# Report of the SMC Proctorio Faculty Workgroup
*Presented to the Board of Trustees, June 2021*

## Introduction and Background

The Proctorio Faculty Workgroup at SMC recognizes that many SMC students and faculty have concerns about the potential for negative and disproportionate impact that Proctorio may have on students. Indeed, the use of Proctorio is already limited at SMC to a small number of fact-based, STEM courses in which student mastery of rote material is necessary. Because mastery of such content cannot be effectively assessed via open note or essay exams -- consider, for example, how an instructor might assess an anatomy student's knowledge of the names of all bones or muscles in the body -- some kind of online proctoring system is needed for these courses.

This need was recognized by the broader distance education community years ago, and various solutions have since been developed and marketed by several vendors. These solutions range from live proctoring services to modern software systems like Proctorio that make use of artificial intelligence and webcams to monitor student behavior during exams and "flag" possibly dishonest behaviors for further review by faculty. The latter have become the dominant choice in online higher education because the cost is dramatically lower than that of the live proctor option.

SMC's Distance Education Committee began reviewing online proctoring options in 2015, but rejected them due to their high cost. As student demand for online courses increased, and thus SMC's online course offerings increased as well, the need for online proctoring also grew. In 2019-2020, the college was awarded a grant from the CVC-OEI (California Virtual Campus Online Education Initiative) to both increase our online offerings in Career Education areas, and to make online Associate Degrees available. The latter presented a particular challenge because the college did not have any online courses in two mandatory general education areas: math and laboratory sciences. Faculty in these disciplines were able to bring the courses online, but needed an effective proctoring system to do so. Thus, a portion of the grant funds were allocated to pilot online proctoring. After a thorough review of available options, the Distance Education Committee selected Proctorio for the pilot. This choice aligned with that of the CVC OEI which had conducted a similar review and recommended Proctorio as the best option for California Community Colleges.

When the onset of the COVID-19 pandemic in spring of 2020 forced all SMC courses online, the California Community Colleges Chancellor's Office responded in many ways, including by making many online instructional tools widely available. This included providing unlimited licenses for Proctorio to all colleges through December of 2021. Thus, access to Proctorio at SMC expanded very suddenly and before the pilot was completed. Since that time, and since the December decision by the Board of Trustees to fund the contract with Proctorio for Winter and Spring 2021 terms, the Proctorio Faculty Workgroup has been working diligently to ensure that Proctorio is used effectively and appropriately at SMC. The Workgroup strives to educate the SMC community, particularly the faculty and students, about Proctorio and how it works, and has focused specifically on addressing the concerns that students have raised about sitting for assessments using this third-party online proctoring system.

During Winter 2021, a Proctorio Faculty Workgroup was formed, which included members from the Physical Sciences (Sehat Nauli), Mathematics (Colleen McGraw, Diem Nguyen and Jesus Lopez) and Life Sciences departments (Alexandra Tower, Andria Denmon, Sandra Hutchinson and Sue Lee). The amount of work that these faculty put toward developing resources for students, and for faculty to support

students is commendable, and continues. The following is an outline of the efforts made by the Proctorio Faculty Workgroup to 1) address student concerns, 2) to help students and faculty use the proctoring software effectively, and 3) to improve student and faculty confidence in the software by increasing understanding of how it functions and dispelling misconceptions about the program.

