Learning to teach and teaching for learning:
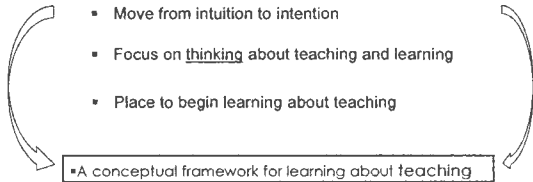**Important concepts in clinical education**

Aliki Thomas, PhD candidate, M.Ed., OT (c), erg.
Department of Educational and Counselling Psychology
Faculty of Education
And
School of Physical and Occupational Therapy
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What methods are you currently using in your clinical teaching?

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Why is it important to reflect on our teaching methods?

- Move from intuition to intention

- Focus on <u>thinking</u> about teaching and learning

- Place to begin learning about teaching

  - A conceptual framework for learning about teaching

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A conceptual framework for learning about teaching

Conceptions of teaching

- Understand our beliefs about teaching

- Help us examine our assumptions about teaching

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Conceptions of teaching

- We tend to teach the way we were taught

- How do we change this?

  o A shift in teaching actions is preceded by a shift in <u>thinking</u> about teaching*

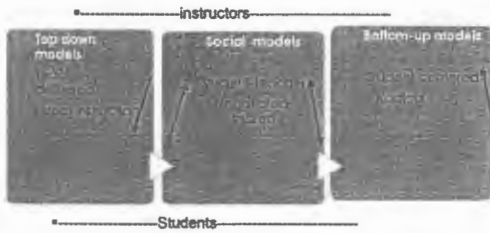 o So...begin by examining beliefs & assumptions about teaching and learning

Amundsen, Saroyan & Frenkman, 1996.
Amundsen, Saroyan & Gryspeerdt, 1999.
Ericsson & Smith, 1991.
Saroyan, Amundsen, McAlpine, Weston, Winer, & Gandell, 2004

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Relational model of teaching and learning in higher education (Prosser and Trigwell, 1999)

- teacher   - learner

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Slide 1
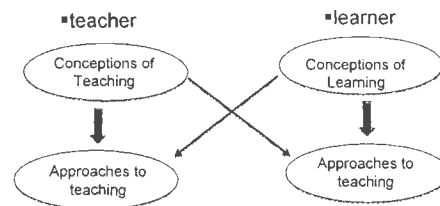
• Teaching models prescribe tested steps and procedures to effectively generate desired outcomes

• Can be classified along a continuum from instructor-directed, to student-instructor negotiated, to student-directed

·--------------------instructors--------------------

·--------------------Students--------------------

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Slide 2

from teacher-centered to learner-centered

TEACHER CENTERED	LEARNER CENTERED
• **Focus: Content**	• **Focus: Learning**
• **Teacher: Sage on the stage**	• **Teacher: Guide on the side**
✓ transmits structured knowledge)	✓ guides understanding
✓ imparts information	✓ facilitating understanding
• **Learner:**	• **Learner:**
✓ passive, receives	✓ Active, constructs
✓ learns information	✓ Learns to think
• **Strategies:** Lecture	• **Strategies:** Interaction, PBL

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Learner-centered teaching

• Help learners build knowledge

• Facilitate thinking processes and problem solving (not just remembering)

• Help learners move towards independence and expertise

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Slide 4

Questions we pose in clinical practice increase in complexity

Knowledge level:
What are the clinical signs of a stroke ?
What is dementia?

Comprehension level:
Why do we use the MMSE?
Why is Mr. X at risk for falls?

Evaluation level:
How would you assess the patient's readiness to go home?
How would you proceed if Mrs V. does not wish to wear her splint?

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• How do we teach students to think at higher levels?

• How do we teach students to think and perform like expert clinicians?

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Slide 6

Instructional models

• Cognitive apprenticeship
• Collaborative learning
• Supervision models
• Self-directed learning

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Cognitive apprenticeship

What is cognitive apprenticeship and does it work?

- learning is embedded in activities that make deliberate use of the social context (Collins et al. 1989).

- through social interaction and collaboration with peers and with the teacher, conceptual understanding and problem solving skills are developed.

- students are given ill-defined tasks and real-world problems representing authentic activities.

