SPPH410 – An Example from the Frontier of Public Health Education

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Beginning from the Beginning

We start from the benefits of standing on the shoulders of everyone's ancestors

Where We'll Explore Today

- Background
  - Different ways to teach
  - Active vs. passive learning
  - Instructor/Learner mismatch
- The SPPH410 Example
  - Challenges
  - Strategies
  - Results
- Interprofessional Education
  - Resources

How I got to this point…

- Microbiologist in clinical laboratory
- Hospital Epidemiology & Infection Control
- SCUBA Instructor
- Consultant
- Software Developer
- Public Health Dept. Program Manager
- Journal Editor
- Search & Rescue Crew Member
- University Professor

to this point teaching…

- SCUBA specialty courses (night diving, deep diving, research diving…)
- Research Methods to MPA students
- Ethics to MBA students
- Data analysis to MBA & nursing students
- Epidemiology to public health & nursing students
- SPPH410

Cognitive Outcome Hierarchy

- Knowledge (define, repeat, list, name…)

- Comprehension (restate, discuss, explain, review…)

- Application (apply, use, demonstrate…)

➢ Analysis (compare, contrast, criticize, debate…)

➢ Synthesis (design, organize, propose, manage…)

➢ Evaluation (judge, appraise, assess, choose…)

Two Learning Approaches

Passive

- Didactic (Lecture)
  - Instructor knows all
  - Students satisfy each instructor by learning the "game"
  - Closed-book exams show memorization of what instructor said would be tested

Active

- Self-Directed
  - Instructor as coach or consultant in structured learning environment
  - Students take a role in defining and satisfying their own needs, curiosity, performance evaluation
  - Open resources

In 1975, Malcolm Knowles defined self-directed learning as a "process in which individuals take initiative, with or without the help of others, in diagnosing their own learning needs, formulating goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes."

Knowles M. *Self Directed Learning – A Guide for Learners and Teachers*. Association Press, New York: 1975.

Andragogy according to Knowles

- Adult learners must understand why they need to learn something;
- Take responsibility for their learning;
- Exploit their experience as a resource;
- Link their readiness to learn with real-life situations;
- Orient their learning by life tasks.

Structured Learning Environment to Explore Can Be Based in

- Computer Simulation
  - NURS426 outbreak exercise

- Actual Cases
  - NURS426 reports
  - MBA540 classic stories

- Complex Group Project
  - ADMN502A research proposal
  - SPPH410 public health intervention proposal

…and delivered in a classroom or via many different distance modes

- See works by Christopher Dede
  - Timothy E. Wirth Professor in LearningTechnologies, Harvard University
  - https://www.gse.harvard.edu/faculty/christopher-dede
  - https://www.gse.harvard.edu/sites/default/files/faculty/documents/christopher-dede-311.pdf

CAVEAT!

When it works, it is wonderful

It doesn't always work

Self-Directed Learning, Noel LeJeune

Knowles (1975)	Process for learning; Goal for adult learners. Explicit process & set of skills (learning contracts) for conducting self-directed learning
Guglielmino (1977)	Personality trait with a component of skills or ability.
Brockett & Heimstra (1991)	Personality trait is "self-direction"; Instructional method is "self-directed learning."
Candy (1991)	Personal attribute (personal autonomy); Willingness & capacity to conduct one's own education (self-management); Mode of organizing instruction in formal settings (learner control): Individual, noninstitutional pursuit of learning opportunities in the natural societal setting (autodidaxy)
Grow (1991)	Learner traits for taking charge of their own motivation, goal-setting, learning & evaluation. Suggests matching SDL teaching style to student levels of SDL
Cranton (1992)	Process, outcome, and goal; Learners vary in their capacity for SDL.
Pilling-Cormick (1996)	Process where students determine their priorities, choose methods, and resources to carry out their learning. Special interest in environmental factors that enable or encourage SDL.

Gerald Grow, Ph.D, http://www.longleaf.net/ggrow

	Student	Teacher	Examples
Stage 1	Dependent	Authority, Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance.
Stage 2	Interested	Motivator, Guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal. Seminar. Group projects
Stage 4	Self-directed	Consultant, Delegator	Internship, dissertation, individual work or self-directed study-group.

S4: Self-Directed Learner			**Independent projects.** Student-directed discussions. Discovery learning. Instructor as expert, consultant, and monitor.
S3: Involved Learner		**Application of material.** Facilitated discussion. Teams working closely with instructor on real problems. Critical thinking. Learning strategies.	
S2: Interested Learner	**Intermediate material.** Lecture-discussion. Applying the basics in a stimulating way. Instructor as motivator.		
S1: Dependent Learner	**Introductory material.** Lecture. Drill. Immediate correction		
	T1: Authority Expert **T2:** Salesperson Motivator	**T3:** Facilitator	**T4:** Consultant, Delegator

Implications of S4-T1 Mismatch

Some students develop ability to function well, retain overall control of their learning, despite directive teachers (Long, 1989).

