

Capture that thought!

Using a Tablet PC and BB Flashback™ to Capture Your Lecture

Abstract

Traditional lectures were captured using a Tablet PC and inexpensive recording software. This resulted in a web-accessible recording of audio and screen dynamics of modest size. This permits asynchronous and remote viewing after the fact and offers a significant enhancement to the learning experience.

Overall, it was found to be easy to do and the students responded very enthusiastically. They especially appreciated the ability to re-listen to lectures, altering the tempo of the learning process to their needs and revisiting topical lectures after gaining the perspective of subsequent lectures. The expertise of guest speakers can also be captured for future use. In short: it works!

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1 Introduction – What is it?

- ★ Capture your lecture (audio and screen dynamics), post to the web as a recording (about 10 to 15 Mb per 50 minutes)
 - Permits asynchronous and remote viewing after the fact
 - Cheap - can be done with
 - An audio input device - a \$20 → \$50 headset
 - A computer - a PC (if the lecture room has one) / a laptop (better) and a \$100 input pen (optional) / a Tablet PC (best)
 - A screen & audio capture program - BB Flashback™ at \$200 [BB 2004]
 - A web site to publish the recordings

- ★ Let's do a demo – visit <http://nuceng.mcmaster.ca/teach> for a brief BB Flashback 'how-to' and <http://nuceng.mcmaster.ca/ep4d3> for some examples [WJG 2004]

- ★ **Overall conclusion:** I found that it works!
 - Easy & cheap to do
 - Students like it
 - Can re-listen to catch stuff they missed the first time – tempo shifting
 - Can review after other material is covered so can look at it from a different perspective
 - Last year's student viewed a guest lecture and got things he could not get before
 - Guest lectures took to it too. Great way to capture expertise.
 - Some students willingly stepped up and used the recorder in discussions.

2 General thoughts on learning

- ★ Cognitive Apprenticeship: identifying the processes of a task and make them visible to the student.
 - This is what teaching is to me.
 - Providing class recordings captures **the process**.

- ★ Need to hold students hand at the start but need to provide them with strategies for deciding on how to proceed.
 - Class recordings can aid in this (surrogate hand holding)

- ★ Irrelevant details inhibit learning
 - Class recordings could just add to the clutter of information to process
 - But it is no worse than the lecture and it can just be ignored.

3 What do we really need for a learning environment?

☀ Time on task

☀ Access to material

- Printed matter - text
- Web
- Solutions
- Asynch vs synch
- Review aids

☀ Direct contact with prof (1 on 1)

- Mentoring
- Show them the process
- Hit the highlights, show them the path, pitfalls, etc.
- Be there for them
- Key in to their issues
- The more high tech, the more high touch

☀ I will address these aspects in the following

4 Current situation

- ✿ Standard chalk talk
- ✿ Free and easy, lots of real estate, low tech, flexible
- ✿ Synchronous
- ✿ Students cannot review other than notes and handouts unless video taped
- ✿ Video taping is inconvenient, must be planned, not portable, not easily distributed asynchronously
- ✿ Not suited to computer based learning or conferencing

5 Alternatives

- ★ Classroom with special a/v such as video conferencing
 - Expensive
 - Restrictive (not many locations, room bookings)
 - Need multiple sites with compatible technology
 - Need high bandwidth

- ★ Webcam on a pc
 - Works but who needs to see the speaker
 - What you need is to see the material / chalk board and hear the speaker

6 What does recording the lectures offer?

- ★ More effective time on task
 - Access to material in one other manner
 - Can retake the lecture to compensate for learning disabilities, missed lectures for legitimate reason or whatever and revisit after subsequent material is covered, will see a different perspective

- ★ More time with professor
 - Re-live the lecture
 - Prof can record some pedestrian stuff and use class time for interaction
 - **Dynamic so they see the process**

- ★ Re-purposing
 - Can save the best stuff for posterity, edit the garbage
 - Material can be made available to other courses (might just need a part of the recordings for another use) or similar course might be given at another university that does not have the expertise locally but can mentor locally using the expert remotely.

..... →

What does recording the lectures offer? (cont'd)

- ✿ Can do this in broadcast mode while capturing so it does not limit other schemes
- ✿ Sometimes material must be given out of order (guest lecturer available only on a certain day, availability of labs and other course segments....students can review later.
- ✿ With this you can pre-record sequences to cover being away.
- ✿ Technology insertion, not replacement, therefore can phase in.

7 What problems arose?

- ★ Can't interact with the class because their voice is not recorded
 - Tried various mics but need an amp unless mic is close to mouth
 - Lapel mic is noisy and weak
 - Headset works best.

- ★ Small real estate

- ★ I go too fast if use prepared material → Simulated the chalk board by using pen input on a Tablet PC

- ★ Need to have a data projector in the room
 - Couldn't get it to work one day but this turned out to be a blessing because I had to use the board and the class liked that better because I slowed down. This led to more extensive use of pen input and less use of prepared screens.

- ★ Need to come early to set up and stay longer to cleanup. Can interfere with next class. Interferes with chat time after class since I need to cleanup and get out.

- ★ Need to have backup plan ready so you can conduct class if the technology fails. No worse in principle that running out of chalk.

- ★ Will be a pain to cull the lectures and repackage / reuse next year. By way of contrast, a tool like TurboDemo requires much more prep time but can replace the lecture.

Conclusions

- ✿ It is simple, cheap and it works.
- ✿ It is non-intrusive and can be used to augment, not replace, the regular lecture.
- ✿ It addresses the key pedagogical needs (*time on task, 1 on 1, access to material, capture the process*) in a substantially positive way at minimum negative impact.
- ✿ Can pave the way for enhanced distance collaboration.

References

[BB 2004] Blueberry Consultants FlashBack software

<http://www.bbsoftware.co.uk/index.htm>

[WJG 2004] BB Flashback 'how-to' <http://nuceng.mcmaster.ca/teach>, Example usage

<http://nuceng.mcmaster.ca/ep4d3>