## Meetings and Work Completed in Winter and Spring 2021

A. Meetings with students and other groups
1. Proctorio Workgroup meetings **(January – February)**
   a. Developed a Canvas course to teach faculty how to use the program and explain how it works (and doesn't work).
   b. Developed a Canvas course module for students. Faculty can put this into their course shells to help teach students how to use the program – including a practice quiz, FAQs and informational videos.
   c. Provided a regular schedule of Office Hours and appointments for faculty who needed help.
   d. Developed a Badge of Completion that faculty who complete the course may display on their syllabi and in their course shells so that students will know that the instructor is trained.
2. Meeting with Black Collegian Students and Counselors (**February)**
   a. Provided information about the software and answered questions – particularly discussed concerns about racism, testing anxiety and how "flagging" works.
3. Meeting and training with Disabled Students Programs & Services faculty and staff **(March)**
   a. Provided a brief tutorial on how Proctorio is set up, and how faculty can adjust the settings.
   b. Answered questions about many aspects of the program with a focus on how eye and body movement is detected, and how such movement does not trigger the program to logout a student.
4. Meeting with Sherri Bradford & Elisa Meyer of the Equity Steering Committee to discuss results of a Black Collegians student survey **(March)**
   a. Discussion focused on the free response answers received from students about their experiences. The students were not asked when they took a course that used Proctorio, so results cannot be correlated with whether the faculty were trained yet or not, but the information was still very helpful to identify and better understand student concerns.
5. Meetings with concerned students, privately and in groups **(March – present)**
6. Distance Education (DE) Committee Meeting **(April)**
   a. Attended a DE committee meeting to discuss student concerns regarding Proctorio.
7. One-on-one meetings with select Associate Students (AS) Board members **(May)**
   a. With the Associated Students Director of Instruction
   b. With the Associated Students President
   c. With the Associated Students Vice-President
   d. With the Chair of the Proctorio Student Workgroup
8. Guests at AS Board meeting **(May)**
9. Panelists at the Associated Students Town Hall on Proctorio and the return to campus **(May)**
10. Presentation for some Trustees on how Proctorio functions, including a demonstration of Proctorio in action, review of the faculty and student training modules, and question/answer sessions **(April)**

B. Work completed
1. Faculty training module in Canvas **(February)**
2. Student training module in Canvas **(February)**
3. Settings guidelines, including limitations or prevention of use of some Proctorio settings **(February)**
4. Student practice exams for Proctorio in Canvas **(February)**
5. 25+ office hours with faculty to assist with the use of Proctorio **(Feb/March)**
6. Student survey 1 – early spring semester, summary attached **(March)**
7. Student survey 2 – late spring semester, summary attached **(May)**

## Future Plans
1. Meet with Proctorio Student workgroup for summer and fall terms.
2. Form Joint committee with Associated Students to create an anonymous feedback option for students.
3. Update faculty and student training modules based on student and faculty feedback.
4. Survey students at the end of each term about test-taking and Proctorio.
5. Establish a proctoring center to allow students to opt out of using Proctorio.
6. Re-assess alternate online proctoring options (Distance Ed Committee).

## Predominant Student Concerns and Efforts to Address Them
A. *Invasiveness*
1. Request for identification: Disallowed the use of "verify ID" and provided an alternative.
2. Use of scanning the room: Disallowed the use of a full scan of the room at the beginning of an assessment, with the recommendation that only the workspace is scanned.
3. Concern for computer invasion: Proctorio runs via an extension downloaded in Google Chrome. We have made efforts to educate students and faculty that the extension does *not* have access to the hard drive.
4. Data security concerns: One of the reasons why Proctorio was selected is because of its server security is among the most secure of all available options.
B. *Inequities in the effectiveness of facial recognition algorithms across race, ability, and gender*:  The extension does not use facial recognition software. Instead, it uses face and gaze tracking. In other words, it collects motion data, with the start of the assessment as the baseline.  To do so most effectively, the system requires good contrast, so performance is optimized if dark skin is against a lighter background, light skin is against a darker background. Performance is also optimized by good lighting, which can be achieved by avoiding backlighting (ex: by a light source located behind the student), and instead facing light source.  In fact, no student is logged out because of issues related to this algorithm, nor is their test taking interrupted in any way.  The system reviews the video of each student after the exam and flags questionable behavior for further review by the instructor. Of note is that after first glance at the post-exam review by the system, the instructor can adjust the stringency of the review, so that more or less events will be flagged (i.e. considered as deviations from the norm).
C. *Excessive Technology Requirements*:  The bandwidth required for running Proctorio is lower than that required for running Zoom. Additionally, if a student lacks a computer that is able to run Google Chrome, the College provides loaner Chromebooks for all who request them and these systems are able to run Proctorio effectively.
D. *Impact of Flagging Upon Student Performance*: students are not alerted during an assessment about whether their session has been flagged for deviations from the baseline (mentioned in item B,

above). Rather, after the assessment is complete, faculty can adjust the stringency of the scan for deviations, and the extension will or will not flag the recording based on those settings.

