

Classroom Action Research in Education 4.0

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Introductions

- Name
- Institutional Affiliation
- Role in your institution
- Experience in doing Action Research

We live in a VUCA world.

Volatility



Uncertainty



Complexity



Ambiguity

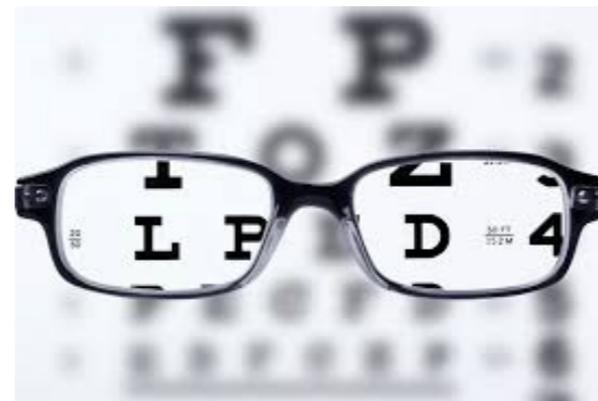


As teachers, how do we respond to this VUCA world? How do we prepare our students?

Vision



Clarity



Understanding



Agility & Adaptability



**Classroom action research allows us to
REFLECT on our practices and to take ACTION
that would improve learning and teaching.**

What we hope to accomplish...

1

Reflect on our teaching practices and our reasons for wanting to improve

2

Identify burning questions or issues in our practice that may be addressed by action research

3

Explore ways of improving teaching, learning, and curriculum implementation through action research

**“We do not learn
from experience...
we learn from reflecting
on experience.”**



**John Dewey
Philosopher, Psychologist,
Educational Reformer
(1859-1952)**

Reflection on Action

Involves looking back at past experiences and re-evaluating them by considering **what worked**, **what didn't work**, and how one might **approach similar situations differently**

Reflection in Action

Refers to “**thinking on your feet**” and involves noticing and attending to **what one is doing while one is doing it**

The Reflective Practitioner

How Professionals Think in Action

Donald A. Schön

A Reflection-on-Action Exercise

- Think about a specific class which you feel you could have done better in teaching.
- What was good about this class? What good things happened in this class?
- What issues or concerns did I have with this class? What didn't work well in this class?
- How could I have done things differently?
- Why is it important for me to improve the way I am handling this class?

Why should we be reflective practitioners?

- It helps us take informed actions.
- It helps us develop a rationale for practice.
- It helps us avoid self-laceration.
- It grounds us emotionally.
- It enlivens our classrooms.
- It increases democratic trust.

**How can Action Research help
us to become more reflective
teachers?**

Action research enables us to reflect on our teaching in a systematic way.

(Parker, 1997; cited in Norton, 2009)

Norton, L. (2009). *Action Research in Teaching and Learning*. New York: Routledge.

