Identifying a Research Topic

GUIDING QUESTIONS

After reading this chapter, you should be able to answer the following questions:

- What are the initial steps for developing an action research project?

- How do you generate a topic for action research?

- How do you develop a question once you have chosen a topic?

- Once you have developed a question, how do you proceed with your action research project?

CHAPTER AIMS AND GOALS

The intent of this chapter is to initiate the strategic plan of your action research by identifying a topic of significance and to begin the process of formulating a research question to guide your study. As you proceed through this chapter, you will develop an understanding of

- how to begin the action research process,

- what makes for a meaningful and productive action research topic,

- how to narrow the focus of potential topics,

- how to clarify your topic by writing a statement of the problem,

- how action research questions are formulated, and

- how to evaluate your topic and potential research questions.

The challenge of identifying a research topic for your action research project is that there are a multitude of possibilities for you to explore. Most teachers have many questions

about their students and their teaching practice. Determining what will be the focus of your action research project is the first step in developing the action research plan. The potential benefits of the action research process hinge on a carefully selected topic and well-designed research questions. This chapter will assist you in developing these first crucial initial steps of the action research process.

SETTING THE CONTEXT: CHOOSING A RESEARCH TOPIC

The purpose of teacher action research is to provide a systematic process to allow teachers to problem solve and come to better understand learning in and from their practice (Ball & Cohen, 1999). **Problems of practice**, as they are commonly referred to, are the everyday challenges that school leaders, teachers, and educators of all types face in their schools, classrooms, and educational organizations. "Most applied research begins when you select an everyday problem, interest, or concern for further study" (Machi & McEvoy, 2008, p. 16). For you, as an educator, these are challenges that likely inspire, frustrate, embolden, or push you to identify how to best support student learning. You may have already heard the term *problem of practice,* whether working with your colleagues in a professional learning community (PLC), developing a school improvement plan, discussing how your own challenges as a classroom teacher complicate your work with students, or listening to practicing teachers discuss common problems or challenges related to student achievement or learning. Whether you are attuned to them or not, problems of practice affect your work and have a significant influence on the questions you reflect upon as you think about your teaching and the context you work in. These problems are often linked to broad educational issues like the achievement gap or educational policies that directly impact your daily practice in the classroom (see additional list in Figure 2.1). It is often valuable to start with broad challenges that you face as an educator to ensure that your final, focused research topic is connected to a larger issue or problem.

FIGURE 2.1 Examples of Broadly Conceived Problems of Practice

The achievement gap

Authentic assessment

Immersion of English language learners

Common Core math implementation

Problem-based learning

Balanced literacy approach

Response to Intervention

Gender equity

Technology integration for higher-order thinking

Global competence

Take a moment and think about what problems of practice are of great interest currently to the broader educational community. Is there a program that your school or school system has just implemented, such as Response to Intervention or a balanced literacy approach, that would be appropriate to research and investigate? As you consider problems of practice that interest the broader educational community, what are you most curious about? Generate an initial list of broad educational problems or issues that directly impact your classroom practice.

FORMULATE A PERSONAL EDUCATIONAL PHILOSOPHY

While studying to be teachers, we are often asked to write our personal educational philosophies. The intent of this exercise is to clearly articulate what it is that we believe and value in educational contexts. To formulate a personal educational philosophy, we consider the following:

- What do you see as the grander purpose of education in a society and community?

- What, specifically, is the role and responsibility of the teacher in the classroom?

- How do you believe students learn best?

- In general, what are your goals for your students?

- What qualities do you believe an effective teacher should have?

- Do you believe that all students can learn?

- What expectations do you have of students in your classroom?

A clear conception of your personal educational philosophy serves to guide and inspire you throughout your teaching career and should act as a centerpiece around which all of your decisions rotate. Personal educational philosophies may evolve over time, and it is important to reflect continuously on how your practice aligns with your espoused educational beliefs and values. This is significant because misalignment between your practice and personal educational philosophy often leads to internal discord that may impact your teaching effectiveness and student learning.

Early in the process of planning your action research project you will want to self-reflect on how topics of interest and potential solutions align with your personal educational beliefs and values. Will this investigation assist you in moving your practice in closer alignment with your personal educational philosophies? Will the topic of the investigation assist you in affirming, refining, or shaping your current educational beliefs and values? Will this investigation help you resolve discord that currently exists between what you believe and what you are practicing in the classroom? For this action research process to truly impact your learning, there must be the opportunity for you to test, challenge, and engage in deep reflection around your personal educational beliefs and values.

