ACTION RESEARCH PARADIGM PROTOCOL

INTRODUCTION

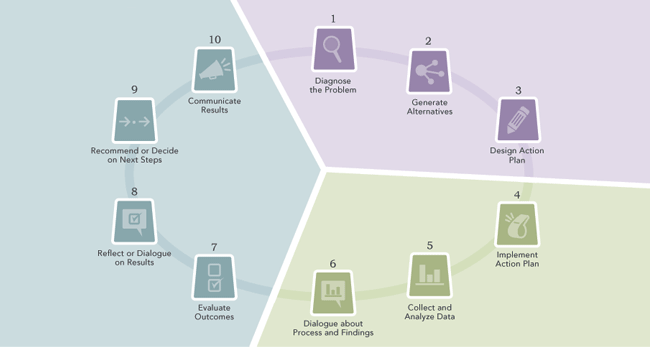
The Action Research Paradigm Protocol (ARPP) is a framework that describes a series of 10 steps that comprise the action research inquiry cycle. The ARPP is referenced frequently in your courses and is intended to serve as a resource in both phases of the EdD program. The ARPP can be applied to case study analysis, and problem setting and action planning exercises at professional sites during Phase I of program. During Phase II of the program, you will engage the full inquiry cycle in greater depth in your dissertation study. The ARPP is not intended to replace other action research resources (e.g., texts, articles, studies), but to complement them.

Though not every question associated with each step of the inquiry cycle is relevant for every real world issue or case study analysis, the questions, taken collectively, represent a continuum of important considerations when solving problems or planning research. You will need to determine if or when a question or step is not relevant to a case or problem solving exercise. In most cases, however, each question will be one you'll want to address when planning and conducting action research.

You will likely also discover that the path from step 1 through step 10 is not always linear. You may need to repeat or revisit steps, depending on what you learn as you move through the cycle. For example, after your initial diagnosis of the problem, you may discover that one or more alternatives you explore may raise additional questions about the true nature of the problem or issue, and you will need to circle back to further analysis of the situation.

The Elements of Thought tab describes the way the inquiry cycle is similar to the logic of thought as described in Paul and Elder's text. Hence, action research and the inquiry cycle should be considered as a way of thinking as well as an approach to research.

ACTION RESEARCH INQUIRY CYCLE



INQUIRY CYCLE PART 1

**Step 1: Diagnose the Problem**  
The inquiry cycle begins with a diagnostic phase. To diagnosis a problem is to frame it in terms of central issues by examining and **analyzing the situation.** To "frame" a problem is to clearly define the boundaries and context for the problem or issue at hand. "Central issues" refers to key components of a problematic area that speak to causes rather than symptoms.

Diagnosis is accomplished by examining and evaluating existing data related to the issue, and gathering additional information or data as needed in order to develop a comprehensive understanding of the different facets of the issue. Because issues need to be understood within an organizational context, environmental factors such as the political climate, the assumptions that are made about the issue or widely held in the organization, and differing viewpoints about the issue all need to be considered. For this reason, consultation or collaboration with colleagues and others in the organization to brainstorm problems, causes, and potential courses of action is advisable. **Relevant literature and research studies** about key aspects of the issue may also contribute to a better understanding of the problem area, and provide ideas for generating options, alternatives, or solutions. When an issue has been fully explored and examined through a number of different lenses, the problem(s) or opportunity that emerges should be clearly described and framed in terms of its central issues and possible causes, and the organizational context within which it occurs.

The problem or opportunity can also be set in terms of a **key question** or questions that will guide the action to be taken. What is the question or questions the intervention or action plan will seek to answer or resolve? The extent to which the question is answered or resolved can be evaluated as part of the criteria used to define the success of the action or intervention.

The diagnosis phase of addressing a problem or planning action research can be complex and may take more time than anticipated. What first appears to be the problem may turn out to be a symptom of a larger issue that may not be obvious but which must be addressed in order to improve the situation. The importance of the diagnosis phase cannot be overestimated because, as in medical practice, the steps or treatment that follow rely on a comprehensive understanding of the issue and the accuracy of the diagnosis.

**Guiding Questions:**  
**1.Diagnosis: Frame problem in terms of central issues.**

* What is the issue at hand?
* What's the problem and/or what's the opportunity?
* What needs to be solved? What are the unanswered questions?
* What is the goal or purpose of the planning?

