Learning Objectives

- Identify the key challenges facing health professions education across academic and clinical environments.
- Examine and apply these key elements representing the “practice of learning” to own setting: signature pedagogy, practice-based learning, creating adaptive learners and professional formation.
- Discuss strategies for forging and sustaining academic-clinical partnerships.

Session Overview

- Current Challenges: What are they?
- Learning: A Foundational Concept
  - Professional Education is distinct
- Bridging our Academic and Clinical Worlds: Learning Opportunities
  - Signature Pedagogy
  - Practice-Based Learning
  - Adaptive Learners
  - Professional Formation

RQ: Reflection Question

Current challenges: What are they?

Health professions education requires radical transformation to ensure delivery of high-quality health care in the 21st century. High-quality care begins with the education of our health professionals, who must be optimally prepared to meet the public's health care needs.

Despite these efforts, however, health professions education is fragmented, time-bound, and too often disconnected from the practice of optimal pedagogies and existing health care challenges. To fulfill the social contract implicit in the provision of health care requires change that is more than evolutionary or incremental.

Recent Macy Foundation Report

- Fragmented care
- Disruptive technology – clashes with existing systems of work
- Ineffective collaboration
- Information explosion
- Discontinuity in education
  - Optimal workplace learning requires stable longitudinal experiences
- Student debt
- Practitioner/Faculty burnout
- Marginalization of patients
- Inadequate faculty development
How do you learn?
How is learning different in academic and clinical settings?

What do we know about teaching and learning?

Rethinking LEARNING
Change our perspective......

Learning: Foundational Concept

Learning: 101 Review
TRADITION – Bloom’s Taxonomy

Cognitive
Psychomotor
Affective
Role of creativity:

Apply this pyramid to LEARNING in academic and clinical settings

What is student learning?

Learning is a process not a product (but takes place in the mind) infer from products or performance

Learning involves a change in knowledge, beliefs, behaviors or attitudes. Change evolves over time and needs to have a lasting impact on how students think and act.

Learning is NOT something done to students, but something students themselves do. How the student interprets and responds to their experiences.

Working Principles of Learning

Students’ prior knowledge can help or hinder learning.

How students organize knowledge influences how they learn and apply what they know.

Students’ motivation determines, directs, and sustains what they do learn.

To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned.
Learning: Make it Stick..  
(Brown, Roediger, McDaniel, 2014)

- Learning that is deeper and more durable when it is **effortful**
- Learning that is easy is here today and gone tomorrow.....
- We are poor judges of when we are learning well or not
- Rereading text and masses practice of a skill and new knowledge is a common strategy and is often least productive

**RQ: REFLECTION QUESTIONS**

How do you learn?  
How is learning different in academic and clinical settings?

Professional Education: How is it different?

**3 apprenticeships in Professional Education**

- **Cognitive, Intellectual**  
  - Habits of mind, "ways of knowing"
- **Practical, Skill**  
  - Habits of hand, "ways of doing"
- **Ethical, Moral**  
  - Habits of heart, "ways of being"

Unequal attention across professions in these apprenticeships

What are the differences and similarities in teaching and learning across academic and clinical environments?
Professional Education Clinical Practice

Declarative Knowledge
- Facts and information
- Theoretical knowledge

Clinical Practice
- Procedural knowledge

Declarative Knowledge

Procedural Knowledge
(how to do things)

Learning across settings

Academic
- Declarative knowledge
- Certainty
- Grades rule
- Years of tradition
- Cognition at all costs

Clinical
- Procedural knowledge
- Authenticity
- Emotion
- Complexity
- Relationships

RQ: REFLECTION QUESTION

Why is LEARNING in the Community of PRACTICE is SO POWERFUL!

Table of Learning (middle range theory)

Commitment — Engagement
Judgment — Motivation
Reflection — Understanding
Action — Knowledge
Performance — Higher order thinking

When someone reflects-in-action, he becomes a researcher in the practice context... thinking is not separated from doing... his experimenting is a kind of action... built into his inquiry... 
Learning Theories: Clinical Environment HAS IT ALL!!!

Information processing

Cognition

Culture

Behavior

Context

Situational theory

Sociocultural theory

Information processing

Situated cognition

Cognition

Culture

Behavior

Context

Situated learning concepts

Community of Practice (CoP)

Legitimate Peripheral Participant

Core participant

Learner moves from legitimate peripheral participant to a CORE participant of the CoP

CoP is a vehicle for KNOWLEDGE Translation and Transformation through meaningful exchange among network members

Community of practice is a persistent sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, and history of experiences that are focused on a common practice in the larger physical, social, and cultural context of the learning environment.