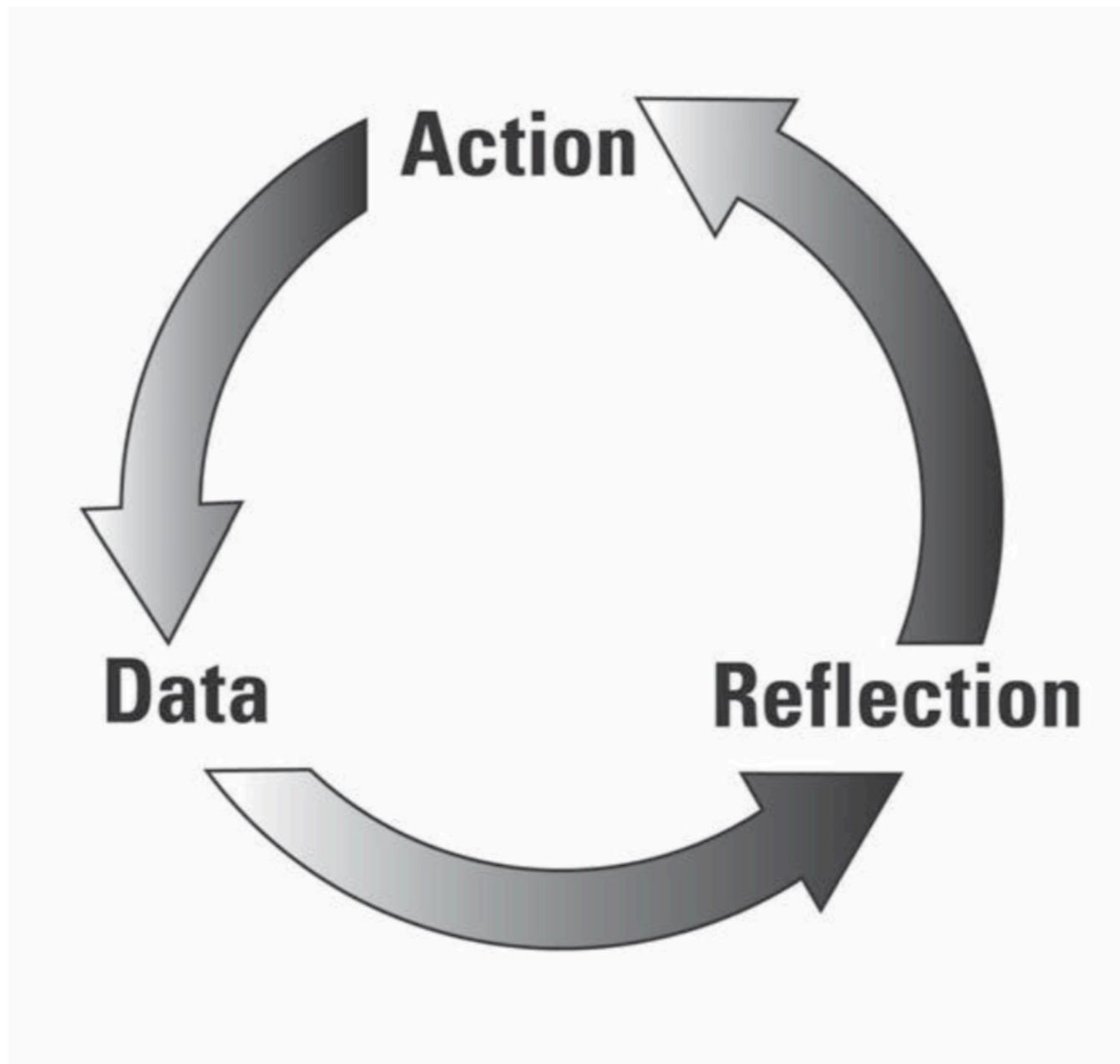
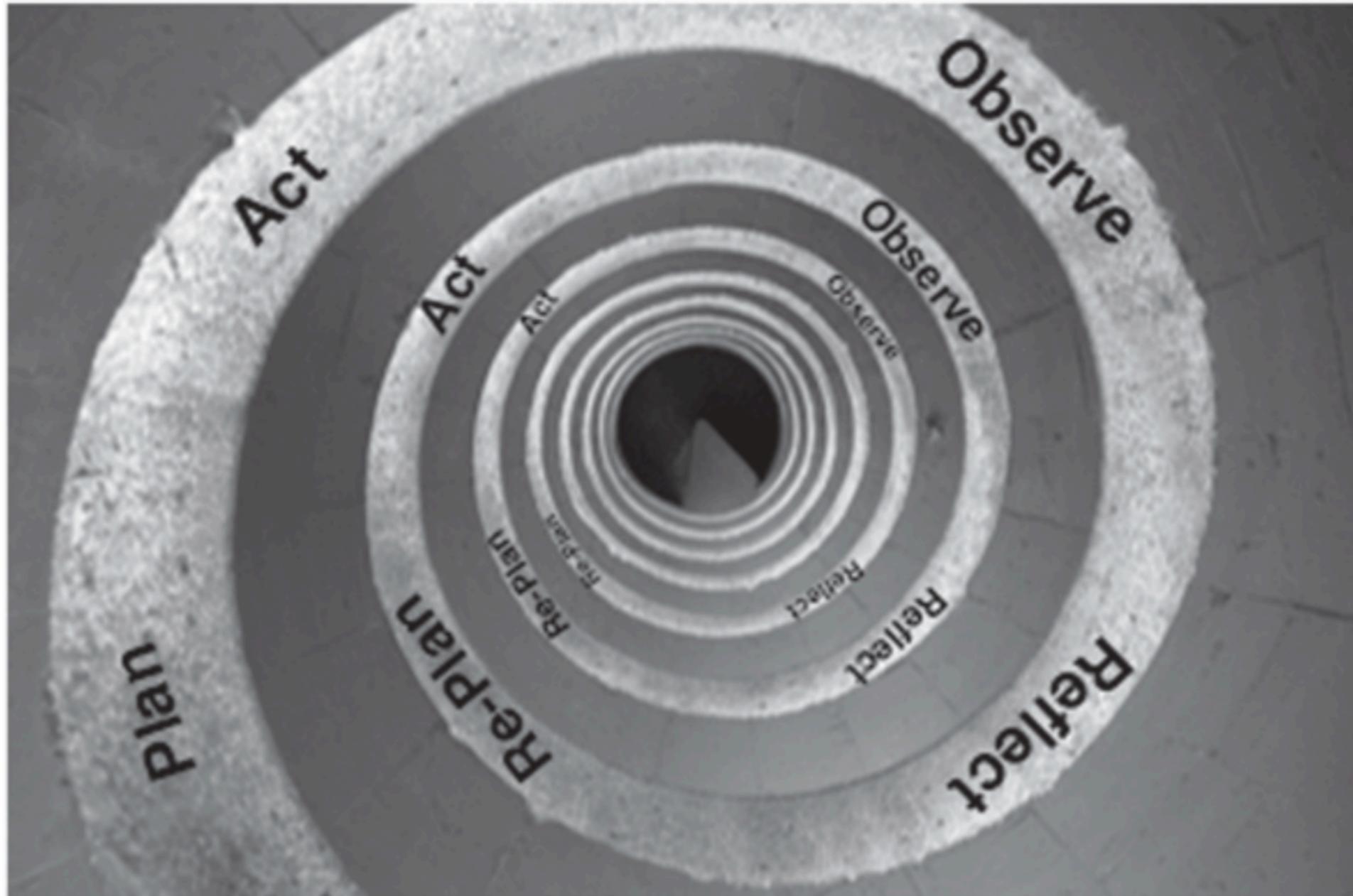
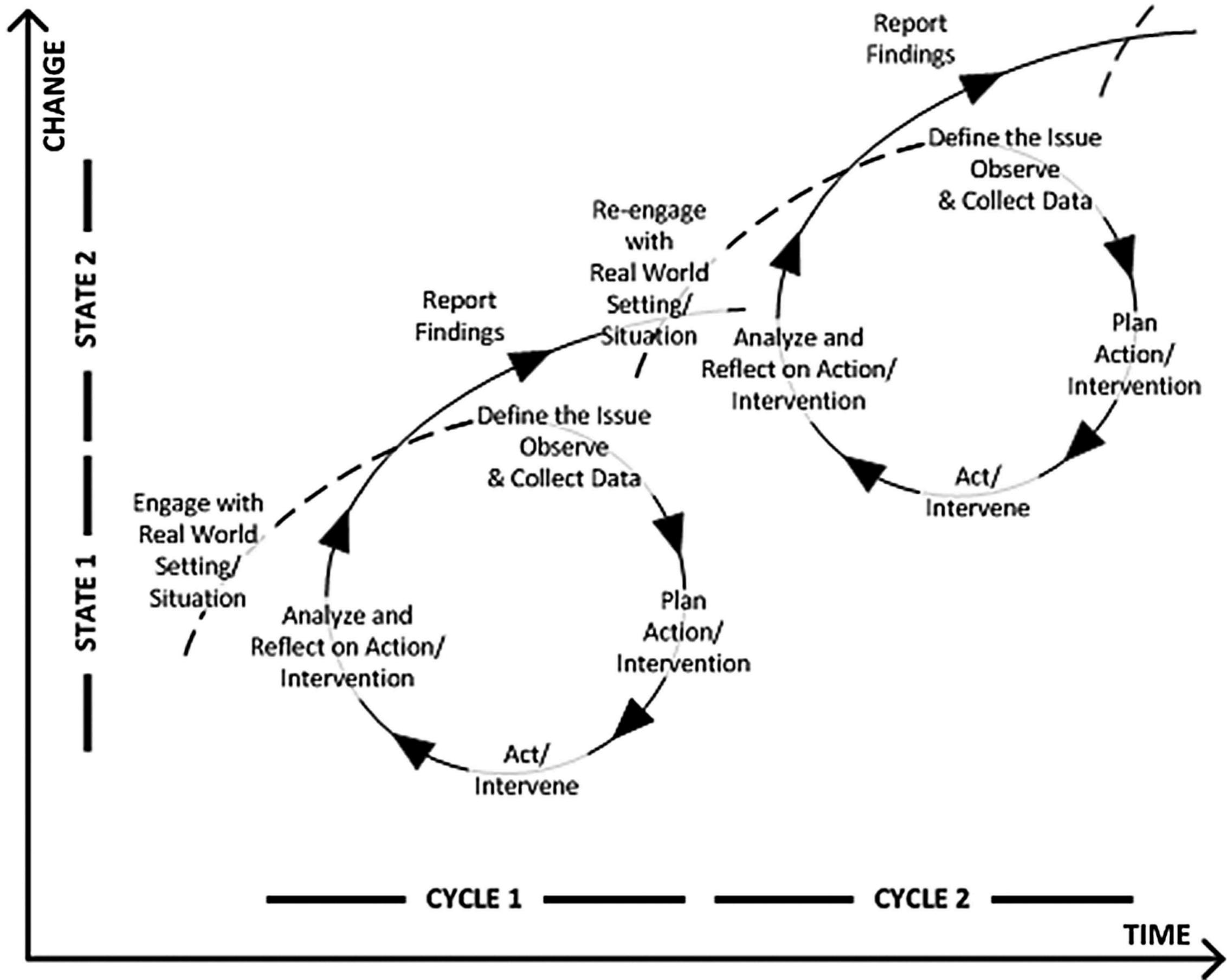


Image Source: Pelton, R.P. (2010). *Action Research for Teacher Candidates*. Lanham, MD: Rowman & Littlefield Education.



The Action Research Spiral

Kemmis, McTaggart, & Nixon (2014). *The Action Research Planner*. Singapore: Springer.



Muir, P. (2007). Action research in the scholarship of learning and teaching. *The RMIT Journal of Teaching and Learning*, 2(3).

Action Research

A participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes.

Reason & Bradbury, 2001, p.1
Sage Handbook of Action Research



No research without action, no
action without research.