- initially tasks are slightly more difficult than students can manage independently, requiring the aid of their peers and instructor to succeed.

- successful not only in promoting students' higher order thinking skills but ...

- ...in shaping the learning interaction from teacher-oriented to joint goal-oriented problem solving between teacher and student (Jarvela, 1995).

Cognitive apprenticeship

- Help students think at higher levels

- Help students think and perform like expert clinicians

(Collins, Brown & Newman, 1989)

Cognitive apprenticeship methods

1. Modeling
2. Getting students to verbalize
3. Coaching
4. Scaffolding
5. Fading
6. Exploration

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1. Modeling

- to assist students in integrating a set of cognitive and metacognitive skills through processes of observation and guided practice.

- essential in clinical teaching because it provides students with models of expert performance.

- student needs to get "into" the expert's internal cognitive processes and understand the thinking involved behind the problem solving tasks.

- study of student teachers access to experts' thinking via stimulated recall: illustrate the effect of modeling (Ethell and McMeniman, 2000)

- expert knowledge must be made explicit if it is to contribute to the developing knowledge and practice of novices (Bereiter & Scardamelia,1992 ; Mayer, 1987).

Modeling : action

- Expert/teacher/clinician carries out task so learner can observe

  Example: *Therapist talking to patients on a ward or in the rehabilitation department and student observes*

Modeling- thinking

- Expert thinks aloud/ explains thinking during action (or soon after)

  - Clinician: "I am verifying if there is any edema in his leg because..."

  - Clinician : "The question to me is what methods we can use to reduce the edema so that... ?"

  Doing without thinking aloud and/or explaining WHY is insufficient

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2. Getting students to verbalize

- articulation help learners focus their observations of expert problem solving and gain access to their own problem solving strategies.

- any method of getting learners to articulate their knowledge, reasoning, or problem-solving processes

Clinician to student:
- How have you planned out this manipulation?
- Why do we ask the patient questions about his medical history?
- How are we going to work on his memory/on his balance?
- Tell me why you are doing PROM exercises?

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Why should we ask students to verbalize?

Advantages:

- Speaking out loud helps learners construct/integrate new knowledge

- Provides information for teachers about what learners understand.

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3. coaching

- Observe learners while they carry out a task

- Offer hints, cues, feedback, reminders, new tasks to bring learner performance closer to expert performance

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Coaching: thinking

Example: Pain management

Patient complains of severe low back pain
- Student: "What should I do?"
- Clinician: "What do you think you should do?"
- Student : "Use TENS."
- Clinician : "Yes, that's an option. Are there any other alternatives?"

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Coaching: action

Performing an AROM assessment of the shoulder.

- Student: Positions patient, prepares the goniometer
- Student: "How is the position of the goniometer?"
- Clinician: "It's fine"
- During the assessment:
  Clinician: "Angle the goniometer a little closer to the head of the humerus. Stabilize the stationary arm with your left hand and move the other arm of the gonimeter with the patient's movement ."

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Coaching

Advantages:

- Learner begins to assume greater role in the activity

- Learner carries out and integrates skills through highly interactive feedback and suggestions

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4. Scaffolding

Teacher provides support to help learner carry out a task

- Carries out parts of the overall task learner cannot yet manage
- Provides physical supports
- Provides suggestions or help

Scaffolding: More at the beginning of a clinical placement
- Clinician to student: "Where are we going with this? Let's keep sight of the plan"
- Clinician to student: " OK let's try it this way"

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5. Fading

- Gradual removal of supports until learners are on their own

- More at the end of a clinical placement
  - Clinician listens to student's presentation of a case at rounds. Doesn't intervene unless necessary

  - Clinician observes student-patient interaction from a distance. Doesn't intervene unless absolutely necessary. Feedback given after the interaction

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Scaffolding and fading

Advantages:
- Combined with coaching, allows learners to acquire enough autonomy to be able to work on their own.

- Gradual progression over time

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6. Exploration

- When coaching and scaffolding are relaxed and fading occurs, independent exploration of student learning occurs (Collins et al. 1989).

- Exploration pushes students to try out hypotheses, methods, and strategies similar to those that experts use to solve problems (Collins, 1991)

- Exploration encourages learner autonomy in defining and solving problems.