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Forms of Knowledge Used for Good Clinical Teaching

Disciplinary Knowledge

Knowledge of Learners

Knowledge of Context

Knowledge of Patients

Knowledge of Pedagogy

What we know about excellence and innovation in Physical Therapist Education

Key recommendations from Carnegie Study of Medical Education

- Need to standardize learning outcomes and allow for individualization of the learning process
- Integration of formal knowledge and clinical experience – Integrate ALL aspects of knowledge, skills, and values
- Develop habits of inquiry and innovation
- Professional identity formation

Carnegie-like Study of Excellence and Innovation in Physical Therapist Education

Work and Integrity (7th ed – 2002)

Educating Physicians (2010)

Educating Physical Therapists (2010)

Sample size: 11

Educating Clergy (2006)

Educating Lawyers (2007)

Educating Engineers (2008)

Educating Nurses (2009)

Educating Physicians (2010)

Sample size: 14

Sample size: 12

Sample size: 16

Sample size: 8

Education in Medical Professions (2nd ed – 2005)

Sullivan, W (2005)

Educating Clergy (2006)

Foster, Dahill, Golemon, Tolentino

Educating Lawyers (2007)

Sullivan, Colby, Wegner, Bond, Shulman

Educating Engineers (2008)

Sheppard, Macatangay, Colby, Sullivan

Educating Nurses (2009)

Aronen, Hallett, Jackson, S, Laxer, et al.

Educating Physicians (2010)

Cooke, Irby, O'Brien

Educating Physical Therapists (2010)

Jensen, Mostrom, Hack, Nordstrom, Gwyer

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What we know about excellence and innovation in Physical Therapist Education

Forms of Knowledge Used for Good Clinical Teaching

Cognition

Culture

Behavior

Context

Situational theory

Situational theory

Situational theory

Situational theory
Key recommendations from Carnegie Study of Nursing Education

- Greater sense of SALIENCE – situated cognition and action
- Integration across academic and clinical teaching
- Move beyond critical thinking to clinical reasoning
- Move beyond professional socialization to FORMATION
- Require Bachelor's degree for the RN
If you wish to understand a culture, study its nurseries.

Erik Erickson

If you wish to understand why professions develop as they do, study their nurseries... their forms of professional preparation. When you do, you will generally detect the characteristic forms of teaching and learning I have come to call signature pedagogies.

Lee Shulman, 2005

The pedagogy is organized around key content or subject matter for the profession – for ours:

Movement, Meaningful Function

- Helps learners master the subject matter; learn predictable routines of practice yet maintain adaptability, improvisation
- The human body as object and subject; PTs body as instrument

Signature Pedagogy - PT

The Human Body as Teacher

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- The human body as object and subject; PTs body as instrument
Habits of Heart
Habits of Hand
Habits of Head

Deep Assumptions about how to best impart knowledge and knowp how
Moral Beliefs about professional attitudes, values and dispositions
Surface Concrete operational acts of teaching and learning

Signature Pedagogy in the Professions

Human movement – teaching done through direct experience with the human body (demonstration and practice)
Human body as teacher
Central importance of movement for health, well being, and function

Signature Pedagogy for Physical Therapy

Practice-Based Learning

Learning FOR and THROUGH practice was a central and foundational component in curricula in academic and clinical settings.
Faculty and learners were frequently engaged in early, authentic, situated, highly contextualized practice-based learning experiences. The value of learners’ access to patients transcends the application of knowledge and skills.

Practice-Based Learning

Participation in learning experiences in authentic communities of practice where patient care was central was a powerful resource for teachers and learners.
Even so, participants often lacked a shared language and deep understanding of theory and research that could inform and strengthen teaching/learning for practice.

RQ: REFLECTION QUESTION

How have you experienced signature pedagogy in physical therapy?
What can we do to address the shadow side?
RQ: REFLECTION QUESTION

What are the most important elements that you have experienced in practice-based learning?

Without the identification, conceptualisation and acknowledgement of a workplace curriculum, workplaces will remain misunderstood, open to easy criticism and de-legitimated as learning spaces. Much, if not most, of the learning throughout working lives will probably be acquired, refined and developed further in workplace settings as individuals deploy and extend their knowledge through their everyday work activities. Consequently, workplaces need to be conceptualised more clearly as learning environments through identifying their characteristics and qualities and considering how their contributions can be best organised to assist the learning required for work.

Learning through Everyday Practice
(No separation between participation in practice and learning)

- Engagement in work tasks (“just doing it”) –
- Indirect guidance provided by the setting (“just being there”) – observation and imitation (cognitive and neuro-science)
- Practice within that setting – practise, rehearse, refine and associate (cognitive accounts of procedural and conceptual development);
- Close guidance (proximal) by other practitioners and experts – assisting develop knowledge that cannot be learned through discovery (Billett 2001)

Pedagogies for Practice

Procedural Development
- Modeling
- Coaching
- Scaffolding

Conceptual Development
- Questioning
- Explanations
- Diagrams/concepts

Curriculum does exist in practice … but it is different…..

