Comparing Critical Thinking Outcomes in 1st-Year Occupational Therapy Problem-Based Learning Groups Using Six Thinking Hats Strategy

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Recommended Citation
Comparing Critical Thinking Outcomes in First Year Occupational Therapy Problem-Based Learning Groups Using Six Thinking Hats Strategy

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IRB Approved 18-566
Sponsor: Scholarship in Education Allocations Committee
Objectives

• Learners will define critical thinking skills of health sciences students

• Learners will discuss problem-based learning (PBL) as a method for development of critical thinking skills of health sciences students

• Learners will become familiar with an intervention to enhance development of critical thinking in conjunction with PBL
A single definition of critical thinking is NOT universally accepted, but there are common features (Larsson, 2017; Macpherson, 2003):
The situation: Younger graduate students are internet natives, but not necessarily adept at critically appraising information (Holiday & Li, 2004).
UNM-OTGP has been using PBL for over 20 years to encourage development of critical thinking skills.

But, how do we know PBL really increases development of critical thinking, particularly our youngest learners???
The purpose of the study is to determine if explicitly teaching critical thinking skills during PBL can lead to measurable change using a health-sciences reasoning test.

Does teaching students the Six Thinking Hats model = increased critical thinking outcomes?

Students in experimental groups, students in control groups take pre-HSRT (one cohort 2018, one cohort 2019)

Exp. Groups spend 2 semesters with trained PBL facilitators modeling Six Thinking Hats

2018 cohort: tentative results: no significant difference between experimental group and control; will repeat measure

Data is prepared for analysis, checking for difference, significance

Students in experimental groups, students in control groups take post-HSRT
The Health Sciences Reasoning Test was used as the instrument to measure change.

• (HSRT) measures high-stakes reasoning and decision-making processes.

• Scores on this instrument have been found to predict successful professional licensure and high clinical performance ratings.

• The HSRT is designed as a multiple choice format test and can be administered in a 50 minute setting.

• Information is presented in text-based and diagrammatic formats; questions invite test takers to draw inferences, to make interpretations, to analyze information, to draw warranted inferences, to identify claims and reasons, and to evaluate the quality of arguments.
Used as the intervention, the Six Thinking Hats provide a structure for developing meta-cognition using hat colors for different kinds of thinking (deBono, 1999)

- **Blue Hat - Process**
  - Thinking about thinking.
  - What thinking is needed?
  - Organizing the thinking.
  - Planning for action.

- **Green Hat - Creativity**
  - Ideas, alternatives, possibilities.
  - Solutions to black hat problems.

- **White Hat - Facts**
  - Information and data.
  - Neutral and objective.
  - What do I know?
  - What do I need to find out?
  - How will I get the information I need?

- **Yellow Hat - Benefits**
  - Positives, plus points.
  - Why an idea is useful.
  - Logical reasons are given.

- **Red Hat - Feelings**
  - Intuition, hunches, gut instinct.
  - My feelings right now.
  - Feelings can change.
  - No reasons are given.

- **Black Hat - Cautions**
  - Difficulties, weaknesses, dangers.
  - Spotting the risks.
  - Logical reasons are given.
Limitations of this study include sample size, extraneous variables, controlling bias, and determining cause & effect
Selected References


