Using Action Research to Improve Teaching and Learning

Educator engages in an action-research project that draws on a question from classroom data, and is viewed through current research and (re)examined through the systematic analysis of data to yield responses that improve professional practice and student learning outcomes.

Key Method

The educator selects an educational problem based on classroom data to generate a research question. The educator then engages in a literature review of the problem, and develops and implements a research design that will yield data, which, when analyzed, offers responses to the question and improves classroom practice.

Method Components

Components of Action Research to Improve Teaching and Learning

- Understand the influence of epistemological and ideological beliefs.
- Acknowledge the ethical rules surrounding research with human subjects.
- Identify and justify an educational problem and research question using data generated from your classroom practice.
- Locate and engage with the research-based literature relevant to the research question.
- Construct an appropriate research design for the identified question.
- Conduct a research study that involves the systematic generation and analysis of data from at least three sources.
- Offer findings from the study with a clear evidentiary audit trail.
- Produce a clearly written report that details the research process and shares the study’s findings and implications for classroom practice.
- Participate in, and demonstrate a sense of the value of, a collaborative learning community.

Suggested Implementation

1. Examine the nature of action research – educational problems/topics, researchable questions, aligned data-generating mechanisms.
2. Explore philosophies of educational research, with a specific focus on action research.
3. Identify an educational problem of interest.
4. Articulate and hone a research question.
5. Structure a literature review.
6. Develop an appropriate teacher action research project.

Supporting Research

High levels of student learning rest on a teacher’s ability to teach effectively, with full knowledge of the standards of success expected of students at each grade level [1]. Although this key relationship is codified in local, state, and national education policies, recent efforts have intensified the definition of teacher effectiveness, the tools by which it is measured, and the standards of success. Nowhere is this more obvious than in the current demand that school districts across the country identify effective teachers using student learning measures and link professional growth to increases in student achievement.
Action research is one method for marking and charting professional growth linked to student learning. In Wisconsin, action research offers a means of identifying and providing evidence of Professional Practice Goals (PPGs) and Student Learning Outcomes (SLOs), as required by your Educator Effectiveness Plan.


Resources

Learning Opportunities
It is suggested that the work be completed in a small learning community to accomplish and discuss the learning activities.

- **Session 1: The Nature of Action Research**
  - Use a publicly-available video of classroom practice from The Teaching Channel, TeacherTube, or another site in your teaching discipline (at least 20 minutes) to discuss teaching practice:
    - What do you notice?
    - What do you wonder?
    - What data could you collect from this teaching episode that we could analyze?
    - Given this video, what kinds of questions might you have about how your practice was unfolding?
  - Examine the nature of action research – educational problems/topics, researchable questions, aligned data generating mechanisms.
    - Begin by Viewing the video “Using Technology to Understand Acceleration” or some other video posted to the Teaching Channel:
    - What educational problem is depicted in this teacher’s practice at Tech Boston Academy in Dorchester, MA?
    - What types of research questions come to mind?
    - What types of data might you collect to study this problem that might render responses to the research question(s)?
- **Session 2: Exploring Philosophies of Educational Research**
  - View The Danger of the Single Story as Novelist Chimamanda Adichie shares a TED episode about the dangers of holding one point of view:
  - Then read and discuss:
    - Bredo (2006)
    - Schreiber & Asner-Self (2011)
  - Questions to think about and discuss:
    - What do we mean by Epistemology and Ideology?
    - Why is it important to understand our epistemological and ideological positions in the research process?
    - What is research?
    - Give an example from a school context of something that is research and something that is NOT research.
    - What is action research? Pine (2009), citing Carr & Kemmis (1986) defines action research as the “process of concurrently inquiring about problems and taking action to solve them... Action research is change research... It seeks to improve practice, the understanding of practice by its practitioners, and the situations in which practice is located” (p. 30)
    - Give an example of action research from a school context.
• **Session 3: Identifying an Educational Problem and Research Question**
  
  Identify an educational problem of interest and hone a research question by reading and discussing:
  - Haller, & Kleine (2001, pp. 52-60)
  - Pine (2009, p. 234-247)

  See Gamoran & Hannigan (2000), paragraph 1. Identify and discuss each of the following:
  - Normative Belief
  - Empirical Claim
  - Educational Problem
  - Local and Legal Knowledge
  - Ethical Knowledge and Knowledge of Consequences
  - Research Question
  - Purpose Statement

• **Session 4: Conducting a Review of the Literature**

  Structure a literature review by watching the video, The Literature Review, which shares details about what is involved in the literature review process.
  https://www.youtube.com/watch?v=jKL2pdRmwc4&feature=related

  Then read and discuss:
  - Gall et al. (2010, Chapter 3, p. 49-60)
  - Kennedy (2007)
  - Solorzano (2008)
  - Pine (2009, p. 248-250)