Others resent authoritarian teacher, rebel against barrage of low-level demands. May cause the learner to rebel or retreat into boredom.

Teacher will probably not interpret such a rebellion as the result of a mismatch, but see student as "surly, uncooperative and unprepared to get down to the hard graft of learning basic facts" (Fox, 1983).

Hersey (1983) describes the result as "havoc," in which "extreme over control by the leader can result in stress and conflict where the follower engages in behavior designed to get the leader out or to get out from under the leader."

S4: Self-Directed Learner			**Independent projects.** Student-directed discussions. Discovery learning. Instructor as expert, consultant, and monitor.	
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S2: Interested Learner	**Intermediate material.** Lecture-discussion. Applying the basics in a stimulating way. Instructor as motivator.			
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	T1: Authority Expert	**T2:** Salesperson Motivator	**T3:** Facilitator	**T4:** Consultant, Delegator

Implications of S1-T4 Mismatch

Many not able to use "freedom to learn," due to lack of skills that make self-directed learning possible (goal-setting, self-evaluation, project management, critical thinking, group participation, learning strategies, information resources, and self-esteem). Guglielmino (1977), Oddi (1986), Cafarella and O'Donnell (1987).

May resent teacher for forcing a freedom they aren't ready for; feel "frustration and anger when expected to make decisions without sufficient knowledge or expertise" Pratt (1988).

Wanting close supervision, immediate feedback, frequent interaction, constant motivation, reassuring presence of an authority-figure telling them what to do, students unlikely to respond well to delegating style of humanistic facilitator, hands-off delegator, or critical theorist who demands that they confront their own learning roles. May hate the teacher ("as my student hated me"), or, like Chinese law students described by Nadler (1989), dutifully recite words of authority figures and shy away from the kind of independent thinking Americans value.

Hersey (1983) describes result as a kind of "havoc" that occurs when followers do not receive guidance they need and, "lacking the ability to perform the task, tend to feel that the leader has little interest in their work and does not care about them personally… difficult for these followers to increase their ability and reinforces their lack of confidence. If the leader waits too long but then provides high amounts of structure, the followers tend to see this action as punitive rather than a helping relationship."

SPPH410 – The Challenges

- Large Diverse Class
  - About 70 students
  - Three types of students
    - Those anticipating a public health career
    - Those anticipating other careers but want to know how public health works
    - Those interested in its team skills aspects (IPE passport)
- Large Body of Knowledge to Cover
- SPPH courses need to be cost-effective

SPPH410 – The Course

Handout #1

- Birnbaum D, Gretsinger K, Ellis U. The New Frontier of Public Health Education. LEADERSHIP IN HEALTH SERVICES 2017;30(1):2-7.

Key Points

- Students self-select into teams of 5-10 members
  - Course meets monthly
  - Teams meet weekly
- Teams' elevator talk pitch 3 ideas
- Teams choose project topic,
  - develop oral & written (draft & final version) proposal
- Grading
  - Oral & written (instructor)
  - Team participation (students)
    - *Handout #2*

SPPH410 – The Course

Public Health Theory & Practice Learning Objectives

1. Perform a thorough analysis of a selected public health issue (also known as a health condition, health problem or health outcome) as it relates to a specific target population;

2. Outline the major component objectives (including performance, learning or behavioral, and change or environmental objectives) underlying any viable intervention;

3. Assess the strengths and weaknesses of different intervention options as they pertain to a chosen health outcome, health behavior and target population;

4. Provide a rationale for selecting a particular intervention approach;

5. Describe specific details of the intervention plan, reflecting scientific, political, practical, economic, cultural and ethical considerations; and

6. Delineate specific issues in adoption, implementation and sustainability that may impact the success of an intervention.

