The UWS MiHub –
A Blended Learning Media Content Creative Space

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Abstract

The UWS School of Science and Health (SSH) Blended Learning Team uses a range of software, hardware, pedagogies, environments and production processes in creating a broad range of Blended Learning content. Our recently launched MiHub facility features new resources to allow academics to produce high quality designer assisted and self-created media content.

The team consists of 2 Blended Learning Advisors and 5 Blended Learning Designers who along with some 400 academic, teaching and technical staff work towards the goals of the 'Our Future Program' which has committed to embedding Blended Learning at the heart of all program curriculums. To this end, every new first year student at UWS receives an iPad through which to receive, use and submit course content through the Blackboard Learning Management System, vUWS. 26,000 iPads rolled out over the past 2 years make it one of the largest such implementations in the higher education context [1]. The School of Science and Health is one of 9 schools delivering 1600 units to over 40,000 UWS students. Examples of the work created and ideas for the future directions are presented.

1. Introduction

1.1 – The UWS MiHUB

The MiHub was launched in February 2014 as a space for content creation. Studio 1 is a 9m*3m larger room and Studio 2 is a smaller 3m*3m room.

The following are among the production solutions on offer at the MiHub:

- Green Screen – Both rooms have green screen capabilities.
- Mac/Final Cut Pro – Studio 1 has an iMac with Final Cut Pro and other powerful editing tools.
- PC/iSpring/Captivate – Studio 2 has a PC with a number of features including iSpring for Powerpoint and Adobe Captivate.
- Cameras – Hero3+ GoPro, Canon XA10HD, Canon 6D Digital SLR 24-105mm f/4 L IS Lens.

1.2 – Moviemount system – Self-created Videos

While Designer supported video production is on offer, due to the large number of academics at the SSH, we've sought to facilitate academics creating their own videos with their iPads.

The Blended Learning team has 10 Makayama Moviemount systems with tripod and lapel mics to lend to lecturers who wish to make their own self-created videos. The Moviemount App [2], [3] on the iPad has an exposure lock and focus features which greatly improves the final iPad video. Pictured below is the Moviemount system. Fig. 1: Moviemount system for creating iPad videos –
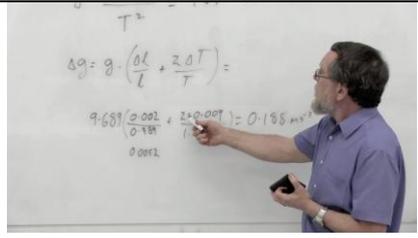
2. Case Studies

The following case studies present examples of different production processes undertaken and outputs reached.
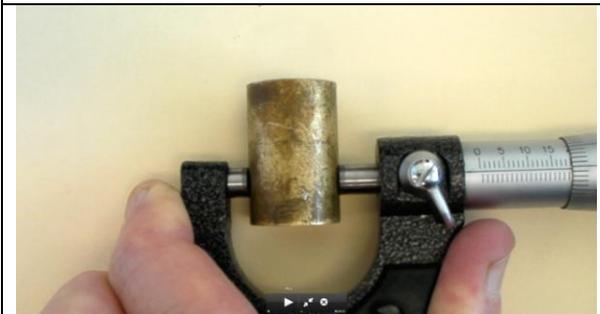
2.1. Designer assisted recording, iPad self-recording in the laboratory/MiHub – Dr Don Neely

Example A – 1st year Physics Unit – The Pendulum. Dr Don Neely had prepared for this video shoot by creating his own self-created videos, had run through each part of each experiment and determined the type of shot he would require. Following discussion a shot list was devised and these were recorded on the day. The frame grabs below shows some of these.

Fig 1: Laboratory Wide Shot		Fig 3: Shooting "Chalk and talk"	
Fig 2: Zoom in shot required to capture detail relevant to the spoken narrative.			
	Measuring the period - For this demonstration, a zoom in shot is required when describing the point of support of the pendulum and stopwatch display.		

Example B – Self created videos - Instrumentation.

Following the designer assisted session in Example A the lecturer created these videos himself. The main focus of these shots was on the graduations on each of the instruments being discussed.

Fig 4: Micrometer Screw Guage	Fig 5: Vernier Calipers
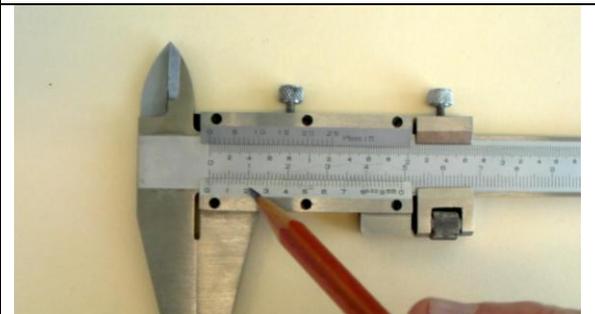
Example C – Self-recorded video in the MiHub. Note; this image is a screengrab from the YouTube page through which the video is shown. YouTube captions are added by the team.

