My journey from service learning to community-based participatory research

@danieloerther

Outline

• From sage
• to guide
• Active learning, design, experiential
• Service learning examples
• Community, community, community
• Conclusion (hint: community)
Sage-on-the-stage

Mental model
Some knowledge / Before teaching

More knowledge / After teaching
Opportunities for improvement

• Flipped classroom delivery
  – Read the chapter, and then listen to lecture
• Low stakes, high density assessment
  – Start class with a brief quiz

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It’s not about you!

From teaching to learning

Types of knowledge

• Cognitive

• Affective

• Psychomotor

Depth of thinking

- **Creating**
  - Use Information to
  - Create Something New
  - Analyze, Synthesize, Conceptualize
  - Produce, Devises, Invents

- **Evaluating**
  - Critically Compare
  - Analyze, Synthesize, Conceptualize
  - Evaluate, Critique

- **Analyzing**
  - Divide Information
  - Analyze, Synthesize, Conceptualize
  - Categorize, Sequence, Compare

- **Applying**
  - Use Information in New Situations
  - Use, Organize, Make a Chart, Solve, Apply, Test

- **Understanding**
  - Understand & Make Sense Out of Information
  - Summarize, Synthesize, Compare

- **Remembering**
  - Recall Information
  - Name, Define, Identify, Locate, Recognize, Memorize

My dad used to tell me, “Boy, don’t ever miss a good chance to shut up.”

How’s that working for you?
Guide-on-the-side

Mental model
Some knowledge / Before teaching

More knowledge / After teaching
Opportunities for improvement

• Learning styles preferences
  – Redundant delivery - visual, audio, and kinesthetic

• Mastery and buffet assessment
  – Multiple opportunities to complete assignment before deadline; more points are available than needed

Sage vs Guide

Students learn ‘less stuff, but better’
And they have ‘better recall’ because of context
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Handy advice from a smart guy

• “I never teach my pupils. I only attempt to provide the conditions in which they can learn.”
So you’re saying...

• ... it doesn’t matter what I know. It only matters how I manage my classroom?

• Seriously?!?!?!?!
So how do I go from this to that?

Pedagogical approaches

• Active learning
  – baby steps (think-pair-share)
• Design based learning
  – open ended (senior design)
• Experiential learning
  – stretch goal (required of all students at Missouri S&T)
  – But what does it mean?
    • Do; Reflect; Conceptualize/Internalize; Repeat
    • Do = term-project; internship/co-op; co-curricular (e.g., study abroad); extra-curricular (e.g., design team)
Service learning (when the experience helps others)

Think – pair – share

What is YOUR definition of service learning?

- Types of knowledge
  - Cognitive
  - Affective
  - Psychomotor

- Depth of thinking

![Knowledge and Depth of Thinking Diagram](image)
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Examples of service learning

• University of Cincinnati Honors India Trip Short
  – https://www.youtube.com/watch?v=lzwWPsawJ_0
• Village Cobbler and a Word About the Accidental Destructive Power of Development
  – https://www.youtube.com/watch?v=Z5y7q7NAme4
  – https://rollalocal2globalindia.wordpress.com/
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What was the best part of the experience?

What mattered most to you as a student while on this trip overseas?

Many students say, “the people were so poor, but so very nice...”

I was surprised to hear students say, “we learned the most from the students who were partners with us”.
What was the best part of the experience?

Hand out
Hand out, hand up

Hand out, hand up, hand shake
Community based participatory research

• ... a partnership approach to research that equitably involves, for example, community members, organizational representatives, and researchers in all aspects of the research process and in which all partners contribute expertise and share decision making and ownership.

• The aim of CBPR is to increase knowledge and understanding of a given phenomenon and integrate the knowledge gained with interventions and policy and social change to improve the health and quality of life of community members.

• See: https://en.wikipedia.org/wiki/Community-based_participatory_research

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Personal context:
Examples of my projects around the world

Constructing + monitoring 1,000 biosand filters - Christian mission - Guatemala
Identifying environmental determinants of stunting - USAID + health service - Guatemala
Constructing a health clinic + elementary school - Catholic health center - Ghana
Designing a water system - Christian orphanage + hospital - Damoh
Monitoring well water quality - Nursing college - Gujarat and Karnataka

Monitoring 10,000 biosand filters - Christian mission - Para
Identifying environmental determinants of stunting - Health service - South Africa
Constructing + monitoring 500 biosand filters - Doctors Without Borders - Tanzania
Constructing a health clinic + elementary school - Doctors Without Borders - Tanzania

Starting school lunch programs; Promoting malaria prevention - Nurses Without Borders - Tanzania

Constructing well + water storage - Engineers Without Borders - Kenya

Intersection of research, education, and practice of environmental health engineering
So what’s next for my own learning?

And what’s next as a professional objective?
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From sage, to guide, to co-learner
From lecture, to service, to community

Thank you!

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