



SCHOOL MANAGEMENT AND INSTRUCTIONAL LEADERSHIP

ACTION RESEARCH MODULE: EDF 114

UNIVERSITY OF MALAWI & MALAWI INSTITUTE OF EDUCATION

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INTRODUCTION TO THE MODULE

Effective school leaders do not only rely on traditional ways, the advice of others, or even the recommendations of experts to solve challenges encountered in their institutions. They conduct their own investigations to identify and solve challenges by collecting and analyzing information about their schools. Ongoing assessment of school practices and conditions is essential to ensure that instruction is effective. Action Research helps school leaders to systematically examine if their decisions and actions are evidence based thereby having the desired results. By examining instructional and school practices for effectiveness; validating what is effective; and eliminating what is not effective; Action Research enables school leaders to refine their approaches to be in line with the dynamic nature of the school environment.

The goal of Action Research is a positive change in everyday school practices. It is largely about encouraging school leaders to be continuous learners and proactive actors in their institutions. Action Research is also about incorporating reflection into the daily school routines and practices to make evidence-based decisions about what to change and what not to change. Action Research is, therefore, a powerful tool for both professional development and achievement of high-quality institutional performance.

This module will assist school leaders in understanding Action Research and why it should be conducted. This is to empower the school leaders with knowledge, competencies and skills required to conduct school-based Action Research projects resulting into school transformation. Ultimately this will lead to the realisation of Education Standard 16: School self-evaluation and improvement. Essentially Standard 16 requires that senior school staff leads the school community in analyzing the school's performance and come up with, implement, monitor and evaluate school improvement plans.

All in all this module will expose school leaders to the benefits, processes and principles of Action Research by providing step-by-step guidelines for implementing Action Research projects for the purposes of examining and refining school practices to improve the quality of school-level decision-making and with it, students' performance.

The interactive activities included in this module will allow school leaders to practice the basic processes for implementing Action Research.



Module Intended Learning Outcomes

By the end of this module, you should be able to:

- a. Define Research
- b. Define Action Research
- c. Examine the importance of Action Research to school leaders
- d. Conduct literature review for Action Research
- e. Demonstrate an understanding of Research Designs
- f. Discuss Action Research methodologies
- g. Describe the Action Research implementation process
- h. Identify educational issues amenable to Action Research in schools
- i. Conduct Action Research to improve school performance

UNIT 1 UNDERSTANDING THE MEANING OF RESEARCH



Introduction

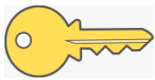
Educational research plays a vital role in the overall development of pedagogy, learning programs, and policy formulation. Cultivating a research-based approach to developing your practice provides evidence to effect change in your teaching, your classroom, your school, and beyond.



Intended learning outcomes

By the end of this unit, you should be able to:

- a. Define research
- b. Describe the characteristics of research
- c. Explain the importance of research in education



Key concepts

Research, Educational Research



Session 1 - Defining research

Educational research aims to bring a scholarly lens to what happens in classrooms and schools. It deals with educational problems affecting both students and teachers. Within the classroom setting and within the school environment, there are various issues and concerns that are experienced by the school leaders, teachers and the students. These may be concerned with the teaching-learning methods, instructional strategies, infrastructure, understanding academic concepts, performance evaluation techniques,

among others. Therefore, educational research is concerned with conducting an analysis of these areas, finding the flaws and inconsistencies and implementing measures to improve them. This session will expose you to the definition of research and you will also appreciate the characteristics of research.



Activity 1.1.a - Reflecting on personal experiences with research

Instructions

1. Individually, read the passage below and answer the questions that follow:

As a school leader, you have been an active participant in the process of education. While carrying out your roles, you have to make decisions about such issues as how to plan learning experiences, how to motivate teachers, and how to enhance community involvement, among many others. While taking these decisions, you must have used your own experience and knowledge.

2. Answer the following questions:
 - a. Is personal knowledge and experience an adequate source for your decision making?
 - b. Are there other sources of knowledge you rely on?
 - c. Are there sources of knowledge that bring in a synthetic manner experiences of a large number of educational practitioners like you?
3. Share your responses in plenary
4. What are your views about teachers doing research?

In this unit, you shall briefly learn possible sources of knowledge for the practitioners of education to arrive at more dependable and tested answers. That is precisely what educational research purports to do. In this unit, you will discuss the fundamentals of educational research, namely; definition, characteristics and its purpose.



Activity 1.1.b - Defining research

Instructions

1. Individually,
 - a. Write down your experiences of research in the context your work.
 - b. Share your experiences in plenary.

2. In groups of 5,
 - a. Define research.
 - b. Explain the characteristics of research,
 - c. Report your responses in plenary.



Definition of research

Research is a term that lends itself to multiple definitions. According to Research Assessment Exercise (2008) Research is an original investigation undertaken in order to gain knowledge and understanding. It is also looked at as scientific or critical investigation aimed at discovering and interpreting facts. Wambugu, Kyalo, Mbii and Nyonje (2015) define research as a systematic process of enquiry designed to collect, analyse, interpret, and use data to understand, explain, describe or predict phenomena. Research is therefore, a systematic process of attempting to find a solution to a problem (when the solution is not known) using an acceptable methodology. Research

involves more than just finding a known solution to a problem. It entails a careful undertaking to discover new facts and relationships concerning a solution that is unknown (Tomal, 2003). It is a scientific approach of solving a problem or generating new knowledge through a systematic and orderly collection, organization, and analysis of information with an ultimate goal of making the research useful in decision-making.

Research is undertaken within most professions. More than being a set of skills, research is a way of thinking: examining critically the various aspects of your day-to-day professional work; understanding and formulating guiding principles that govern a particular procedure; and developing and testing new theories that contribute to the advancement of your practice and profession. It is a habit of questioning what you do, and a systematic examination of clinical observations to explain and find answers for what you perceive, with a view to instituting appropriate changes for a more effective professional service.

Within the realm of educational planning, many things are always changing: the structure of the education system, curriculum and textbooks, modes of teaching, methods of teacher training, the amount and type of provisions to schools such as science laboratories, textbooks, furniture, classroom supplies, and so on. These changes may lead to an improvement, or a worsening, in the quality of an educational system. Research in education is, therefore, needed as a means of trying to purify the educational processes. Educational research is a systematic application of scientific methods to provide solutions to educational problems. It allows educationists to work towards the achievement of goals and objectives in an adequate manner. It aims at finding out solutions to educational problems by scientific philosophical methods. Educational research is primarily conducted to provide solutions to the

problems that take place within the field of education in a systematic and methodical manner.