— *Kurt Lewin* —

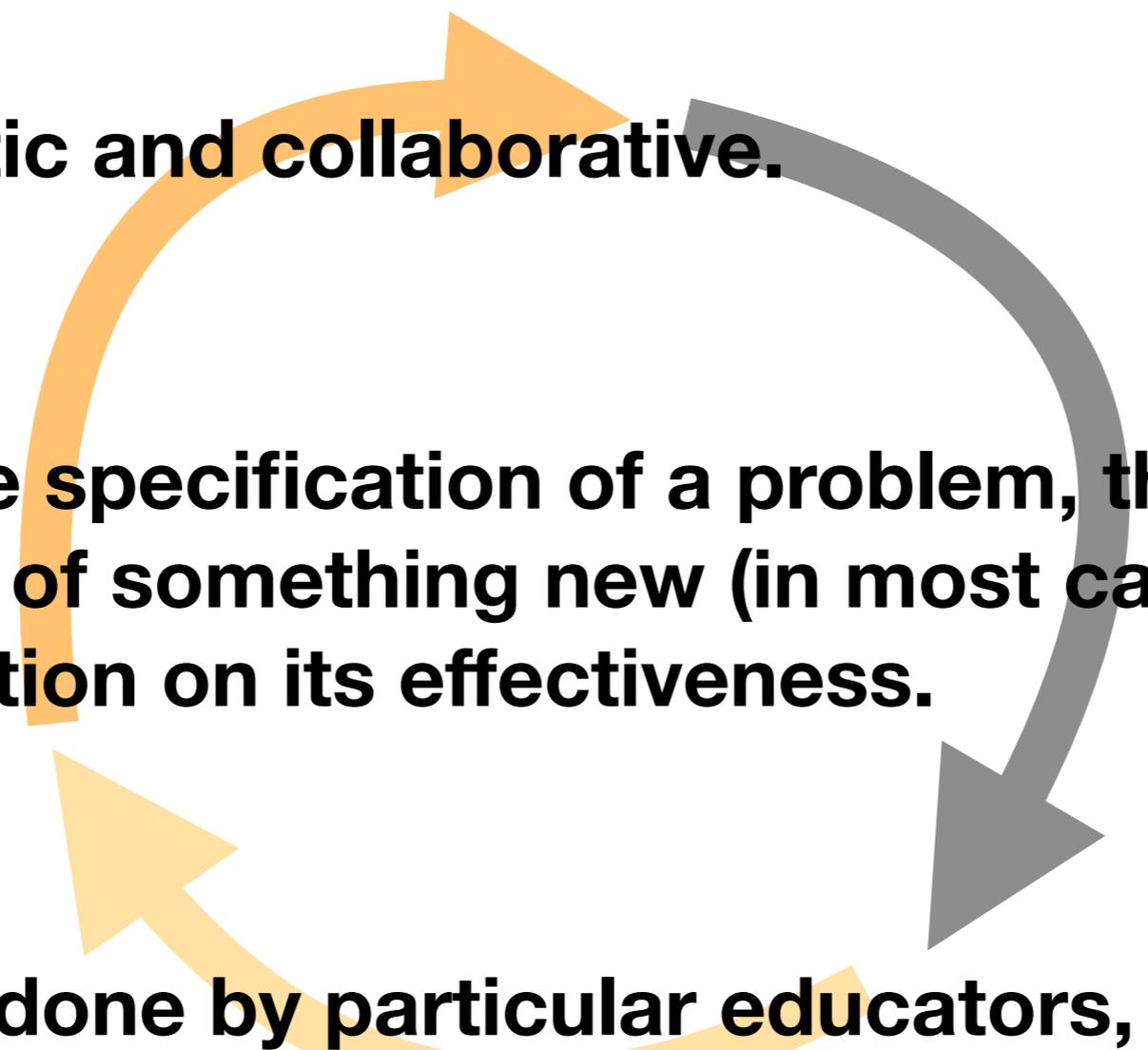
AZ QUOTES

Action Research

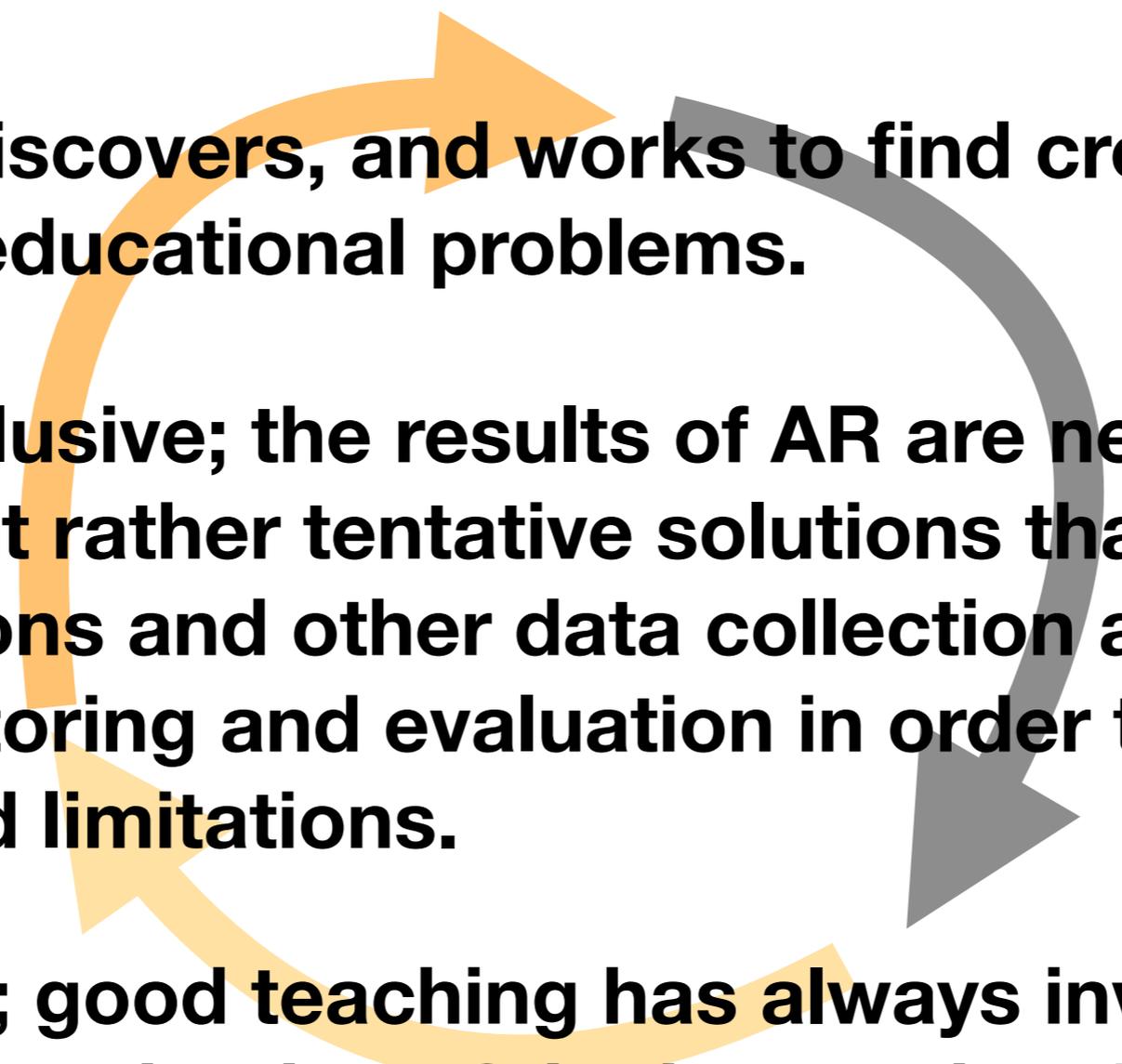
(Carr and Kemmis, 1986, p.162)

- * A form of self-reflective inquiry
- * Undertaken by participants in a social (including educational) situation in order to improve the rationality and justice of
 - * Their own social or educational practices
 - * Their understanding of their own practices
 - * The situations in which these practices are carried out

Characteristics of Action Research

- It is systematic and collaborative.
 - It involves the specification of a problem, the development of something new (in most cases), and critical reflection on its effectiveness.
 - It is research done by particular educators, on their own work, with students and colleagues.
- 

Characteristics of Action Research

- **It explores, discovers, and works to find creative solutions to educational problems.**
 - **It is not conclusive; the results of AR are neither right nor wrong but rather tentative solutions that are based on observations and other data collection and that require monitoring and evaluation in order to identify strengths and limitations.**
 - **It is not a fad; good teaching has always involved the systematic examination of the instructional process and its effects on student learning.**
- 

Who are Action Researchers?