NARROW YOUR FOCUS: YOUR CLASSROOM, YOUR EXPERIENCES

As you examine your narrowed list of broader educational problems or issues, begin reflecting on your day-to-day experiences in the classroom in relation to the broader problems/issues you are curious about. In order to narrow the focus of your action research you will want to begin by asking, "What is my concern in my practice?" As a reflective practitioner you probably have many aspects of your practice that you wonder about daily. We want you to dig a little deeper and consider questions you have related to student characteristics, curriculum or program implementation, classroom structures and procedures, or utilization of resources and materials. If a concern or problem of practice is not immediately apparent to you for topic identification, it may be helpful to consider the many potential categories of topics that are often utilized in teacher action research to support you in topic identification. Mertler (2009) presents a list of several categories of topics that could be considered for action research studies. The following categories and ideas are listed:

- Classroom environment—Topics in this category include the various aspects of the physical and psychosocial environments in classrooms and school buildings, and their impact on student learning.

- Instructional materials—Topics might include the appropriateness of textbooks and other printed materials with respect to gender and ethnicity, the extent to which teachers find the materials useful and to which they support the curriculum, or the perceptions that students have of those materials.

- Classroom management—Possible research topics might include the level of satisfaction that both teachers and students have with the methods of managing student behavior, the degree to which the methods of managing behavior allow students to learn without unnecessary distraction, or how limiting those methods are with respect to the ability of teachers to teach as they would like.

- Instructional methods—Topics might include the effect of a given teaching method on student learning, the impact that different teacher personality styles can have on student learning or motivation to learn, or methods of providing effective feedback to students on their academic performance.

- The relation of human growth patterns to education—Possible topics might include ways to incorporate individual students' interests and learning preferences,

teaching strategies that support self-regulated learning, or those that support individual rates of learning.

- Grading and evaluation—Teachers often have questions about the effects that grades and other forms of evaluative decisions have on student motivation, stress, achievement, and attitudes, or on effective methods of incorporating authentic assessment and other nontraditional means of assessing students.

- Conferencing—Possible topics might involve the ways in which parents and teachers value individual conferences or strategies for improving the effectiveness of parent–teacher conferences (Mertler, 2009).

These topic categories may give you some insight into all the variety and possibilities of teacher action research projects. As you explore what you are most interested in, you might continue to push your thinking by asking yourself these questions: Why do I do things in a particular way? Are there things that could be done differently? If I could wave a magic wand and instantly change something that I am frustrated by, what would it be? Is there something I would like to experiment with in my practice?

■ ■ ■ VOICES FROM THE FIELD

Bailey Rogers, Sixth-Grade Teacher

Over the past few years, my district has really begun to look at how technology can be effectively incorporated into instruction. In the past two years, several schools started allowing their students to bring their own technology to school. I believe this happened for a few reasons, but mostly because students had more technology at home than at school and many students were already using it to help them in various ways as they completed assignments. The first situation is really applicable at my school. Classrooms usually have between two and four computers each, but they are often so old and slow that the students never want to use them for anything. As much as I want to incorporate technology into my instruction, it's definitely been challenging with these resources.

One teacher on my team was recently awarded a grant that allowed her to get a class set of iPads and a rolling cart. She has offered to allow me and the rest of the sixth-grade team to use them at various points during the year. I teach science and with all of the talk about having students develop 21st century skills, a burning question in my mind relates to how effective iPad use is in the classroom for different subject areas. I want to use the iPads in a way that engages the students and allows them to really explore concepts related to science, to create presentations, and as a writing resource. I really feel like the sky is the limit, but I keep wondering if there are specific advantages (or disadvantages) related to student learning when iPads are used in these ways. I have a unit coming up on thermal and chemical energy, and I have a variety of resources, both aligned with traditional instructional methods as well as a number of new resources that can be accessed through the iPad. I am leaning toward using the iPads in one class and engaging in more traditional lecture and reading-based instruction in another class. I'll compare how well each class performs on the end of unit exam and maybe interview a few students to get their perspectives. Not only will I be interested to see the results of this, but I think I will be able to share them with my team and our principal.

As you begin to identify a focus, make sure that it is a concern that you can do something about. It should not be bound by the actions of others. You need to have some level of control over the concern or problem in order to take action to resolve it or to bring meaningful change to your practice (Mills, 2011). Recognize that when you focus on a concern in your practice, it is tied to your personal values. As a result, you should select some aspect of your teaching that relates to what is important to you about your students' learning and your own personal educational philosophy, as discussed in the previous section. You will want to develop an action research plan that not only impacts your personal beliefs and understandings of teaching and learning but also has direct impact on student learning. There are many interesting areas of focus you could pursue, such as poor morale as a result of the low pay for teachers or methods the school system uses to make curriculum and instruction decisions that are implemented across schools; however, these are not topics that you have any control over or ones that will provide a solution that has the potential to document improvement in student learning. Remember, as you are beginning to bring focus to your plan, make sure you do not stray from the primary intent of teacher action research, which is the use of systematic inquiry by teachers to improve teaching practices and student learning.

