Evaluation of a computer assisted learning resource in an undergraduate anatomy course

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The Virtual Lab

- Flash-based
- Highlights
- Function info
- Pin Me!
- Heuristic evaluation

http://www.indiana.edu/~anat215/virtuallab/index.html
Survey – Fall 2007

- 245 respondents (58% response rate)
- Questions:
  - Do students use the virtual lab?
  - How often do they use it? How much time do they spend using it?
- Other data collected: class standing, sex, learning style, qualitative data
- 160 respondents (~65%) provided access to semester grades
Class Standing of respondents

- Freshman: 19%
- Sophomore: 39%
- Junior: 22%
- Senior: 15%
- Other: 5%

Learning style of respondents

- Visual: 33.5%
- Aural: 9.8%
- Read/write: 13.9%
- Kinesthetic: 2.4%
- Multimodal: 39.6%

N= 245 total respondents

Permission to use learning style descriptions & categories provided courtesy of Neil Fleming
Virtual Lab use among respondents

- I am aware of this resource and I use it: 78%
- I am aware of this resource but I do not use it: 22%
- I am not aware of this resource: 0%

N= 245 total respondents
Virtual Lab use – frequency and time

- Frequency:
  - Once or twice: 18%
  - Before exam: 47%
  - Once a week: 15%
  - 2 or more times weekly: 19%
  - Daily: 1%

- Time:
  - Less than 10 minutes: 8%
  - 10-30 minutes: 27%
  - 30 min - 1 hour: 42%
  - More than 1 hour: 23%

N=217
N=216
Quantitative Analysis Results

- Association between learning style & virtual lab use is statistically significant (chi square = 11.535, df = 4, p = < .05)
- Certain resources may appeal to specific types of learners
- Some learners may be less likely to use specific resources

N = 158
When comparing frequency of VL use among learning styles, the distributions in the 5 learning style groups are non-identical (Kruskal-Wallis p = < .05)
Lab Exam 2 Grades

- Muscular system & nervous system
- Virtual lab sections for this material completed in Spring 2007

N= 160
When comparing lab exam 2 grades between VL users & non-users, the distributions in the 2 groups differed significantly (Mann-Whitney U = 1622, p = < .05, 2-tailed)
What do you like best about the virtual lab?

- 35% for image quality
- 28% for preparation
- 23% for interactivity
- 6% for accessibility
- 5% for ease of use
- 3% for clarity

N=178
How could the Virtual Lab be improved?

WE WANT MORE!!
Conclusions

- Learning Style plays a role in determining whether students are using the Virtual Lab.
- Learning Style plays a role in determining how frequently students use the Virtual Lab.
- There are significant differences in lab exam 2 scores between Virtual Lab users and non-users.
Acknowledgements

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