“action researchers ... are teachers or managers who are trying to make beneficial change within their own workplace. In order to do this it is first **necessary to understand what is happening and to evaluate it, then introduce change and evaluate the new situation.** Action researchers are using systematic and critical inquiry in attempts to improve their practical situation”

How do you feel about doing Action Research?

- Share with your seat mate your thoughts and feelings about Action Research.
 - *Are you open/averse/neutral to the idea of conducting Action Research in your own classroom?*
 - *Do you see yourself doing AR this school year?*
 - *If you are open to doing AR, what is your main motivation?*
 - *If you are not open to doing AR, what is your main apprehension?*

Teacher vs. Researcher

By becoming researchers, teachers can find strategies to develop more principled classroom practice.

Teacher-researchers bring to their work an important element that outside researchers lack - a sense of place, a sense of history in the schools where they work.

Research involves teachers doing what they have to do anyway - paying careful attention to what is going on in their classrooms.

Hubbard & Power, 1993

How can Action Research benefit teachers?

- It helps teachers **learn** “in and around their practice”.
- It is **relevant** to the lived experiences of teachers, and their learning is **immediately applicable** in their own classrooms and schools.
- It allows teachers to **influence** their contexts through their work.
- It also allows **students to be involved** in the process of **classroom and school change**.

Effects of Action Research

(Results from a study of teachers who did AR as a capstone project for their MA degree)

- (1) Teachers sustained the 'inquiry mindset' gained while learning the processes associated with conducting action research and continued using aspects of the process; however, conducting new projects was less likely.
- (2) Teachers' sense of professional efficacy was enhanced, even after many years had intervened.
- (3) Action research had immediate benefits for students but long-range benefits were not determined.

Effects of Action Research

(4) Though challenging, teachers perceived conducting action research was professionally valuable.

(5) Teachers reported that administrators, although supportive, played passive roles, whereas colleagues were more collaborative during planning and implementing their projects.

(6) Teachers described school environments conducive to conducting action research as ones that provide structures for teams to work on mutual goals supported by strong administrative leadership.

Feedback from a Teacher

“The greatest value ... was learning the skills to identify a problem in the classroom and researching a means to solve it. This was incredibly fulfilling and strengthened my confidence. I think that talking about my results especially helped me to look at my teaching and how to help my students learn.”

Hagevik, Aydeniz, and Rowell (2012)

Action Research for Professional Development

Ioannidou-Koutselini, M. & Patsalidou, F. (2015) Engaging school teachers and school principals in an action research in-service development as a means of pedagogical self-awareness, *Educational Action Research*, 23:2, 124-139

Start of the Training

End of the Training

Focus on Content



Focus on Student Learning

Students at the center of the problematic situation; attribute problems to student-level characteristics; students are seen as all the same



Recognized that teachers' professional development is connected to improvement in student behavior, outcomes, and motivations,

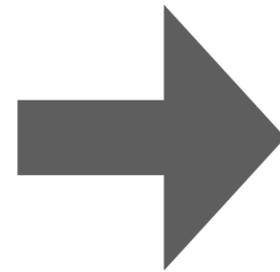
Teaching process is for students only



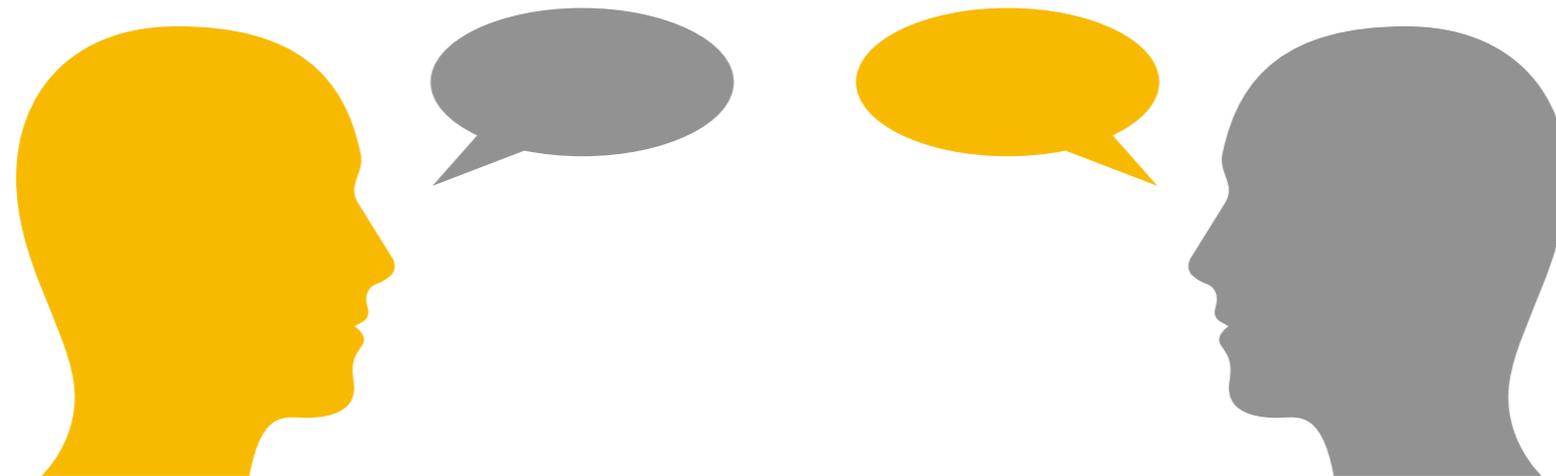
Teaching process as a teaching and learning activity for teachers as well

Necessary Conditions for AR

1. Trust
2. Establishing critical relationships
3. The ability to sustain these relationships
4. Resilience and tenacity to sustain the process

