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Barriers and Solutions in Teaching the Cognitive Skills Associated with Patient Care

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Barriers and Solutions in Teaching the Cognitive Skills Associated with Patient Care

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Goals

The **goals** of this presentation are to:

- Identify **Barriers** in Teaching Cognitive Skills Associated with Patient Care
- Overview of Innovative **Solutions** to Improve Student Learning
- Discussion
Cognitive Skills Associated with Patient Care

- Ability to retrieve, process and integrate information (knowledge, data, experience).

- Ability to use a strategy (critical thinking) to drive the process.

- Communication.
Background

What is a Doctor of Optometry?

- The primary health care professionals for the eye.
- Optometrists examine, diagnose, treat, and manage diseases, injuries, and disorders of the visual system, the eye, and associated structures as well as identify related systemic conditions affecting the eye.
- Doctors of Optometry prescribe medications, low vision rehabilitation, vision therapy, spectacle lenses and contact lenses.
Optometric Education

- 4 year curriculum
  - Health science
  - Vision science
  - Ocular disease
  - Systemic disease
  - Optics
  - Binocular vision
Clinical Experience

- Year One -- Pediatric outreach (screenings), medical and optometric observations
- Year Two --- Observations/Auxiliary Helper
- Year Three -- Direct patient care
- Final Year --- Direct patient care
New England College of Optometry (NECO)

- Integrative Seminar Course (ISC) 2003-2007
- Clinical Reasoning Course 2007-present
## Integrative Seminar Course Assessment

<table>
<thead>
<tr>
<th>Question 96 students surveyed</th>
<th>Strongly Disagree %</th>
<th>Disagree %</th>
<th>No Opinion %</th>
<th>Agree %</th>
<th>Strongly Agree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tools and skills learned in Integrative Seminar will be valuable to me as a third and fourth year student clinician providing direct patient care.</td>
<td>11</td>
<td>14</td>
<td>25</td>
<td>40</td>
<td>9</td>
</tr>
<tr>
<td>The tools and skills learned in Integrative Seminar will be valuable to me as a practicing optometrist.</td>
<td>9</td>
<td>12</td>
<td>34</td>
<td>36</td>
<td>9</td>
</tr>
<tr>
<td>The course helped me develop the tools needed for clinical decision-making.</td>
<td>8</td>
<td>20</td>
<td>18</td>
<td>45</td>
<td>9</td>
</tr>
</tbody>
</table>
Comments

- Talking about cases doesn’t help me learn.
- I do not understand why we just sit around and talk. Why don’t we just get the test results.
- I don’t understand what we are supposed to be learning.
- I didn’t really gain anything from it
Analysis of Comments and Evaluations

- Students were not able to relate and appreciate the course content in relationship to their future ability to care for patients.
- As a result of this inability to value the material the students demonstrated decreased motivation, interest and excitement.
Barriers

- Content Not Concrete
- Thinking Not Visible

Lead to a poor understanding and appreciation of strategies for critical and clinical thinking.

- Context
- Passive Learning
Clinical Reasoning Course Sequence 2007- present

- Clinical Reasoning (1) Fall and Spring, Year 1, Emphasis on Foundational Strategies, Application, “Personal Patient”
- Clinical Reasoning (2) Spring Year 2, Emphasis Clinical Thinking, “Personal Patient”
- Clinical Reasoning (3) Spring Year 3, Emphasis on Clinical Thinking, “Students Clinical Experience”
Setting a Concrete, Visible Foundation for Thinking

- Building Blocks: Establishing strategies for problem solving, diagnostic reasoning, in a concrete, interesting manner
- Emphasizing the Art of Analysis and Transparency
- Art of Analysis: The ability to break down ideas, concepts, thinking etc into parts. Parts/Whole
Parts/Whole
Thinking Based Learning Conference 2007
Art of Analysis- Introduce the concept (parts/whole) with a concrete example.