**1a. Analyze the situation**

* What information do I need to understand the issue? What data are available or need to be collected to analyze and define the problem?
* What's the organizational context of the problem? (Consider action science perspectives on espoused vs. theories in use, single and double loop learning, defensive routines, and model I vs. model II behaviors)
* What are the key concepts related to the issue?
* What's the systems context? What are the political, economic, social, ethical considerations or lenses?
* What are others' points of view?
* What assumptions are being made or am I making about the situation and the organizational context? What things are "taken for granted" in the organization?
* Who owns the issue?
* Who needs to be involved in conducting an analysis of the situation? What can I conclude or infer from the situational analysis of the issue?

**1b. Evaluate existing research findings**

* Which key concepts are relevant to the problem situation?
* Which research studies and literature are relevant and applicable to the problem situation?
* How do I summarize, compare, synthesize, or evaluate existing research and literature? What can I infer or conclude about the issue from the literature?

**1c. Establish key questions to be addressed in solving the problem or conducting research.**

* What are the key question or questions emerge from an analysis of the situation at hand and will guide the investigation (research or problem solving action)?
* Who needs to be involved in addressing the question(s)?

**Step 2: Generate Alternatives**  
When the issue, problem, and question(s) have been set, the leader or researcher generates alternatives to the current state, evaluates them against a set of criteria, and decides upon a course of action. The process of establishing alternatives or interventions implies that a desired future state has been defined, that is, a vision has been established of how the situation should look after changes to address the problem or issues have been implemented. The literature review and analysis of the organizational context that were part of the diagnosis phase will be vital in defining a future state and developing alternatives, as will continued collaboration with others in the organization.

**Guiding Questions:**

* What does the desired future look like?
* With whom do I need to collaborate in developing alternative courses of action?
* What can I conclude from my analysis of the situation, my evaluation of existing research, and key questions I've identified?
* What are several alternatives to address the issue?
* What are the known/likely risks of each? Unintended consequences? Trade-offs?
* What is the best course of action?

**Step 3: Design Action Plan**  
The last step in the planning process is to develop an action research design, taking into consideration the organizational context and current understanding of the issue. The chosen course of action, the implementation plan, data collection, and data analysis must align with each other and with the problem and question(s) at hand.

The implementation part of the action plan includes a timeline for the first action research cycle. The timeline can be determined by estimating how long it would reasonably take for effects of the implementation to become evident, or how long it might take for an intervention to make a difference.

The consent, cooperation, and/or approval of those who will participate, who are in positions of authority, or who will be affected by the implementation should be obtained early in the design process. Other resources needed should be identified and availability determined.

The action plan should include baseline data related to the problem, including its organizational context and probable cause(s). Without baseline data and a clear description of the problem as points of comparison, you will not be able to determine whether data collected as part of the intervention or action plan reflects an improvement over the status quo, no change, or a negative effect on the situation.

Along with baseline data, criteria for success and points of comparison with the current state should be defined. This provides a basis on which to make a determination about whether the action or intervention can be considered successful. Collaboration with participants and/or others in the organization to develop criteria and metrics that will best serve as success indicators, or to identify the sources and types of appropriate baseline data, can prove very helpful.

The design step defines the data that will be collected to document the effects of the implementation, and the schedule (times and places) of collection. The design plan further describes how the researcher will document the implementation process as it unfolds. Multiple types of data, including journal entries by the researcher, should be collected to increase the credibility and validity of the findings. Systematic collection of a variety of evidence/data is essential to a scholarly investigation of practical problems and interventions to solve them.

**Guiding Questions:**  
Design an action research plan that aligns with the problem and question(s)

* What's the action research plan (research design)?
* What is the tentative timeline for implementation? How long will it take for the intervention or actions to demonstrate an effect?
* How can the action research plan be justified? What is the intended outcome(s) or goal(s)?
* What support from organizational leadership is needed to implement the plan or decision?
* Is the action planning collaborative? Is it inclusive? Are multiple perspectives considered?
* Who is involved in the study? (Who are the participants? What are the accountabilities?)
* What data are needed to accurately describe the status quo (baseline data)?
* In addition to my reflective journal, what types of data/evidence should be collected during implementation to determine whether the plan had an effect?
* Have I identified multiple sources of data so that triangulation can take place? >
* How will the implementation of the study (process) be continuously monitored and documented?
* What are the criteria for success? What are the metrics? How will we know if the change resulted in improvement?
* How does the plan address issues of validity and reliability, or credibility, transferability, dependability, and confirmability?
* Is a change management process needed?
* How will the plan be communicated?
* Does the plan adhere to the highest ethical and scholarly standards? Have I addressed any legal concerns and social responsibilities in designing the action plan?

