

ENHANCING CRITICAL THINKING THROUGH TEACHER PROFESSIONAL DEVELOPMENT ACTION RESEARCH

MAURO GIACOMAZZI AND GILLIAN ATUHEIRE

LUIGI GIUSSANI INSTITUTE OF HIGHER EDUCATION



RELI
Regional Educational
Learning Initiative

List of Content

- Background
- Topical Framework
- Problem Statement
- Research Questions
- Research Design
- Research Method
- Findings

Background

Market Research Study (Omala, Mitana, Giacomazzi, & Ariapa, 2016)

Uganda Lower Secondary Curriculum – Framework

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context* (First).
New York: Oxford University Press.

Topical Research

SOUTH AFRICA

(Grosser & Nel, 2013;
Grosser & Lombard, 2008;
Grosser, 2006; Lombard,
2008; Lombard & Grosser,
2004)

UGANDA
(Onen, 2019)

RWANDA

(Schendel, 2015; Schendel,
2016; Schendel & Tolmie, 2017)

Statement of the Problem

The local **conceptualization** of critical thinking is still unexplored by the research and the **methods for the development** and **assessment** of critical thinking are quite unknown to the teachers, school leaders, school administrators and policy makers.

Research Question

Phase 1: Critical Thinking in the Ugandan Context

Phase 2: Enhancing Critical Thinking

1. How effective is the collaboration between researchers and teachers in enhancing the awareness of how the critical thinking process can be fostered in the classroom?

Phase 3: Contextualized Assessment

Research Design

TRADITION:

This phase adopted a qualitative approach.

The study design chosen for this study is the *professional development action research* (Prud'homme, Dolbec & Guay, 2011).

Research Design

PROFESSIONAL DEVELOPMENT ACTION RESEARCH KEY CRITERIA:

1. The research aims to enhance the professionalism of the participating teachers;
2. Creation of a professional development action research group comprising researchers and teachers;
3. Continuous and systematic exchange of views among the research participants on how to document the processes and outcomes;
4. Careful evaluation of the effective impact of the research.

Method: Sampling

This study concentrates on a sample of 16 teachers of a secondary school in Kira, Wakiso District, Central Uganda. The selected teachers are specialized in three different subjects of instruction: English (5), Math (5), and History (6)

The research study was carried out between February 2020 and September 2020

Method: Instruments

1. Focus group discussions
2. Narratives
3. Video recordings
4. Observations
5. Co-constructed instruments (see the Findings)

Findings

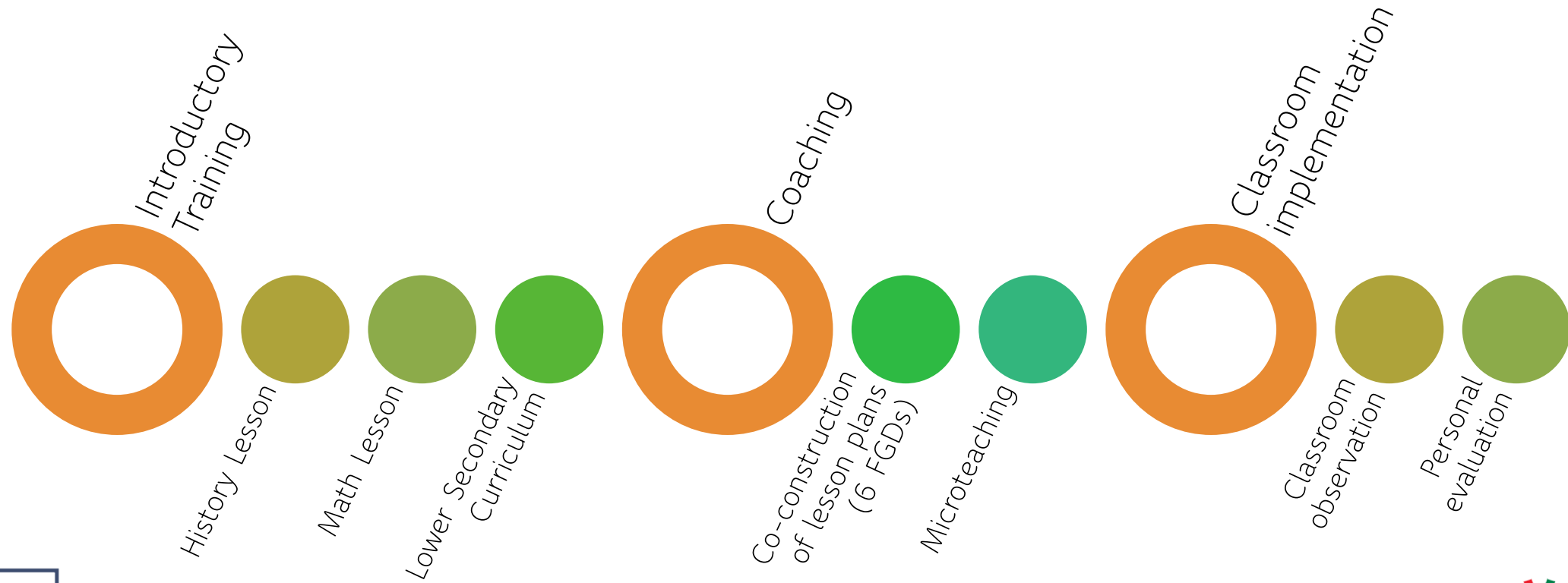
- Co-construction of study objectives:

