Preparing Preceptors To Teach Critical Thinking

Why are we here?

- Identify Barriers that make it difficult for preceptors to challenge students in critical thinking
- Identify strategies that can help preceptors challenge students in critical thinking
- Discuss solutions to these problems
- How rubrics can be used

First things First: What is Critical Thinking?

- Definitions:
- "reflective and reasonable thinking that is focused on deciding what to believe or do" [1]
- purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or conceptual considerations upon which that judgment is based" [2]
- disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought"[3]

Critical Thinking Skills vs. Critical Thinking Disposition

- Critical Thinking Skills are the cognitive processes that are involved in critical thinking

- Critical Thinking Disposition is the attitudes, habits of mind or internal motivations that help us use critical thinking skills.

Critical Thinking Skills

- Reflection
- Evaluation
- Analysis
- Synthesis
- Application
- Interpretation
- Integrating
- Recognize Assumptions

Critical Thinking Dispositions

- Truth seeking
- Open mindedness
- Inquisitiveness
- Maturity of Judgment
- Desire to be well informed
- Fair mindedness
- Willingness to entertain other's viewpoints

Barriers to Teaching Critical Thinking in the Clinical Setting

- Educators must be critical thinkers themselves in order to teach critical thinking.[4]
- Preceptors are busy and have little incentive to make the effort to teach critical thinking.[5,6]
- Lack of pedagogical instruction especially in regards to critical thinking[7,8]
- Inappropriate or insufficient feedback[9]
- Student attitude towards critical thinking[10]

Strategies to overcome these barriers

1. Developing preceptors ability to teach critical thinking[11]
2. Mentoring[12-15]
3. Developing interpersonal communications skills[8,9]
4. Use Rubrics to help Preceptors recognize the critical thinking skills that you are trying to emphasize so that they can specifically help the student to perform these skills.[16]

Developing preceptors ability to teach Critical Thinking

- Currently in athletic training, we do not know the effectiveness of preceptor development.[11,19,21,22]
- There are specific techniques that preceptors can use to challenge students in critical thinking:
  - Debriefing, Reflective Journaling, Case Studies, Modeling, Higher Order Questioning
- Preceptors who were taught how to teach critical thinking skills, resulted in increased ability to influence the students ability to think critically.[11]

Developing preceptors ability to teach Critical Thinking

- Develop preceptors abilities through multiple workshops throughout the year [22,23]
- Use online discussion boards to allow preceptors to ask questions and share experiences related to teaching critical thinking.[24]
- Set critical thinking goals for clinical experiences

Mentoring

- Mentoring helps preceptors increase behaviors that promote active learning by students while decreasing behaviors that are detrimental to effective clinical education.[21,25]
- Mentoring helps preceptors recognize the "teachable moment."[25]
- Henning and Weidner demonstrated that first year graduate assistants need significantly more mentoring than more experienced preceptors.[20]

Improve Interpersonal Communication Skills

- Good communication allows the preceptor to provide the positive learning environment necessary for enhancing critical thinking skills.[9,13]
- Good communication skills are needed to create a dialogue that invites questions, reflection, and encourages open-mindedness.[20,26]
- Interpersonal communication skills improve ability to give quality feedback[8,9]
- Communication skills are necessary to help students understand the effort necessary for critical thinking and the benefits of the effort.

Using Rubrics to Promote Learning

- Rubrics are seen as scoring tools, but they can be so much more.
- Rubrics divide an assignment into its component parts and objectives and describes in detail what are acceptable and unacceptable levels of performance.
- Rubrics explain the salient points of emphasis that will be expected for the student and that the preceptor must observe.

Using Rubrics to Promote Learning

- Rubrics indentify expectations of the educational content that the student should learn
- They explain the areas in which the preceptor should instruct the student
- Rubrics can also help indentify weaknesses and strengths of the student to help further development of critical thinking skills during their educational program.
- They may help the preceptor with their own critical thinking

Solutions for overcoming barriers to critical thinking

1st barrier: Educators must be critical thinkers to teach critical thinking.