Characteristics of research

Research is the diligent systematic enquiry into nature and society to validate and refine existing knowledge and to generate new knowledge. It has several characteristics that define it, the absence of which would reduce it to the simple act of gathering information. Some of the key characteristics are as follows:

- **Systematic:** Research is structured process with rules for carrying it out.
- **Logical:** Research aims at the rational understanding of phenomena hence research goes a step beyond common sense understanding which is neither formally testable nor empirically verifiable. Research follows a system that employs logic. It follows a method of observation through senses of data.
- **Empirically verifiable:** Scientific research prepositions and theories must be testable in the real world. Variables must be measured through the collection of data, analysis and interpretation that identifies research as an empirical process
- **Replicable and transmittable:** Any other researcher should be able to replicate a study getting similar results. Hence a scientific enquiry should be described in detail for such purposes.
- **Question oriented;** Research problems should be stated clearly usually in question form and should be testable by empirical methods. It should be possible to collect data to answer the questions asked. However, such questions should not represent moral or ethical questions
- **Objective:** Research is not based on emotions rather it is based on objective search for solutions to a problem



Session 2 - Examining the importance of research in education

This session will explain the importance of research in the field of education.



Activity 2.2.a - Discussing the importance of research in education

Instructions

1. Individually, read the case below and answer the questions that follow.

Mrs Tepelunde is a headteacher at Beula Community Day Secondary School. Having read a book on educational research, she is planning to set up a research committee at her school. However, she is facing resistance from a large section of her teaching staff who are arguing that research is not important in the running of the school. Mrs Tepelunde wants to build a case to convince her teaching staff about the benefits of research in education.

2. Imagine Mrs Tepelunde has sought your assistance, what points would you tell her to include to convince her teachers of the benefits of research at their school?
3. Share your work in plenary.
4. In groups of 5, discuss the importance of research in the field of education.
5. Share your work in plenary.



Importance of research in education

In the context of the debate about what works and why there is a wide range of benefits to researching your own practice, whether directly feeding into improvement through Action Research or, more broadly, gaining understanding and knowledge on themes of interest and relevance. This is why research is embedded into initial teacher education. As research becomes embedded in your practice, you can gain a range of benefits. Research can:

- a. help you find solutions to particular problems arising in your schools
- b. underpin professional learning of knowledge, skills and understanding
- c. connect you with sources of information and networks of professional support.
- d. clarify purposes, processes and priorities when introducing change for example, to curriculum, pedagogy or assessment.
- e. improve understanding of your professional and policy context, organisationally, locally and nationally, enabling you to teach and lead more strategically and effectively.
- f. develop your agency, influence, self-efficacy and voice within your own school and more widely within the profession.
- g. examine your classroom practice through a systematic process of inquiry.
- h. record successes and failures with the goal of improving student learning and teaching practice.
- i. reflect on findings in relation to existing educational research literature.
- j. validate your teaching practice and build theory relating to educational approaches.
- k. share and disseminate experiences to build upon what we know about teaching and learning processes.

Research in education has enabled substantial progress to be made in curriculum development and reform, educating slow learners, understanding the psychological traits of the physically challenged individuals and in adapting methods of instructions to the needs of individual learners. Research in education has rendered an imperative contribution in acquiring information regarding different cultures, norms and values. It has made substantial contributions to knowledge and generation of awareness of such issues as school leadership, behaviour, group procedures, classroom atmosphere, interaction analysis, self-concept, levels of aspiration, deprivation and racism, educational inequality and the deprived, marginalised and socio-economically backward sections of the society. Therefore, the need for research activities in education has even become more imperative to support education to achieve its goals and objectives, rebuild confidence in public schools, adapt to cultural diversity, educate for self-identity and individual realization, re-establish faith in human, moral and democratic values, bring about changes in racial attitudes, achieve the goals of quality and relevance, and meet the challenges of the future world of accelerating scientific and technological change.



Summary

This unit has provided the definition of research. The unit has also described the characteristics of research and explained the importance of research in education. This knowledge will assist you improve education in your schools. Through scientific research, it is hoped that you will obtain accurate and reliable information about important issues and problems that face teaching and learning at your school.



Unit assessment

Write a personal reflection on the benefits, constraints and implications of using research to improve the performance of your school by answering the following questions:

1. In what ways, do you think your school can benefit from the use of research?
2. What are the challenges that can prevent successful implementation utilisation of research at your school? What can be done to address these challenges?

UNIT 2 - UNDERSTANDING ACTION RESEARCH



Introduction

Action Research has become a valued research methodology, an innovative approach to encourage active intervention of people in the issues being researched. Action Research seeks to bring together actions and reflections, theory and practice, academic and local knowledge, and participation (Reason & Bradbury, 2001). It is a rigorous research process which aims at modifying the current situation being researched, based on a straightaway implementation of research findings and relying on the participation of the various local actors (Greenwood & Levin, 1998). In schools, Action Research is carried out by school leaders and members of his or her school. They together formulate the problems to be examined and then generate new knowledge about these problems and take concrete actions to create a better school situation in which members have an increased capacity to positively influence students' learning outcomes.

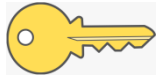


Intended learning outcomes

By the end of this unit, you should be able to:

- a. Define Action Research
- b. Discuss characteristics of Action Research
- c. Describe the Action Research process
- d. Describe the history of Action Research
- e. Explain the difference between Action Research and other forms of research
- f. Explain the importance of Action Research to school leaders

- g. Identify challenges in their work that can be solved through Action Research



Key concepts

Action Research, Action Research process, Reflection, Practitioner



Session 1 - Defining Action Research

Action research is very popular in the field of education because it always offers room for improvement when it comes to teaching and educating others. Action Research works very well because it offers opportunity for continued reflection. The goal of Action Research is to improve performance. Action Research is also beneficial in areas of teaching practice that need to be explored or settings in which continued improvement is the focus. The overall objective of this session is to assist you to understand key elements of Action Research.



Activity 2.1.a - Reflecting on Action Research

Instructions

In groups of 5, do the following:

1. Discuss what you do when something goes wrong in your schools
2. Write three things you already know about Action Research
3. Define Action Research
4. Discuss the characteristics of Action Research
5. Share and discuss your responses in plenary



Definition of Action Research

Reason & Bradbury (2001) defined AR as *“a participatory, democratic process concerned with developing practical knowledge in the pursuit of worthwhile human purposes... It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities [institutions]”*. Action research is, therefore, “learning by doing”. It involves identifying a problem, doing something to resolve it, evaluating the action taken, and if not satisfied; trying again with a new course of action. Action Research is a rigorous research process which aims at improving the current situation being researched, based on a straightaway implementation of research findings and relying on the participation of the various local actors. It is a process concerned with developing practical knowledge and solutions in the pursuit of worthwhile human purposes and experiences. Action Researcher(s) formulate the problems to be examined and then generate new knowledge about these problems and take concrete actions to create a better situation in which members have an increased capacity to influence their destiny.

The objectives of Action Research are, therefore, twofold: firstly, to produce knowledge and action directly useful to a group of people through research, learning and action and secondly, to empower people through the process of constructing and using their own knowledge and actions to improve their practices and institutions.