- Exploration enhances discovery of new knowledge and acquisition of general problem-solving skills (Shunk, 2000).

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Implications of cognitive apprenticeship for clinical learning

- clinical experiences woven though the curriculum provide authentic learning opportunities for students to enter into cognitive apprenticeship with practicing clinicians through discussion, observation of their practice and progressive participation in clinical tasks (Thomas, 2007)

- supervisors demonstrate and model the skills and behaviors that students are expected to learn.

- gradually, they provide less direct assistance becoming guides or facilitators of learning

- attention to the student's ability to take on the role of the therapist independently (Sullivan & Bossers, 1998).

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Cooperative learning

Cooperative learning

•Teaching and learning methods used to organize the content and delivery of instructional materials *(Johnson & Johnson, 1993)*.

•Students work in small groups, assuming responsibility for/having control of their learning.

•Fundamental objective is to discuss and solve problems in a social setting *(Slavin, 1991)*.

Characteristics of collaborative learning
(Johnson, Johnson, Holubec, & Roy, 1984)

•Increased responsibility for learning.

•Positive interdependence among learners.

•Individual accountability of learners.

•Face-to-face interactions.

•Group social skills.

•Group and self-evaluation.

Impact of CL on learning
(Springer, Stanne, & Donovan, 1999; Zhining, Johnson, & Johnson, 1995)

✓Fosters positive attitudes towards learning.

✓Fosters critical thinking.

✓Fosters self-monitoring and self-evaluation.

✓Increases persistence and retention.

✓Reduces anxiety and enhances sense of control and competence.

Collaborative learning in the clinical setting

- Allow students to work in small groups (support, resources, space, time)
- Can be within or across disciplines (eg. PT and OT; OT, PT and nursing; all OT; all PT)
- Attend first group session and "pop-in" from time to time
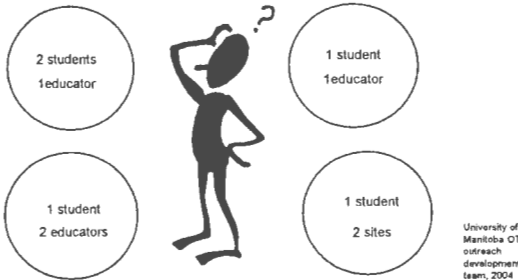- Clearly define the objectives of the small group work

Examples:
✓ for clinical projects
✓ for improving knowledge on a condition
✓ for treatment planning
✓ for preparation of team meetings

Models of supervision

Slide 1

The possibilities are endless…

- 2 students 1educator
- 1 student 1educator
- 1 student 2 educators
- 1 student 2 sites

University of Manitoba OT outreach development team, 2004

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Slide 2

1 student:1educator

Role of the educator	Role of the student
Prepare, prepare, prepare! Orientation materials and measurable goals before start PREPARATION IS KEY!	Share ideas with educator
Use learning tools: contracts, journals, logs	Self-evaluate and reflect
Review goals regularly	Be an active learner, express interest, seek out information
Provide opportunities for practice	Understand learning goals
Foster open communication	Act professionally
Role model clinical skills and collaborations	

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Slide 3

Advantages of this model

- The interaction between the student and the educators is a partnership in education
- Students can bring additional energy and enthusiasm, to the educator's practice
- Student and educator have more time to get to know each other
- Potentially more time for practice and reflective discussion than other models

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Slide 4

2 students: 1 educator

Role of the educator	Role of the student
Facilitate collaboration and discourage competition	Share ideas and intervention techniques with other student
Establish ground rules for joint supervision	Receive and provide peer-feedback
Clear goals for each student	Divide labor on assigned tasks
Provide time for team work	Support each other
Each student should journal	Respect each other's contributions
Set up joint structured learning activities	Seek out information from other students as well as educator
Role model collaboration	

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Slide 5

Advantages of this model

- Students take more responsibility for their learning
- Decrease dependency on educator
- Increase time for reflection and practice without increasing educator's time commitment
- Mutual companionship between students
- Encouragement and feedback to each other
- Student anxiety may decrease from peer support
- Promotes open communication among all members of learning team
- Emphasis on teamwork and communication skills