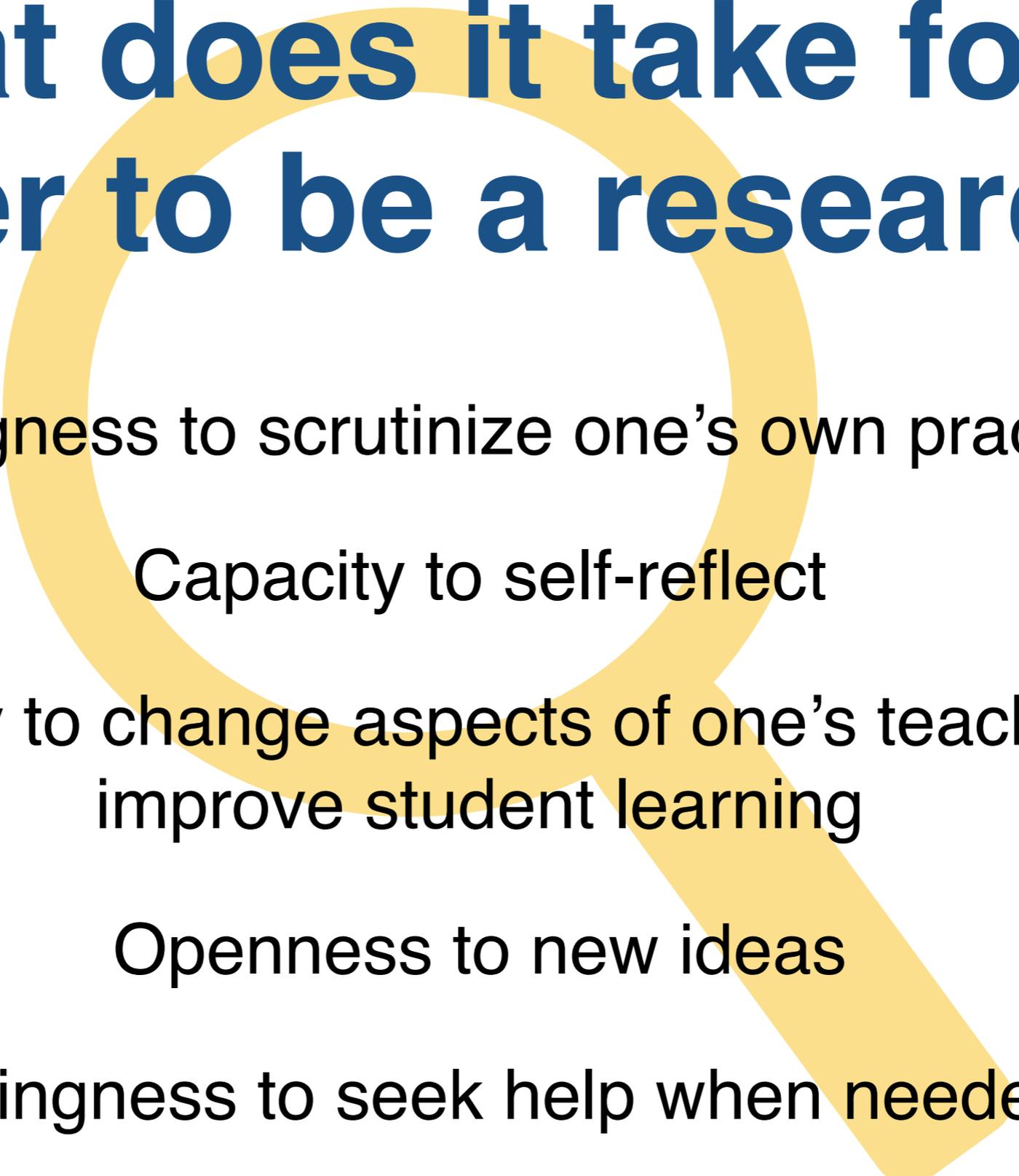


Environment which is supportive of change, shared learning, and mutual risk-taking



**How Does One Become
a Teacher Researcher?**

What does it take for a teacher to be a researcher?



Willingness to scrutinize one's own practice

Capacity to self-reflect

Audacity to change aspects of one's teaching to improve student learning

Openness to new ideas

Willingness to seek help when needed

Action research begins with an imperfectly understood felt concern and a desire to take action - a general idea that some kind of improvement or change is desirable.

- McTaggart (1994)

Step 1: Issue Identification

Action research is often used to solve problems in the classroom, but you don't need to have a "problem" to solve before undertaking an action research project.

You can begin with an issue or a wondering.

"A teacher-researcher may start out not with a hypothesis to test, but with a wondering to pursue."
(Bissex, 1987, p.3)

A wondering is defined as a **burning question a teacher has about his/her practice** .

Wonder is the foundation for formulating a researchable research question based on issues, tensions, problems, or dilemmas experienced by the teacher.

(Dana, 2013)

Examples of Wonderings

Math: How does one teach fractions conceptually, and what are the impacts of that teaching on the different learners in my classroom?

Language: What are some strategies I could use to facilitate better literature discussions?

Science: How can I take a science unit that is heavy on content and make it more inquiry based?

Social Studies: How does using technology such as Google Earth impact students' understanding and application of geography skills?



Examples of Wonderings

Music: How can I teach music theory in a performance-oriented class?

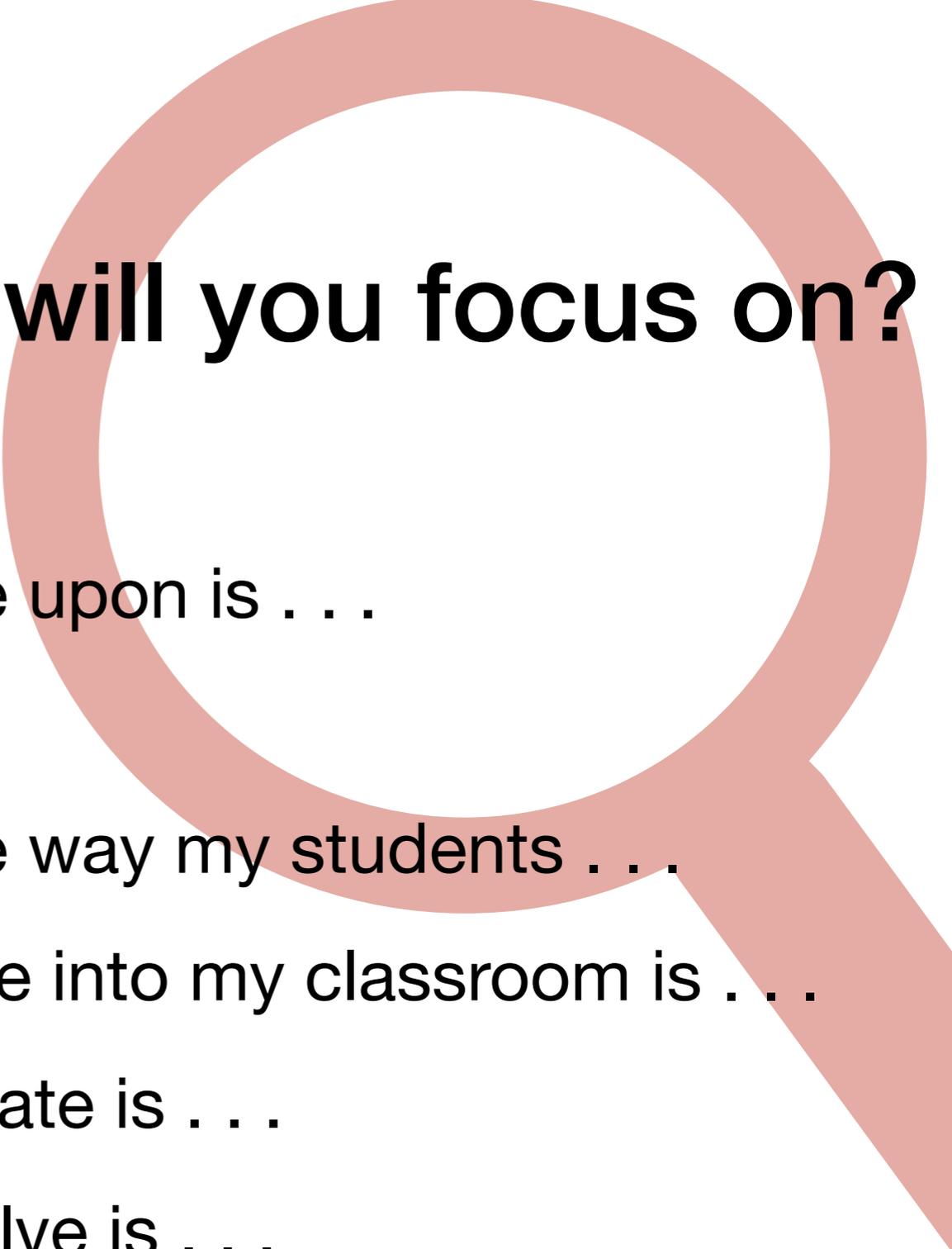
Physical Education: What are the best ways to grade students in physical education class?

