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Integrating Flexible Learning into Healthcare Professional Education

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Integrating Flexible Learning into Healthcare Professional Education

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Cathryn Jackson
Objectives

1. What is a FL strategy and flipped classroom?
2. Can we use simulation, mobile augmented-reality, social media and web-based blended learning techniques to effectively enhance the way we teach?
3. Which forms of flexible learning are likely to be most effective in enhancing clinical skills education and training?
4. What are the advantages and disadvantages of using flexible learning in health-professional education and training?
5. How can we evaluate the impact of flexible learning?

Flexible Learning (FL)

- A way that meets the needs of the learner, aligns with the nature and requirements of the discipline, and uses the expertise of the instructor, all to best effect
- Logistical flexibility – flexibility of location, time, pace of learning, and credentialing
- Pedagogical flexibility – flexibility of delivery, interaction, and media of instruction

UBC Flexible Learning Framework
Flexible Learning at UBC

- A commitment to campus-wide “dramatic improvement” in student learning
- Experimentation and evaluation of new learning techniques
- Campus-wide learning community for students, faculty
- Local, provincial, national, and international engagement

UBC FL Program

- 33 funded projects to date
- 100 courses
- 100,000 students
- Centre for Teaching and Learning Technology
- School of Nursing: $250,000 over 2 years
The SoN Flexible Learning Project

Over the next 18 months we aim to:

- Replace 12 hours of classroom didactic instruction with flexible learning (FL) in 6 clinical undergraduate nursing courses
- Explore a range of appropriate FL strategies and techniques with course leaders
- Implement selected FL techniques
- Evaluate the impact on teaching and learning
FL Curriculum Associate

- Graduate-prepared
- Roles and Responsibilities:
  - Maintaining an inventory of FL innovations
  - Developing a repository of teaching resources (e.g., videos)
  - Working with faculty to convert/‘flip’ their classes
  - Holding faculty and student learning sessions on FL initiatives
  - Attending Undergraduate Curriculum Committees to inform curricular redesign

FL Curricular Integration

- Pre-Class OnLine Activity
  - Pre-viewing eLecture/video/audio readings and guiding questions
- In-Class Activity
  - Formative 2 stage modified review
  - Clinical skills lab activities
- Assessment
  - Papers/projects/quizzes/exams with student options and increased interactivity
  - Clinical competencies
Flipped Classroom

- A heuristic pedagogic strategy
- Students watch lectures or access resources at home online at their own pace, actively communicating with peers and teachers online to explore and develop understanding
- Concept development and engagement occurs in the classroom
The Virtual Neighbourhood

- The Canadian Neighbourhood (Pearson)
- A virtual community of Canadian families
  - 37 characters (e.g., family members, providers)
  - A lifespan continuum
  - Representing ethnic & cultural diversity
  - Intersections occur between the family/healthcare system
  - Video, photos, unfolding and longitudinal cases

A Virtual Narrative Experience
Synchronous & Asynchronous Techniques

• **Asynchronous**
  • Posting Videos/Podcasts/Audio & follow up – Kaltura
  • Discussion board activities
  • Record and post a Pecha Kucha

• **Synchronous**
  • Webinar - Connect Collaborate
  • Live Tutorial Chat - Q & A

Social Media Activities

Some of these can be done in the secure Connect environment

• **Blog Activities** –
  • Post a question as a blog post and get students to respond individually or in groups (they must reach a consensus) with a solution

• **Wiki Activities** –
  • Ask students to collaborate on a wiki post to solve a problem
  • Ask students to create, edit or update a Wikipedia entry
Simulation and Lab Activities

• Clinical Simulations of challenging activities
• Open Simulation Challenge – students plan and undertake their own simulations - in teams
• Open labs - resources to support independent student practice
• Augmented Reality - tagged lab resources and embedded into the case or simulation
• Lab-based Exploration (find clues to solve a problem)

“Augmented” Skills Labs

• Integrated augmented reality (AR) resources to facilitate a move away from instructor-led learning environment to self-paced learning
• AR layers information/demonstration onto the ‘real’ LE
• Integrated AR resources into lab learning modules
• Encouraged collaborative learning
• Supported situated learning and learning in context
• Extended learning opportunity beyond the class time
• Accessible using ubiquitous tools and technology (e.g. iPads, smartphones, WIFI)
• Immediacy and Redundancy
Two Stage Examination
Bachelor of Science in Nursing

The BSN program is an advanced standing entry to nursing program, that prepares students to become registered nurses with the College of Registered Nurses of British Columbia (CRNBC).