Fig 6: A self recorded video in the MiHub. This video was recorded direct to iPad with stereo audio patched into the iPad from a Zoom H6 recorder.	

2.2 Creating WHS Laboratory videos

WHS videos – UWS this year has introduced an option for students to study during the summer term. This meant redesigning some units to be delivered in an intensive 5-week period rather than the normal term duration of over 14 weeks. It was decided to create videos for each 1st year laboratory for students to cover all issues around Work Health and Safety (WHS) legislation. Coupled with these videos was an adaptive release quiz on vUWS, the Blackboard LMS. This meant that students had to pass an online quiz of WHS questions before gaining access to the lab and to their other coursework. This ensured that students had to understood the concepts behind the videos.

From a production point of view, although it was a significant undertaking and a demand on resources, the following benefits being realised made this project a worthwhile investment;

- **Reusability** – Once created, these videos can be used for these Units hereafter.
- **Timesaving** – Enabling students to receive content outside class hours and being informed before coming to their first laboratory session
- **Less Paperwork** – Previously, Lab staff collected paper forms signed by students and kept these in storage for 7 years. This has been replaced by the electronic copy of the students' successful quiz results.
- **Re-watchability** – As with all Blended Learning Video content, this video is re-watchable and allows students to re-watch parts they may not have understood. This content is also viewable across all desktop and mobile devices allowing for mobile learning. The YouTube analytics for these videos shows students viewed the videos from 2 to 4 times.
- **Better understanding of concepts** – Lab staff noticed a better compliance with WHS standards.

Feedback: Julie Markham – Medical Science.
"I think it was a good initiative because the video covered material that we would normally cover in the first 20 to 30 minutes of the first lab class. I think the video was a more effective way of communicating the information to students. They got to see the laboratory they would be coming to, so there was the visual aspect which really helped reinforce it instead of someone talking in front of them in class. I think the fact that they had to do the test, and some had to do it multiple times to get a high enough score, really helped to reinforce the content."

Dr Pauline Geale – SENIOR TECHNICAL OFFICER – BIOMEDICAL SCIENCES

"The score that they got in the quiz showed up on the roll. Anyone who scored less than 22 out of 24 had to do the quiz again. I noticed improvements in students wearing gloves, washing hands and emergency exit awareness. It is a good saving on space rather than keeping paper forms for 300 students per semester, over 7 years."

Jean Marc Maulguet – SENIOR TECHNICAL OFFICER – BIOMEDICAL SCIENCES
"Our video had to be watched as part of their induction by some 70 students. They were prepared for the procedures around proper footwear, gloves and labcoats. It saved me a lot of time, the first 40 minutes of the class. It was a good saving for the summer term as we were time crunched."

2.3 Designer assisted videos in the laboratory and MiHub Green Screen with Rode lapel mic and Zoom H6 audio recorders – Dr Mark Williams, Ms Julie Markham

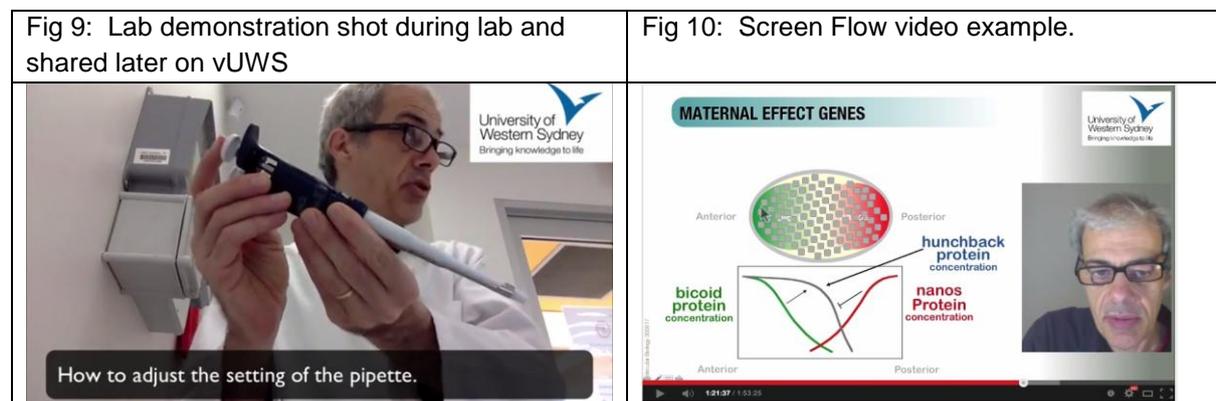| Fig 7: Close up on burette meniscus	Fig 8: Video on video with Green Screen.
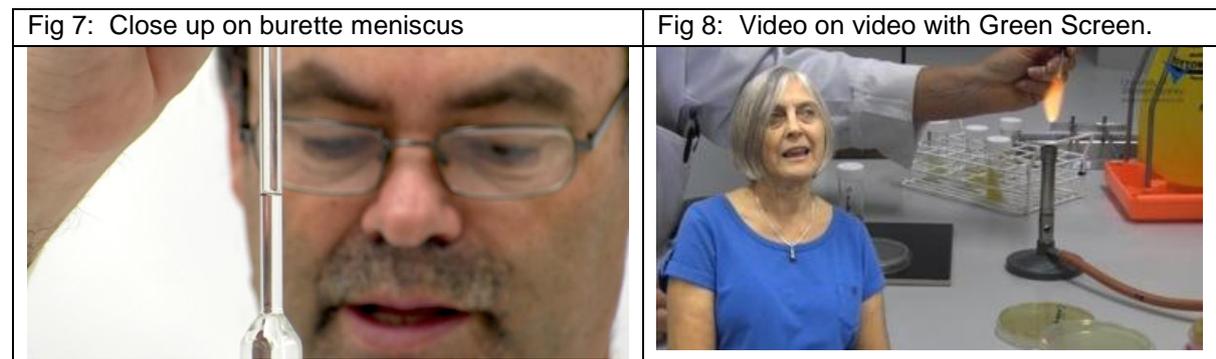
Dr Mark Williams worked with us in creating Chemistry videos. Much of these experiments involved following the action (i.e. meniscus level, drops of acid added during titration experiment) while he worked, necessitating designer audio/video production. These videos were captured with a Rode wireless lapel mic and Canon XA10 video camera.

