

# Improving Technical Topics at Wikiversity

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# Overview

- Multi-disciplinary teams required
- Information centralization (Stop repeating work!)
- Separating “Training” from “Education” – “lecture paradigm inversion”
- IPDE Method of Instruction
- Student Volunteer Campaign

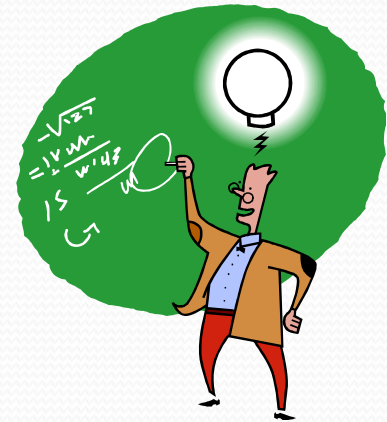


# Multi-disciplinary teams

- Content Expert
- Web Programmer
- Education Expert
- Graphic Artist
- Narrator
- Human Factors Expert

# Content Expert

- The current lecturer
- Highly trained in the technical material
- In almost all learning situations, this is the one and only person on the team!
- The technical material on Wikiversity is already excellent!



# Web Programmer

- Responsible for ensuring that the system is modular and reusable
- An expert in modern web technologies
- Will work closely with Graphic Artist and Human Factors Expert



# Education Expert

- Trained in the art of education
- Bring to the table an understanding of various learning styles and teaching methodologies



# Graphic Artist

- Make things "look good"
- Must working closely with Human Factors Expert and Education Expert to ensure graphics are suitable



# Narrator

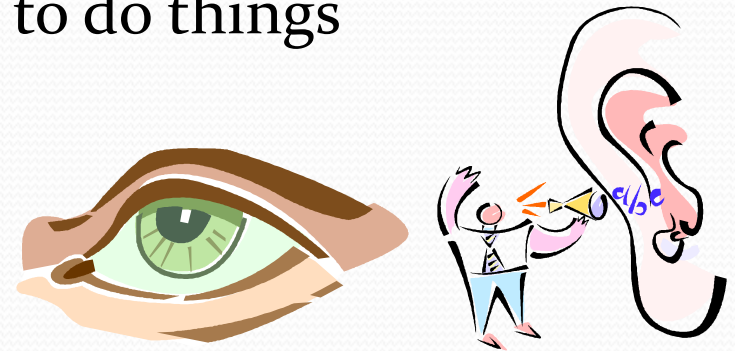


- Typically a lecture is improvised
- Work with the Content Expert to develop a script to go along with modules
- Record these scripts in an engaging tone - a "voice actor" if you will!



# Human Factors Expert

- Work with the Education Expert to ensure that the system is designed in a fashion that makes efficient use of
  - Screen space
  - Human visual and audio capabilities
  - Knowledge of how people "like" to do things



# Information centralization (Stop repeating work!)

- Rather than start from scratch, improve or add to existing content!
- If I had a nickel for every independent Calculus tutorial website, I'd be rich
- Wikiversity SHOULD be the solution – we just have to get everyone to agree to use it!



# Separating “Training” from “Education”

- Traditionally, students go to class to learn (“training” – the “how?”) – then go home practice (“education”)
- Wikiversity should be able to provide the training
- Face time with instructors can then be used for “education” (sharing experiences, the “why?” and “when?”)
- This allows the gap between “ivy-league” style universities and everyone else to be greatly reduced

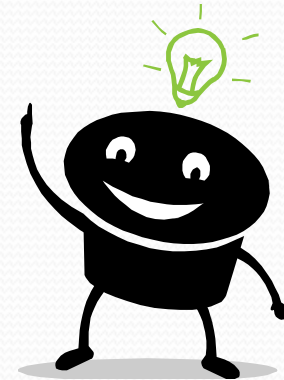


# IPDE Method of Instruction

- A systematic way of ensuring information is conveyed in an useful way
  - I - Idea
  - P - Procedure
  - D - Details
  - E - Examples

# IPDE - Idea

- Answers questions such as:
  - What are we learning about?
  - Why are we learning it?
  - When we are done studying this topic, what is it that we are able to do that we could not do before?
  - What is the point?





