on the videos what constitutes cheating (Respondus, 2019).
- Students' computers must have a functioning webcam and microphone (Respondus, 2019).
- Students need reliable broadband connection (Respondus, 2019).
- Students must plan for time to complete the start-up sequence prior to each exam and have a picture ID available if required by the instructor.
- Heightened test anxiety (Eckenrode et al., 2016; Flaherty, 2020; Swauger, 2020)
  - Increased stress related to 'being watched' during the exam.
  - Fears about 'doing something wrong' during the exam.
- Ethical considerations about software that records videos of students.

- o Intrusiveness: being watched by humans or automated systems.
    - Some students might be uncomfortable being videotaped and/or flagged incorrectly for certain behaviors such as:
        - Medical conditions that prohibit sitting for long periods of time, the need to administer medication, or use a bathroom (Swauger, 2020).
        - Parents who need to breast-feed or who are interrupted frequently by young children (Swauger, 2020).
    - Students may be embarrassed about their home living situations (Flaherty, 2020).
- o Privacy concerns
    - What data is being collected, by whom, and for how long? (Eckenrode et al., 2016; Flaherty, 2020).
    - Students may be concerned about having their personal ID's captured.
        - Undocumented students may not have the required picture ID.
        - Transgendered or bi-gendered students whose gender expression name or picture on their ID might be different from their current gender expression (Swauger, 2020).
    - Safe storage of the video.

Lessons learned to date: It's important to explain to your students why you decided to use an online proctoring system. Be sure to discuss that Monitor will <u>not</u> 'shut down' or 'boot them out of the test' for suspicious actions. "It also helps to convey that flagging doesn't mean that a student has cheated. Rather, it means that the camera cannot identify the student in the frame for that segment, and it is alerting the instructor to that fact" (A. Sowers, personal communication, August 13, 2020). To help students understand the software and feel less self-conscious, Sarah Whorley, assistant professor of biology, took screenshots of herself using Monitor to demonstrate what behaviors might get flagged and then shared the video with her students (Flaherty, 2020). I am considering a similar approach next semester. Also, I allow my students to take their exams in a proctored classroom; to date, few students (< 10%) have chosen this option.

Occasionally, my students have lost their Internet signal and mistakenly thought that Monitor had closed the exam. Poor lighting/contrast or a weak Internet connection might not support a high frame rate and could result in more flagged segments but does not result in exam closure. Respondus has made allowances for these issues so that persons with dark skin and/or slow Internet connections won't be disproportionally prevented from taking their tests (A. Sowers, personal communication, August 13, 2020). Students are prompted during the pre-exam steps to ensure they have a clear facial image in order to have lower numbers of flagged segments. "The best way for students to improve the quality of their proctoring video is to reduce their backlighting situations that causes the face to appear as a silhouette. The easiest way to accomplish this is to have lighting in front of the student's face, rather than behind it. Also,

encourage all students to take exams in a well-lit room-ideally, with the light source in front of them, not behind them" (A. Sowers, personal communication, August 13, 2020).

Faculty need to consider ahead of time if they will allow any supplies (scratch paper and pencils) or calculators during the exam. Ask students to confirm their scratch paper is blank when completing their environment scans and add these directions to Monitor. Plan to be available during the time your exam is open so that students can contact you if difficulties occur. Faculty will need to allow time to review red/yellow flagged videos after the exam. Most of my high alerts have been related to students donning face masks in the library or talking to themselves while taking the exam. I typically spend about 30 minutes reviewing the flagged segments which can be watched using a choice of high speed settings.

The question to Monitor or not is up to each faculty to decide. Hopefully, I've provided an overview and some resources. Please feel to share your thoughts, experiences, and questions with me ctlscholar@nmu.edu. The CTL staff and I are available to assist with all your online testing needs: call 227-2483 for an appointment or email ctl@nmu.edu. The CTL is also offering several end-of-semester EduCat workshops on Quizzes, Respondus Monitor, and Gradebook. To review the schedule and register visit our website.

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