The need for deep learning was further made manifest by the new curriculum for lower secondary. (En. Teacher)

- Co-construction of the teacher professional development methodology:

We [should be] asked to really work, to think and to do everything on our own. Because this is exactly what we are supposed to do even when we go to class. (Administrator)

Findings: Professional Development Model



Findings

- Co-construction of the instruments:
 - Topic Plan Template

I feel that from the discussion, as researcher, you could see that maybe there was a common question and for us to help each other on what we needed to add in the lesson plan format. (Teacher)

- Critical thinking taxonomy

When you shared with us [...] about critical thinking skills [and subskills], that's what really opened my eyes. [...] There is something I can look at to know that this is a particular skill. (Teacher)

Findings: Effectiveness of the Model

Development of contextualised rubric to track the improvement of teachers' planning skills and quality of the topic plans:

1. Grounded approach for rubric development.
2. Expert validation with 5 purposively selected experts- clarity, relevance and coherence of the items/indicators.
3. Revision of the rubric to the final version based on the feedback.

Rating of the topic plans

1. Scoring by two independent raters
 2. Raters' iterative discussions and reconciliation of ratings
- Progressive improvement in the quality of successive versions of the topic plans

Findings: Effectiveness of the Model

AT THE START:

1. Teacher centered pedagogy and instruction
2. Unjustified over dependency on the curriculum
3. Obscure definition and incorporation of skills and values
4. Limited knowledge on assessment
5. Skeptical involvement in the research and lack of research skills
6. Resistance and defense with colleagues

AFTER IMPLEMENTATION:

1. Teacher- learner collaborative pedagogy
2. Knowledgeable justification of actions/choices
3. Extensive and subtle knowledge of skills, values in a topic/subject
4. Consistent criteria for assessment
5. Technical contribution and participation in the research
6. Collaboration/Teamwork

Perspectives

- Implementation of the topic plans with students
- Contextualized summative assessment of students critical thinking
- Scaling up of the model