Inter-Professional Learning Objectives

7. Communicate ideas and opinions with clarity and respect;

8. Demonstrate collaborative teamwork and leadership skills;

9. Demonstrate effective and respectful problem solving skills; and

10. Identify and use information resources from other disciplines.

Why They're the Right Learning Objectives for SPPH410

Task Domains by Employment Setting

Academic	Business or Corporation	Clinic or Hospital	Government	Non profit
Critical/Strategic Analysis	Critical/Strategic Analysis	Ethics	Critical/Strategic Analysis	Collaborating & Partnering
Ethics	Ethics	Critical/Strategic Analysis	Collaborating & Partnering	Leadership & Systems Thinking
Collaborating & Partnering	Collaborating & Partnering	Collaborating & Partnering	Ethics	Critical/Strategic Analysis
Diversity & Cultural Proficiency	Leadership & Systems Thinking	Leadership & Systems Thinking	Leadership & Systems Thinking	Diversity & Cultural Proficiency
Leadership & Systems Thinking	Management, Finance, & Policy	Diversity & Cultural Proficiency	Communication	Program Planning
Program Planning	Program Planning	Communication	Management, Finance, & Policy	Management, Finance, & Policy
Communication	Communication	Management, Finance, & Policy	Biological & Environmental Applications in Public Health	Communication
Management, Finance, & Policy	Advocacy	Program Planning	Diversity & Cultural Proficiency	Ethics
Advocacy	Diversity & Cultural Proficiency	Biological & Environmental Applications in Public Health	Advocacy	Advocacy
Biological & Environmental Applications in Public Health	Biological & Environmental Applications in Public Health	Advocacy	Program Planning	Biological & Environmental Applications in Public Health

National Board of Public Health Examiners

SPPH410 – The Strategy

Challenge

- Maximize enrollment, minimize cost

- Make it engaging "authentic learning" experience

- Set safe path for novices to tackle "wicked problems"

- Set guardrails to prevent novices from tackling the impossible

Solution

- ✓ Students work as teams, not individuals

- ✓ Let students pick real public health problems to tackle

- ✓ Give comprehensive, clear, concise, sequential materials

- ✓ Coach individual teams, build in progress-check stages of periodic required communication

SPPH410 – The Strategy

Challenge

- Promote inter-professional collaboration skills development

- Promote team collaboration skills development

- Meaningful evaluation criteria for course grade

Solution

- ✓ Design as IPE learning experience (content & grading criteria)

- ✓ Describe options & expectations

- ✓ Team product + group self-assessment components

SPPH410 – The Strategy

Challenge

- Must be safe enough to stumble in the early stages, to learn by doing and excel by the end to still earn a good grade

Solution

✓ First assignment (elevator talk) critiqued but not graded; later components safely scaled, progressive constructive criticisms lead toward success

Some Examples of Problems Chosen

- Improving the BC Patient Experience: Establishing a Patient Care Quality Office for Pregnant Indigenous Women
- Hepatitis C Virus Testing Information Campaign for Homeless Senior Population in Vancouver's Downtown Eastside
- Utilizing Prawn Aquaculture as Ecological Public Health Intervention for Schistosomiasis Control, Pangani Tazmania
- Addressing Postpartum Depression in Indigenous Women of Nanaimo with a Community-Based Program Component
- HPV Self-Screening Kits for Indigenous Women of Dease Lake
- School-based Fluoride Varnish Application and Oral Health Education Program
- Transportation Barriers to Breast Cancer Screening Access for Indigenous People Living in Northern Ontario
- Childhood Obesity in San Francisco Bay Area Schools
- Prevention & Management of Cardiovascular Disease Risk in Spinal Cord Injury Patients through Telemedicine
- Increase HIV pre-exposure prophylaxis uptake in young men who have sex with other men, Metro Vancouver
- Cell Phone Ignition Interlock Device & Distracted Driving Education for Young Drivers in BC
- Pilot antimicrobial take-back program for New Delhi: A Canadian perspective
- Improving Management of Maternal Opioid Substance Use Disorder in Vernon, British Columbia
- Improving the Outcomes of Sudden Cardiac Arrest in British Columbia High Schools
- Anxiety Within Post-Secondary Students: Development and Application of Research-Based Intervention
- Implementing Fortified Cassava Flour into Lunda Norte, Province of Angola, to Prevent Folate Deficiency
- Implementation of a Female Sex Worker Response Guidelinefor Healthcare Professionals in Vancouver, BC
- Combatting Hazardous Nicotine Electronic Delivery System Use by Canadian Adolescents
- Improving Access to Contraception for Women Recently Released from Prison