Applicable strategies:

- Developing preceptors ability to teach critical thinking[11]
- Mentoring[12-15]
- Developing interpersonal communications skills[8,9]
- Use Rubrics to help Preceptors recognize the critical thinking skills that you are trying to emphasize so that they can specifically help the student to perform these skills.[16]

Solutions for overcoming barriers to critical thinking

2nd barrier: Preceptors are busy and have little incentive to make the effort to teach critical thinking

Applicable strategies:

- Developing preceptors ability to teach critical thinking[11]
- Mentoring[12-15]
- Use Rubrics to help Preceptors recognize the critical thinking skills that you are trying to emphasize so that they can specifically help the student to perform these skills.[16]

Solutions for overcoming barriers to critical thinking

3rd barrier: Lack of pedagogical instruction especially in regards to critical thinking

Applicable strategies:

- Developing preceptors ability to teach critical thinking[11]
- Use Rubrics to help Preceptors recognize the critical thinking skills that you are trying to emphasize so that they can specifically help the student to perform these skills.[16]

Solutions for overcoming barriers to critical thinking

4th barrier: Inappropriate or insufficient feedback

Applicable strategies:

- Developing preceptors ability to teach critical thinking[11]
- Mentoring[12-15]
- Developing interpersonal communications skills[8,9]
- Use Rubrics to help Preceptors recognize the critical thinking skills that you are trying to emphasize so that they can specifically help the student to perform these skills.[16]

Solutions for overcoming barriers to critical thinking

5th barrier: Student Attitude

Applicable strategies

- Mentoring[12-15]
- Developing interpersonal communications skills[8,9]
- Use Rubrics to help Preceptors recognize the critical thinking skills that you are trying to emphasize so that they can specifically help the student to perform these skills.[16]

Creating Rubrics

- Basic Parts of a Rubric:
  - Task Description
  - Scale
  - Dimensions
- Optional (but recommended):
  - Description of dimensions

Case Study Example

	Excellent (6-7 points)	Competent (4-5 points)	Needs Work (0-3 points)
Defines problem	*Problem is clearly defined*	*Problem is partially defined or confusing in its statement*	*Problem not clearly defined*
Asks good questions	*Questions are pertinent, evaluative, and/or probing*	*Mostly process questions, but some systems questions*	*Process questions only*
Selects proper information to solve the problem	*Selected only and all necessary information to solve problem.*	*Selects some necessary information and/or some unnecessary information*	*Selects information randomly*
Formulates good hypothesis	*Hypothesis is clearly stated, based on the available information and relevant.*	*Hypothesis is stated, but only partially fits the available information, is only partially relevant.*	*Hypothesisis absent, confusing, or irrelevant.*
Recognizes biases and assumptions	*Clearly states biases and assumptions*	*Biases and assumptions are stated, but unclear*	*No biases or assumptions noted*
Draws valid conclusions	*Valid conclusion drawn*	*Partially valid conclusion drawn*	*Invalid conclusion drawn*
Reflects and/or self corrects	*Demonstrates considerable reflection*	*Demonstrates some reflection*	*No reflection demonstrated*

Disposition Example

	Excelling (9-10 points)	Achieving (7-8 points)	Emerging (5-6 points)	Developing (3-4 points)	Beginner (0-2 points)
Truth seeking	Always seeks many forms and sources of information and identifies bias	Consistently seeks many forms and sources of information and identifies bias	Sometimes seeks multiple forms and sources of information, but is not aware of bias	Occasionally seeks multiple forms and sources of information, but is unaware of bias	Only seeks a one or a few forms and sources of information with little to no care for bias
Open-mindedness	Always seeks many possible view points	Consistently seeks many possible view points	Sometimes seeks multiple view points	Occasionally seeks multiple view points	Generally only a single view point
Inquisitiveness	Regularly asks higher order questions	Sometimes asks higher order questions	Occasionally asks higher order questions, but most questions are descriptive	Mostly descriptive questions and rarely asks higher order questions	Rarely asks questions
Analyticity	Indentifies appropriate information in order to solve a problem or come to a conclusion or make an fair minded interpretation based on the information	Indentifies appropriate information, but conclusions, interpretations are only partially valid	Not all information is appropriate but conclusions or interpretation from the information is valid	Not all information is appropriate leading to invalid or only partially valid conclusions or interpretations	Random information leading to invalid or partially valid conclusions or interpretations

References

1. Ennis, R. A logical basis for measuring critical thinking skills. *Educational Leadership*, 1985; October: 44-48.

2. Facione, P. Critical thinking: Assessment of expert consensus for purposes of educational assessment and instruction. Millbrae, CA: California Academic Press, 1990.

