Creating a protocol

Fall 1999
Approaches

- Quantitative - tool, score, conclusion
- Qualitative/quantitative - tool w/o score
- Perspective - does product violate perspective
- Likert - qualitative with score
- Taxonomy - pigeon hole product
Quantitative - checklist

<table>
<thead>
<tr>
<th>Score Item</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

Checklist Statement
Statement 2
Statement 3

Total Score
0-n - reject this product
n and above accept this product
Likert Scale

Role of Innovation

Teacher proof

Facilitator based
Taxonomy

• 4.0 Application
  – 4.1
  – 4.2
  – :
  – 4.5 CAL
    • 4.5.1 CAI
Quality
Criteria Pyramid for Educational Software

Pedagogy
Cognitive

Multimedia Issues

Software Usability - Technology
Guidelines and Standards

• Ease of use
  – instructions are clear
  – menu provides means of access to any part of program
  – speed can be controlled by user
  – easy to get to a central point in program
Content presentation

- program is of interest to user population
- program difficulty is relevant to user population
- program is free from stereotypes
- program is factually correct
Design Criteria

• Use of metaphor
  – metaphor is intuitive in relation to application
  – metaphor is consistent throughout
Navigation

- program provides information on where user is in application
- program provides information on how much is left
- program structure does not cause disorientation
Aesthetics and functionality

- program is aesthetically pleasing
- program meets functionality set in specifications
- program achieves balance between aesthetics and functionality
Technical measures

• text/screen
  – reading characters on screen (hard … very easy)
  – screen spacing (crowded .. well spaced)
  – position of messages on screen
  – prompts for input
  – sequences of screens
  – synchronization
  – textual information (helpful … not)
Icons

- position on screen (appropriate..)
- Consistency in function
- intuitive
- aesthetically pleasing
- use of color
Sound

• systems tend to be (too loud/soft
….. Just right
• sound quality
• sound impact
• speed of audio
• sound information
Video and images

- video quality
- video information
- sue of color
- picture images (unattractive..)
- Use of graphics
- picture information
Media Integration - multimedia

- Use of text with sound
- Use of text with pictures
- Use of sound with pictures
- Use of sound with video
- Media overuse (overuse of one or more media)
Media synchronization

– between text and sound
– video and sound
– text and video

• Unity of action
Media Impact

• Overall impression
  – disorganized
  – unimpressed
  – unoriginal
  – boring
  – unimaginative
More impact

– lacks credibility
– passive
– confusing
– hard to pace
Quality of individual screens

• see above

• identify screen or sequences of events that enhance the program's ability to accomplish its goals
  – a,b,c

• identify screens or sequences of events that detract from the program’s ability to accomplish its goals
More on media

- identify examples of the combined use of two or more media that enhance the program's ability to accomplish its goals
  - a,b,c
- identify examples of the combined use of two or more media that detract from the program’s ability to accomplish its goals
  - a,b,c
User Evaluation
Is this information useful to high school students applying to college?

Name three things you would change to make the program accomplish its objectives:

a
b
c
Interactivity

• Text
  – ability to change content
  – change structure
  – hyperlinks
More interactivity

• Sound
  – pre-defined
  – volume control
  – frequency control
  – user can generate sound
  – modify sound
More interactivity

• graphics are still images
• graphics move in pre-defined patterns
• use can control graphics
• motion follows fixed path
• use can modify path
• user can control or edit motion
Multimedia

- user can select which items to include
Specifying a protocol

- materials and procedures required to conduct evaluation
- surveys
- tasks
- required materials
Beginning

– procedure
– welcome
– give out materials?
– Read instructions
– ask for questions
– begin
– observe
End

– collect materials
– get comments on weakness and strengths
– thank participant