Effectiveness of Experiential Accessibility Labs in the Classroom

Saad Khan, Mark Sternefeld, Su Thit Thazin, Heather Moses

all.rit.edu

Problem Analysis

- 15% of the world population has a disability
- Software is not built in an accessible manner
- Lack of material to educate engineers
- **Accessibility Learning Labs (ALL)**

Objectives

- Validate effectiveness of experiential learning format
- Motivate and inform students to create accessible software
- Demonstrate increase in satisfaction through gamification

Study Approach

5 sections of introductory computer science classes → Pre-lab survey, Background material, Activity, Quiz, Post-lab survey → Evaluate Likert score from pre and post surveys. Compare sentiment analysis results

Sample Lab

Sound and Speech

Students play and repair a game requiring sound cues

Hint Box			
1	2	3	4

Score	Correct Answers	Incorrect Answers	Round
0	0	0	1

Results

- 94% confidence in positive sentiment for experiential learning group
- 83% confidence in negative sentiment for traditional learning group
- Interactive learning group rated their lab experience significantly more useful (p value < .0003)

Conclusion & Future Work

- Students had a better learning experience with the experiential material
- Incorporate experiential learning in classrooms to enhance learning
- Perform usability testing to improve learning modules
- Build additional lab material for new accessibility topics