References

- Andrade, H. G. (2005). Teaching with rubrics: The good, the bad, and the ugly. *College Teaching*, 53(1), 27-31. <https://doi.org/10.3200/CTCH.53.1.27-31>
- Barnett, R. (1997). *Higher education: A critical business*. McGraw-Hill Education (UK).
- Bloom, B. S. (1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I. Cognitive Domain. *New York: McKay*.
- Bronfenbrenner, U. (1992). *Ecological systems theory*. Jessica Kingsley Publishers.
- Davies, M., & Barnett, R. (2015). *The Palgrave Handbook of Critical Thinking in Higher Education* (First). <https://doi.org/10.1007/978-1-137-37805-7>
- Dewey, J. (1910). How we think. In *How We Think*. Retrieved from <http://rci.rutgers.edu/~tripmcc/phil/dewey-hwt-pt1-selections.pdf>
- DiMaggio, P. (1997). Culture and cognition. *Annual Review of Sociology*, 23(1), 263-287. <https://doi.org/10.1146/annurev.soc.23.1.263>
- Ennis, R. H. (1962). A concept of critical thinking. *Harvard Educational Review*.
- Ennis, R. H. (1984). Problems in testing informal logic, critical thinking, reasoning ability. *Informal Logic*, 6(1), 3-9. Retrieved from http://amr.uwindsor.ca/ojs/leddy/index.php/informal_logic/article/download/2717/2158
- Ennis, R. H. (1990). The extent to which critical thinking is subject-specific: Further clarification. *Educational Researcher*, 19(4), 13-16. Retrieved from <https://www-jstor-org.proxy.unimib.it/stable/pdf/1176383.pdf?refreqid=excelsior%3A1787f3cf519cf8ca853dc2e090c0c85e>
- Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*. Fullerton.
- Facione, P. A., & Facione, N. C. (1994). *How to use the holistic critical thinking scoring rubric*. Retrieved from www.insightassessment.com
- Freire, P. (1970). *Pedagogy of the oppressed* (2005th ed.). The Continuum International Publishing Group Inc.
- Gauvain, M. (2001). *The social context of cognitive development*. Guilford Press.
- Giroux, H. A. (1994). Toward a pedagogy of critical thinking. In K. S. Walters (Ed.), *Re-thinking reason: New perspectives in critical thinking* (pp. 200-201). Albany: SUNY Press.
- Halpern, D. F. (1998). Teaching critical thinking for transfer across domains: Disposition, skills, structure training, and metacognitive monitoring. *American Psychologist*, 53(4), 449-455. Retrieved from <http://web.b.ebscohost.com.libproxy.temple.edu/ehost/pdfviewer/pdfviewer?vid=1&sid=264f0378-562e-4896-868c-31570ef7531e%40sessionmgr4010>
- Hofer, B. K., & Pintrich, P. R. (1997). The development of epistemological theories: Beliefs about knowledge and knowing and their relation to learning. *Review of Educational Research*, 67(1), 88-140. Retrieved from <https://cedu.niu.edu/~walker/research/Epistemological Theories.pdf>
- Johnston, J., Tobbell, C., & Woolley, R. (2011). *Personal, social and emotional development*. A&C Black.
- Kitchener, K. S. (1990). *Assessing reflective thinking within curricular contexts*. Retrieved from <https://files.eric.ed.gov/fulltext/ED415751.pdf>
- Kuhn, D. (2000). Metacognitive development. *Current Directions in Psychological Science*, 9(5), 178-181. Retrieved from <http://www.mx1.educationforthinking.org/sites/default/files/page-image/1-02MetacognitiveDevelopment.pdf>
- Lipman, M. (2003). *Thinking in education* (Second Ed.). Retrieved from <http://www.cambridge.org>
- McLaren, P. (1994). Foreword: critical thinking as a political project. In K. S. Walters (Ed.), *Re-thinking reason: New perspectives in critical thinking*. SUNY Press.
- McPeck, J. E. (1981). *Critical thinking and education* (1st Editio). <https://doi.org/10.4324/9781315463698>
- McPeck, J. E. (1990). Critical thinking and subject specificity: A reply to Ennis. *Educational Researcher*, 19(4), 10-12.
- Norris, S. P. (1985). *Studies of thinking processes and the construct validation of critical thinking tests*. Retrieved from <https://files.eric.ed.gov/fulltext/ED264259.pdf>
- Omala, S. K., Mitana, J. M. V., Giacomazzi, M., & Ariapa, M. (2016). *Preliminary Survey of Soft Skills demanded by Employers and other Stakeholders in Uganda*.
- Paul, R. W. (1985). Bloom's taxonomy and critical thinking instruction. *Educational Leadership*, 42(8), 36-39.
- Paul, R. W. (1992). Critical thinking: What, why and how. *New Directions for Community Colleges*, 3-24.
- Piaget, J. (1968). The mental development of the child. In D. Elkind (Ed.), *Six Psychological Studies* (First, pp. 3-73). New York: Vintage Books.
- Ravitch, S. M., & Riggan, M. (2017). *Reason & rigor; How conceptual frameworks guide research* (2nd ed.). Los Angeles, CA: Sage Publications.
- Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context* (First). New York: Oxford University Press.
- Sternberg, R. J. (1986). Critical thinking: Its nature, measurement and improvement. *National Institute of Education, Washington, DC*, 37.
- Thomas, K., & Lok, B. (2015). Teaching Critical Thinking: An Operational Framework. In M. Davies & R. Barnett (Eds.), *The Palgrave Handbook of Critical Thinking in Higher Education* (First, pp. 93-105). New York: Palgrave Macmillan.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Cambridge, Massachusetts: Harvard University Press.
- Watson, G., & Glaser, E. (2002). *Watson, Goodwin Glaser Critical Thinking Appraisal*. Retrieved from http://www.pearsonvue.com/phnro/wg_practice.pdf
- Wiggins, G. (2011). Moving to modern assessments. *Phi Delta Kappan*, 92(7), 63. <https://doi.org/10.1177/0031721711109200713>