Administration: What are some strategies for promoting teacher leadership in my school, and how are they working?

Generic Teaching: How can students be taught organizational skills and strategies so they will use them to improve their academic performance?



Identifying Issues: What will you focus on?



- Something I would like to improve upon is . . .
- I have a concern about . . .
- I would like to see a change in the way my students . . .
- Something I would like to integrate into my classroom is . . .
- Something I would like to investigate is . . .
- Something I would like to see evolve is . . .
- Something I am curious about is...



A good Action Research question...

- ✓ should be meaningful, compelling, and important to you as a teacher-researcher**
- ✓ is manageable and within your sphere of influence**
- ✓ should be important for learners**
- ✓ leads to taking an action, to trying something out, to improving a teaching/learning situation, to implementing actions that can make a difference in the lives of students**
- ✓ doesn't lead to a yes or no answer**
- ✓ is specific, but sufficiently open-ended to facilitate meaningful exploration**

Sample Research Questions

- How will using a rubric to self-edit a weekly personal narrative impact students' writing skills?
- What is the relationship between the incorporation of the arts into vocabulary instruction and vocabulary achievement?
- How will the use of sight word strategies increase reading fluency?
- How does drill and repetition affect the retention of math multiplication facts?
- How does adding art to a project enhance student academic performance?
- How does the use of graphic organizers impact paragraph writing?
- What are the impacts of kinesthetic and visual instructional strategies on letter recognition with kindergarten students?

Allows you to explain

Issue you are investigating

What happens to the quality of student writing

when we implement peer editing throughout

our ninth-grade English classes?

Personal ownership
of the research

Target group

Action or
intervention you
want to implement

Allows you to explain

Issue you are investigating

In what ways does student engagement improve

when we teach a Grade 8 Math class using the

flipped model of instruction?