Education practitioners, therefore, undertake Action Research to make better decisions and engage in better actions. School leaders have to enact Action Research to professionally solve problems being faced by their schools by

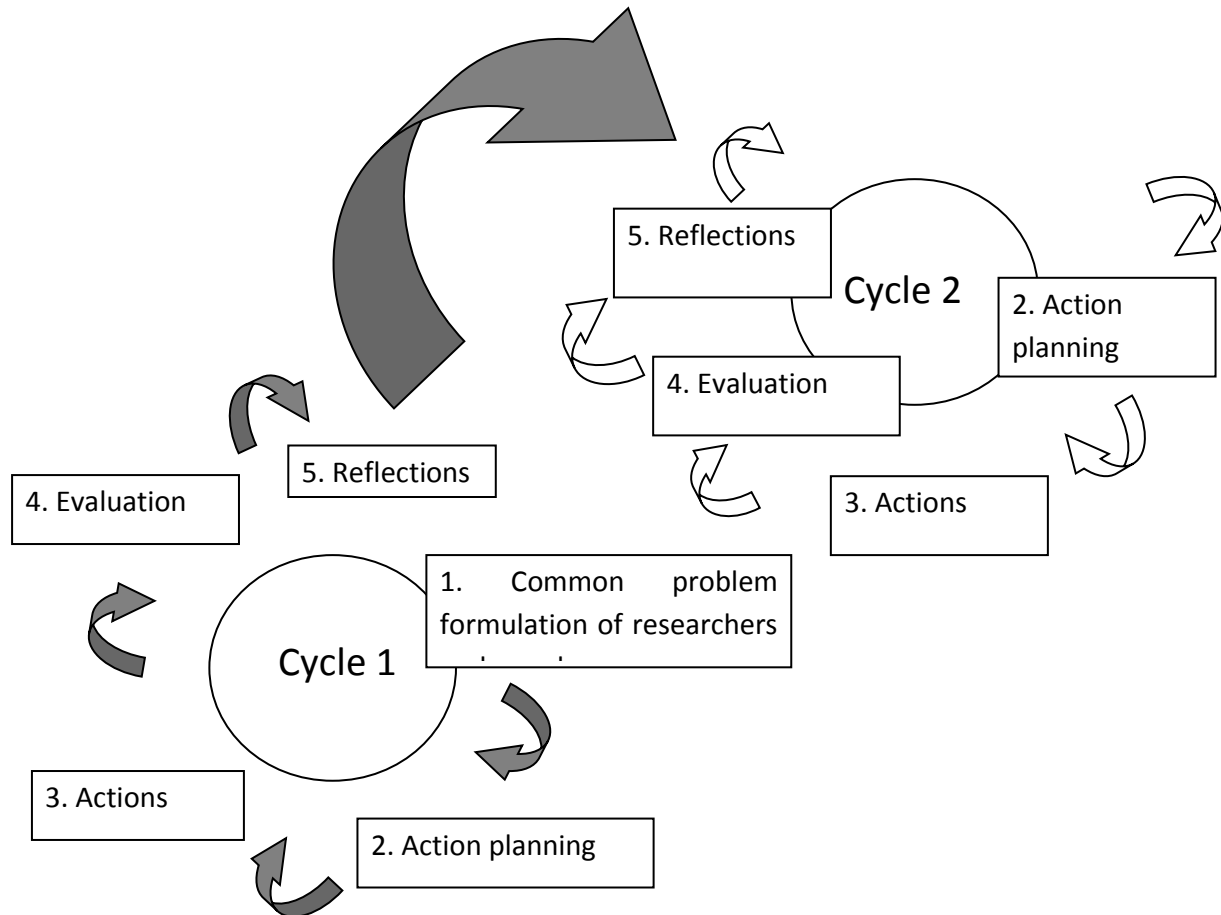
locating answers and examining authentic experiences. It is an innovative approach through which school leaders actively search for interventions to improve the performance of their schools.

Characteristics of Action Research

The key characteristics of Action Research are that it is practical, reflective, and recursive. It is practical because school leaders study practical issues that will have immediate benefits for their students, teachers, schools, and school communities. It is self-reflective because it involves school leaders in turning the lens on their own school practices. It is recursive in that issues and concerns are explored in an ongoing way by the school leader researchers.

The process of Action Research can, therefore, be described as cyclic and iterative: it is a cycle of planning, implementation, observation, and reflection, and re-implementation. It involves going through the various phases of inquiry several times, cycling between actions and reflections, looking at experience from different viewpoints, developing and trying different solutions. It spirals back and forth among reflection, data collection, and action. These cycles allow school leaders as researchers to evaluate and modify school practices for ongoing improvement.

Figure 1 demonstrates the diagrammatic representation of the Action Research process.



Gathering valid, relevant evidence allows the school leaders to make informed rather than intuitive decisions about effective practice.

The history of Action Research

Action Research dates back to the work of Kurt Lewin, who developed the idea in the 1940s. Lewin promoted doing research in a natural setting in order to change the setting or actions in it. His process is reflected in today's idea of Action Research as an ongoing cycle of planning, acting, observing, and reflecting on change (Kemmis, McTaggart & Nixon, 2014). Lewin coined the

term “Action Research” to describe work that did not separate the investigation from the action needed to solve the problem (Somekh, 2006). Stephen Corey applied Lewin’s idea of Action Research to an educational setting. He believed that a close examination of one’s teaching practices would result in a positive change in the practices (Kemmis, McTaggart & Nixon, 2014).

Unfortunately, support for and the practice of Action Research became less popular in the 1950s. Experimental research designs and the collection of quantitative data became common practice and Action Research was viewed as not real research, just common sense. In the 1970s, Action Research came back into wide use as educators began to see that much research outside projects did not have practical application to their own classrooms.

Action Research focuses on solving practitioner’s local problems. It is generally conducted by the practitioners after they have learned about the methods of research and research concepts. It is important to understand that Action Research is also a state of mind; for example, teachers who are Action Researchers are constantly observing their students for patterns and thinking about ways to improve instruction, classroom management, and so forth. It is hoped that you will get this state of mind as you go through this module.



Session 2 - The difference between Action Research and other forms of research

Research in general is a systemic process of investigation to increase our understanding of the world. It is an examination of various phenomena from different points of view to increase our knowledge on various issues. A traditional research process starts with problem formulation, then the researcher creates a research strategy, it is followed by data collection,

analysis of data and then drawing of conclusions. This session provides content and tasks to assist you to understand and appreciate the differences between Action Research and research in general.



Activity 2.2.a - Examining the difference between Action Research and research in general

Instructions

1. In groups of 5 explain the differences between Action Research and other forms of research.
2. Report your responses in plenary using gallery walk method.



Action Research and other forms of research

Action Research is different from traditional social and natural science research in the following points:

- The primary attribute that separates Action Research from other types of research is its focus on having those involved in the issue actively become researchers.
- The research takes place in real-world situations and aims to solve real and specific problems.
- Action Research is not just about hypothesizing and collecting data: it aims at changing situations; not just interpreting them.
- The research component of Action Research is not an end in itself but a tool for action.
- AR is not applied research as it does not separate theory and action.



Session 3: Importance of Action Research to school leaders

Action Research is a formative study of progress commonly practiced by teachers in schools. It enables education practitioners to adopt most appropriate strategy within their own teaching environment. Education practitioners from all over the world have employed Action Research as a part of their practice. Obviously, Action Research well matches with education and benefits both teachers and students in their teaching and learning since it meets the need of education and enables continuity in research with its cyclic process. This session will look at the benefits of Action Research to school leaders.