As you examine teaching and learning in your classroom, it may serve you well to engage in opportunities to reflect, observe, and discuss a potential topic with colleagues. You might spend a week paying particularly close attention to the problem or area for improvement as it currently exists in your classroom. During this time, you might write down observations, reflections, and the current status of the focus area in a reflective journal (see an example in the Case in Point examples). What is working well and what is not? How are students responding to the current instruction, program, or strategies? You will want to take time to observe students in the learning environment. To facilitate this, you could videotape yourself while teaching. Then, while reviewing the tape, you could evaluate the teaching and students simultaneously. It might be valuable to invite a colleague into your classroom to observe your teaching and student learning to gain another perspective on the issue or area of concern. It can be very helpful to discuss your concern with fellow educators in your school, to let them help you focus your concern, and to let their concerns help you identify yours.

Another consideration in your topic identification should be to determine if there are any potential ethical issues within your ideas for addressing the problem of practice. As you approach the problem, you might have to wrestle with design considerations, such as whether it is ethical to deny certain students curriculum or instructional best practices, in order for you to conduct your study. You might be faced with the ethical consideration of using curriculum materials provided by politically biased groups that have more of a political agenda than an educational intention. Or you may wrestle with whether the focus of your work takes a deficit approach toward disadvantaged groups versus a strengths-based approach toward the diverse groups you teach. There are many inherent ethical issues that may present themselves as you continue to develop your topic and the plan that you will use to study it. You will need to pay attention to any ethical issues that emerge and think deeply about ways that they can be resolved in your planning that align with your personal beliefs and values and that always put the students' best interests ahead of the need to conduct the study. Being aware of and thoughtful about ethical issues should be a part of the initial steps of developing the action research plan.

As you continue to narrow your ideas for potential topics, you will want to consider if there is a way to measure or analyze the potential problems of practice. Is there data that can be collected or evidence to be evaluated? If you institute a change, the desired behaviors or intended learning outcomes must be observable or measurable. In other words, if you are looking for impact on student learning, change in behaviors, or improvement in practice you must have a way to document growth, change, or achievement.

"NOTE"-ABLE THOUGHTS

Based on your reflections of the broad educational context, your personal educational philosophy, and your specific classroom context, select a problem or concern to begin to focus on. Do this by asking yourself is there a practice, issue, or behavior you can improve? Is there a problem you can solve? Is there something you can change that might help to enhance understanding for your students? Are you able to identify strengths and weaknesses in your program or practice? What do you hope to change and why? Once you have an idea of something that can be improved, ask yourself these questions:

- Is my problem connected to a larger issue that will be of interest to the broader educational community?

- Do I have control over any aspect of the problem?

- Is the problem something that is manageable and practical?

- Will this problem allow me to test, challenge, and engage in deep reflection around my personal educational beliefs and values?

Is there some way to measure the problem, such as student exams or other assessments, audio or videotape, survey results, other statistics, or sample?

You can use the questions in "Note"-able Thoughts to test out several of your identified areas of concern within your practice. If you are unable to answer "yes" to any of the questions related to a potential topic, you will likely want to eliminate it from consideration. This will be helpful in narrowing down the focus of potential topics and allow you to identify a meaningful and productive action research topic. A research topic will be meaningful if you personally value the investigation because it will provide a solution or deeper understanding around a problem that matters to you. It will be productive if it leads to improvement in practice. It will also be meaningful if your solutions and deeper understandings of the problem have broad appeal and interest to the educational communities to which you belong. Therefore, it is important to identify the topic only after a thorough examination of your personal and professional values and the educational contexts in which you operate.

Taking Action: Developing the Research Topic

REFLECT FURTHER ON THE TOPIC

After identifying a topic for the action research, you may be thinking, "What do I do next?" The first action to take will be to continue to develop your thinking around the

FIGURE 2.2 Organizer for Questions to Consider While Developing Topic

Consideration	Your Response
What is your topic?	
What do you want to learn from this topic?	
What are you planning to do in order to address this topic?	
To whom will the outcome of your study be important?	
How much time do you anticipate the study requiring?	
How difficult do you anticipate it will be to conduct the study?	
Do you foresee any ethical concerns?	

Adapted from p. 68: Mertler, C. A. (2009). *Action research: Teachers as researchers in the classroom.* Los Angeles, CA: Sage.

identified research topic. The above self-reflection chart (see Figure 2.2) will assist you in recording additional ideas to support topic development.