  Make use of library resources to conduct a review of literature which identifies what is already known about the problem (Target: 5 peer-reviewed sources)
  - Identify keywords that might be used in your review of the literature.
  - Begin reading broadly, then narrow to a similar problem and context.
  - Concentrate on primary, research-based sources (find at least 5).
  - Recognize assumptions and limitations in the study.
  - Identify the findings of each study and the implications for your work.
  - Construct an organizing matrix or concept map to focus your efforts and guide writing your review of literature.
  - The UWM Libraries site may be of assistance:
    http://guides.library.uwm.edu/CURRINS800/home

• **Session 5: Developing an Appropriate Action Research Project**

  Develop an appropriate teacher action research project by reading and discussing:
  - Anderman et al. (2011)
  - Ingersoll & Preda (2010)
  - Pine (2009, 177-315)
  - Watson (2011)

  For your action research project, identify each:
  - Normative beliefs
  - Purpose
  - Research question
  - Data to collect

  **Data Collection Methods**
  - Choosing the appropriate Methods
  - Why are you collecting the data?
  - How are the data related to the research question?
  - What will the data tell you about the educational problem?
What kind of data will yield the best information?
What data sources will you use?
How and when will it be collected?
Is generation of the data systematic?
How will the data be recorded and stored?
How will you triangulate the data? (Pine, 2009, p. 255-258)

Organization and Analysis of Data
- How will the data be organized and displayed
- What criteria will be used to categorize the data and why?
- What processes will you use to analyze the data?
- Are there gaps in your analysis that require additional data?
- What themes and patterns emerge?
- How are you making accommodations your epistemological and ideological beliefs?
- What visual representation might represent your analysis - grid, concept map, chart, visual metaphor, graphs, diagrams?

Additional Resources

http://journals.sagepub.com/doi/pdf/10.3102/01623737022003241

Submission Guidelines & Evaluation Criteria
To earn the micro-credential, you must receive a passing evaluation for Part 1 and a “Yes” for each artifact submitted for Part 2.

Part 1. Overview Questions
Response may be written or provided through a video.

- Identify and name how you know what you know (your epistemological position) and the political stance you take (your ideological position) with respect to your role as a teacher.
- Identify how your epistemological and ideological beliefs shape each step of the research process:
  - the educational problem,
  - research question,
  - selection of texts and resources,
  - research design
  - analysis of the generated data, and
  - the findings.
- How did interrogating your epistemological and ideological beliefs impact your research?
  - Passing: Educator’s written reflection includes information about how interrogating their epistemological and ideological beliefs related to engaging with research and the projected outcome of their project. The response includes reflections on how the research question would be different if their beliefs lay at differing points on these scales.

Part 2. Work Examples/Artifacts
To earn this micro-credential, please submit the following:

- A research prospectus that includes:
  - The circumstances of the educational problem and research question
  - A review of the literature
  - A graphic illustration of how the study will take place
- Description of the generation and analysis of data, which was drawn from at least three sources.

- A clearly written report that details the research process in a transparent manner, that is, open to public scrutiny.

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<thead>
<tr>
<th>Area of Focus</th>
<th>&quot;Yes&quot;</th>
<th>&quot;Almost&quot;</th>
<th>&quot;Not Yet&quot;</th>
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<tr>
<td>Research Prospectus</td>
<td>Circumstances of the educational problem and research question are well defined and supported by empirical data.</td>
<td>Circumstances of the educational problem and research question are not well defined or lack sufficient empirical data.</td>
<td>Circumstances of the educational problem and research question are undefined and not supported by empirical data.</td>
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<td>Review of the literature fully addresses each of the following: educational problem, theoretical lens, and research genre/framework/approach.</td>
<td>Review of the literature only addresses two of the following: educational problem, theoretical lens, and research genre/framework/approach, or superficially addresses each.</td>
<td>Review of the literature only addresses one of the following: educational problem, theoretical lens, and research genre/framework/approach, or incompletely addresses each.</td>
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<td>Graphic illustrating how the study will take place is clear and systematically laid out.</td>
<td>Graphic illustrating how the study will take place is less than systematic.</td>
<td>Graphic illustrating how the study will take place is incoherent.</td>
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<td>Description of the generation and analysis of classroom data draws from three or more sources.</td>
<td>Description of the generation and analysis of classroom data draws from two or three inappropriate sources.</td>
<td>Description of the generation and analysis of classroom data draws from only one source or is absent.</td>
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Written Report

- Written report details the research process in a transparent manner (that is, open to public scrutiny).
- Written report shares the research process, but not in a transparent manner (that is, open to public scrutiny).
- Written report does not share the research process.