Action Research

At Bowie State University

“Action research is deliberate, solution oriented investigation that is group or personally owned and conducted. It is characterized by spiraling cycles of problems identification, systematic data collection, reflection, analysis, data driven action taken, and, finally, problem redefinition.” - Kemmis & McTaggart, 1982

Action research provides a space for university faculty and students to make a difference in their own teaching and learning. Action research colleagues work together to improve student learning through collective inquiry and exploration into varying instructional methodologies. The process is cyclical and on-going, with participants continuing to reflect upon their own practices in order to meet the ever-changing needs of their students and themselves as learners and professionals.

Although the action research process has essential underlying principles, the practices and deliberations of action researchers vary. What follows is a synthesis of what we have found to be successful action research strategies, principles and practices.

What is Action Research?

• *It is Participatory:* Action Research supports all aspects of collaborative decision making, collective problem solving and shared inquiry
• *It involves faculty in Theorizing About Their Own Practice:* it presupposes that faculty have an untapped knowledge and experience base that can support the application of research theory into direct classroom practice.
• *It Requires That Faculty Put Their Practices, Ideas And Assumptions About Institutions to The Test:* Rather than “told” what works, action researchers chart their own course and share experiences with others.
• *It is Open-Minded About What Counts as Evidence (or Data):* In addition to traditional quantitative data such as statistics, action research data can include analysis of variety of qualitative sources, including interviews, focus groups and self-reflective processes.
• *It Allows Faculty To Record The Change Process:* Through action research, researchers can monitor and access changes in practice, language, relationships, organization and development.
• *It Allows Faculty To Justify Their Work:* By examining problems and decisions and developing strategic ways to address them, and positively impact student learning.
Action Research Is Not…

The Usual thing Faculty Do When They Think About Their Teaching: Instead, action research is a systematic approach to exploring multiple solutions to problems related to student achievement, and organizational effectiveness.

Simply Problem Solving: Action research may lead us in many directions beyond the initial conception of a problem or situation. The idea is not to solve a problem with a single experiment, but rather to explore the problem, find its sources and research a myriad of methods in order to find and implement effective strategic plan.

Research Done By Other People: The action research process empowers faculty to take charge of their own problems, issues and concerns. It can involve a single researcher, a team or cohort, or a total department. Active participation is critical.

The Scientific Method Applied To Teaching: The Scientific Method typically involves the investigation, validation or nullification of a single hypothesis. In action research, participants indentify problems, pose questions, and use data analysis to generate and implement a variety of potential solutions.

In How to Use Action Research in the Self-Renewing School, Emily Calhoun (1994) provides a model to which faculty can refer when preparing for and implementing collaborative action research. Following is an overview of this process.

Calhoun’s Action Research Cycle

1. Select An Area
2. Collect Data
3. Organize Data
4. Analyze Data
5. Take Action
Kemmis & McTaggart’s Action Research Definition

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Kemmis & McTaggart, 1982
Focus on Student Learning
This component is essential for action research. Although professional development and curricular reform may be aspects of your research, the ultimate goal must be to improve student performance and achievement.

Make this a Collaborative Process
Although action research may be individualized, it is often best conducted through group exploration. Because multiple solutions are sought, collaboration and collegiality are essential.

Begin With a Needs Assessment
Examine where you and your students are; specifically, analyze their skill and knowledge levels. This analysis can be conducted through grade analysis, pre-assessments, qualitative analysis of student work, and/or observations.

Plan for Personal and Professional Growth
Professional development is an essential element in the action research process. In order to experiment with new strategies and interventions, faculty must be trained to use them. Enhanced pedagogy is critical to this process of problem-centered investigation.

Emphasize Instructional Innovation
This process of experimentation and exploration allows faculty to try something new and different. It provides a framework to try new, creative solutions to problems and systematic methods for evaluating them.

Reinforce the Value of Change
Faculty should not be afraid to try something new. Changing solutions are needed to solve changing problems. If action researchers maintain the status quo, little change may occur in student achievement.

Look For Both Immediate and Cumulative Effects
We have found that the impact of action research builds upon itself. Thus, expressed goals may not be attained by a set date. Instead, set milestones such as increased attendance, and look for both short- and long-term results related to the action research process.
1. Look for patterns and problems related to significant aspects of student achievement.
2. Brainstorm possible problem-solving methods, especially potential instructional interventions.
3. Narrow your focus. Become increasingly more specific about areas for investigation.
4. Draft your action research questions to guide you in your problem-solving process.
5. Re-focus your questions to target specific student behaviors and learning styles and challenges.