3. Elder, L., & and Paul, R. Critical thinking: Competency standards essential for cultivation of intellectual skills, Part 1.`. *Journal of Developmental Education*, 2010; 34(2): 38-39.

4. Rezaee, M., & Ahmudi, A. Critical thinking in higher education: Unfulfilled expectations. *BRAIN*, 2012; 3(2): 64-73.

5. Snyder, L., & Snyder, M. Teaching critical thinking and problem solving skills. *The Delta Pi Epsilon Journal*, 2008; L(2): 90-99.

References

6. Walker, S. Weidner, T., Armstrong, K. Evaluation of athletic training students clinical proficiencies. *Journal of Athletic Training,* 2008; 43(4): 386-395.

7. Craig, D. Athletic training instructors: a needs assessment of teaching methodology knowledge and self-perceived competence. *Doctoral Dissertation, Colorado State University*. Available from ProQuest Dissertations and Theses database. (UMI No. 3075348). 2002.

8. Weidner, T and August, J. The athletic therapist as clinical instructor., *Athletic Therapy Today*, 1997; 2: 49-52.

9. Swan, E. Communicating effectively as a clinical instructor. *Athletic Therapy Today*, 2002; 7(5): 28-33.

10. Shell, R. Perceived barriers to teaching critical thinking by BSN nursing faculty. *Nursing and Health Care Perspectives*, 2001; 22: 286-291.

References

11. Abrami, P, Bernard, R, Borokhovski, E, et.al. Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research*, 2008; 78(4): 1102-1134.

12. Weidner, T and Henning, J. Being an effective athletic training clinical instructor. *Athletic Therapy Today*, 2002; 7(5): 6-11.

13. Weidner, T.G and Henning, J.M. Historical perspective of athletic training clinical education., *Journal of Athletic Training*, 2003; 37(4 supplement): s222-s228.

14. Eberman, L, Kahanove, L, Kahanove, M, et al. Mentorship of new faculty members. *International Journal of Athletic Therapy and Training*, 2011; 16(6): 34-37.

15. Groh, N. A supervision program for approved clinical instructors in athletic training. *Doctoral dissertation, University of North Carolina at Greensboro*. 2009. Available from ProQuest Dissertations and Theses Database.

References

16. Stevens, D. & Levi, A. Introduction to Rubrics. Sterling, VA: Stylus Publishing, LLC; 2005.

17. Hoppe, S. Transitioning from a student to a professional in athletic training: A phenomenological review of graduate assistants/fellows. *Doctoral dissertation, University of Minnesota*. 2011. Available from Proquest Dissertations and Theses Database.

18. Henning, J and Weidner, T. Roll strain in college athletic training approved clinical instructors. *Journal of Athletic Training*, 2008; 43(3): 275-283.

19. Jarski, R., K., Kulig and Olson, R. Clinical teaching in physical therapy. *Physical Therapy*, 1990; 70(3,):73-178.

20. Weidner TG, Henning JM. Being an effective clinical instructor. *Athletic Therapy Today*, 2002; 7(5):6-11.

References

21. Vanguri, P. & Konin, J. The acquisition of instructional strategies through a four-session athletic trainer clinical instruction workshop. *The Internet Journal of Allied Health Sciences and Practice,* 2008; 6(1):1-7.

22. Forneris S.G. & Peden-McAlpine, C. Creating context for critical thinking in practice: the role of the preceptor. *Journal of Advanced Nursing,* 2009; 65(8):1715–1724. doi: 10.1111/j.1365-2648.2009.05031.x

23. Stemmans, C. and Gangstead, S. Athletic training students initiate behaviors less frequently when supervised by novice clinical instructors. *Journal of Athletic Training*, 2002; 37 (4): 275-283.

24. Vanguri P. & Konin J. Strategies for facilitating athletic training clinical instruction. *The Internet Journal of Allied Health Sciences and Practice,* 2008; 6(4): 1-10.

References

25. Stemmans, C. and Gangstead, S. Athletic training students initiate behaviors less frequently when supervised by novice clinical instructors. *Journal of Athletic Training*, 2002; 37 (4): 275-283.

26. Mazerolle, S., Bowman, T., Dodge, T. Clinical instructional methods employed by preceptors in the clinical setting. *Athletic Training Education Journal,* 2012; 7(4): 157-165

Thank you