■ ■ ■ VOICES FROM THE FIELD

Cindy Vollmer, 10th-Grade Teacher

As I began thinking about possible topics for my action research, an idea that came to mind was that one of the most prominent catch phrases currently buzzing around the educational community is "writing across the curriculum." Specifically, the National Council of Teachers of Mathematics (NCTM) has published numerous recommendations that include writing as part of math instruction. I recently read in NCTM's *Principles and Standards for School Mathematics* that "instructional programs from prekindergarten through grade 12 should enable all students to organize and consolidate their mathematical thinking through communication, communicate their mathematical thinking coherently and clearly to peers, teachers, and others, analyze and evaluate the mathematical thinking and strategies of others, and use the language of mathematics to express mathematical ideas precisely." Once I saw this information, I started thinking that the use of writing journals or logs could be beneficial to the progress of achieving some of these lofty goals.

In my classroom, I have noticed some of my students can come to the correct answer in math class, but have no idea how to explain how they arrived at that particular conclusion. These same students freeze when it comes to problem solving with word problems. Missing from my instruction has been attention to students judging the reasonableness of their solutions, and reflecting

(Continued)

(Continued)

on their thinking. Part of the reason why I feel that writing journals will be so beneficial in my math class is that I will be able to more closely monitor my students' learning. Hopefully, it will allow me to correct misconceptions earlier, guide the problem-solving process more closely, and be more in tune with my students' needs. I also feel that the students in my school lack the ability or confidence to express their logic and thought process in relation to the math work they are completing. This, combined with the push from the NCTM standards and the desire for my students to have a solid foundation in math, contribute to my consideration of the following research question: How can using writing journals in the mathematics classroom improve students' ability to understand and express mathematical concepts and problem solve?

WRITE THE PROBLEM STATEMENT

A second action step in topic development is to write the topic as a problem statement. A **problem statement** is a few sentences or a short paragraph that addresses the three elements of who, what, and how, and conveys the overall goal of the project (Pearson Education, Inc., 2008). For example:

> Middle school students in a fifth-grade classroom (who) lack strategies for dividing fractions (what) as determined by scores on an end-of-chapter test administered by the teacher (how). The test scores show the average number of correct answers was 9 out of 20. The goal of the action research is to increase the number of correct answers by an average of six per student during the next four weeks (goal of the project).

> OR

> Kindergarten students (who) lack conceptual details in their writing and drawing related to social studies content (what) for an upcoming unit on Community Helpers as demonstrated on a pre-assessment rubric (how). The mean score of the pre-assessment rubric for drawing was 1.87 and 2.13 for writing; they need to demonstrate growth in the amount of detail in both their drawing and writing product to score at level 3, which indicates that students meet grade-level expectations, on the rubric in the post-assessment (goal of project).

The problem statement will allow you to capture the problem of practice in a concise and clear manner and allow you to communicate your action research topic in a more developed way. It will also help you to keep a tight focus on the elements and the goal of the project as you move into further developing the plan.

GENERATE SOLUTIONS TO THE PROBLEM

Once you develop the problem statement, the next question is "What am I going to do about it?" You will need to formulate a **hypothesis**, or proposed explanation,

about the possible source of the problem and how to address it. Ask yourself if there is some change you could introduce to your students that would help you help them improve the quality of their learning (Henning, Stone, & Kelly, 2009). You will need to think about the problem you will be focusing on and brainstorm as many solutions to improve the problem. Maybe when you were exploring the different sources for information within your classroom context to identify a topic, you came across something you would like to try. You may have been involved in a district or school-based professional development initiative, been introduced to a potential solution to the problem in an education course, or read about how other teachers are addressing the problem in a recent professional development publication that you subscribe to. There are no limits to sources that may help you generate a potential solution. Keep an open mind and think about different ways to address the problem until you come up with at least three to five solutions. This will ensure you have enough possible solutions from which to choose.

If you need to know more before you can identify potential solutions, then talk with students to get a sense of how they see the quality of their learning, discuss ideas with colleagues, and/or seek educational resources. As you generate and consider solutions to the problem, it may be helpful to determine if there is any existing educational research or a theoretical rationale to support the use of a particular solution. You may do a brief initial search to determine if the solutions you have generated are grounded in an existing knowledge base or theory. Does there appear to be evidence within the field that the solution you are considering is a viable way to address the problem? You will want to feel confident that you will be able to build a rationale for a potential solution that is grounded in educational literature or theory. If you are unfamiliar with how to effectively search for related literature, see the TECH Connections box to get started or refer to Chapter 3 for more detailed information.

Now examine the list you have generated and select a possible solution for the problem. The choice of the solution must be one that is manageable and practical. It must be able to be carried out within the context of your practice. As part of your topic identification, the solution is critical because it is what will be investigated to see how it improves practice and student learning. Therefore, time and thought put into Step 3 is essential to success of the action research plan you develop. If you have a specific solution identified to address the problem, the action research will be more developed, focused, and productive.