E. *Locked out/code needed*:  Occasionally, when students are setting up for an exam, the system will ask for an entry code for logging in. This means that the extension has to be toggled off and on or re-installed into Google Chrome. This simply requires educating the faculty and students about how to troubleshoot this. Of note, is that this will never happen after an assessment is started.

F. *Reporting of Complaints/Fear of Retaliation*: Some students have raised concerns that the established channels of communication are not comfortable for them, for fear of retaliation. We plan to collaborate with the Associated Students to establish a way for students to submit concerns to the AS. They will then communicate with the appropriate department Chair so that those concerns can be addressed.  Students may also refer complaints directly to Chairs, the Ombuds Office, or Academic Affairs.

## <u>Summary of Presentation to members of the Board of Trustees</u>

At the end of April of this year, the Proctorio Faculty Workgroup had two opportunities to meet with small groups of the Board of Trustees, and several members of campus leadership. All but two Trustees were able to participate in these lengthy informational meetings. On behalf of the STEM faculty who use Proctorio, we are extremely grateful for the amount of time that these Trustees were able and willing to spend during these informational sessions. During the meetings, the Faculty Workgroup presented the following:

1. Demonstration of the Proctorio exam set up in Canvas for faculty
   Trustees were able to see how an assessment is setup, and how simplicity of the system enables faculty to readily choose the settings for during the assessment, such as whether to allow for more than one monitor, web browsing, opening of additional tabs on the student's browser, and/or use of a calculator or scratch pad provided in the Proctorio program.

2. Demonstration of Faculty training that was developed in February by the Workgroup
   Trustees were shown what the faculty training course looks like, and that the Proctorio Faculty Workgroup developed a list of guidelines for settings in Proctorio that is intended to address the student concerns, including, but not limited to, those mentioned in item A of the Predominant Student Concerns section of this document (above).

   Trustees were shown that faculty are required to complete and receive 100% on short assessments before being allowed to move forward in the training, and that there is a student training module incorporated into the faculty course. The student training module is designed to be copied and pasted into any course shell, so that a faculty member can either use the module as-is, or to customize it further.

   Trustees were also shown that faculty can demonstrate to their students that they have completed the training by posting a Proctorio badge that they earn upon completion of the training. This badge was created by the Proctorio Faculty Workgroup and is specific to SMC.

3.  Preparation materials for students before and during the semester
    Trustees were shown examples of the informational letters that are sent to students on the roster two weeks, and one week before the beginning of the term. These letters inform the student that Proctorio will be used during assessment, and inform the student about the technology and device requirements for its use. The letters are also an opportunity for faculty to inform students about the loaner Chromebooks that are available to anyone who requests one.

4.  Review of Student training, including the FAQ's
    Trustees were provided a step-by-step review of the informational materials that are part of the Canvas module for students. These materials include links to informational videos which are divided into topics such as "Installing Proctorio", "Preparing for an Exam", "During an Assessment", etc. There is also a slide deck with FAQs about the student concerns that have been raised.
    Finally, Trustees were shown the practice quizzes for students to familiarize themselves with the program. There is a situation in the practice quizzes where students are purposefully logged out of the program, so that they can practice re-entry during an assessment.

5.  Video demonstration of usage of Proctorio
    Two faculty members demonstrated what it is like to be a student taking assessment, how the system works, and that excessive motion, noise or an additional person entering the camera view cannot and does not force a logout. After this mock exam, Trustees were shown the post-assessment scan and review, and they were shown that the stringency settings for flagging is set only after the assessment is completed by the student.

6.  Q&A
    Throughout both of the informational settings, the Trustees actively raised questions about each portion of the presentation. At the end of the presentation, the Faculty Workgroup entertained all additional questions.