Activity 3.3.a - Explaining the importance of Action Research in education

In groups of 5, do the following.

1. Why is Action Research considered to be a cyclic instead of a one-way process?
2. To what extent can Action Research improve the quality of your school?
Explain
3. Report your responses in plenary



Importance of Action Research to school leaders

Action Research is valued research methodology and an innovative approach to encourage active intervention of school leaders in researching in finding solutions to challenges facing their schools. The idea of Action Research is that educational problems and issues are best identified and investigated where the action is: at the classroom and school level. By integrating research into

these settings and engaging those who work at this level in research activities, findings can be applied immediately and problems solved more quickly. The importance of Action Research to school leaders is as follows:

- Ongoing assessment of school practices is essential to ensure that instruction is effective. For instance, examination of the effectiveness of teaching in their schools helps school leaders to know how to proceed with subsequent teaching and learning to achieve the desired results.
- Schools are becoming increasingly diverse settings requiring an increasing diversity of instruction and organisation targeted to the specific needs of the students. The goal of Action Research is a positive change in everyday school practices in one's own school.
- Action Research encourages school leaders to be continuous learners and proactive 'actors' in shaping the destiny of their schools. It is about incorporating reflection into the daily school routines and practices. The willingness to critically examine one's school routines and practices in order to improve performance empowers school leaders to make informed decisions about what to change and what not to change in their practice.
- Action Research is also helpful in improving the professional experience of school leaders. It provides a means of focusing school routines and practices on issues directly related to school performance. Therefore, Action Research gives every school leader a chance to improve the practices of their schools, which ultimately improves the quality of teaching and learning. The research itself and implementing the resulting information provide a form of professional development directly related to and supportive of school leaders' teachers' and students' educational needs.

- Action Research also provides school leaders with the opportunity to gain knowledge and skill in research methods and to become more aware of the options and possibilities for change. This enables school leaders to generate rich for improving their classroom learning and school and performance.
- School leaders play a key role in nurturing a culture of research in their schools. As researchers, school leaders help to develop a collaborative culture in the school, marked by cooperation, so the teachers, as well as the school leader, control the development and implementation of changes and new ideas. Collaborative practices enable teachers to receive and give ideas and assistance in the process of teaching and learning, and provide a sense of ownership of the changing roles and responsibilities.

Therefore, in educational settings Action Research involves systematic inquiry by any school personnel such as school leaders in order to gather information about real, everyday issues in teaching and learning and use that information to improve student learning and achievement. Thus, Action Research allows educators to learn about their own instructional practices as they monitor improved student learning. Action Research is not only an innovative research methodology but an approach, a special way of thinking about inquiry that improves schools' operational and methodological practices.



Activity 3.3.b - Applying Action Research to your work

Instructions

1. In groups of 5:
 - a. Do you have a situation you would like to change with Action Research? Explain.

- b. Write three things that you would like to do as a researcher in your school to improve the school's performance.
 - c. Based on your current understanding of Action Research, do you think it can be conducted by you alone or would you need collaborators? Why?
2. Report your responses in plenary.



What Action Research is not?

While there are many definitions of what Action Research is, it is important to remember what Action Research is not:

1. The usual things teachers do when they think about their teaching. Action Research is systematic and involves collecting evidence on which to base rigorous reflection.
2. Just problem-solving. Action Research involves problem-posing, not just problem-solving. It does not start from a view of problems as incurable ailments. It is motivated by a quest to understand the world by changing it and learning how to improve it from the effects of the changes made.
3. Research on other people. Action Research is research by particular people on their own work to help them improve what they do, including how they work with and for others. Action Research does not treat people as objects. It treats people as autonomous, responsible agents who participate actively in making their own histories by knowing what they are doing.
4. The scientific method applied to teaching. Action Research is not just about hypothesis-testing or about using data to come to conclusions. It is concerned with changing situations, not just interpreting them. It brings the researcher into view. Action Research is a systematically evolving process of changing both the researcher and the situations in

which he or she works. The natural and historical sciences do not have this aim.



Summary

This unit has been about the many ways in which school leaders can use Action Research methodology to overcome the limitations of traditional methodologies when researching changing situations in their schools. The unit has demonstrated that Action Research combines research into substantive issues, such as how to improve the quality of children’s learning. The chapter has shown that Action Research is a means through which research becomes a systematic intervention, going beyond describing, analysing and theorizing school practices to working in partnership with participants to reconstruct and transform those practices.



Unit assessment

1. Imagine that you are interested in examining a specific problem that occurs in school. For this activity, you need to identify a problem (e.g., teachers losing confidence in their handling of discipline cases). Develop an intervention for teachers to help increase them improve their self-efficacy in handling of discipline cases.
2. Discuss the importance of Action Research in improving the quality of education in Malawi.

UNIT 3 - LITERATURE REVIEWING FOR ACTION RESEARCH



Introduction

Literature review is important for any research activity and Action Research is no exception. With literature review an Action Researcher is able to establish what previous researchers have found out on a particular educational issue. In a way such an exercise exposes gaps in knowledge which justifies the need to conduct a new study. Literature review is therefore important for knowledge generation. Action Researchers are therefore being encouraged to read and analyze what previous research is saying about a particular educational issue.



Intended outcomes

By the end of this unit, you must be able to:

- a. Define literature review
- b. Describe the importance of literature review in Action Research
- c. Conduct literature review for an Action Research problem



Key Concepts

Literature review, literature search, reference materials



Session 1: Understanding literature review

Literature review is an important part of Action Research because it represents the body of knowledge relating to the topic under study. The primary goal of this session is to assist you to develop a clear understanding of what literature review entails.



Activity 3.1a - Discussing the meaning of the term literature review

Instructions

1. Individually write down what you understand the term literature review
2. Consolidate what you have written with what another colleague has written
3. Share your consolidated response in plenary



Activity 3.1b - Examining the meaning of literature review

Instructions

1. Write a T-Chart with one column headed 'What literature review is' and the other 'What literature review is not'
2. Place the following statements under the right heading
 - a. A synthesis of a range of sources
 - b. A compilation of all materials related to your research field regardless of relevance to your project
 - c. A critical evaluation of sources related to your research
 - d. Simply a collection of texts that you think are interesting or every text that you have read
 - e. A descriptive summary of each and every text
 - f. A presented list in which you discuss each text in turn
 - g. A place to make explicit connections between previous and your research
 - h. A place to present an argument, a clear articulation of your own position in relation to relevant literature
3. Share your responses in plenary



What is literature review?

Literature refers to a collection of published information/materials on a particular area of research or topic, such as books and journal articles of academic value. A literature review is an overview of the previously published works on a specific topic. In essence, a literature review identifies, evaluates and synthesises the relevant literature within a particular field of research. It illuminates how knowledge has evolved within the field, highlighting what has already been done, what is generally accepted, what is emerging and what is the current state of thinking on the topic.