DEVELOP THE RESEARCH QUESTION

The fourth and final action step in this section is to develop a specific research question. The **research question**, as the name implies, is what you will attempt to answer as a result of the actions and activities conducted within your research. It is used to guide your study. Please note that while it is possible to have more than one research question for an action research plan, we strongly recommend that you are careful not to design too many for the initial phase of the work. The research question should assist you in staying focused and should be written broadly to address the big ideas of your investigation.

TECH CONNECTIONS

As you are formulating your research topic, you will want to confirm that there is an existing literature or research base to support the use of the potential solution(s) you are considering to address your statement of the problem. Conducting an initial search of the literature at this time is valuable, as you may gain additional insights into what others have investigated or implemented. While there are a variety of tools that can assist you in this process, you might want to utilize Google Scholar (http://scholar.google.com/) initially to help with this task. Google Scholar will provide you with access to literature and research studies to assist you in determining if there is a rationale within the literature to support your thinking about the potential effectiveness of the solutions you are considering. Google Scholar functions like any other search engine, and you can enter keywords to see what exists in the literature related to your topic. If you receive a large number of results, there is a good chance that someone has researched your topic (or a similar one) in the past and you may be able to draw upon some of the information. Another resource that we've found helpful for preliminary searches is Academia.edu. Referred to as a "social networking site for academics," Academia.edu allows you to search for papers that have been posted to the site by individuals interested in sharing their work. One inherent advantage of the site, once you join, is that you can "follow" certain topics and receive notifications when additional papers associated with the particular keyword are uploaded to the site. This may be advantageous, as it diminishes the necessity of examining a long list of results, many of which may not be applicable to your given research. Given the focus of this chapter is on formulating your topic, we're limiting our information about searching to the TECH Connection. We will help you engage in a much more thorough examination of the literature/research in Chapter 3 before finalizing your research plan in Chapters 4 and 5.

There are certain characteristics of good research questions that you should keep in mind as you set out to develop a question to guide the initial phase of your study. First, the question that you design must relate directly to the issue or problem that you have chosen to explore. If you develop more than one question, each needs to be related to the others, and together they need to be related to the overall issue or problem. Second, the question must be answerable. Although this may seem intuitive, it is necessary to make sure that an answer to the question you pose is attainable within the context of your work and resources. A good research question usually begins with *why*, *how*, or *what*. You will need to discard any questions that can be answered with *yes* or *no* as these are not conducive to explaining and discussing your results. You want to pose a challenging, higher-level question that demands explanations, reasons, or reveals relationship (Padak & Padak, n.d.; Pine, 2009). If you do start with a "yes or no" question, though, you are in good company. By our estimation, about 40% of the first-time researchers we work with draft one of these questions early in the question formation process.

To assist you in writing a clear, concise, and challenging question, you may want to use the research question format below (see Casas et al., 2005). This format is particularly helpful in keeping the question from becoming too lengthy. If you have worked your way through the action steps above of writing a problem statement and identifying a solution, the research question format is a structured and user-friendly approach to writing the research question. Although this format may be useful in writing the research question, it may not work for every investigation.

Example Format: What is the effect of _____ (intervention) on _____ (student description) when learning _____ (content or topic description)?

Example Questions Using Format:

1. What is the effect of SimCourt on high school students' word identification skills when developing basic foundations of reading?

2. What is the effect of the Passive Concert on the comprehension of my kindergarten students' content knowledge during our study of the Community Helpers unit?

3. What is the effect of Learning Menus on student motivation and completion of project work when learning about healthy food choices?

Other Example Questions Without Format Structure:

1. How does the Writers' Workshop approach affect my students' feelings toward writing?

2. How will the use of the cooperative learning strategies (Jigsaw II and Inside-Outside Circle) increase the achievement of seven of my students who are failing in science?

3. How will student-led discussions impact the successful completion of homework reading assignments by students?

4. What happens to student learning in my classroom when I use a project-centered approach to teaching the geography of Latin America?

Developing a Plan or a Product: Completing a Topic Proposal Form

As a product for this chapter you will develop and compile your ideas to complete a Topic Proposal Form. The purpose is to clearly articulate your research topic either to gain approval by the instructor of a course that requires action research or to communicate with colleagues or administrators your initial topic proposal to generate interest and support for the developing action research plan. Following the Topic Proposal Form in this section, you will find an example to support your understanding of this product. You may also want to look ahead to the Case in Point examples to see another real-world example to support the development of your Topic Proposal Form (see Figures 2.3 and 2.4).

Evaluating Against the Standards: Are You Ready to Move On?

