USABILITY OF A VIRTUAL WORLD FOR EDUCATION: IMPLICATIONS FOR TEACHING IN COLLEGES OF AGRICULTURE

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INTRODUCTION

• Expanding potential for the use of technology to facilitate learning
  • Technology innovation
  • Increased Interest
VIRTUAL WORLDS

- Multi-user virtual environment
- Encourage experiential learning in resident and distance learners
- Constantly evolving
- Real-time Interaction > Engagement in Learning > Transfer of Knowledge
VIRTUAL WORLD USABILITY

- Students need to easily understand how the technology benefits them
- Usability of virtual worlds has been questioned
AgriCulture Island

- Provides course-related simulations
- Outside individuals and organizations not allowed access
- Based on a United states coastal county
USABILITY

• Students need to see value in educational technology

• Technology should be usable -- “usability” will impact the education process

• Usability: the quality of the interaction between an individual and the item being assessed.

Includes learnability, speed and accuracy of user task performance, user error rate, and subjective user satisfaction (Hix & Hartson, 1993; Shneiderman, 1992; as cited by Bowman, Gabbard, &Hix, 2002)
PURPOSE

• Assess the usability of AgriCulture Island in SL for issues agricultural students could encounter
METHODOLOGY

- One group pretest-posttest design
- Mixed-methods data collection: pre-assessment, observation of the use of SL, post-assessment, group discussion with participants
- Quantitative: questionnaires and observation counts during treatment
- Qualitative: treatment observation notes and focus group discussion session
- 12 participants (Fernandes et al., 2010) from a College of Agriculture
- Summer 2012 from a College of Agriculture
THE RESEARCH PROCESS

- Computers Tested
- Pretest Questionnaire
- Complete task List
- Posttest Questionnaire
- Focus group Discussion
FINDINGS

- Students were more accepting of technology
- Experience felt “real”: 100% agreement
- Could sense other people in the environment
Before
• SL has a sense of social presence: 75%

After
• SL has a sense of social presence: 100%

Pre-Experience Opinion
- 17% No opinion
- 83% Neutral

Post-Experience Opinion
- 33% No opinion
- 17% Somewhat positive
- 25% Positive
- 25% Very positive
FINDINGS

- Participant interaction with environment
  - Need for assistance
  - Satisfaction
  - Confusion
  - Deviation from task
TASK COMPLETION OBSERVATION

• Categories Most Observed
  • “assistance needed,”
  • “satisfaction,”
  • “confusion,” and
  • “deviation from task”

These varied across tasks.
FINDINGS

- Task difficulty (0=very easy, 5=very difficult)
  - Most difficult task: “navigate to a certain location by running” (task 7): difficulty = 2.83
  - Easiest task: set up/log on to avatar (task 1): difficulty = 1.17
- More acceptance of technology and virtual worlds after exposure
FINDINGS: GROUP DISCUSSION

- Learning about SL in a group setting increased comfort
- Opinion of its educational value would impact future use
- Experience felt “real” with social presence
- Suggestions:
  - cheat sheet of commands
  - group learning sessions in face-to-face classroom for orientation

Overall: Enjoyable experience but need more instruction to be proficient.
CONCLUSIONS

• Deviation more common with decision-making tasks (putting on clothing, conversation, logging off)

• Time required for activity varied widely for participants (from 26 to 70 minutes total)

• Study focused on the interaction between participants and SL
RECOMMENDATIONS FOR PRACTICE

• Give students an opportunity to test skills and sign up for one-on-one consultations or group sessions

• Increased comfort will increase value from the use of the program.
THANK YOU!