

The Impact of Self-Assessment on Health Science Students in a Remote Learning Environment

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ABSTRACT

COVID-19 has created new challenges for educators in the fields of Nursing and Allied Health. With the requirements of remote learning and less-to-no face-to-face lab time, educators are being tasked with finding solutions to a problem that may not go away any time soon. The following will discuss the challenges of assessing clinical skills remotely and how self-assessment and CrossBraining, a video-based learning and assessment platform, can not only meet the needs of the instructor, but increase student learning and retention as well. Of Medical Assistant students from a small class who responded to the survey, 89% agreed that CrossBraining, a video-based learning and assessment platform, helped them become comfortable with skills and provided them the opportunity to self-assess.

INTRODUCTION

The coronavirus pandemic has brought educators of higher education many new and unexpected challenges, including the need to move courses to a virtual learning environment. While this can be a fairly simple transition for courses in the liberal arts and STEM area, those who teach in the Health Sciences know that this can be quite a daunting task. Allied Health and Nursing programs at the Certificate and Associate Degree level require in-person labs and assessment of hands on skills and competencies. Traditionally, students would be given time to practice a skill and then perform a series of “check-offs” with the instructor evaluating their performance. With the need to hold labs remotely, due to COVID, post-secondary schools and training centers are having to come up with creative solutions to ensure their students are still getting the necessary instruction and skills to adequately prepare for performing in the field.

ASSESSMENT IN LEARNING

Assessment has long been a talking point in higher education. Generally, students perform, whether it be on tests - or in the case of Health Science, with skill-based competencies - and the instructor grades them. However, research has shown that self-assessment can increase learning and retention, while also creating a higher engagement level among students. In one such study, it was found that 74% of the students improved their grades when being allowed to utilize self-assessment exercises when compared to merely teacher assessment (Sharma, et.al, 2016). The students involved in this study also stated that the process of self-assessment increased their interest in the subject matter along with motivating their desire to develop self-directed learning skills. The process of self-assessment allows students to directly be part of the learning process. They are no longer just being told what they did right or wrong, but are able to see first-hand what they don't know and where there may be a

learning gap. “Assessment processes in which [the] teacher holds all the power and makes all the choices limit the potential of learner development (Sharma, et. al, 2016).”

In the traditional Health Science skills labs, students perform the skills and the instructor then tells them what they did wrong. This can often have a negative impact on the students, especially if they aren’t fully aware of the issues or concerns. In a typical lab, the student will be provided feedback after their performance of the skill. When the instructor is providing a student with feedback, the student may have no functional recollection of errors due to anxiety and concerns of failure. This results in ineffective feedback sessions. But with self-assessment, students can see exactly what they need to improve upon and make corrections prior to being assessed by the instructor. Additionally, self-assessment can actually increase a student’s confidence in their ability to perform the skill and decrease the anxiety and concerns of failure, in turn increasing their ownership of learning (Kowalik, 2019).

MANAGING THE NEW NORM

So why is this an important discussion now? With the “new norm” that Health Science instructors are experiencing due to COVID restrictions, assessment of clinical skills proves to be one of the greatest challenges faced. Whether it be that labs must be 100% remote or that the number of students in the lab at a given time is limited, the labs of the past are no longer an option. To be able to assess a normal number of students can ultimately take more time and faculty than the school is able to provide. CrossBraining provides a solution to this problem.

CrossBraining is not just a video recording program, but a tool for self-assessment and reflection which provides students with a

platform in which they can have true ownership of learning. Instructors are able to quickly create lessons that students then perform via video recording. The platform further allows for segmentation of lessons, which means that the lessons can be created in a manner in which students are performing various steps of a skill which will then be automatically edited together at the end. This allows for the student to self-assess and if they see errors, they only need to “fix” the section where the error occurred.

Another aspect that is different about CrossBraining is that it removes any background noise during recording, so the student can make their recording at home, regardless of noises coming from children, spouses, or pets. They then perform separate narration of their video. This includes the student typing up a script that they read for their narration. This provides the student with the ability to think deeply about the skill they are performing along with key points they need to discuss regarding the skill being performed. Instructors can also include reflection questions the student must answer, which allows them to dive deeper into the content they are presenting.

WHAT DO STUDENTS AND INSTRUCTORS SAY ABOUT CROSSBRAINING?

Our Medical Assistant program was grateful to already have CrossBraining on board when required to move everything to a virtual learning environment. Although not all skills were able to be performed via CrossBraining, such as those requiring the use of needles and specific equipment, the students were able to not only perform many of their skills, but were also able to be evaluated and assessed to meet program accreditation requirements. Instructors found that they also saved time due to the fact that students were able to

self-assess and make necessary corrections prior to the instructor doing their final evaluation.

Prior to moving online, this cohort of students were already using CrossBraining in Medical Assistant labs. Lessons related to injections were one example. During injection lessons, it is often not advisable to provide certain feedback during the procedure due to the risk of increasing a student's anxiety – and therefore reducing their capacity to recall their mistakes. Once students started using CrossBraining, they began seeing those errors themselves and knew what they needed to correct the next time. Once classes were moved online, the students were given various supplies in order to perform a number of their skills from home. This included skills such as wound care, sterile field set up, bandaging, and numerous first aid procedures. In the narrations, the students were essentially “teaching” the skills, which also helped them develop their patient education skills.

The studied class was 11 students. Of these, we had contact information for 9. These 9 students were sent a survey upon graduation to obtain their feedback on the use of CrossBraining during this unprecedented time. All 9 responded. Some of the comments made included:

- Visual learners benefited from the program,
- CrossBraining was a great tool overall,
- It helped when students couldn't be in face to face labs.

Another also commented that they had fun as well! One student shared that CrossBraining really helped with getting their times to where they should be, when performing the

skill. Of the students surveyed, 89% agreed that CrossBraining not only helped them become comfortable with the skills, but that it provided them the opportunity to self-assess and make necessary changes prior to final submission to the instructor.

THE FUTURE OF HIGHER EDUCATION

As quoted in Kowalik (2019):

Students have been the subjects of assessment: they are required to undertake tests, they are given feedback on matters that teachers judge important. They are recipients of the actions of others, not active agents in the assessment process. Such conceptions of assessment are inappropriate for long-term learning and they also limit current learning.

As Health Science educators, we don't know what the future holds at this time. We hope to be able to have some normalcy soon, but that isn't guaranteed. So, we have to look at other options to ensure our students are prepared to fill the positions that are in such high demand, especially now. CrossBraining isn't a “now” solution, it is a method of teaching and learning that can benefit your students for years to come.

References

- Kowalik, A. (2019, April 24). Student Self-Assessment: Reframing Assessment as Learning [Web log post]. Retrieved November 18, 2020, from <https://cte.rice.edu/blogarchive/2019/4/24/student-self-assessment-reframing-assessment-as-learning>
- Sharma, R., Jain, A., Gupta, N., Garg, S., Batta, M., & Dhir, S. K. (2016). Impact of self-assessment by students on their learning. *International journal of applied & basic medical research*, 6(3), 226–229. <https://doi.org/10.4103/2229-516X.186961>