It is important before moving forward with the planning of the action research that you engage in self-reflection to ensure that the content of the Topic Proposal Form is aligned with the criteria used to evaluate the quality of the product. To support you in evaluating

FIGURE 2.3   Blank Topic Proposal Form

Topic Proposal Form

Topic:

Statement of the problem:

Research question to be studied:

Rationale—Why is this topic important to study?:

Broad educational appeal for the topic:

Personal connection/interest in the topic:

FIGURE 2.4   Completed Topic Proposal Form

Topic: The Effect of the Passive Concert on Kindergarten Learning

Statement of the problem: Kindergarten students lack conceptual details in their writing and drawing related to social studies content for an upcoming unit on Community Helpers, as demonstrated on a pre-assessment rubric. The mean score of the pre-assessment rubric for drawing was 1.87 and 2.13 for writing; they need to demonstrate growth in the amount of detail in both their drawing and writing product to score at level 3, which indicates that students meet grade-level expectations, on the rubric in the post-assessment.

Question to be studied: How will Passive Concerts affect the comprehension of my kindergarten students during our study of the unit, Community Helpers?

Personal connection/interest in the topic:

The reason I chose this question for my action research is that the whole idea of music enhancing learning is fascinating to me. I have recently had the opportunity to participate in various inservices that incorporate music and learning. The inservice highlighted that research has been conducted on the effectiveness of music and the learning of children. I have found that the effects of the music have stimulated my learning and participation. I want to incorporate these ideas into my classroom setting, and I feel that this is a wonderful opportunity.

One of the strategies introduced in the inservice workshop was the Passive Concert. The Passive Concert uses music to increase understanding and comprehension. The Passive Concert is a method of reviewing information presented to the students using Baroque-style music in conjunction with pictures and words. The music of the Baroque era has the kind of harmony and resonance that brings the mind and body into a highly effective learning state. I am intrigued by this strategy, and it aligns with my interest in finding ways to use the arts to increase student learning.

Educators' interest in the topic:

Teaching at an arts magnet elementary school reinforces my interest in this approach. I have watched my students over the last five years grow and learn while being immersed in an arts-rich curriculum. Adding this new approach should only increase the students' comprehension and add detail to their writing and drawings of the content that is taught and reviewed. Other teachers, school administrators, and parents will be very interested in what I find out through this investigation.

your work thus far, you may use the checklists in this section to carefully evaluate both your topic and the research question you have proposed in the Topic Proposal Form before sharing it with others or moving forward to the next chapter.

CHECKLIST: DEVELOPING THE TOPIC FOR ACTION RESEARCH

_____ 1. Is the topic relevant and meaningful to my everyday practice?

_____ 2. Do I have a strong interest or passion for the topic?

_____ 3. Is it a topic that other educators at my grade level, school, or beyond are interested in?

_____ 4. Is there a literature base to support my understanding of the existing knowledge of the topic or aspects of the topic?

_____ 5. Am I able to develop a concise statement of problem around my topic?

CHECKLIST: DEVELOPING A RESEARCH QUESTION

_____ 1. Is it a question that hasn't already been answered?

_____ 2. Is it a higher-level question that gets at explanations, reasons, and/or relationships? ("How does . . . ?" "What are the effects of . . . ?" "Why are . . . ?")

_____ 3. It is _not_ a "Yes/No" question.

_____ 4. Is it written in everyday language; does it avoid jargon?

_____ 5. It is not too lengthy; is it concise and clear?

_____ 6. Is it something that is manageable? I can complete it. It is _not_ too large in scope.

_____ 7. Is it something manageable within the context of my work and available resources?

_____ 8. Do I have a sense of commitment to the question or feel passionate about it?

_____ 9. Is it based in my own practice? (The further you get away from this, the more difficult it will be.)

_____ 10. Is it a challenging question? Will it provide me the opportunity to stretch myself?

_____ 11. Is it meaningful to me? Will it provide me with a deeper understanding of the topic or issue?

_____ 12. Will this question most likely lead me to other questions and additional inquiry?

SUMMARY

In this chapter, you have learned how to begin the research process by thinking about problems of practice in the broader educational community that are directly connected to an area of concern you have within your own practice. When you focus on a problem that matters to you, has the potential to improve your practice, and is of interest to the broader educational community, then you will have a meaningful, productive, and significant action research topic. This initial phase of the process is often challenging because you may find that you must wrestle between several potential ideas to explore in your practice or you may struggle coming up with a viable problem or appropriate solution to investigate. In order to narrow your focus, the chapter focused on the importance of selecting a topic that is manageable, has existing rationale within the educational literature, and stimulates your passion. It is helpful to clarify your topic by writing a statement of the problem to identify the "who," "what," "how," and the goal of the project as a useful framework to keep you focused throughout the planning and development phase of the action research process. Once you can clearly articulate the problem, the action research question can be formulated. The chapter provides you with evaluation criteria in the form of checklists to allow you to judge the effectiveness of the selected topic and formulated research question against the standards of the teacher action research literature.