Intended Curriculum
• What is intended to be learned/educational outcomes

Enacted Curriculum
• What is implemented; experiences, values

Experienced Curriculum
• What students experience and learn

Community of Practice (CoP)

- A persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, and history of experiences that are focused on a common practice in the larger physical, social, and cultural context of the learning environment.

- Learner moves from legitimate peripheral participant to a core participant of the CoP.

- CoP as a vehicle for KNOWLEDGE Translation and Transformation through meaningful exchange among network members.

RQ: REFLECTION QUESTION

What can WE do to promote practice-based learning?

Creating Adaptive Learners

Adaptive learners are engaged in continuous learning; they have strong self-monitoring and assessment skills, seek out and embrace feedback, reflect on and learn from their experiences, and incorporate new learning to be able to function in complex, uncertain, and novel situations.
Balancing routine and adaptive expertise

High
Creative exploration
Adaptive Expertise

Low
Routine Clinical Expertise

Innovation

Low Efficiency
High

(From Cutrer et al., 2016)

OUR CHALLENGE
Preparing learners for UNCERTAINTY

OUR CONTINUED CHALLENGE: Academic-Clinical Context for Physical Therapy

LEARNER CONTINUUM: Where are we going?

Physical Therapy Entry Level Residency Fellowship
Exams Exams Exams Exams/Performance Exams
Clinical Education Clinical Education Clinical Education Clinical Patient Outcomes
BOARDS and LICENSURE
ACAPT/EDUCATION SECTION CURRICULUM PORTAL
Uniform Competencies Domains of Competence
Description of Practice Outcomes
EDUCATIONAL DATA WAREHOUSE: longitudinal integrated learner data

LEARNER CONTINUUM: Where are we going?

Expectations for the Expectations for the Expectations for the Expectations for the
Physical therapist Physical therapist Physical therapist Physical therapist
graduate graduate graduate graduate
Core EPAs
For entry into practice EPAs
For any practicing therapist EPAs
For clinical specialists EPAs

Entrustable Professional Activity (EPA)
Knowledge for practice
Clinical reasoning
Communication
Inquiry skills
Systems based practice
Clinical skills
Domains of Competence
Milestones

Entrustable Professional Activity (EPA)
Expectations for the Physical therapist graduate
Core EPAs
For entry into practice EPAs
For any practicing therapist EPAs
For clinical specialists EPAs

(From Chesbro SB, Jensen GM, Boissonnault WG. Entrustable professional activities as a framework for continued professional competence: is now the time? Phys Ther. 2018;98:3–7.)

Cognitive Theories:

- Dual process (fast/slow thinking)
- Cognitive load
- Situativity

Non-cognitive Theories:

- Schema and script (knowledge structure)

Learning Theories:

- Deliberate practice
  - Longitudinal mentoring
  - Discriminate relevant from irrelevant information
  - Emphasize common causes
  - Frequent feedback

- Knowledge organization (script theory)
  - Compare and contrast assignments
  - Think alouds
  - Change key features in a presentation (what if?)

- Motivation and emotion
  - Optimize learning environment
  - Engagement with support
  - Tell meaningful stories
  - Encourage learner commitment

- Situativity (social cognitive theories)
  - Workplace learning
  - All inclusive theory that encompasses cognitive and noncognitive elements
  - Facilitate situation awareness
  - Debriefing - bringing out context

Moving beyond the white coat.....???
How do we formulate curricula?

Catalysts for Change: Harnessing the Power of Nurses to Build Population Health in the 21st Century

Key Findings

- Nursing education must be transformed to integrate population-focused nursing concepts into the curricula for all nursing students and into the accreditation standards for schools of nursing.
- Nursing practice must be transformed to increase the focus of all nurses and specialties on population-focused concepts, such as the coordination of care across providers and care sites, and collaboration with other professionals and community members.
- Concerned efforts must be undertaken to address national trends such as America’s aging population, nursing workforce shortages, and other factors that are leading to a new emphasis on interprofessional education and collaborative practice.
- Continued support must be provided for research to advance the role of nurses in population health, such as an emphasis on translating research into practice and fostering essential public health services that may have a significant impact on improved population health.
- Continued support must be provided for research to advance the role of nurses in population health, such as recommendations as a 2010 Institute of Medicine report on the future of nursing which calls for policy changes to engage nurses in achieving population health.

RQ: REFLECTION QUESTION

How can physical therapy become more of a moral community of professionals committed to our obligation to promote a healthy society?