A literature review is supposed to provide the researcher and the audiences with a general image of the existing knowledge on the topic under question. A good literature review can ensure that a proper research question has been asked and a proper methodology has been chosen. To be precise, a literature review serves to situate the current study within the body of the relevant literature and to provide context for the researcher and reader.

However, your literature review does not need to be inclusive of every article and book that has been written on your topic because that will be too broad. Rather, it should include the key sources related to the main debates, trends and gaps in your research area.

A review of literature presents much more than a summary of relevant sources. The act of reviewing involves evaluating individual sources as well as synthesizing these sources in order to gain a broad view of the field. At this 'field level', a literature review discusses common and emerging approaches, notable patterns and trends, areas of conflict and controversies, and gaps within the relevant literature. When you can clearly observe these things, you

will be able to situate your own research and contribute to ongoing debates within the field.

In other words, when reviewing the literature, “not only do you need to engage with a body of literature, you also need to be able to compare, contrast, synthesize, and make arguments with that literature in ways that indicate a readiness to contribute to the literature itself” (O’Leary, 2010, p.81).

A literature review has the following objectives:

- It surveys the literature in your chosen area of study
- It synthesises the information in that literature into a summary
- It critically analyses the information gathered by identifying gaps in current knowledge; by showing limitations of theories and points of view; and by formulating areas for further research and reviewing areas of controversy
- demonstrates a familiarity with a body of knowledge and establishes the credibility of your work
- summarises prior research and says how your project is linked to it
- integrates and summarises what is known about a subject;
- demonstrates that you have learnt from others and that your research is a starting point for new ideas
- It presents the literature in an organised way

A literature review shows your readers that you have an in-depth grasp of your subject; and that you understand where your own research fits into and adds to an existing body of agreed knowledge.

Reference materials that can be accessed during literature review

While literature review is the hub of any Action Research, researchers are often times challenged with searching for literature. Usually beginning researchers would conclude that there is no literature on a research topic. On the contrary, there are always various forms of literature that one can review.



Activity 3.1c - Identifying reference materials for literature review

Instructions

1. In groups study table presented below and tick which of the following can be regarded as a reference material for literature review

Piece of literature	Yes	No
Letters		
Theses		
Government reports		
Statistical handbooks		
Empirical studies		
Websites		
Databases		
Conference proceedings		
Journal articles		

2. Share your responses in plenary



Some of reference materials for literature review

Literature review generally includes an extensive examination of dissertations, professional publications, journal articles, books, publications, policies, theories and sometimes personal interviews with expert people. In conducting a literature review, there are basically two types of sources—primary and secondary. Primary sources are materials that are written directly from the author. Examples include a dissertation, thesis, or scholarly journal article. Secondary sources are written by someone else and are considered second-hand sources. Examples include a book where the author reviews a primary source or a newspaper. Therefore, primary sources are preferred (Tomal, 2010).

There are many references that can be used in conducting a literature review, such as Internet searches, indexes, books, technical papers, abstracts, original works, computer databases, journals, and professional handbooks (Tomal, 2010).



Session 2: Importance of literature review

The review of literature is an important part of the study because it represents the body of knowledge relating to the topic. This helps the researcher learn about other studies that have been completed regarding the topic and their results. The researcher can obtain many useful ideas through conducting a review of the literature (Tomal, 2010). This session will explore the purpose of conducting a literature review.



Activity 3.2a – Discussing the importance of literature review

Instructions

1. In groups argue for or against the following statement: “Conducting a literature review during Action Research is a waste of time”.
2. Share your responses in plenary



The importance of literature review

Literature review in an Action Research is important for a variety of reasons. Some of these reasons are outlined below. Literature review:

- classifies the research into different categories and demonstrates how the research in a particular area has changed over time by indicating historical background (early research findings in an area) as well as explaining recent developments in an area
- clarifies areas of controversy and agreement between experts in the area as well as identify dominant views
- evaluates the previous research and identifies gaps
- helps justify your research by indicating how it is different from other works in the same area
- provides a background to your work by summarising the previously published work
- sharpens the focus of the study
- identifies what has been done before and the gaps
- develops a conceptual understanding of the topic
- obtains academic vocabulary used within the topic
- provides background and rationale of the study
- locates the study within current debates and viewpoints

- analyzes findings and discuss them with rigor and scholarship



Session 3: Conducting literature review

As reiterated above, the purpose of the literature review is to know what others have discovered before you begin your investigation of your own, to ground your study in a particular context of what is known about a subject in order to establish a foundation for the topic (or question) being researched. The purpose of this session is to facilitate your abilities to research a topic of study so you can learn to identify and formulate an inquiry question that defines what you would like to learn, know how to search and locate literature; analyze information found in literature, and synthesize new knowledge into a written literature review and establish context for your inquiries.



Activity 3.3a – Describing the process of conducting a literature review

Instructions

1. Imagine that you have been asked to complete a literature review on an educational topic of your choice, individually describe how you would go about it
2. Present your response in plenary



Steps to completing your literature review

1. Choose an educational topic that you are interested in studying (you've done this in you Introduction draft)
2. Formulate an inquiry question that specifically describes what would like to know about your educational topic (you have done this in you

Introduction draft, but you can always refine your inquiry questions after you know more about your area through reading the literature)

3. Go to the library to search for and locate journals that include your topic's information (You learned how to do this during your library time).
4. Find articles, read the abstracts and skim the articles to determine if they correspond well to your topic AND inquiry question
5. Identify reference materials for your project
6. Read your reference materials and begin to sort and classify them according to their findings
7. Organize your reference materials by sorting and classifying their findings in a meaningful way, always considering your original topic and inquiry question
8. Write an outline for your literature review
9. Write your review
10. Revise your review

Outline for writing your literature review:

1. Introduction (without this heading)
 - a. States the topic and inquiry questions for this review
 - b. Tells the reader specific information on how many articles you reviewed and how you sorted the articles into common themes based on findings (results)
2. Body (without this heading)

Before you begin this section, be sure that you have sorted your articles into different themes based on the articles' findings (sometimes called results). After you sort your articles, it is important to give your sorted groups a descriptive name. The names of the sorted articles will become your headings for each of the paragraphs that you write in the body of your review. The body of your literature review will include:

- a. Theme 1: a paragraph or several paragraphs that describe the first theme that you identified and compares, contrasts and connects the articles you have selected
- b. Theme 2: a paragraph or several paragraphs that describes the second theme that you identified and compares, contrasts and connects the articles you have selected
- c. Theme 3: a paragraph or several paragraphs that describes the third theme that you identified and compares, contrasts and connects the articles you have selected

3. Summary

This is the last paragraph of your literature review. In this paragraph, it is important to briefly summarize the main findings from the articles that you reviewed and to point out how your inquiry questions were answered or not answered, what the gap is (what if my questions are all answered – you then need to identify new inquiries so that you will contribute to the field).

4. References

This is the last pages of your review. It serves as a listing of all references that you mentioned in your paper. Please make sure that only references cited in your drafts will be listed here.

After selecting a topic to investigate, you will begin to locate and read sources. Then you will analyse, evaluate and synthesise the texts before organising them into a logical structure that you will use to write your literature review.