As a product of this chapter, you have a developed an action research proposal form. This will be useful as you seek topic approval from a course instructor or to allow you to communicate effectively about your work with administrators and colleagues. It was also useful within the broader action research and self-regulatory processes as you engaged in observation and reflection, then strategically targeted an intended outcome for your work. The understanding you have gained about how to begin the process of action research and the proposal form you have completed provides a solid foundation within the planning phase. You will now begin the work of gathering, reading, and organizing the literature to deepen your understanding of your research question. Chapter 3 will lead you through the process of how to complete a literature review that will inform and provide additional insight to your project plan.

Key Terms

Hypothesis, p. 34

Problem(s) of practice, p. 27

Problem statement, p. 34

Research question, p. 35

Case in Point: Developing a Topic

In Chapter 1, you were introduced to Margaret Curtis, a second-grade teacher, and read her research log. In the log, she described a diverse classroom of children with a variety of learning styles and readiness levels. She expressed concern about some of her struggling readers and was unsure whether these readers would be adequately prepared to enter third grade. Margaret touched upon comprehension, motivation, fluency, and her students' need for support when creating written answers. In part 2 of her research log, she'll begin to narrow her focus by generating a list of potential topics and reflecting further upon the needs of her students.

You were also introduced in Chapter 1 to Matt Wells, a ninth-grade science teacher. In his preliminary research log entry, he described how he taught three sections of science classes that were divided by ability based on their proficiency in language arts skills. He and his colleagues had become interested in transitioning from a direct instruction approach to an open investigation approach to the teaching and learning of science in their classrooms. At the beginning of the year he transitioned to this approach with students who were working at or above grade level, but he had not yet moved away from a direct instruction approach with his below-grade-level students. He expressed the desire to begin implementing an investigative approach to the teaching and learning of science with his lower-ability grouped section of students.

One Elementary Teacher's Journey: Research Log Entry

For the last few months, I have spent a great deal of time determining what reading strategy will best support the students who are struggling in reading. As part of our classwork, Dr. Bonfil asked us to generate a list of topics that we could consider for our action research study. So far I've thought about comprehension, fluency, and motivation. These are all problems of practice with several of the students in my class. Improving comprehension and fluency is part of our school improvement goals and is monitored closely by the school system and my principal through a variety of assessments. I know that a focus on one of these areas is not only of interest to me, but also to our broader educational community and has potential to lead to a significant topic for investigation. However, those are really broad and, after conferencing with Dr. B., she noted that I needed to try and become more specific and to think about the intervention that would be most valuable for my students' reading skills and my teaching. There is so much to consider. If students can't understand what they are reading, then they will be unable to access the content necessary to build the foundation for third grade. However, as I dig a little deeper, I really think that a lack of fluency is limiting their ability to understand. The more

time they spend trying to read accurately and without pausing at individual words, the more likely they are to forget what they are reading.

I've used guided repeated readings, but the students seem to quickly become unmotivated when reading the same passage with no purpose. I have thought a lot about using Readers' Theater. My hope is that by implementing Readers' Theater on a regular basis, I will see a significant improvement in the reading rate, accuracy, and prosody of my students. Besides helping with fluency and reading skills, I also see it stimulating imagination, cooperation, motivation, and helping students develop a contagious engagement for learning. My hope is that authentic literature will come alive for my students. It might also be a different way to get students engaged with the text they are reading repeatedly. It provides them with a purpose to read fluently. Also, I believe that using this strategy will allow me to draw upon the students' multiple intelligences, especially those that are visual/spatial, bodily/kinesthetic, and interpersonal learners.

The goals I am considering for my action research study are focused on helping my students who are currently reading below grade level to become more fluent readers so that they can read words accurately, at an appropriate rate, and with expression. All second-grade students are assessed on fluency (rate and accuracy) three times a year using DIBELS. I want to see these struggling students reading on grade level, according to DIBELS, by the end of the year. I want all of my students to love reading and be great readers. I want to increase the reading fluency in my student reading below grade level.

Based on my reflections above, I have formally developed the following information to share with my course instructor for topic approval:

Topic: The Effect of Readers' Theater on Fluency

Statement of the problem: Several second-grade students in my class struggle with fluency (rate and accuracy) and are below grade level standards as assessed three times a year using DIBELS. I want to see these struggling

students reading on grade level, according to DIBELS, by the end of the year.

Action research question: What is the effect of Readers' Theater on second-grade students' reading fluency?