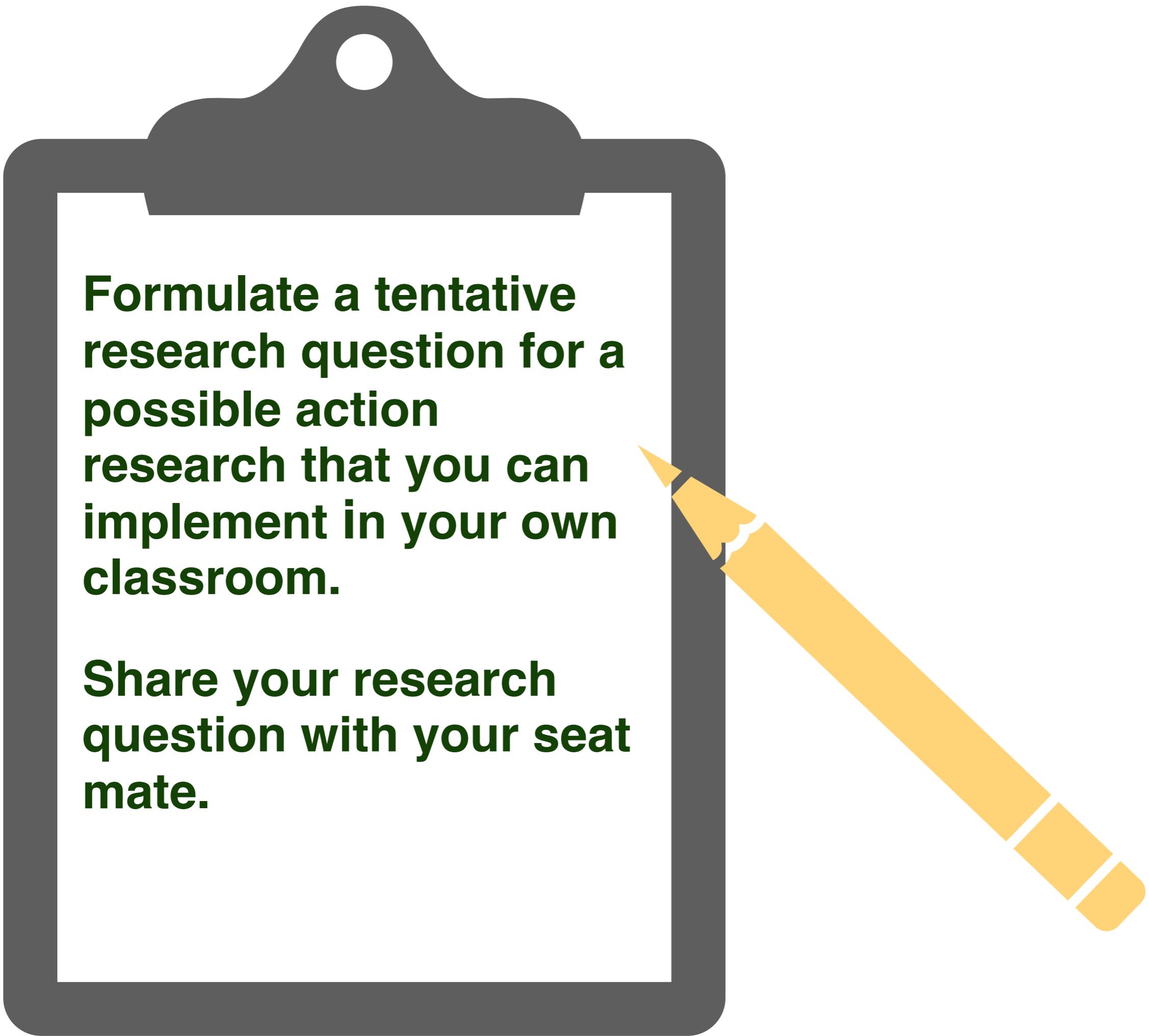
Target group

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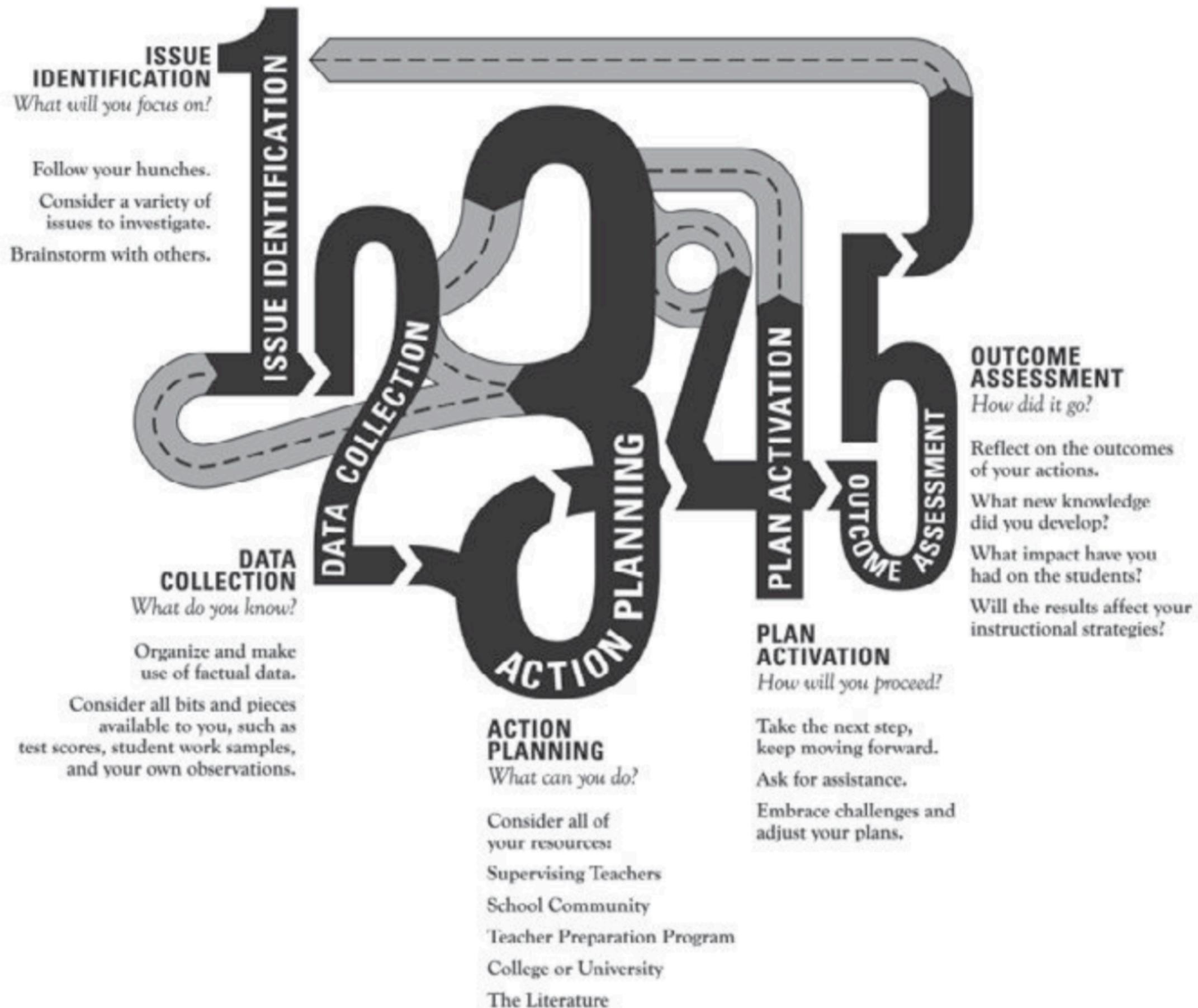
Framing the Research Question

- * Clearly and concisely state the issue you are investigating.
- * Clearly state the action or intervention you intend to implement.
- * Begin your research question with *what, why, or how*.
- * Specify the target group of your research.
- * Use the personal pronoun *I* or the collective personal pronoun **we** to assert your ownership of the question and your personal agency in addressing the research problem.



Formulate a tentative research question for a possible action research that you can implement in your own classroom.

Share your research question with your seat mate.



Step 2: Data Collection

- Researcher notes
- Anecdotal records
- Classroom test scores
- Standardized test scores
- Running records
- Parental feedback
- Supervising teacher input
- Formal and informal observations
- Interviews
- Questionnaires/Scales
- Video recordings

Collecting, organizing, and reflecting on your data begin in the initial stages of your action research and is continued through the entire process.

Triangulation

Strengthens the quality and trustworthiness of your research

Multiple methods - interviews, observation, student journals, video recordings

Multiple sources - homeroom teacher, subject teacher, students, parents

Multiple investigators - teacher and students

Think-Pair-Share

What type/s of data would best answer your research question?

What methods will you use to get these data?

Who will be your data sources?



Step 3: Action Planning

State your research problem.

Identify what type of data you will collect, and the time frame for collecting it.

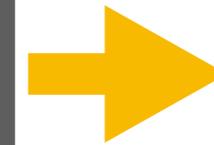
Describe how you will analyze the data you collect.

Identify descriptive information about the students and classroom setting.

List the key themes identified in your literature review that impact your study.

Describe what it was about your students' learning that prompted your question.

Explain why your question is important to students and other teachers.



“Science Talks” in Kindergarten Classrooms: Improving Classroom Practice Through Collaborative Action Research

In this study we described an action research project enacted by a veteran Kindergarten teacher (Sarah) in the context of a professional development program. Over the course of a year, Sarah collaborated with other teachers in a small group to investigate how to use “Science Talks” to promote student learning in Kindergarten classrooms. A Problem-Based Learning approach was adopted to guide the collaborative action research. Based on a rich set of data sources, we concluded that Sarah’s action research improved student learning and led to her own professional growth. We also identified important conditions in support of action research.

Meilan Zhang, Susan Passalacqua, Mary Lundeberg, Matthew J. Koehler, Jan Eberhardt, Joyce Parker, Mark Urban-Lurain, Tianyi Zhang & Sunhee Paik (2010) “Science Talks” in Kindergarten Classrooms: Improving Classroom Practice Through Collaborative Action Research, *Journal of Science Teacher Education*, 21:2, 161-179

Research Questions

- (1) How did a teacher conduct action research on promoting science learning through discussion in Kindergarten classrooms?
- (2) How did the action research influence student learning and teacher development?
- (3) How did the problem-based collaborative action research model support the teacher research?

IN WHAT WAYS DO SCIENCE TALKS ENHANCE STUDENT UNDERSTANDINGS OF SCIENCE CONCEPTS?