Why They're Wicked Problems
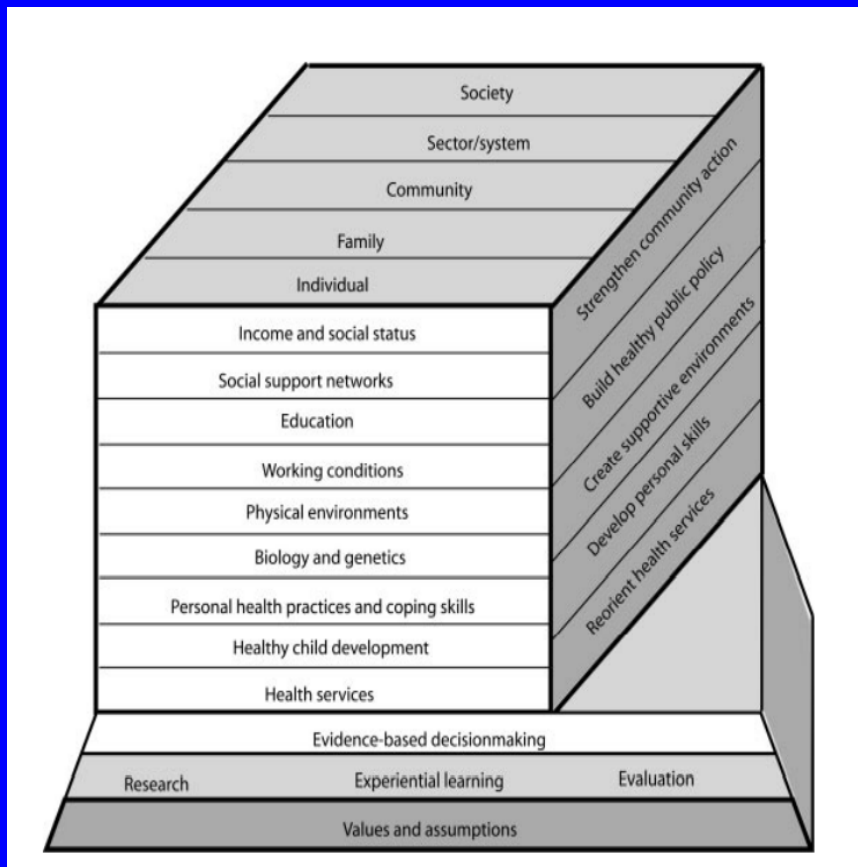
From Hamilton N, Bhatti T. *Population Health Promotion: An Integrated Model of Population Health and Health Promotion*. Ottawa, Ontario, Canada: Health Promotion Development Division, Health Canada; 1996, in Evans RG, Stoddard GL. Consuming Research, Producing Policy? *American Journal of Public Health*, 2003;93(3):371-379.

IPE - "Beginning with elective courses in 2001, UBC Health's interprofessional education evolved into a mandatory curriculum integrated into most health programs"
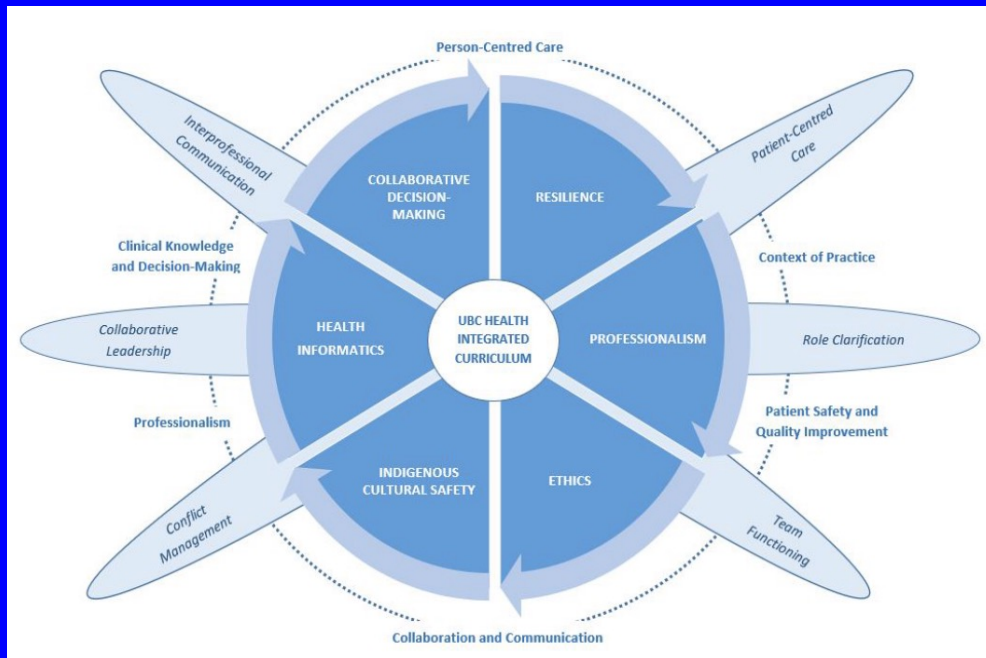
From
https://health.ubc.ca/collaborative-health-education/integrated-curriculum

See also *Advancing Teamwork in Healthcare: A Guide and Toolkit for Building Capacity and Facilitating Interprofessional Collaborative Practice and Education*, BC's Practice Education Committee, 2013
https://health.ubc.ca/sites/health.ubc.ca/files/resource-files/BCAHC-IPE-Building-Guide-January-2013-1.pdf

Thank you for being here
Any questions?