One Secondary Teacher's Journey: Research Log Entry

As I wrote in my first entry, I am interested in studying the effect of the open investigation approach on my students with lower level language arts proficiency skills. I have not yet implemented this change to my instructional practice with this group of students due to my concerns with their behavior problems and their ability to work independently. Their scores averaged a low *C* for the first half of the first quarter. The students are all intelligent but have difficulties related to limited vocabulary, effective use of informational text comprehension strategies, and attention span. I would like to switch to open investigation with this group of students to see if, despite challenges with adapting to a new instructional approach, their scores come up. As I experiment with this in my practice, I really want to document what is happening so that I can make instructional decisions for my students based on data I collect and a systematic study of my practice rather than just on assumptions that have not been tested or evaluated. I would like to focus my research on studying the effects of how using the investigation

workshop model with my lower level readers and writers impacts their science achievement scores and their attitudes about learning within the classroom. I hope to be able to find a way to effectively utilize this approach with my lower-level learners and share my findings with my colleagues. I want all of our students to develop a love for science, and I would really like to provide all of our students with the same learning opportunities.

Based on my interest in implementing the open investigation approach to teaching science with all my students and my desire to document what I learn and the effect it has on my struggling learners, I have developed the following information to share with my course instructor for topic approval:

Topic: The Effect of an Open Investigation Workshop Approach on Ninth-Grade Science Learning

Statement of the problem: In a lower level ability section of ninth-grade science, students struggle with science content and a motivation to learn. I want to see how an open investigation workshop approach impacts these students' learning and engagement during the second quarter of instruction.

Action research question: What is the effect of an open investigation workshop approach on a ninth-grade science class with students who are lower-level readers?

Activities and Additional Resources

1. Imagine a scenario where a colleague comes to you to discuss an action research project that she would like to engage in. She says that she wants to investigate experiential learning and is wondering what her next steps are. What would you suggest to her?

2. Create a fishbone diagram to brainstorm potential causes and solutions of a problem of practice identified in the first "Note"-able Thoughts reflection. Directions and a copy of the diagram can be located at: http://www.nefstem.org/teacher_guide/materials/download/planning/fishbone.doc.

3. Examine the following research questions. Determine whether each question is effectively written and, if it is not, rewrite the question to improve it.

   a) Do students' achievement scores improve when provided with direct instruction in writing strategies?
   b) What is the relationship between students' reading fluency and comprehension scores?
   c) How does the use of incentives for positive behavior impact students' engagement during instructional segments lasting more than 15 minutes?

d) How does the use of models and diagrams within instruction impact students' knowledge of the solar system?

e) Can the use of fraction strips during instruction improve students' understanding of converting mixed numbers to improper fractions?

4. Look back at the questions presented in the previous activity. Choose one and think about the problem that may be present in that particular situation. Write a problem statement that is aligned with the action research question and explicitly addresses the three elements as well as the primary objective.

Print Resources

City, E. A., Elmore, R. F., Fiarman, S. E., & Teitel, L. (2009). *Instructional rounds in education: A network approach to improving teaching and learning*. Cambridge, MA: Harvard Education Press.

Student Study Site

- Take the practice quiz.
- Review key terms with eFlashcards.
- Explore topics with video and multimedia.

References

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Casas, G., Cook, C., Hogan, C., Howard, K., Thompson, D., et al. (2005). *Action research for teachers*. Jacksonville, FL: The Northeast Florida Science, Technology, and Mathematics Center for Education. Retrieved from http://www.nefstem.org/teacher_guide/prep/focus.htm

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Holly, M. L., Arhar, J., & Kasten, W. (2004). *Action research for teachers: Traveling the yellow brick road*. New York, NY: Prentice Hall.

Samaras, A. P. (2010). *Self-study teacher research*. Thousand Oaks, CA: Sage.

Web Resources

The Northeast Florida Science, Technology, and Mathematics Center for Education, Action research for teachers: http://www.nefstem.org/teacher_guide/prep/index.htm

Madison Metropolitan School District, Starting Points: http://oldweb.madison.k12.wi.us/sod/car/carstartingpoints.html

Madison Metropolitan School District, Guidelines for Developing a Question: http://oldweb.madison.k12.wi.us/sod/car/cardevelopquestion.html

Machi, D., & McEvoy, B. (2008). *The literature review: Six steps to success*. Thousand Oaks, CA: Corwin.

Mertler, C. A. (2009). *Action research: Teachers as researchers in the classroom*. Los Angeles, CA: Sage.

Mills, G. E. (2011). *Action research: A guide for the teacher researcher* (4th ed.). Boston, MA: Allyn & Bacon.

Padak, N., & Padak, G. (n.d.). *Research to practice: Guidelines for planning action research projects*. Retrieved from http://literacy.kent.edu/Oasis/Pubs/0200-08.htm

Pearson Education, Inc. (2008). *Action research project guide*. Glenview, IL: Author.

Pine, G. (2009). *Teacher action research: Building knowledge democracies*. Thousand Oaks, CA: Sage.