7.  Time for trustees to take a Proctorio quiz
    As a follow up to the information that was provided to the Trustees, we asked the Distance Education Department to give the Trustees student access to Canvas, so that they could take a practice quiz and experience an assessment, firsthand.

## Results of Student Survey 1: First half of the semester

SUMMARY:

The survey is divided into three major categories: exam anxiety, student resources for preparing for class and learning the program and Student knowledge of troubleshooting Proctorio.

Without a baseline from the fall semester of 2020, it's difficult to say just how much progress we were able to make in the short turnaround time between the Winter session and the first half of the Spring 2021 semester. However, 240 students in Spring 2021 STEM classes (that are flagged for Proctorio use) fully completed the survey (79.7% of respondents & 8% of approximately 3000).

INTERPRETATION

1. Generally speaking, the students who responded to this survey entered the pandemic with notable anxiety about assessment, and the online environment further increased that anxiety for more than ¾ of the respondents.
2. 2/3 of the respondents claim to have received communication about online proctoring before the semester started – most of which was received by email, the syllabus or by a posting in Canvas.
3. The respondents did not rely much on the student resources for help with the proctoring service, so it goes without saying that so many of the respondents would say that the resources were not helpful.
4. 36.1% of respondents felt that the preparedness of their instructor was only fair or poor.
5. Nearly 32% of respondents took an assessment at a time other than the scheduled class time, which adds more flexibility to students and their multi-dimensional schedules.
6. Nearly 60% of respondents claim to have communicated a problem with their instructor, but only 53% of those who communicated to the instructor felt that the instructor provided assistance.

While there are many things to consider when interpreting this information (low response rate, who is most likely to respond, it's early in the semester), it is in our best interest to provide sufficient training for Proctorio use to students and faculty, so that students can feel prepared for using the proctoring software. Particularly in light of the large proportion of students who suffer from assessment anxiety, it is critical that we work together with students, both generally from the College and in the classroom, to reduce anxiety during assessment.

Although the survey was completed in the first half of the semester, nearly 40% of students found the resources produced for the Canvas module helped to reduce their online test anxiety to some extent (though depending on the resource in question, 15%-31+% of the respondents claimed to have not used them). In an effort to increase student use of the resources, and to further reduce student anxiety, we look forward to updating and making improvements to the module before the messaging must begin again for the summer 2021 session.

We have received feedback from faculty and students on the training module, and we look forward to updating and making improvements to the module before the messaging must begin again for the summer 2021 session. A late-term student survey for Spring 2021 is complete (see section IV of this document), and more student surveys during summer and Fall 2021 are planned.

EXPANDED SURVEY RESULTS

A.  EXAM ANXIETY:
   1.  Pre-Pandemic Pre-Exam:
      a.  Slightly more than 75% of the respondents who answered about test anxiety said that they sometimes (46.9%) or usually (28.4%) had trouble sleeping the night before an exam.
      b.  Nearly 65% of the respondents sometimes (43.4%) or usually (21.3%) experienced one or more of the following symptoms: headache, loss of appetite, nausea, sweaty palms.
      c.  Nearly 75% of the respondents experienced Procrastination due to a fear of performing poorly on exams, at least sometimes (47.1%) or usually (27.4%).
   2.  Pre-Pandemic During Exams:
      a.  Just over 50% of the respondents claimed to sometimes (33.9%) or usually (17.2%) experience one or more of the following symptoms: tight chest, pain in neck, back or legs, racing heart, shortness of breath or dizziness.
      b.  Nearly 80% of all respondents claim to have trouble concentrating or their mind has gone blank sometimes (50.4%) or usually (29.2%).
      c.  Just over 70% of respondents sometimes (46.0%) or usually (25.2%) felt like they studied all of the wrong things.
   3.  Pre-Pandemic Post-Exam:
      a.  Nearly 87% of respondents sometimes (55.8%) or usually (30.7%) remembered answers to questions that were left blank or incorrect after an exam.
   4.  During Pandemic:
      a.  Slightly more than 77% of respondents said that the use of proctoring software has increased their level of anxiety. Nearly 23% or respondents said that their exam anxiety either did not change (18.2%) or actually decreased (4.7%).
      b.  Nearly 40% of respondents said that they feel that the resources for how to use the proctoring software helped reduce their test anxiety some (30.7%) or a lot (7.5%).

