Text, Lies, and Video Tutorials: Examining Format Preference and Effectiveness in Blended IL Instruction

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• Long-standing tradition
• 2nd lab of the semester
• Core reference sources
Before Class: Flexible Learning

During Class: Supported Practice

CHEM 101 Redesign: Blended Instruction
Chem 101: Is My Substance Organic or Inorganic?

Chem 101: Finding Physical Properties in the CRC Handbook of Chemistry & Physics

CHEM 101: Finding Thermodynamic Properties in the CRC Handbook of Chemistry & Physics

CHEM 101: Finding Material Safety Data Sheets

Resulting CHEM 101 Library Tutorial
The Literature

Learning Styles
- Popular & lucrative
- Unsupported
  *(Pashler et al., 2008; Cuevas, 2015)*

Text & Video Tutorials
- Best practices
- Strengths & weaknesses
  *(Nielsen, 1993; Bury & Oud, 2005; Bowles-Terry et al., 2010; Turner et al., 2015; Alexander, 2013; Mestre, 2014; Jackson 2014; Dold, 2016)*

Preferences & Practices
- Frequently at odds
- Convenience
  *(Alexander, 2013; Connaway et al., 2011; Dold, 2016)*
Approach

1. Google Analytics ➔ track usage and behaviour
2. Questionnaire ➔ student preference
3. Observation study ➔ effectiveness
Research Questions

1. Do students revisit the tutorial videos later in the semester?
2. Do students use the video tutorials in class?
3. Is there a preference for one format over the other?
4. Which instruction mode is more effective?
Question 1

Do Students Revisit the Tutorial Videos?
I see myself revisiting the tutorial content later in the semester to refresh my memory of the resources

- Agree/Strongly Agree: 63%
- Disagree/Strongly Disagree: 10%
- Neutral: 21%
- N/A: 5%
- Blank: 1%
...but most of them don’t

**Fall 2017** - library lab ran September 18-22

**Winter 2018** - library lab ran January 16-19

**Spring 2018** - library lab ran May 2-3
Behaviour Flow for Tutorial Videos

Before and During CHEM 101 Library Lab (Jan 3-19)

132 non-bounce sessions from 117 users
34% of sessions are users watching all 4 videos in order

After the CHEM 101 Library Lab (Jan 20-Apr 6)

26 non-bounce sessions from 24 users
38% of sessions are users watching just one video

If students do revisit the tutorials, they usually access only one
Question 2

Do Students Use the Video Tutorials in Class?
Tutorial Usage Over the Fall 2017 Semester

Class section times:
- 8:00
- 11:00
- 14:00
- 17:00

Number of Hits

- Off campus
- On campus
Question 3

Is There a Preference for One Format Over the Other?
Student Feedback - Comments

- Video tutorial positive comments
- Video tutorial negative comments
- Lab manual positive comments
- Lab manual negative comments
- Lecture positive comments
- Video tutorial/lab manual neutral comments
- Video tutorial didn’t watch it

Frequency
Team Video

“The videos were a very useful tool in understanding the experiment rather than just simply reading through the manual.”

“If I watched the tutorial I would’ve seen exactly what to do. I prefer to see than to read”

“The videos are way better than the lab book”

“It was pretty easy to follow along. I feel comfortable with the knowledge gained from the tutorial videos”

Team Written

“The lab manual was quick and precise”

Positive Feedback

Team Both!

“Instruction and tutorial videos were equally convenient”

“Nothing really I read/ watched both sets of instructions and the extra information was very useful”

“I think the videos helped to get an overall understanding on what the lab was focused on and how to carry out the activity the lab manual was mainly there as a reference to the activity”
Negative Feedback

“The lab tutorial was very confusing to follow. It was difficult to hear/did not have enough time to work alongside the demonstration”

“I find the tutorial videos tedious and not very helpful. Only watched the first one”

Impossible to Please

“I didn’t watch the tutorial or read the lab manual”

...And some liked the in-class review lecture

“I appreciated the verbal explanations to clear up any questions about the videos”
Question 4

Written or Video, which is More Effective?
Time to Complete Task Milestones with Written vs. Video Instructions

Minutes to Complete Activity Milestones

- Finished Instruction
- Found the Table
- Finished Worksheet
Conclusions

The video tutorials are...

• used as a tool for learning but not for review.
• used in class but to a lesser degree than the print.
• well-liked but some appreciate the text.
• effective at conveying information and may lead to faster results.
Next Steps

• Further evaluation of student learning

• Update video tutorial and written content

• Citation video
Thoughts, Questions, and/or Suggestions

Link to these slides: roam.macewan.ca/islandora/object/gm:1633
References

Image Credits

Slide 2 - Typewriter studies class [Photograph]. (1942). UNT Libraries Special Collections. Retrieved from digital.library.unt.edu/ark:/67531/metadc227223/

Slide 3 - Chemistry retro poster vector. (n.d.). Retrieved from Vecteezy.com

Literature