Ms Julie Markham worked with us in the MiHub creating this Green Screen video. Academics can mount their own talking head video over another moving video using Final Cut Pro [4]. Self-created green screen videos can be created using the Touch Cast app. [5]

2.4 Self created content and use by other universities overseas, YouTube Analytics – Dr Mark Temple

Dr Mark Temple, already having a background in audio and video [6] production is an example of an early adapter. He has created his own videos using Screenflow [7]. The quality of the audio and diction on these videos will make captioning on YouTube an easier task.

Fig 9: Lab demonstration shot during lab and shared later on vUWS	Fig 10: Screen Flow video example.

Some of this content has received hits from other countries outside Australia, which is an indication of the quality of the work produced:

Time period/Location	Australia	USA	India	Canada	UK
First shown Sept/Oct 2013	1725	277	79	48	48
By Oct 2013 – March 2014	300	1392	331	136	359

2.5 Using GoPro in the field - Capturing canoe polo with the Aquatic Sports Unit – Dr Emma George

Our recently purchased GoPro camera produced stunning results when mounted on an instructor's canoe. New instructional video capture techniques are possible with the GoPro camera. Other units are expressing interest including paramedicine, physiotherapy and physical education.

Fig 11: Footage from the canoe water polo onboard GoPro camera.

3. Future Directions in Blended Learning at UWS
3.1 New tools, training and practices

A number of new resources are being tested by our team with a view to creating requirement-based solutions for our academic staff. Included in these are:

- Augumenting 1st, 2nd and 3rd year Units through the design, build and implement phases.
- Continuously looking at new Apps for iPads; TeamViewer, Airserver, Sphere, Flipboard etc.
- New E-Media Group – Video/Audio producers across the University's 9 schools are now meeting to connect and share solutions to media production challenges.
- More iPad use; e.g. in laboratories replacing lab books – Meeting WHS challenges
- YouTube captioning – W3C legislation requiring that all content be captioned.

Much of our content can be used in a variety of ways. Our team has created iBooks and interactive PDFs and other outputs within vUWS with much of the video, audio and photo content. We will continue to explore new avenues to present and share our productions.

3.2 Future directions for the MiHub
Perspective: Ms Julie Markham –

"I think there is a lot of potential for creating our own videos of a whole series of techniques. The WHS video was preliminary material that the students needed to know to come into the lab. There are a lot of techniques they need to do and videos are a very good way of doing that, of becoming familiar with the material before they come to class. So that will help us make better use of class time."

3.3 Pedagogies embraced and creating new Blended Learning possibilities

Active learning [8] is central to the development of our projects. In working with academics, the more they experience, the more they will have to draw from when creating new projects with us or by themselves. In many ways, a well-designed first experience with us can empower them to confidently create their own work. Peer learning occurs with academics sharing ideas on video creation and experiences gained with our team and in the MiHub.

YouTube content and sample videos showcased on the UWS SSH website further widen the reach of the content and conversation. The SSH Blended Learning team will continue to contribute to Blended Learning Forums at the University and international conferences.

4. Conclusions

Since fully embracing the concept of Blended Learning, the University of Western Sydney has become a leader in this kind of learning provision. Future years will see more development of our work with academics to fully realise the potential of the face-to-face, online and mobile blended learning modes of delivery.

References

[1] iPads at the University of Western Sydney: initiating institutional transformation: Co Authors and Institution: Lynnae Rankine and Dennis Macnamara University of Western Sydney
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[3] https://itunes.apple.com/us/app/movie-mount/id459756516?l=nl&ls=1&mt=8
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[8] Bonwell, C.; Eison, J. (1991). Active Learning: Creating Excitement in the Classroom AEHE-ERIC Higher Education Report No. 1. Washington, D.C.: Jossey-Bass. ISBN 1-878380-08-7.

Acknowledgements