

Research in Cardiac Sonography: Multi-media Project



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Case Study

This is a creative and sustainable innovation. The involvement of student partners is a strength and the two assessment tasks address discipline skills.

[See a video overview of the student activities in this project.](#)

The Research Project in Cardiac Sonography is the 20-credit point capstone unit in the (postgraduate coursework) Master of Cardiac Sonography degree. This unit was designed to involve a project, based on ultrasound images and data that the unit coordinator had collected, as part of a collaborative (ethics approved) research project. For students, an essential part of the project included face-to-face time with the unit coordinator, carefully analysing and measuring images. The skills and knowledge acquired during image analysis and measurement help to reinforce attributes learnt in earlier course units, and the measurements form a key part of the research project. However, in spring 2020, the COVID pandemic meant that significant changes to the project and assessment items were required.

A creative challenge

An alternative project had to be created - a project that could be completed entirely remotely. Therefore, new and readily accessible data and material needed to be sourced, data that did not require a time-consuming ethics approval. Moreover, two alternate assessments items were also required, and with them, new marking criteria to provide: I. Marking standards, and II. Clear guidance about expectations.

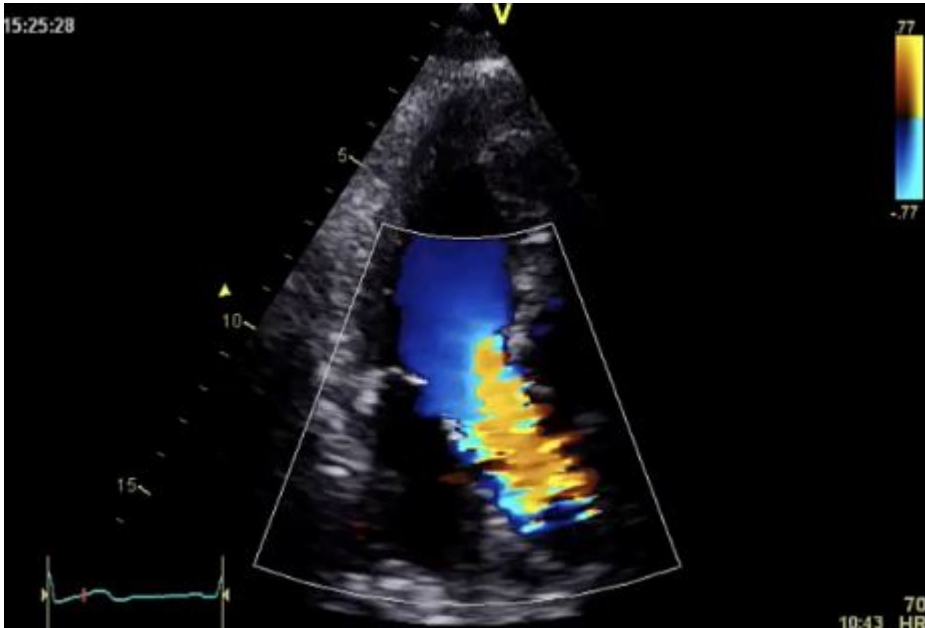
A solution - student partners

In preceding units within the course, the Master's students are involved in teaching and learning (T&L) activities in tutorial and practical classes for first year Graduate Diploma students. The COVID-induced changes presented an opportunity to (permanently) enhance the unit, by extending the Masters students' involvement in course T&L. The Masters students were invited to participate as student partners in the project and assessment items in the GD program. This aligns with current WSU strategies for partnership pedagogy [1] which in this case involved students.

Multi-media learning tool

The new project involved the design and development of a multi-media learning tool. The Masters students developed content materials that were added to the tool. Each student drew material from their own imaging practice (as work-integrated learning is an essential part of the unit). These materials have a focus on a specific cardiac disease, resulting in resources on a range of cardiac diseases.

The Masters students were required to prepare the multi-media materials for a target audience of second year Graduate Diploma students, who have progressed from novice to beginner sonographers [2]. Their need to develop broader and more refined skills is well understood by those completing the Masters. As such, the target audience provides a framework for the project.



Sonography at work (still from the Cardiac Sonography video).

Resources and support

Various project resources were made available. These included those aimed at providing some inspiration for the project, such as select course lectures and practical skill demonstration videos, and those meant to be used in the development of the multi-media learning tool - specifically Open Broadcaster Software. Moreover, fortnightly Zoom tutorials were scheduled throughout the semester to help in the design, development and completion of the project.

Assessment

Two new assessment items were created. Firstly, the project itself (weight 65%). In this assessment, three main areas of the project are evaluated:

- I. Aims and Context: where clarity and relevance are appraised
- II. Content: where the level of detail and pedagogical value are evaluated
- III. Technology: where use of ultrasound and recording technology are appraised

Secondly, an oral project presentation (weight 35%). In this assessment, three main areas are evaluated:

- I. Aims and Context: where clarity and relevance are appraised
- II. Rationale: where an explanation for content within the project is evaluated
- III. Overview & Critique: where then student's considerations regarding the merit of the project are marked.

Feedback

Student feedback was very positive. One student comment is illustrative:

'The project created unexpected positives... it helps because I was trapped by a hard border and still managed to continue my degree. I have created a new project that has already benefited cardiologists, physicians and anesthetic doctors to upskill. We [now] have a new platform, unknowingly at first, where I can now create a whole series for teaching at our tertiary hospital.'

References

1. Barrie, S., & Pizzica, J. (2019). Reimagining university curriculum for a disrupted future of work: Partnership pedagogy. In *Education for Employability (Volume 2)* (pp. 143-152): Brill Sense.
2. Dreyfus, S. E. (2004). The five-stage model of adult skill acquisition. *Bulletin of science, technology & society*, 24(3), 177-181.

Useful links

Useful links are:

- ▶ [WSU Partnership Pedagogy website](#)
- ▶ [WSU Assessment Guide - Authentic Assessment](#)
- ▶ [WSU Online Engagement and Teaching Hub - Authentic Assessment](#)