Information that would help answer the question

Knowing how students' conceptual knowledge during the astronomy unit develops

Knowing what students are saying during science talks

My thinking about what happened during the science talks after they occur

Students' opinions about science talks

Literature on science talks

Data collection strategies that would generate this information

Collect the students' science journals

Audio taping science talks ; taking field notes

Teacher journal

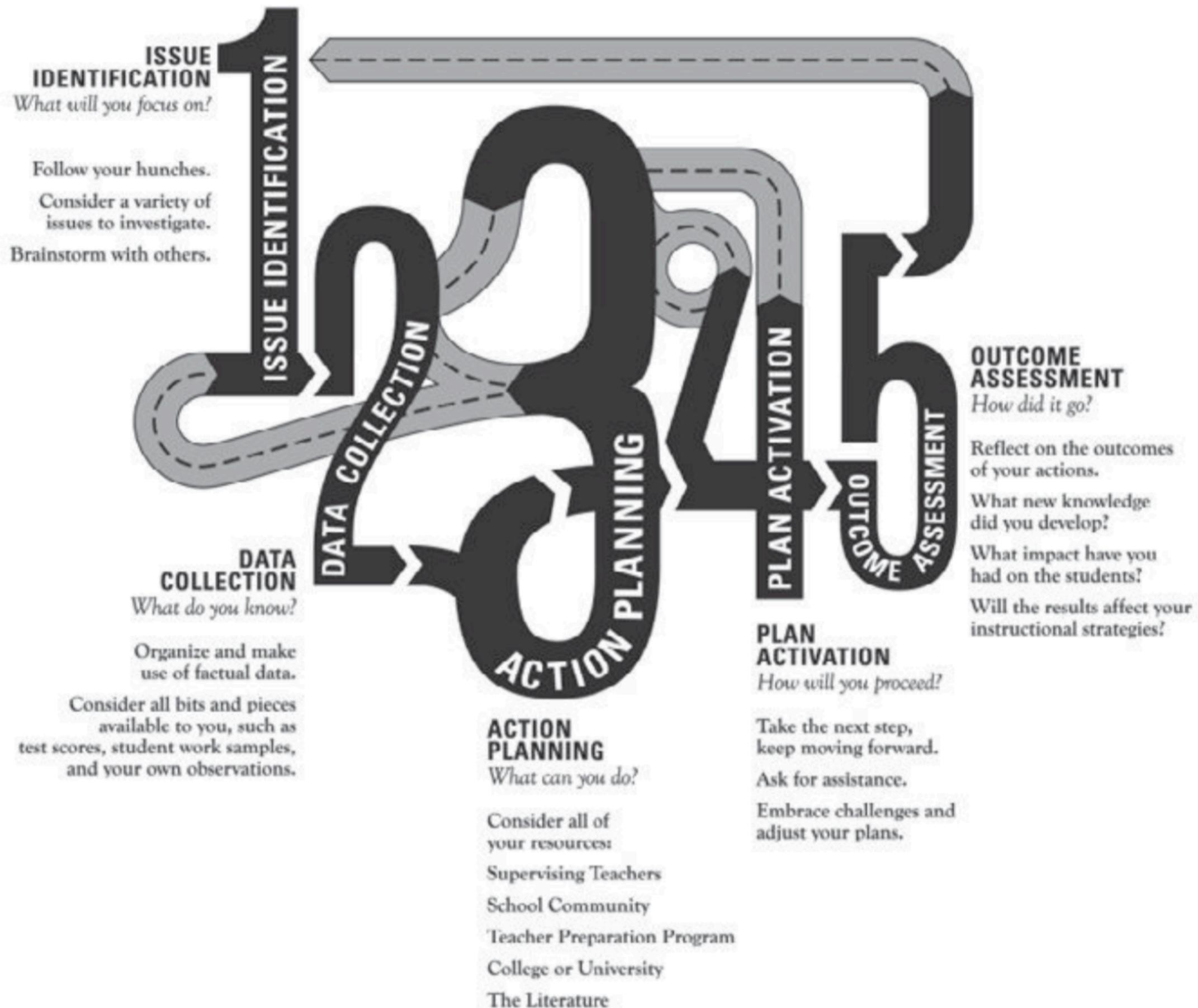
Surveys

Do a search for other books or articles that are connected to science talks in science



Step 4: Plan Activation

- Begin your action with the knowledge that you have reviewed data, researched best practices, and developed the best possible plan to meet your students' needs.
- Action research is a dynamic process that allows for last minute fine-tuning and spur of the moment responsive changes as you teach. The goal is to continuously create better results for your students.
- Reflect upon where you are and what you need and ask for assistance when required.

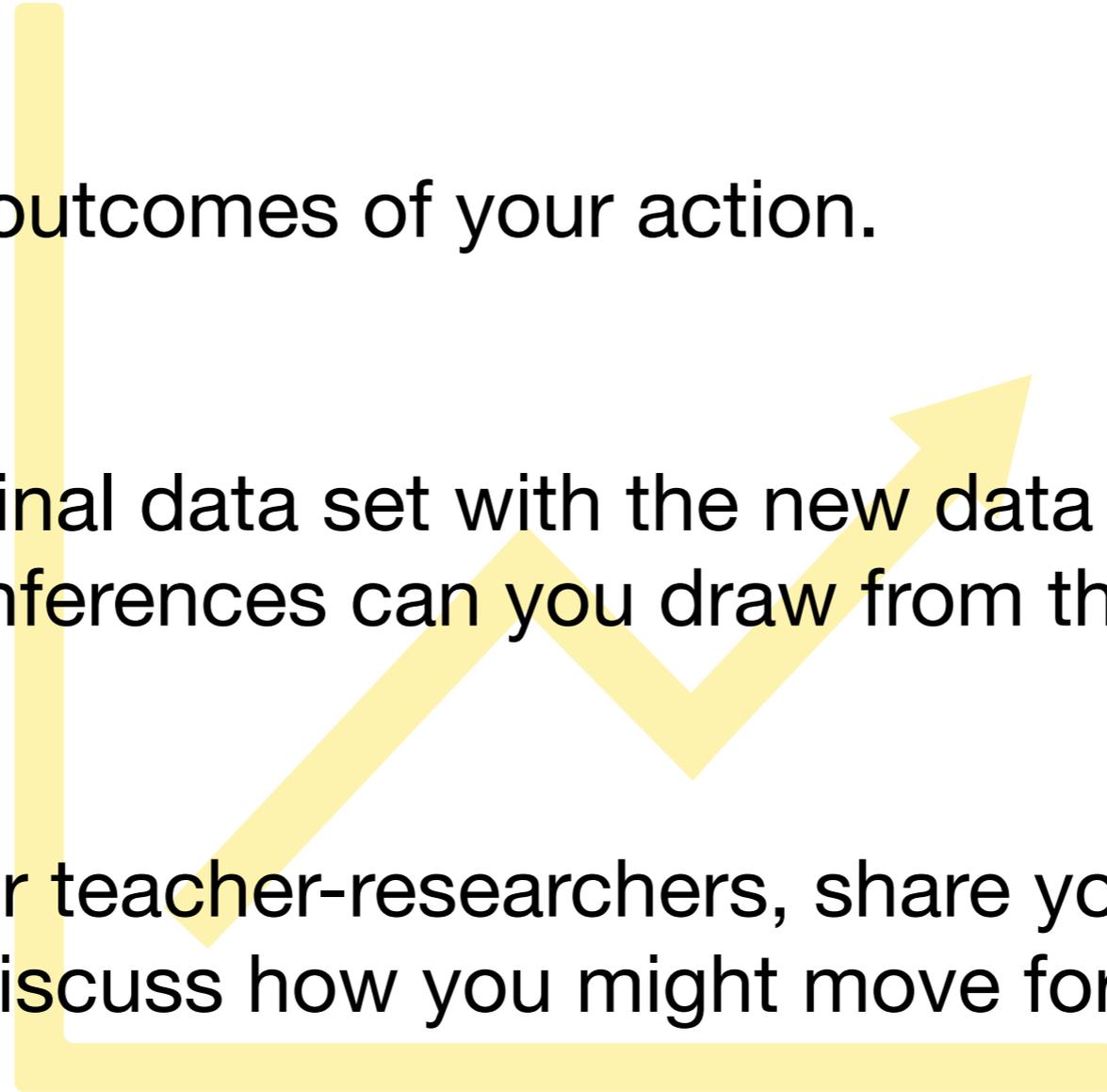


Step 5: Outcome Assessment

Reflect upon the outcomes of your action.

Compare the original data set with the new data you have available. What inferences can you draw from these data?

Engage with other teacher-researchers, share your findings and reflections, and discuss how you might move forward.



Some Reflective Statements

- Something I learned as a result of my action research is . . .
- One thing I intend to do with this information is . . .
- One thing that worked well was . . .
- Something that didn't work out so well was . . .
- Something I would do differently in the future is . . .
- A change I would make in my approach is . . .
- Someone I think could help me at this point is . . .
- A resource I intend to tap for future work in this area is . . .



Some Things to Remember

- Action Research is inherently flexible.
- Action Research is a mindset that can help us become responsive teachers.
- Action Research is a collaborative activity, so you need to find critical friends who can support you and give you honest feedback.
- There is no one “right way” to carry out an action research.

“Action research is all about educators becoming empowered to create their own knowledge about what works and doesn’t work in our schools, and more specifically in their own settings. These educators-slash-action researchers are then responsible for taking action themselves to improve any and all aspects of education, but in particular, the aspects with which they work directly and in which they have such a vested interest.”

**Craig Mertler
Chair, AERA Action Research Special Interest Group**

Thank you for listening!