- Example: The EYE
  - Whole- The Eye
  - Parts
Apply part/whole analysis to problem solving
Problem Solving

(Paul, R. & Elder, L)

- Purpose, goals
- Identify the problem
- Information needed
- Analyze
- Interpret
- Evaluate
- Infer
- Determine Options
- Evaluate Options
- Select the Best Option
- Monitor Implication Of Actions
- Assumptions Point of View
Problem Solving

(Paul, R.& Elder,L)

- Figure out and articulate/evaluate your goals, purposes and needs in solving this problem.
- Identify the problem explicitly then analyze it.
- Figure out information needed and actively seek out that information.
- Carefully analyze, interpret and evaluate the information you collect, drawing whatever reasonable inferences you can.
- Figure out your options for action and evaluate them.
Problem Solving

- Adopt a strategic approach to the problem and follow through on that strategy. This may involve direct action or a carefully thought through wait and see strategy.

- When you act monitor the implication of your actions as they begin to emerge. Be prepared to shift your strategy or your analysis or your statement of the problem or all three, as more information about the problem becomes available.

- Assumptions, point of view and concepts are embedded in every step in the strategy presented.
Doctor’s Thinking
Doctor's Thought Process

Purpose
If the purpose is not clear the doctor's thinking will be vague and will not be focused.

Hypothesis/ DD
If DD is incorrect or incomplete we may not collect the appropriate data.

Testing/ Information/ Data
If information/ data is missing or incorrect, We will not have accurate information to come to a conclusion.

Diagnosis Conclusion
If you have incorrectly interpreted data then your conclusion will be at risk and ultimately Your ability to care for the patient may be compromised.

Implications Treatment
Failure to Consider implications leads to incomplete thinking.

Point of View
Misunderstanding or not eliciting a patient's point of view will impact your ability to empathize with the patient, develop trust and rapport, compliance with treatment and patient care.

Assumptions
An incorrect assumption may lead to an incorrect conclusion.

Concepts
Application of concepts and ability to draw on your knowledge base will affect every aspect of patient care and reasoning.
Key Concepts for Clinical Reasoning Courses

- **Clinical reasoning**, which includes analysis and integration of knowledge, is an essential components of patient care.
- The **patient is a whole person**, rather than a pair of eyes.
- **Self-guided learning** is essential for patient care.
- **Communication** is an essential component of patient care.
Teaching in Context

- Cases related to clinical experience and knowledge base
- Patients
Interactive Cases
Personal Patients in Year 1&2
Patients Provided Context

- The role of the patient is to provide the students with real life experiences, information and problems, symptoms associated with health, vision and aging issues.
- The course paired a patient with a group of 3-4 students. Each group will work with their “personal patient” for the length of the course.
- Through the patient interaction students will learn the cognitive skills needed for patient care.
Presentations/Peer Teaching

- Student Presentation – Year (1) 3 student presentations on their patient, Year (2) 1 presentation
- Detailed concrete outline- fact questions followed by judgment questions
- Students teach students within their group of 3-4, as well as within the section. All students in the group are responsible for answering any questions related to the presentation.
1. Concepts/ Knowledge Needed to Understand the Primary Ocular or Refractive Conditions.

- General description of disease.
- Part of the eye/body involved.
- If this structure/tissue no longer functions, how will it impact the functioning of the eye/body?
- The function of the tissue or structure is ________?
- What are the effects of the disease at the tissue/cellular level?
- In general what symptoms will the patient experience if this part of the eye/body is not working?
- What symptoms did your patient experience?
- Discuss the effects of the disease on your patient’s ability to function?
Year 3 - The students own clinical experiences provided the context.

Case Presentation

- Student chooses from their personal experience an interesting case or one that demonstrates a good learning experience. Cases can range from simple refractive error to an unusual pathology.
Brainstorming

- Small groups 3-4 students
Solutions to Overcome Barriers

- Concrete Foundation - transparency, analysis
- Students extrapolating strategies for critical thinking - Let the student’s do the work
- Key Concepts
- Personal Patients
- Presentations
- Detailed Outline
- Brainstorming
- Peer Teaching
- Interactive Case Discussion/PBL
How best to teach to create an optimal learning environment?
References:

Movie Images - You Tube

Disclosures:
- Sections of this presentation have been presented at the 28th Conference for Critical, 2008 Lilly Conference