INQUIRY CYCLE PART 2

**Step 4: Implement the Action Plan**  
In Part 2 of the Inquiry Cycle, the action plan developed in Part 1 of the Inquiry Cycle is implemented. Successful implementation of the plan depends in large measure on the quality of the planning process. Although unanticipated events and surprises may occur in any action research study, careful analysis of the issue and attention to the steps outlined in the planning phase provide a sound foundation for making any adjustments needed during the study.

A natural desire during implementation is for the intervention or action to succeed or improve the situation. The desire to succeed can lead to difficulty in seeing the situation as it really is. Awareness of assumptions that are being made about the implementation, and the ability to view the situation from different points of view with an open mind are important habits of mind during the investigation of any problem or situation. Throughout the implementation, respect for participants and adherence to high ethical and scholarly standards is essential.

**Guiding Questions:**

* How is the change process unfolding? What are the surprises? Unanticipated difficulties?
* How is the implementation being monitored and documented?
* What assumptions am I making about the implementation and the outcomes?
* From which points of view am I examining the issue? Am I keeping an open mind?
* Is the implementation, including communications and data collection, being carried out in a way that is respectful of participants?
* Is the plan being led and implemented according to the highest ethical and scholarly standards?

**Step 5: Collect and Analyze Data**  
Two types of documentation are essential to action research. First, data are collected to document the effects of actions or interventions undertaken during implementation as outlined in the action plan. In an action research study, the data are collected and analyzed during the implementation of an action plan, that is, while the study is in progress. Other research methods involve the collection of data during a study, but the analysis of the data typically occurs only after all data collection has ended. One reason for the ongoing analysis of data during implementation has to do with the nature of action research. Action research is research and action occurring in real time. Action research is not only the documentation of a change or intervention as might occur in a case study. Action research seeks to improve a situation through action or change that may result in unanticipated consequences, either positive or negative. Based on the effects of the changes as they occur, the action plan may need to be modified or adjusted in real time in order to better address the problem situation. Modifications of an action plan are often most effective when they are the result of ongoing dialogue and consultation with participants engaged in the action research.

The second type of documentation is process related. Documentation of how the implementation process unfolds on a day to day basis is essential to understanding, and clearly communicating to others, "what happened" during the study. The researcher's journal entries can include this process data, and should reflect any departures from the original action plan including justifications for the changes to the plan. The researcher's journal is also an appropriate place to record the researcher's thoughts, feelings, and ideas as they occur during implementation. A thorough and accurate description of the study adds to the credibility and potential transferability of the study.

Taken together, these data will enable the researcher to reconstruct the implementation of an intervention, analyze the effects of the implementation, and draw valid inferences and conclusions.

**Guiding Questions:**

* How are data (including process implementation data) being continuously collected, recorded, and analyzed during implementation?
* Am I collecting and analyzing data according to the research plan?
* Am I documenting the research process and monitoring the implementation?
* Am I documenting any departures from the original design plan?
* Am I maintaining my researcher's journal?
* How do I interpret the information/data? What can I infer?

**Step 6: Dialogue about Process and Findings**  
Action research is undertaken to improve a situation. By definition, action research involves change. The people involved in the change may have been involved in the planning of the intervention, may be directly participating in the change or intervention and directly affected by it, may be members of an organization who are indirectly affected by the change, or may be leaders in the organization who have an interest in the outcome of the study. Although the degree of participation may vary depending on the setting and the problem, action research is generally done with participants, not to them.

The benefits of ongoing dialogue and information sharing with participants and other stakeholders are several. Participants can be more effective in implementing change when they receive feedback about the effects of their actions. Participants can be more engaged with the change if their ideas and insights about the change are respected and, as appropriate, incorporated into the study. Perhaps most importantly, both researcher and participants increase their understanding of the issue, and of the solution or intervention, as a result of collaborative dialogue about the implementation process and about the effects of the change.

