

Problem Solving

Theories/Models/Bodies of Research:

- 1. Bransford, J. D., Brown, A. L., Cocking, R. R., Donovan, M. S., & Pellegrino, J. W. (Eds.). (2000). *How people learn: Brain, mind, experience, and school.* (Expanded ed.). Washington, D.C.: National Academy Press.
- 2. De Bono, E. (1970). *Lateral thinking*. New York: Harper & Row.
- 3. Fascione, P. A. (1990). Executive summary of **critical thinking**: A statement of expert consensus for purposes of educational assessment and instruction "The Delphi Report." Retrieved from https://www.qcc.cuny.edu/SocialSciences/ppecorino/CT-Expert-Report.pdf.
- 4. Halpern, D. F. (1996). *Thought and knowledge: An introduction to critical thinking* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Jonassen, D. H. (2010). Learning to solve problems: A handbook for designing problem-solving learning environments. New York, NY: Routledge. ProQuest Ebook Central, https://ebookcentral.proquest.com/lib/ncsu/detail.action?docID=574578.
- 6. King, P. M., & Kitchener, K. S. (1994). *Developing reflective judgment: Understanding and promoting intellectual growth and critical thinking in adolescents and adults.* San Francisco, CA: Jossey-Bass.
- 7. Kuhn, D., Katz, J.B., & Dean, D., Jr. (2004). Developing reasoning. Thinking and Reasoning, 10(2), 197-219.
- 8. Langer, E.J. (1997). The power of mindful learning. Cambridge, MA: Perseus Books.
- 9. Mayer, R.E. (1992). *Thinking, problem solving, cognition* (2nd ed.). New York: W H Freeman/Times Books/Henry Holt & Co.
- 10. Mentkowski, M., & Associates. (2000). *Learning that lasts: Integrating learning, development, and performance in college and beyond.* San Francisco, CA: Jossey-Bass.
- 11. Newell, A. & Simon, H.A. (1972). *Human problem solving*. Englewood Cliffs, NJ: Prentice Hall.
- 12. Paul, R. & Elder, L. model of critical thinking http://www.criticalthinking.org/
- 13. Perry, W. G. (1999). Forms of *intellectual and ethical development* in the college years: A scheme. New York: Holt, Rinehart and Winston. (Original work published in 1968)
- 14. Sternberg, R. J. (1997). **Successful intelligence**: How practical and creative intelligence determine success in *life*. New York: Plume.
- 15. Zhou, C. (2017). Handbook of research on creative problem-solving **skill development** in higher education. Hershey, PA: Information Science Reference.



Methods/Measures/Tools:

- 1. AAC&U Problem-Solving VALUE Rubric | https://www.aacu.org/value/rubrics/problem-solving
- 2. AAC&U Critical Thinking VALUE Rubric | https://www.aacu.org/value/rubrics/critical-thinking
- 3. California Critical Thinking Skills Test (CCTST) / https://www.insightassessment.com/Products/Products-Products-Number-Stills-Test-CCTST
 Summary/Critical-Thinking-Skills-Test-CCTST
- 4. Collegiate Learning Assessment (CLA) | https://cae.org/flagship-assessments-cla-cwra/cla/
- Critical Thinking Assessment Test (CAT) / https://www.tntech.edu/cat/
- 6. Critical Thinking versus Problem Solving: A Quick Guide | https://www.rollins.edu/student-affairs/images-docs/critical-thinking-vs-problem-solving.pdf
- 7. Defining Issues Test (DIT) | https://ethicaldevelopment.ua.edu/about-the-dit.html
- 8. Need for Cognition Scale / https://www.midss.org/content/need-cognition-scale
- 9. Perry Interview | http://perrynetwork.org/?page_id=19
- 10. Problem-Solving Analysis Protocol (P-SAP) / http://departments.central.edu/psychology/faculty/psap/
- 11. Problem-Solving Interview

Eyler, J., & Giles, D. E., Jr. (2002). Beyond surveys: Using the problem-solving interview to assess the impact of service-learning on understanding and critical thinking. In A. Furco & S. H. Billig, *Service-learning: The essence of the pedagogy* (pp. 147-160). Greenwich, CT: Information Age Publishing.

12. Problem-Solving Inventory (PSI)

Heppner, P.P. (1988). *The Problem-Solving Inventory (PSI): Manual.* Palo Alto, CA: Consulting Psychologists Press.

13. Reflective Judgment Interview (RJI)

http://www.umich.edu/~refjudg/reflectivejudgmentinterview.html

14. Scale of Intellectual Development

Erwin, T. D. (1983). The scale of intellectual development: Measuring Perry's scheme. *Journal of College Student Development*, *24*, 6-12.

- 15. Steps for Better Thinking | http://www.wolcottlynch.com/
- 16. Think Aloud Protocols / https://journals.library.brocku.ca/brocked/index.php/home/article/view/38
- 17. Watson-Glaser Critical Thinking Appraisal
 http://www.pearsonassessments.com/HAIWEB/Cultures/en-us/Productdetail.htm?Pid=015-8191-013

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