B.  STUDENT RESOURCES
   1.  67.4% of respondents said that their instructor/s communicated with them about the use of proctoring software prior to the start of the semester, 14.5% said that they were either unsure or that they enrolled after the start of the semester. Just over 18% of students said that they did not hear from their instructors before the start of the semester.
      a.  For those students who received communication prior to the start of the semester, 86% of them received this notification by email. The other ways students indicated they received this information was through the syllabus, Canvas, or in class.
      b.  For those students who received communication prior to the start of the semester, 84.6% of them said that the communication was clear.
   2.  The student resources were designed to help students better understand, and more easily use, Proctorio. These resources included a module designed by Proctorio, a slide deck with FAQs, a practice exam, and Canvas training module on how to use the software. These resources were used less than we had hoped. In fact, for each resource, the usage percentage ranged from 54 to 79% of the respondents said that they never used any of the resources, while only 3%-12% of the respondents say that they used each of the resources four times or more.

       a.   12%-14% of the respondents felt it was difficult, or not at all easy, to find any of the resources, while 57.4%-74% of the respondents found it somewhat easy to very easy to find each of the student resources.

       b.   Nearly 62% of the respondents claimed that the student resources did not help them at all.

3.  When asked about the quality of the resources, 38.1%-44.6% of the respondents rated the students resources as good or excellent, whereas a somewhat lower percentage of respondents rated each of the resources as poor or fair (29.5%-41.8%). There was a large number of respondents who said that they did not use the resources at all (15.2%-31.1%).

4.  When asked how their instructors made efforts to prepare the class for the use of proctoring software (students were able to select all that applied), the Canvas and other discussion boards (63.5%) and Discussion during a virtual meeting (66.8%) were used the majority of the time. The use of videos (24.2%) and office hours (14.3%) was also noted. The practice test was also noted in the write-in category, but cannot be excluded from the other categories.

       a.   12.7% of respondents said that their instructor did not prepare them. It is worth noting that they may not have implemented the use of the proctoring software, either.

5.  Students were asked to rate how well trained they perceive their instructors to be in the use of the proctoring software. 63.9% of respondents rated their instructor's preparedness as good or excellent.

       a.   Respondents rated instructor preparedness as fair 26.6% of the time.

       b.   Respondents rated instructor preparedness as poor 9.5% of the time.

6.  31.7% of respondents said that the proctoring software allowed them to take a quiz or exam at a time other than the scheduled class time.

C.   STUDENT KNOWLEDGE FOR TROUBLESHOOTING ISSUES WITH THE PROCTORING SOFTWARE

1.  When asked whether students know where to go or who to contact if they have questions about the proctoring software, 44.6% of respondents said yes; 55.4% said no.

2.  Conversely, 70.0% of respondents said that they knew how to access technical support from the proctoring software company; 30% said that they did not.

3.  When asked whether students had encountered problems while taking an assessment with the proctoring software (i.e., old device, poor lighting, lots of noise or shared room, internet connectivity issues, or needing DSPS or other accommodations), 63.3% of respondents said yes; 36.7% of respondents said that they had not encountered a problem.

4.  Among those who indicated they encountered a barrier/issue, 58.6% of respondents said that they had communicated a problem with their instructor; 41.4% said no.

5.  Among those who communicated with their instructors about issues/barriers, 52.8% said that their instructor provided assistance or addressed the issue/accommodation.

**Results of Student Survey 2: Late semester**

SUMMARY

The late-term student survey was designed with some of the same questions as above, but with an emphasis on learning student familiarity and comfort level with the program, what resources students found most helpful, and the level of confidence that they have in using the program in their classes.