# IPDE - Procedure

- Even with this "what's the point?" attitude in mind, the step by step process of how to perform the task at hand is still required
- A “one sentence” explanation of each step should be given
- Should be appropriate to title the procedure "4 Easy Steps To XYZ"

# IPDE - Details

- In some cases, there is a particularly troublesome point in the procedure or a "magic" number that appears in an equation
- “Helpful hints” or in-depth explanations should be presented when necessary





# IPDE - Examples

- To tie the three previous sections together, it is extremely helpful to work through a typical example problem
- The problem that is chosen should be one which clearly represents the most typical usage of idea that is being taught
- It is VERY important that the example NOT contain overly complicated mathematics which simply serve as a distraction from the point
- The I, P, and D should be clearly pointed out





# Student Volunteer Campaign

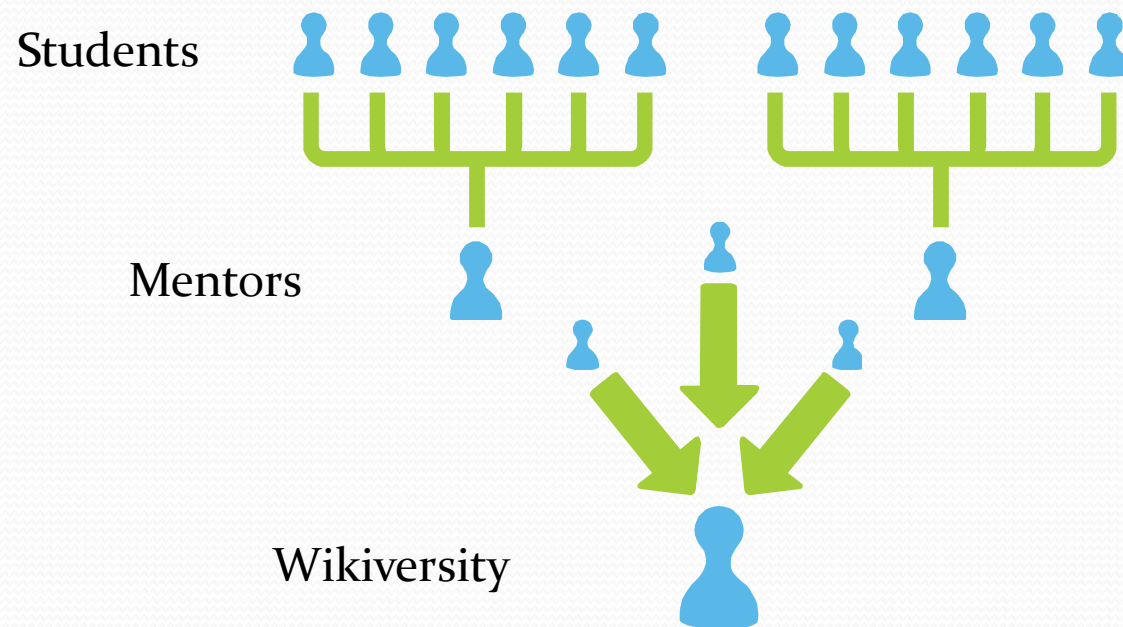
- Recruit students currently enrolled in “brick and mortar” versions of courses
- It is burdensome to produce/improve content in parallel with a post-college life
- During an "in-college" life, this exercise is mutually beneficial
  - Generating material is one of the best ways to help the student really learn the material
  - If you can't explain it, you don't know it!
  - Prepare for exams, etc.

# Student Volunteer Campaign - Mentors

- Students must work under a mentor (Content Expert) who will help them follow guidelines
- Hierarchy is key



# Student Volunteer Campaign - Hierarchy



# Student Volunteer Campaign (Cont.)

- Wikiversity should reach out to universities calling for this type of volunteer
- Enter the Public Policy Initiative!



# Student Volunteer Campaign “Finite-ness”

- This should be a very finite process
- There are countably many courses
- With only two or three iterations (less than a year!), we should be DONE

