Teaching the MDGs: the Role of the Nurse in Multidisciplinary Project Based Instruction

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Outline

• Jargon
• Needs
• Case study rethinking development
• Take home message
Learning objectives / Bloom’s taxonomy

1. The learner will be able to apply the role of the nurse in different international sustainable development situations.

2. The learner will be able to evaluate the difference between "needs" and "wants".
Unpacking the jargon

• Millennium development goals
• Project based instruction (problem based learning; service learning)
• Guide-on-the-side vs Sage-on-the-stage
• Trans-disciplinary
• Synchronicity
Unpacking the jargon

- Millennium development goals
- Project based instruction (problem based learning; service learning)
- Guide-on-one side vs Sage on the stage
- Trans-disciplinary
- Synchronicity

TEST: do you KNOW these terms?
Unpacking the jargon

• Millennium development goals
  – eight metrics to reduce poverty (often by ‘halving’ conditions) by 2015

• Project based instruction (problem based learning; service learning)
  – ‘real-world’; open ended; investigate – plan – implement – assess

• Guide-on-the-side vs Sage-on-the-stage
  – student centered instruction

• Trans-disciplinary
  – learning another language; not merely hoping for translation

• Synchronicity
  – taking advantage of ‘luck’; having faith in the process
Which is an MDG?

A

COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

B

American Red Cross

Evaluate
Synthesize
Analyze
Apply
Comprehend
Know
Which is an MDG?

A

COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

Evaluate
Synthesize
Analyze
Apply
Comprehend
Know
Which is PBL?
Which is PBL?

A
Which is ‘guide-on-the-side’?

A

B

Evaluate
Synthesize
Analyze
Apply
Comprehend
Know
Which is ‘guide-on-the-side’?
Sustainable development

• ... meeting the needs of the present, without compromising future generation’s ability to meet their own needs...

• Adapted from Our Common Future, 1987
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Maslow’s hierarchy of needs

- **Physiological**: breathing, food, water, sex, sleep, homeostasis, excretion
- **Safety**: security of: body, employment, resources, morality, the family, health, property
- **Love/belonging**: friendship, family, sexual intimacy
- **Esteem**: self-esteem, confidence, achievement, respect of others, respect by others
- **Self-actualization**: morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
The problem with meeting needs...
Best practices

• Meetings needs and preserving future opportunity doesn’t mean stagnation
Rethinking Development
Rethinking Development

The glass is half full
Jeff Sachs
The End of Poverty
... aid is good...
Rethinking Development

... aid is good...

The glass is half empty
Bill Easterly
White Man’s Burden
... aid is bad...
Rethinking Development

... aid is good...

... aid is bad...
Rethinking Development

ITS FOUR OUNCES!
MIT Poverty Lab
Poverty Economics
... aid is measured...

... aid is good...

... aid is bad...
Outline

• Jargon
• Needs
• **Case study rethinking development**
• Take home message
Our work as ‘engineers’

Fecal → Fluids → Oral
What we know as ‘nurses’
What We Measured
What We Measured

High SES

MONEY

Divelbiss et al, 2012
What We Measured

Low SES  High SES

Divelbiss et al, 2012
What We Measured

- Diarrhea
- Low SES
- High SES

Divelbiss et al, 2012
What We Measured

- Fecal
- Fingers
- Fields
- Fluids
- Flies
- Food

Low SES → Diarrhea → Oral → High SES

Divelbiss et al, 2012
What We Measured

Fecal → Fluids → Oral
Fingers Fields
Flies Food

Fecal → Fluids → Oral
Fingers Fields
Flies Food

Low SES

Diarrhea

High SES

MONEY

Divelbiss et al, 2012
What We Measured

Diarrhea

MONEY

Low SES

Fecal $\rightarrow$ Fluids $\rightarrow$ Oral

Fecal $\rightarrow$ Flies $\rightarrow$ Oral

Fecal $\rightarrow$ Food $\rightarrow$ Oral

High SES

Divelbiss et al, 2012
What WeMeasured

Fecal → Fingers Fields Fluids Flies Food → Oral

Fecal → Fingers Fields Fluids Flies Food → Oral

Fecal → Fingers Fields Fluids Flies Food → Oral

Low SES

High SES

Diarrhea

... so we want to build water filters for these folks!

MONEY

Divelbiss et al, 2012
What We Measured

- Fecal
- Fluids
- Flies
- Food

Low SES

Diarrhea

High SES

MONEY

... what if we could just ‘raise income’?

Divelbiss et al, 2012
Outline

- Jargon
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Trans-disciplinary
Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. **Engineering has a direct and vital impact on the quality of life for all people.** Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.
Fundamental Canon

• Engineers, in the fulfillment of their professional duties, shall:
  – **Hold paramount the safety, health, and welfare of the public.**
  – Perform services only in areas of their competence.
  – Issue public statements only in an objective and truthful manner.
  – Act for each employer or client as faithful agents or trustees.
  – Avoid deceptive acts.
  – Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession
Our projects around the world

- Constructing and monitoring 1,000 biosand filters with a Christian mission in Ixcan
- Designing a water system for a Catholic health center in Sefwi Adabokrom
- Designing a water system for a Christian orphanage and hospital in Damoh
- Monitoring well water quality with University partners in Gujarat and Karnataka
- Starting two school lunch programs; Promoting malaria prevention with Nurses Without Borders
- Constructing well and water storage with Engineers Without Borders for Otho Abwao
- Monitoring 10,000 biosand filters for a Christian mission in Para
- Constructing and monitoring 500 biosand filters with Doctors Without Borders in Tarime
- Constructing a health clinic and an elementary school with Doctors Without Borders in Tarime
... and we can do more...

- Health clinic
- Pit latrines
- Nutrition
- Education
- Maternal health
- Transportation
- Capacity building
- Elementary school