**Guiding Questions:**

* Am I keeping participants and members of the organization informed of progress and interim results?
* How is dialogue about process and findings occurring?
* Are appropriate forums for discussion, concerns, and suggestions available?
* Are participants' perspectives incorporated into the study where appropriate?
* What are the viewpoints of others involved in the process about what can be inferred from the data?

INQUIRY CYCLE PART 3

**Step 7: Evaluate Outcomes**  
The first action research cycle is complete when the timeline established in the action plan comes to an end.  At this point, all data that have been collected are analyzed and evaluated as described in the action plan.  The baseline data about the problem or issue, specific criteria against which to judge success of the intervention, and metrics that help evaluate whether the criteria were met were established in the action plan prior to implementation.  The results of the data analysis are compared with the baseline data and the criteria for success.  Whether the results of the data analysis are quantitative or qualitative, it should be possible to offer compelling evidence of the extent to which the implementation of the change did or did not make a difference,  whether the difference was positive or negative. Can it be shown how and to what extent any changes to the state of the problem or issue were the results of the action plan rather than attributable to a different cause?

The documentation of the implementation process is also evaluated for the extent to which the original plan was followed and whether modifications were necessary.  Unanticipated events, unexpected consequences, participant reactions, and other aspects of the implementation process are compiled in narrative form.  The researcher’s journal can be a rich source of information and data about daily events, and ideas and insights compiled during the course of the study.

Member checks, audit trails, and other methods that provide triangulation of the data are completed to increase the credibility, dependability, confirmability and, ultimately, the transferability of the study.  The precision, accuracy, and completeness of the action research results help determine the extent to which the study can contribute to a larger body of knowledge.

**Guiding Questions:**

* Are the data being analyzed and evaluated according to the action plan? How do I know when analysis is complete?
* Have I evaluated the documentation of the implementation process?
* What does the analysis of the data reveal? Have the results of the data analysis been evaluated against criteria for success?
* Have I referenced my journal for information and data that confirm or disconfirm other data I collected, or fill in gaps that have not been documented elsewhere?
* Have plans to ensure the validity, reliability, credibility, and dependability of results been implemented?
* What can I conclude from the information/data analysis? Are my conclusions based on solely on the evidence?

**Step 8: Reflect or Dialogue on Results**  
Reflection on the results of the study is an important step in all research studies, but particularly in action research. In other types of research, the results of a study suggest further questions or areas of research that are reported by the researcher as recommendations for further study. The results of an action research study may suggest a need for further (or a different type of) action. (The results may also be such that no further action is needed.) In action research, reflection on the results is essential because the results have important implications for a real world issue that is ongoing and immediate.

Reflection often takes the form of dialogue with participants and stakeholders, through which agreement can occur about the conclusions, implications and consequences, and possible further action research cycles.

**Guiding Questions:**

* What are the consequences of my conclusions, positive and negative?
* Dialogue about the findings: How can the findings be interpreted? What unexpected elements or outcomes were identified? Would a different action or intervention had better results? What ideas have emerged from a collaborative discussion about the findings?

**Step 9: Recommend or Decide on Next Steps**  
The reflection process, whether individual or collaborative, results in recommendations or a decision about what should happen next. Did the change, action, or intervention show enough promise for improvement of the issue or problem that it should be continued for another specified period of time? Should the intervention be continued with modifications based on the results of the first action research cycle? Should the intervention or action be discarded in favor of a different approach to the issue or problem? Has the problem or issue been resolved through one action research cycle? In other words, the results, conclusions, and implications have been evaluated and reflected upon, and because the situation is a real world issue or problem that must be addressed through action, a recommendation or decision is made about what do to next to address the issue or problem.

**Guiding Questions:**

* What can be concluded about what needs to happen next?
* Based on the reflection cycle (individually and collaboratively) what are the implications for next steps?
* How does the next action reflect the previous learning?

**Step 10: Communicate Results**  
Action research results are shared with others for the same reasons any research results are shared. Among those reasons are: to contribute to the body of knowledge and theory about a particular issue, to contribute to the profession, and to enable learning to occur through the work of others. The manner in which the results are communicated depends on the interests and needs of the audience.