Even though the number students enrolled has diminished, due to attrition, the number of responses to this survey (387) is greater than in the early semester survey (240). This is a greater response rate, which gives us more confidence in the trends we see here.

Over 71% of the classes that respondents are taking are in the Life Sciences department, but 23% of the classes that respondents are taking are in Math and more than 26% are in Physical Sciences.

INTERPRETATION
1. With a higher response rate, we feel more confident in the trends we see here.
2. The most encouraging part of the survey is that nearly 70% of all respondents claim to be either comfortable (>40%) or getting there (29.2%).
3. Of the 228 respondents who claim to have had an issue, 93% of them (212) reported receiving sufficient support.
4. Students are more confident in exam integrity when using Proctorio.
5. According to the respondents, the most helpful student resources are the practice quizzes and live faculty interactions, then the informational videos and the FAQ Powerpoint.
6. We feel encouraged by the comfort level and helpfulness of resources that the respondents have reported, but we know that more progress with training faculty and students is needed.

EXPANDED RESULTS
1. Nearly 60% of the student respondents are taking a class that uses Proctorio for the first time this semester (spring 2021), while over 30% are taking such classes for the second semester. Almost 10% are taking classes with Proctorio for the third semester, and 2% of respondents are in a class that is flagged for Proctorio use, but Proctorio is not being used.
2. More than 77% of respondents are taking only 1 class that uses Proctorio this semester, and 16.8% are taking 2 classes. A total of 15 students are taking 3 classes, which mostly reflects partnered Math classes.
3. There are 4 student resources that students find overwhelmingly more helpful than the others (in order of preference): Practice quizzes, live Professor instructions, informational videos and Powerpoint FAQs. More than 23% of respondents said that they didn't use any of the resources.
4. Over 40% of the respondents said that they reached a point of feeling comfortable with taking assessments using Proctorio, and another more than 27% claim that they are getting there. Only 32% of respondents claim to have not reached a level of comfort using Proctorio.
5. Nearly 41% of respondents said that they did NOT have an issue while using Proctorio, and of the 59% who did claim to have a problem, nearly 93% of them said that they received sufficient support with the situation. Nearly 56% said that their instructor was able to help.
6. Confidence in exam integrity diminishes when not using Proctorio. Nearly 70% of respondents claimed to feel confident (35.9%) or strongly confident (33.3%) that they and their peers are being held to a high level of academic honesty when using Proctorio, while under 60% of respondents felt this (35.9% confident and 22.5% strongly confident) when not using Proctorio.

**<u>Concluding Remarks</u>**

The STEM faculty are in a challenging position:  In need of an online proctoring solution for disciplines that require some level of assessment rote mastery of facts, but with few options available.  The best option – human proctors – is not financially feasible.  Our colleagues at four-year universities are able to enlist the services of numerous graduate student teaching assistants (TA's) to proctor student exams live via Zoom, but there is no equivalent to these TA's at community colleges.  Hence, software based proctoring solutions like Proctorio remain our only viable option.  The Proctorio Faculty Workgroup has worked diligently since January 2021 to develop resources to improve faculty and student understanding of the program and ensure that it is used appropriately.  Some recent inflammatory articles and negative publicity against Proctorio, largely based on misunderstandings of how the software functions, have generated elevated levels of student concern over the use of the software.  However, many other student concerns are based in fact, and the Workgroup has done its best to address these concerns by establishing protocols for the settings that control the program, and by helping students and faculty better understand the limitations and functionality of the program. We have heard the students, and we have responded with changes that we believe have improved the student experience with Proctorio significantly.

We also recognize that some students still wish to opt out of using Proctorio, as addressed in both the Associated Students and Academic Senate's resolutions on this topic, both of which call for an opt-out option.  The offices of Academic Affairs and Student Affairs are working now to establish a live proctoring option on campus for these students. Space has been identified in the former Assessment Center, thanks to the Enrollment Development team, and COVID relief funds will be used to hire proctors.

Finally, the Faculty Proctorio Workgroup wishes to thank the Associated Students and the Student Proctorio Workgroup for their collaboration.  We look forward to continuing that work.