*Give yourself permission to modify your questions and your research. They may evolve over time.*

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**Formulating Questions**

*Use open-ended questions:*

- What is the role of...?
- How do...?
- What procedures...?
- What happens when...?

**Sample Questions**

- How can technology be used to improve student’s participation in lectures?
- What effect does discussion have upon student performance in writing?
- What happens to student achievement when faculty collaboratively plan and use interdisciplinary performance-based assessments?
- How can I incorporate student research opportunities into my classes and what impact do these opportunities have on students’ disciplinary knowledge?
- What strategies can I use to increase student engagement/discussions in my classes?
- How can I use authentic tasks to help my students think critically?
- How can I link assessment to student learning and assessment to inform my teaching strategies and delivery?
- How can I use peer-mentoring and/or peer-coaching to gain new insights into teaching and learning?
Self-Evaluation Sample Questions

The practicality of studying the issue:

- Will my inquiry lead to improved teaching and student learning?
- Am I interested in this issue/problem yet free from strong bias so that I can study it objectively?
- Do I possess or can I acquire the necessary skills, abilities, and/or background to study the problem?
- Do I have access to the tools, equipment, or laboratories necessary to conduct the inquiry?
- Have I framed an issue or problem that can be productively studied during a single term (e.g., semester, quarter) of the course?
- Can I obtain adequate data?
- Can I obtain administrative support, guidance, and cooperation for conducting my inquiry?
- Will the findings be practical value to myself and other teachers?

Additional Self-Evaluation Sample Questions

The appeal to external audiences:

- Will my inquiry advance my (and others’) knowledge?
- Will the findings be of practical value to other teachers?
- Will my inquiry duplicate the work that has been or is being done adequately by someone else?
- If this topic has been covered, does my inquiry extend it beyond its present form?
- Will my classroom inquiry lead to the development of other investigations?
As Calhoun notes, the action research process is an ongoing study of progress. Therefore, frequent data collection is essential in order to recognize trends and changes in student behavior and achievement. Further, the use of multiple data sources serves as a means through which data are triangulated to confirm inferences and provide clean accurate depiction of changes resulting from action research. Both quantitative and qualitative data sources can be useful in the action research process.

### Phase 2: Collecting Data

The emphasis is on expressing data and conclusions in numerical form:
- Numbers
- Number crunching
- Hypothesis testing
- Control groups/experimental groups....
- Longitudinal analysis of data trends
- Statistical presentations (descriptive and analytical)
- Self-assessment questionnaires and survey research using numerical rating scales (e.g. Likert Scale)

The emphasis is on expressing data and conclusions in the form of words:
- Observations
- Interviews
- Reflective Journalism
- Lesion plans
- Analysis of focus group discussions
- Case studies
- Self-assessment questionnaires and survey research allowing for open-ended questions.

### Phase 3: Organizing Data

When organizing data, it is essential that data from several sources be triangulated to focus in on the appropriate research questions. It may be helpful to develop a data organization plan as illustrated below.

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Data Sources #1</th>
<th>Data Source #2</th>
<th>Data Sources #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-post-assessment</td>
<td>Survey</td>
<td>Focus Group</td>
</tr>
</tbody>
</table>

Methods for data organization will vary, although successful action research teams have found it helpful to:

- Count instances, events and artifacts
- Show data in simple tables and charts
- Organize for review and analysis by colleagues
- Seek technical assistance, if needed
- Arrange data by groups
When data are collected, faculties come together and collectively ask the question, *What does this data mean?* Therefore, it is essential that time be provided in order to understand fully the implication of their research.

What do the current data mean in terms of:

- Current student performance and attitudes?
- Desired students’ performance, behaviors and attitudes?
- The current learning environment and students’ response to it?
- Redesigning the learning environment?

- Squeeze the data for maximum information
- Determine how data reflect your initial research questions
- Analyze and question the data as a research team or cohort
- Determine priority area(s) for action
- Decide what can be affirmed and celebrated.
Once faculty teams have had an opportunity to collect and review their data, they are then ready to take action through a consensus-driven decision making plan.

This process is ongoing. As action research participants proceed, they should continually revisit their data questions action plan implementation and finding. This recursive process can promote continuing breakthroughs in student achievement.

### Next Steps

- Find conferences both on and off campus to present your action research
- Present your action research at a Bowie State University Faculty Development Institute
- Use your action research as the basis for publications
- Share findings with other faculty members in your department and college

### Suggested Resources


