Develop your own ideas for using 3D printed terrain

3:15 – 3:55

Goal: create 3-5 groups

Brainstorm:

- Can somebody volunteer to write this on the board? I'm a slow typer and my handwriting sucks ….
- Let's go around
- Thinking about the potential use of 3D terrain models, tell me this:
  - What field (or fields, maybe general to specific) are you teaching in?
  - What part of your curriculum? Specific topic? Help to teach X?
  - Setting: large class, small class, lab, field work, other? Group/individual work?
  - Any other method of categorization that I forgot?
- After go around – are there common patterns?
- Can we very broadly articulate names of possible groups?

Group work: (please be done at 3:40!)

Develop a new (or improve an existing) teaching exercise for your classroom

Suggested structure:

- What would the exercise be called?
- (Briefly: what would the setting(s) be)?
- What would be the main(!) tasks?
- What level of interaction with the 3D model?
  - “Inform from afar” (e.g. just looking at it, maybe in a group, but not ”driving” it?
  - Direct interaction: hold it, rotate it, flip open profiles, assemble multi-part models
  - Annotation: draw/paint on it
- What would be the “killer role” for the 3D model? What could it do well that other tools cannot?
- What would you need (technically, ideally, at a minimum) to make this work?
- What are the main hurdles and how could they be overcome? (I may be able to help with this!)
- How large would the 3D prints need to be? Any idea of the area?
- Should/must 3D models be combined with other tools (e.g. topo maps, iPads)
- How to measure success?
- Be ready to give a short summary to the others

Grand finale!

1) Each group, please summarize your results

Everybody: please make comments or ask questions!

2) Each group, what was the major takeaway?

3) Is there anything I can do to help?

Closing thoughts

The power of the unaided mind is highly overrated. Without external aids, memory, thought, and reasoning are all constrained. But human intelligence is highly flexible and adaptive, superb at inventing procedures and objects that overcome its own limits. The real powers come from devising external aids that enhance cognitive abilities. How have we increased memory, thought, and reasoning? By the invention of external aids: It is things that make us smart. —Donald Norman

- Thank you for attending my workshop!
- If you need advice (GIS, TouchTerrain software, 3D printing, etc.) to get your idea running please contact me at: charding@iastate.edu . I'd be delighted to collaborate with you!
- If you forget the Url for the TouchTerrain app, just google TouchTerrain
- I'll stick around for a bit to answer further questions
- Help yourself to any 3D printed model/object marked be red tape!
- **Important: Please fill out the workshop evaluations**