Participants and others at the research site know that the study took place and may have participated in the implementation. They should be fully informed about the results as part of the study itself. Others who may have an interest include those at a higher level in the organization where the study took place, or people in similar institutions or organizations who may have similar issues to resolve.

Action research results can also be presented at conferences, published as articles, reported as a formal requirement of funders, reported in a professional portfolio to showcase your work, or presented as a dissertation. Each presentation will be structured differently with a different level of detail and formality because the purpose of the presentation varies for each audience.

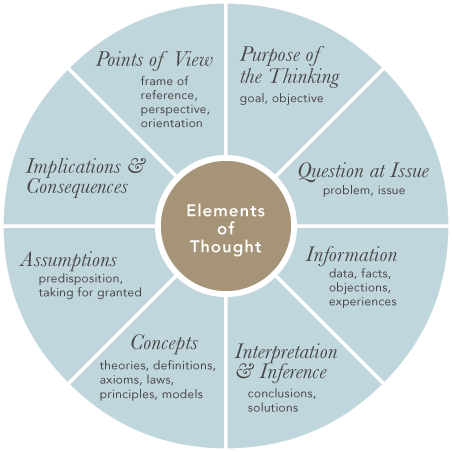
However, all reports have some basic commonalities. The report, whether formal or informal, answers these questions: What was the problem? What did you do about it? What difference did the actions make? How do you know the actions caused the difference? What are the implications of the results? What are the next steps?

Most reports will include a description of the problem and its context, the action or intervention chosen to address it (and why), and the research design, including data collection and analysis methods and reasons for their selection. A report includes a description of the implementation and its progress, as well as a description and interpretation of the data that have been collected and analyzed. Conclusions must be validated and supported by the evidence in a way that is convincing to the audience. Finally, next steps that are identified in the report should lead logically from the conclusions and implications of the study's results.

**Guiding Questions:**

* How will I help others understand the results?
* What type of report is appropriate for the purpose and audience?
* Have I provided clear context and description of the problem and implementation?
* Have I described the data collected, how it was analyzed, and the results of the analysis?
* Have I supported my conclusions with evidence?
* Have I explained the implications of my conclusions?
* What is the significance of the study?

ELEMENTS OF THOUGHT



The Elements of Thought, as posed by Paul and Elder, describe the Logic of the Inquiry Cycle. Using the Elements of Thought as a lens, the Inquiry Cycle may be seen as a process that focuses on examining underlying **purpose, assumptions, and perspectives** of a situation (or thinking process), identifying **key questions, concepts, and information** that will help inform understanding of the issue, and evaluate evidence and data from which to make **inferences,** draw **conclusions**, and understanding the **implications and consequences** of the conclusions. Much thought goes into understanding and analyzing the situation, and defining the problem. How a problem is defined or a question is stated is of critical importance. Paul and Elder say "…it is important to …put the questions, problems, and issues we need to deal with in a clear and distinct way. If we change the questions, we change the criteria we have to meet to settle it. If we modify the problem, we need to modify how we're going to solve the problem. If we shift the issue, new considerations become relevant to its resolution" (p.55). Thus, Paul and Elder's statements are consistent with the emphasis placed upon the diagnosis of the problem by the action research inquiry cycle. Either way, "jumping to solutions" is a recipe for disaster!

The Elements of Thought, as portrayed by Paul and Elder, are consistent with, and may be applied to the action research inquiry cycle. The Inquiry Cycle of action research is a way of thinking, a habit of mind, that follows a well-reasoned logic. The Elements of Thought describe the reasoning process and general logic of the Inquiry Cycle. Overall, the logic of action research begins with establishing a purpose or diagnosing a problem for the research, and concludes by reaching conclusions (and the implications of the conclusions) at the end of an Inquiry Cycle. However, the individual Elements of Thought may come into play in non-linear fashion at multiple stages of the Inquiry Cycle. For example, examining your assumptions and/or additional points of view may occur at each phase of the research.

REFERENCES

* Paul, R. & Elder, L. (2003). *The miniature guide to critical thinking: Concepts & tools.* Dillon Beach, CA: The Foundation for Critical Thinking. www.criticalthinking.org
* R., & Elder, L. (2001). *Critical thinking: Tools for taking charge of your learning and your life.* Upper Saddle River, NJ: Prentice Hall.