

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
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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)*

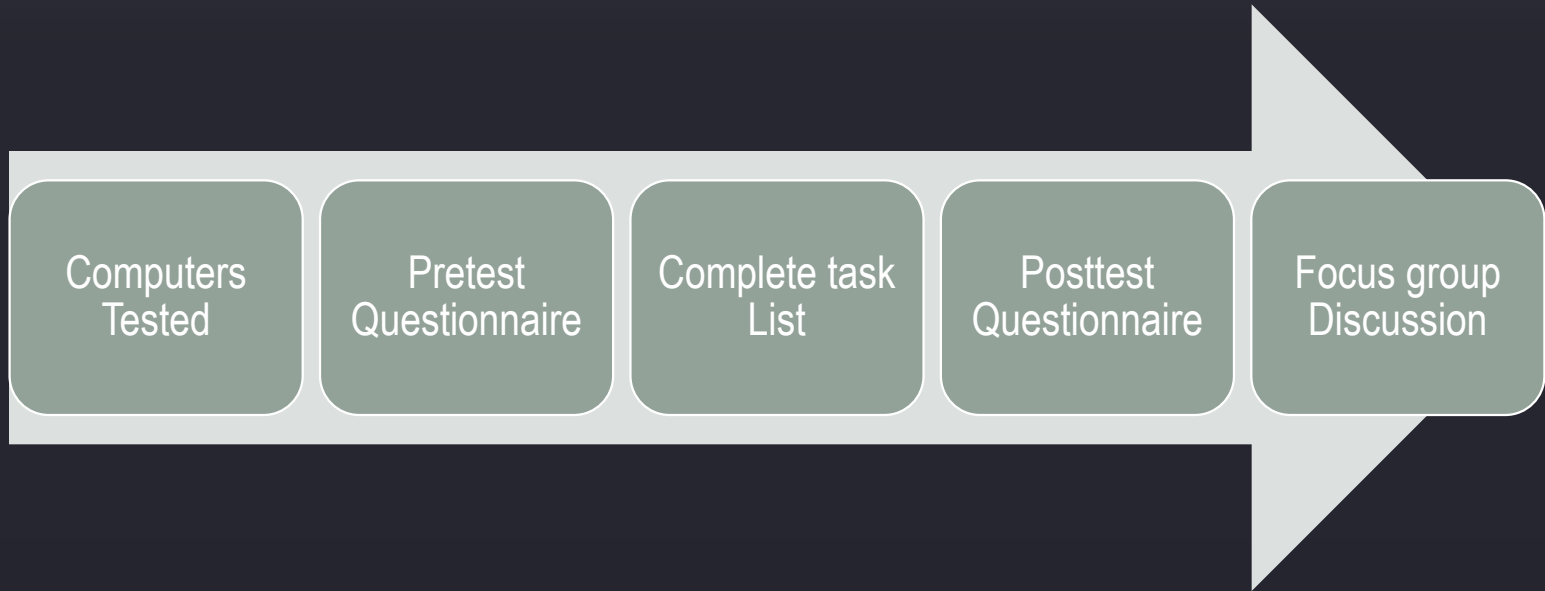
PURPOSE

- 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



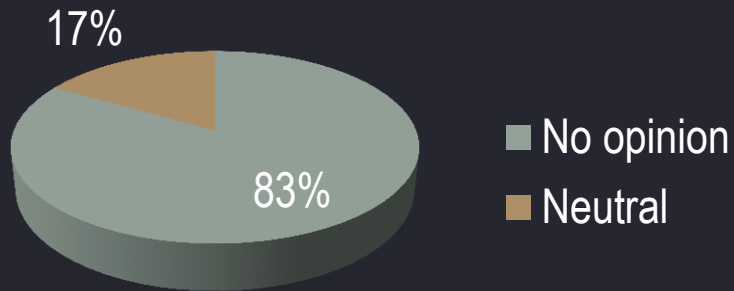
FINDINGS

- Students were more accepting of technology
 - Experience felt “real”: 100% agreement
 - Could sense other people in the environment
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Before

- SL has a sense of social presence:
75%

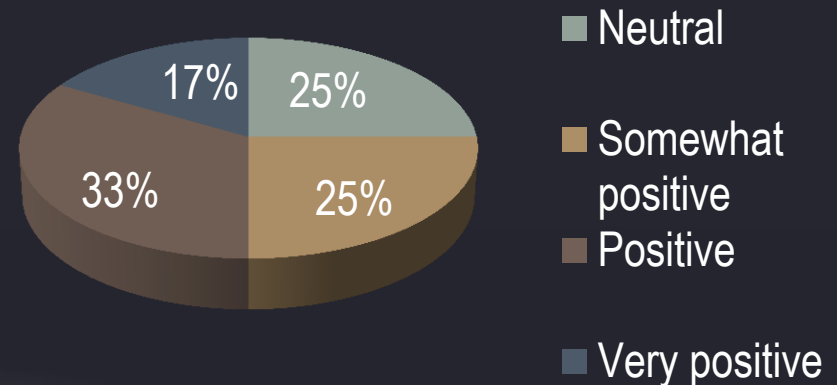
Pre-Experience Opinion



After

- SL has a sense of social presence:
100%

Post-Experience Opinion



FINDINGS

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



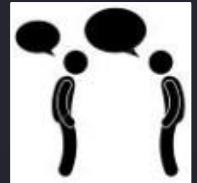
Navigate to a certain location by running

Navigate by walking



Navigate by flying,
Locate information

Have conversation
with another avatar



Set up/log on to
avatar

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
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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!