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Slide 6

1 student: 2 educators

Role of the educators	Role of the student
Meeting of educators prior to placement for joint organized supervision plan	Accepting responsibility for SDL
Agree on similar expectations for students	Recognize strengths and differences between educators
Orientation to both areas of practice (schedules, supervisor meetings)	Communicate with educators regarding any differences in style, pace or personality that may be causing undue stress
Learning contract together with student and agree what goals are shared responsibility of educators vs. one educator	Be aware that switching back and forth provides different experiences
Agree on procedures for midterm and final evaluation and attend both	Negotiate with educators issues concerning projects and expectations
Awareness of workload demands	Seek feedback form both educators
Share task of evaluating student	Be flexible

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Advantages of this model

- broader experiences and access to placements in specialty areas

- opportunity for part-time therapists to be involved in fieldwork education

- opportunity for students to develop time management and organizational skills

- educators benefit from discussion ad collaboration that occurs from the shared experience

- fewer demands on a therapist's time and workload than in 1:1 model

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I student: 2 sites

Role of the educator	Role of the student
• Meeting between educators prior to placement	• Recognize strengths and differences between educators
• Orientations to both sites including structure for placement	• Communicate with educators regarding any differences in style, pace or personality that may be causing undue stress
• Learning contact with the student and with other educator	• Be aware that switching back and forth provides different experiences
• Discuss and agree on process for midterm and final evaluation at beginning and attend both	• Negotiate with educators issues concerning projects and expectations
• Contact with other educator throughout placement	• Seek feedback form both educators
• Be aware of fieldwork demands	• Be flexible

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Advantages of this model

- broader experiences and access to placements in specialty areas

- opportunity for part-time therapists to be involved in fieldwork education

- opportunity for students to develop time management and organizational skills

- educators benefit from discussion ad collaboration that occurs from the shared experience

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Self-directed learning

- " a process in which individuals take the initiative with our without the help of others to determine their learning needs, formulate learning goals, identify human and material resources for learning, choose and implement appropriate learning strategies and evaluate learning outcomes" (Knowles, 1975)

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Why SDL?

- Because of the nature of Occupational and Physical Therapy practice

- Because of changes in health care system and delivery of care

- Because of the changing roles of clinicians

- Because our professions demand it

- Because a major function of higher education is to produce lifelong learners

- Because most of the learning comes after graduation

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Major assumptions of SDL

✓ SDL assumes that humans grow in capacity and need to be self-directing

✓ learners' experiences are rich resources for learning

✓ individuals learn what is required to perform their evolving life tasks

✓ an adult's natural orientation is task or problem-centered

✓ self-directed learners are motivated by various internal incentives, such as need for self-esteem, curiosity, desire to achieve, and satisfaction of accomplishment

✓ student is an active participant in the learning

✓ the process of learning is as important as the content

✓ the educator is a facilitator or guide as opposed to a content expert

✓ SDL is learnable, controllable and teachable

✓ SDL is an interaction of behavior, motivation and cognition

✓ SDL has positive effects on learning and achievement

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What does a self-directed learner look like

- Someone that is proactive instead of being reactive to teacher and teaching
- Someone who generates thoughts, feelings and behaviors towards achieving goals
- Someone who is aware of strengths and limitations (or at least tries to find out what these are!)
- Someone who monitors their behavior and their performance to see whether it is helping in achieving goals
- Someone who reflects on goals and on achievement
- Someone who shows superior motivation and adaptive learning methods
- Someone who is more likely to succeed academically and be more positive about the future
- Someone who knows when its time to seek help

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How do you help students be more self-directed?

- ✓ By understanding what SDL is
- ✓ By understanding that SDL should be valued and encouraged
- ✓ By understanding what SDL means for you specifically and in the context that you need it for
- ✓ By giving students the time they need
- ✓ By giving feedback and support

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- ✓ By accepting that it requires trial and error
- ✓ By allowing students to set their own goals
- ✓ By being ok with the notion that one is not born self-directed, that one can learn to be more self-directed
- ✓ By accepting that students will have more responsibility for their learning and that you will be more like a guide
- ✓ By allowing students to share their concerns with peers and even with other therapists
- ✓ By modeling it

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Thank You

Merci

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