When conducting your literature review, you should identify all sources that support and do not support your position. Many novice researchers take a

biased viewpoint and attempt to mainly obtain sources that only support their position. It is important to present an honest and thorough literature review.

When writing your literature review, several styles can be used: point-by-point or journalistic. The point-by-point style contains a one- or two paragraph summary for each source. While this approach may appear a little choppy to the reader, the use of effective transition statements can be used to help smooth out the writing. The journalistic approach, perhaps the more popular one, is done by writing the review more like a term paper, citing your sources along the way. Most literature reviews conclude with a summary table. The summary table summarizes the main sources in a concise format, allowing the reader to quickly review the sources.

The literature review often is one of the large sections of a study. Like any study, the literature review should contain an exhaustive review of all the literature relevant to the topic. The sources for the review should contain both supporting and non-supporting research for the topic. The researcher should not be biased by presenting only positive viewpoints. This section should also contain relevant primary sources versus secondary sources. Primary sources are those sources that come directly from published studies and journals versus secondary sources that come from books (i.e., second-hand reviews). The accuracy of a primary source is going to be much higher than that of secondary sources. The literature review often concludes with a summary table whereby the reader can scan the entire literature without reading the entire chapter.

Again when conducting the literature review, take note of the methods that were used by other researchers. This is particularly important as it helps you with the choice of research techniques such as methods of data collection and

analysis. It is also important to ask questions on the methodology such as whether or not the data collection and analysis methods used were appropriate.

Conducting a literature review is an ongoing, non-linear, and iterative process: “Your literature review will inform your question, theory, and methods, and your question, theory, and methods will help set the parameters of your literature review. This is a cyclical process” (O’Leary, 2010:83). It is usually one of the first tasks that graduate research students undertake, and one of the last to be completed. A literature review written in the early stages of research is likely to change because you need to review and revise it from time to time and ensure it is up to date.



Unit summary

In essence, a literature review identifies, evaluates and synthesises the relevant literature within a particular field of research. It illuminates how knowledge has evolved within the field, highlighting what has already been done, what is generally accepted, what is emerging and what is the current state of thinking on the topic. In addition, a literature review identifies a research gap (i.e. unexplored or under-researched areas) and articulates how a particular research project addresses this gap. Action Researchers have to conduct a literature review to situate their study within academic literature.



Unit assessment

1. Think of an educational issue within your school/institution and suggest some of the educational policies you will review to support your study

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2. Based on the issue identified in 1 above identify related existing studies and provide a summary of each of these studies highlighting findings and methodologies. Provide the gaps in each of these studies that your study intends to fill.

UNIT 4 - ACTION RESEARCH DESIGN AND RESEARCH METHODOLOGY



Introduction

Research methodology and research design are terms you must know before starting any research project. Both these elements are essential to the success of a research project. However, many new researchers assume research methods and research design to be the same which is not the case. Research design is the overall structure of a research project. For example, if you are building a house, you need to have a good idea about what kind of house you are going to build; you cannot do anything without knowing this. A research design is the same – you cannot proceed with the research study without having a proper research design. Research methods are the procedures that are used to collect and analyze data. Thus, the main difference between research methods and research design is that research design is the overall structure of the research study whereas research methods are the various processes, procedures, and tools used to collect and analyze data. For you to be able to successfully carry out Action Research, you must be conversant with the concepts of research design and research methodologies. This unit will explain these concepts so that you can successfully plan and execute Action Research projects in your schools.

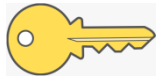


Intended learning outcomes

By the end of this unit, you must be able to:

- a. Define the term Research Design
- b. Differentiate qualitative from quantitative research designs
- c. Define the term Research Methodology

- d. Describe how sampling is conducted
- e. Describe various data collection methods
- f. Describe the process of data analysis
- g. Demonstrate an understanding of research ethics



Key concepts

Research Design, Research Methodology, Sampling, Data collection methods, Data analysis, and Research ethics.



Session 1 - Action Research design

This session aims at equipping you with a clear understanding of the concept of research design. You will also look at the two dominant approaches to research designs which are the quantitative and qualitative research designs. This knowledge is crucial as you prepare to carry out Action Research in your institutions.



Activity 4.1a - Describing research designs

Instructions

1. Individually write on a piece of paper:
 - a. the definition of the term research design
 - b. the difference between qualitative from quantitative research designs
2. Share your responses in plenary
3. In groups study the table below and answer the questions that follow

Research design	Description	Qualitative	Quantitative
Case study			
Survey			
Experimental			
Phenomenology			
Correlational			

4. In the description section write what the respective research design entails
5. Tick whether the respective research design is qualitative or quantitative
6. Justify your response to question 3 above
7. Share your responses in plenary



Research design

Research design is the overall plan or structure of a research project. It indicates what type of study is planned and what kind of results are expected.

It specifically focuses on the final results of the research. It is almost impossible to proceed with a research project without a proper research design. The main function of a research design is to make sure that the information gathered throughout the research answers the initial question unambiguously. In other words, the final outcomes and conclusions of the research must correspond with the research problems chosen at the beginning of the research. Research design involves determining how your chosen method will be applied to answer your research question. The design of your study can be thought of as a blueprint detailing what will be done and how this will be accomplished. Key aspects of research design include: research methodology; participant/sample collection and assignment (if different conditions are being explored); and data collection procedures and instruments. There are two dominant approaches to research designs. These are quantitative and qualitative research designs.

Quantitative research designs

Quantitative research approach involves generation of data in numeric form. It is aimed at quantifying the research findings. For instance, test scores of students are quantitative in nature since it is possible to attach a numerical value to a student's performance in a particular test. Quantitative data is information about quantities, and therefore numbers. In Action Research there are two dominant quantitative research designs that can be used to generate data to improve educational practice. These are experimental, survey and correlational research designs.

Experimental design

According to Mbii, Kyalo and Nyonje (2015) an experiment is a scientific investigation in which a researcher manipulates an independent variable. Here a researcher compares two or more educational issues to determine if they

are different. In this regard an experimental design helps an Action Researcher to test an intervention. In a classroom setting an experimental design will allow an Action Researcher to establish if new approaches of teaching are working or not. To carry out an experimental research an Action Researcher should have independent and dependent variable. A dependent variable is an outcome of an educational interventional. For example, if you are testing the effectiveness of learner centered approaches of teaching and learning in a Mathematics class, student mathematics performance is the dependent variable. On the other hand, an independent variable is an intervention. In the teaching and learning example, type of teaching method is an independent variable.

Survey Research Design

A survey is an approach that attempts to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. A survey systematically gathers information that describes the characteristics of respondents for the purposes of building generalizations or theories about the population they represent. Survey design is predominantly descriptive and it is for this reason that the terms descriptive and survey research are sometimes used interchangeably. For instance, if you want to establish students opinions towards group work as a method of teaching, you can conduct survey of your class where learners can provide their preference levels about group work as a method of teaching.