Program Structure
N302/3 – Foundations and Adult Nursing

- Pre-Class
  - Virtual neighbourhood (VN) set activities
  - Video – guided questions
- In-Class
  - Group case study (based on VN case)
  - Clinical skill labs teaching stations
- Assessment
  - Blog project activity
  - NCLEX formative quizzes

N333 – Maternal & Infant Nursing

- Pre-Class
  - Skills videos guided viewing
    - Feeding
    - Bathing
    - changing
- In-Class
  - Name and recall clinical competencies
  - Clinical skill labs teaching stations
N334 – Infants, Children, Youth & Families

- **Pre-Class**
  - Recorded key points Pecha Kucha
  - Video of domains of development
  - Guided viewing: name and recall core concepts of child development
- **In-Class**
  - Assessing growth & development review
  - Clinical skill lab simulations
  - Assessment
    - 2-Stage Examination

N336 – Professional Nursing Practice with Communities and Populations

- **Pre-Class**
  - Recorded guest lectures
  - Public dental health online video
  - Public health child & youth program online video
  - Guided viewing with name and recall exercises
- **In-class**
  - Formative group review - define the determinants of health
N344: Synthesis Capstone Project

- Synthesis of core concepts in UBC nursing program
  - Leadership, ethics, policy
  - Professional Practice
  - Relational Practice
  - Critical Inquiry
- Collaborations between student project teams and practice partners
  - Project teams = 4-5 students
  - Practice partners = adjunct faculty
  - Projects = quality/safety initiatives in different sectors
Evaluation

- The Kirkpatrick Evaluation Framework

A range of activities including:
- Comparative pre/post performance
- Student/Instructor Surveys
  - On the fly feedback
  - End of course surveys
- Focus group interviews
- Pedagogic domain mapping with faculty (Reeves)

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Kirkpatrick’s Four Levels of Evaluation

- **Level 1 - Reaction**
  - **Key Question:** What was the student reaction to the learning environment?
  - **Timing:** Usually done immediately or soon after the learning event(s)
  - **Data Sources:** Student surveys, focus groups, interviews, previous data

- **Level 2 - Learning**
  - **Key Question:** Did the students achieve the desired learning objective(s)
  - **Timing:** Usually done immediately or soon after learning
  - **Data Sources:** Tests, assignments, discussions, Q&A

- **Level 3 - Behaviour**
  - **Key Question:** Are the newly acquired skills, knowledge, or attitude being used by the learner after the learning event is completed?
  - **Timing:** Usually done 1 month-3 months after learning
  - **Data Sources:** Level 2 re-assessment, participant/employer/advisor surveys, focus groups, interviews, previous data

- **Level 4 - Results**
  - **Key Question:** Did the students achieve the desired outcomes of the programme of study?
  - **Timing:** Usually done 3 months-2 years after learning experience
  - **Data Sources:** Participant/employer/advisor surveys, focus groups, interviews, concrete indicators, previous data

Reeve’s Pedagogic Dimension Mapping

Theoretical Dimension

Physical Dimension
Sources

UBC SoN Course List:
www.calendar.ubc.ca/vancouver/courses.cfm?code=NURSSourceshttp://
www.calendar.ubc.ca/vancouver/courses.cfm?code=NURS

learning through formative assessment. Innovations in Education and
Teaching International, 51(1), 1-12.

Praslova, L. (2010). Adaptation of Kirkpatrick’s four level model of training
criteria to assessment of learning outcomes and program evaluation in
higher education. Educational Assessment, Evaluation and Accountability,
22(3), 215-225.

problem-based learning environment in undergraduate engineering. Higher
Education Research and Development Journal, 18(2), pp. 219-232

Assessment. Guelph, ON: University of Guelph.

Links from Slides

1– Virtual Neighbourhood
http://www.thecanadianneighbourhood.ca/tours-and-training/
training.html

2– Augmented Reality Labs
http://www.youtube.com/watch?v=jMMFY77G6y0#t=30

3– Stage Examination
http://www.cwsei.ubc.ca/resources/SEI_video.html

4– Synthesis Project Posters
http://synthesisprojects-nursing.sites.olt.ubc.ca/posters-3/