Correlational research design

In Action Research you may be interested to establish if two or more educational issues are related. To establish this, a correlational research design is ideal. According to Bryman (2008) correlational research is used to describe the degree to which two or more variables are related. In classroom

situation you may be interested to find out whether English language performance is related to Mathematics performance. A correlation research will therefore be used to establish the strength and the direction (whether increase in English performance leads to increase in Maths performance or that Increase in English performance leads to decrease in Maths performance) of the relationship . Such kind of research may strengthen the claim that class performance has to be looked at in totality and that subjects are interdependent.

Qualitative Research Designs

Qualitative research involves obtaining information from respondents in the form of words. Thus an Action Researcher is concerned with understanding the voices of the respondents pertaining to an educational issue. For instance, at school an Action Researcher would be interested to understanding teachers' pedagogical practices. With classroom observation and having an audience with teachers and students, an Action Researcher would understand the most preferred pedagogical practices.

On the other hand, qualitative research approach involves generation of data in the form of words or narratives. For instance, a teacher's views on learner centred approach to teaching and learning is a qualitative aspect. Qualitative data is descriptive, and regards phenomenon which can be observed but not measured, such as language. There different qualitative designs that can be used to understand educational problems. The designs include phenomenology and case study design.

Phenomenology

Phenomenology is concerned with understanding the lived Experiences of respondents. To understand the experiences of learners with disability at a

school, an Action Researcher would focus on the learners with disability to understand their experiences in the school. This will offer a better understanding of the challenges these learners encounter so that effective interventions could be implemented.

Case study

One of the widely used qualitative research designs in education is case study. According to Creswell (2014) case study is a detailed study of a specific subject such as a person, group or organization. Case study can be used to describe, compare, evaluate and understanding different aspects of a phenomenon. For instance an Action Researcher would like to compare management practices in mission schools and government schools so as to identify good and bad management practices in each case.



Activity 4.1b - Comparing quantitative and qualitative research designs

Instructions

1. In pairs, discuss the key differences between qualitative and quantitative research designs
2. Share your responses in plenary
3. Imagine that you are planning to conducting a study at your school
4. Which among the two designs (quantitative and qualitative) would you employ
5. Give reasons for your choice



Session 2: Research Methodology

The main aim of this session is to assist you develop the methodology part of your Action Research project. This session will address the issues of sampling, data collection and data analysis.



Activity 4.2a - Defining the term research methodology

Instructions

1. In groups:
 - a. Define the term research methodology
 - b. Identify various aspects of a research methodology
2. Share your responses in plenary



Definition of the term research methodology

Research methodology is concerned with the various research processes, procedures, and tools such as techniques for gathering data and various ways of analyzing them. Key aspects of research methodology include choice of participant (sampling), data collection procedures and instruments and data analysis procedures. The choice of research methods to be employed depends on the nature of the research problem being addressed. Research problems can be categorized into two basic types: these are qualitative research and quantitative research. Researchers may use one or both of these methods (mixed method) in their research studies.

Sampling

To conduct an Action Research, there is need to obtain information/data from respondents. At school respondents could be teachers, students, Parents and Teachers Associations, among others. However due to financial and time constraints, an Action Researcher may not reach out to all teachers or students to obtain information. A few students or teachers representing these are usually reached out to. The process of selecting these respondents is called Sampling.



Activity 4.2b - Describing sampling

Instructions

1. Individually write down what you understand by the term sampling
2. Share your response with a colleague
3. Share your response in plenary



Activity 4.2c - Conducting sampling

Instructions

1. Individually, read the case below and answer the questions that follow

You are carrying out a study on the causes of late coming to school among Form 3 students at your school.

2. What categories of people are you going to reach out to collect data from? Why choosing these categories of people?
3. From the identified categories of people, how would you choose actual individuals to collect data from?
4. Share your responses in plenary



What is sampling?

According to Bryman (2008) sampling refers to the process of selecting units (students, organization) from a population of interest (e.g all form 3 students) so that by studying the sample we may fairly generalize our results back to the population from which the sample was chosen. For instance from a population of 120 Form one students, 85 can be a sample such that by interviewing them on an educational issue such as (motivation to learn) their views can represent the views of the 120 students. To achieve this sampling has to be representative.

Types of Sampling

There are various types of sampling techniques namely simple random sampling, systematic random sampling, stratified random sampling, purposive sampling, convenience sampling and snowball sampling.



Activity 4.2d - Discussing types of sampling

Instructions

1. In groups, study the table given below and using arrows match the type of sampling with its description

Type of sampling	Description
Simple Random Sampling	Where a population of interest has subgroups, an Action Researcher may be interested to ensure that all subgroups are represented in the sample. For instance in a class of 120 students one would representation of both boys and girls. The 85 students to be sampled should

	therefore include both boys and girls and each of these sub groups should be randomly sampled.
Purposive Sampling	With this technique every member of the population is given an equal chance of being selected as a respondent. For instance in selecting students, an Action Researcher may put names of all students in a hat and select 85 students by chance.
Stratified Random Sampling	With this sampling technique, an Action Researcher picks every nth of the respondent. In the case of sampling 85 students, one would firstly randomly sample the first student from 120. He may then decide to select every 5 th student until 85 students are selected.
Systematic Random sampling	This involves using the people who are the most available or the most easily selected to be in a research study. For instance if you would like to investigate form 4 teachers understanding of the Traditional Approach of Teaching and Learning, you will select form four teachers at your school because they are available.
Convenience Sampling	With this technique the researcher specifies the characteristics of the population of interest and then locates individuals who match those characteristics. In this regard sampling does not necessarily follow the principle of randomness. Researcher is guided by the uniqueness of the respondents. For instance in understanding the root cause of indiscipline in the school, the Action Researcher will select students and teachers

	because they are at the hub of discipline issues in the school.
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2. Share your responses in plenary
3. Identify situations in your school based Action Research where you could use each of the sampling techniques discussed above.

Data Collection

The whole mark of Action Research is to obtain information to shed light on a particular educational issue. Before we define data collection, it is essential to define data. Data is various kinds of information formatted in a particular way. Therefore, data collection is the process of gathering, measuring, and analyzing accurate data from a variety of relevant sources to find answers to research problems, answer questions, evaluate outcomes, and forecast trends and probabilities. Any research is highly dependent on data, which underscores the importance of collecting it. Therefore, accurate data collection is necessary. During data collection, the researchers must identify the data types, the sources of data, and what methods to be used. This section discusses some of the common data collection methods that can be used in action research.



Activity 4.2e - Describing various data collection methods

Instructions

1. In groups you will be assigned a method of data collection method as indicated in the table below.

Group	Data collection method	Description	Strengths	Shortfalls
1	Interviews			
2	Questionnaire			
3	Observation			

2. Fill in the description, strengths and shortfalls sections of the table
3. Share your responses in plenary
4. Identify a study where you can use each of the data collection methods and justify your choice



Data collection methods

It is worth pointing out that before any researcher chooses data collection methods, he or she must answer the following three critical questions:

- a. What's the goal or purpose of this research?
- b. What kinds of data should be collected?
- c. What methods and procedures should be used to collect the data?

This section describes some of the data collection methods that can be used by Action Researchers.

1. Interviews

An interview is a conversation between two people where questions are asked by the interviewer to obtain information from the interviewee on a particular subject. There are three types of interviews. These are structured interviews, semi structured interviews and unstructured interview.

a. Structured interview

With this interview all categories and codes are worked out in advance. A structured approach is premised on the view that the meanings and assumptions underlying the questions will be clear and understood by the respondents. The aim of structured interviewing is usually to gather data from large samples and to ensure consistency of responses, and is therefore more often associated with quantitative research. Interviewees' responses are aggregated and this is achieved if all replies are in response to identical cues.

b. Semi-structured Interview

This refers to a context in which the interviewer has a series of questions that are in the general form of an interview schedule but is able to vary the sequence of the questions. The questions are more general in their frame of reference from that typically found in a structured interview schedule. The interviewer can also ask further questions in response to what are seen as significant replies.

c. Unstructured Interview

The interviewer has only a list of topics or issues usually called an interview guide. The style of questioning is usually informal and the phrasing and sequencing of questions will vary from interview to interview.

Strengths of Interviews

- good for measuring attitudes
- allows probing and posing of follow-up questions by the interviewer
- provides in-depth information
- provides information about participants' internal meanings and ways of thinking
- relatively high response rates are often attainable
- useful for exploration as well as confirmation of ideas

Shortfalls of Interviews

- in-person interviews usually are expensive and time consuming
- reactive effects (e.g., interviewees may try to show only what is socially desirable)
- investigator effects may occur (e.g., untrained interviewers may distort data because of personal biases and poor interviewing skills)
- interviewees may not recall important information and may lack self-awareness
- perceived anonymity by respondents may be low
- data analysis can be time consuming for open-ended items
- measures need validation

2. Questionnaires

A questionnaire is a self-report data collection instrument that is filled out by research participants. Questionnaires are usually paper-and-pencil instruments, but they can also be placed on the web for participants to go to and "fill out." Questionnaires are sometimes called survey instruments, which are fine, but the actual questionnaire should not be called "the survey." The word "survey" refers to the process of using a questionnaire or interview protocol to collect data. For example, you might do a survey of teacher

attitudes about inclusion; the instrument of data collection should be called the questionnaire or the survey instrument.

A questionnaire is composed of questions and/or statements.

Strengths and shortfalls of questionnaires

Strengths of questionnaires

- good for measuring attitudes and eliciting other content from research participants
- inexpensive (especially mail questionnaires and group administered questionnaires)
- provides information about participants' internal meanings and ways of thinking
- quick turnaround
- can be administered to groups
- perceived anonymity by respondent may be high
- moderately high measurement validity (i.e., high reliability and validity) for well-constructed and validated questionnaires
- closed-ended items can provide exact information needed by researcher
- useful for exploration as well as confirmation

Shortfalls of questionnaires

- reactive effects may occur (e.g., interviewees may try to show only what is socially desirable).
- non-response to selective items

- people filling out questionnaires may not recall important information and may lack self-awareness
- response rate may be low for mail and email questionnaires
- open-ended items may reflect differences in verbal ability, obscuring the issues of interest
- data analysis can be time consuming for open-ended items

3. Observation

In the method of data collection the researcher observes participants in natural and/or structured environments. It is important to collect observational data (in addition to attitudinal data) because what people say is not always what they do.

Strengths and shortfalls of observation method

Strengths of observational method

- allows one to directly see what people do without having to rely on what they say they do
- provides firsthand experience, especially if the observer participates in activities
- provides relatively objective measurement of behavior (especially for standardized observations).
- observer may see things that escape the awareness of people in the setting
- excellent way to discover what is occurring in a setting
- helps in understanding importance of contextual factors
- can be used with participants with weak verbal skills
- may provide information on things people would otherwise be unwilling to talk about

- observer may move beyond selective perceptions of people in the setting.
- provides moderate degree of realism (when done outside of the laboratory)

Shortfalls of observation method

- reasons for observed behavior may be unclear
- reactive effects may occur when respondents know they are being observed (e.g., people being observed may behave in atypical ways)
- investigator effects (e.g., personal biases and selective perception of observers)
- observer may “go native” (i.e. over-identifying with the group being studied)
- sampling of observed people and settings may be limited
- difficult to observe large or dispersed populations
- some settings and content of interest cannot be observed
- collection of unimportant material may be moderately high
- more expensive to conduct than questionnaires and tests
- data analysis can be more time consuming

Apart from the methods discussed above, other data gathering techniques include focus group discussion and document review (Bryman, 2008).

Data analysis

Data analysis is all about making sense of the collected information so that you can understand the major issues that come out of your data. It also helps others to understand your findings. Making sense of data involves arrangement of information in orderly manner so that patterns can easily be

deduced and interpretations made. In this section you will be introduced to techniques of analyzing data.

Data collected using the data collection techniques discussed above can either be quantitative or qualitative. Due to the philosophical differences between quantitative (positivism) and qualitative (interpretive) traditions, data in each of these two traditions is also analyzed differently to reflect the philosophical differences.



Activity 4.2f - discussing the process of data analysis

Instructions

1. In pairs explain how you would analyse quantitative and qualitative data
2. Share your responses with another pair
3. Present your responses in plenary



Quantitative data analysis

The following are some of the processes involved in analyzing quantitative data:

- Creation of a basic order/form from which further rearrangements may be done (data capturing into a data base)
- regrouping of data and tallying
- categorising issues
- working out percentages and averages
- presenting data in graphs e.g. pie charts, bar graphs

Creation of a basic order for further rearrangements

The Table below is an example of the data collected by a certain teacher on students' late reporting to school and captured in a basic data base. The table is a database for this teacher. To analyse this data we shall move to the other processes mentioned above step by step. The table below shows data on attendance collected for only one week. You may be required to collect data for several weeks in your Action Research.

The table shows the dates on which data was collected, code names of students who came late to school, their sex, the number of minutes they were late and reasons for coming late. The data was collected every day for five days.

Table showing data of students reporting late to school

Date	Student Code	Sex	Number of minutes late	Reason/s for late coming
Mon	A	M	5	Works in a garden in the morning
30/08/20	B	F	7	Doing household chores
	C	M	8	Long distance
	D	M	10	Goes to video shows in the morning
	E	M	10	Goes to video shows in the morning
	F	F	10	Doing household chores
Tue	G	F	11	Long distance
01/09/20	H	M	12	Goes to video shows in the morning
	E	M	10	Goes to video shows
	I	M	3	Said nothing

	B	F	5	Long distance
Wed	D	M	7	Goes to video shows in the morning
02/09/20	E	M	7	Goes to video shows in the morning
	F	F	7	Said nothing
	J	F	9	Goes to video shows in the morning
	K	M	10	Goes to video shows in the morning
Thur	G	F	5	Doing household chores
03/09/20	H	F	4	Gambling
	B	F	2	Wakes up late
	A	M	3	Said nothing
	C	M	4	Goes to video shows
	D	M	6	Doing household chores
Frid	E	M	8	Works in a garden in the morning
04/09/20	F	F	8	Long distance
	G	F	9	Goes to video shows in the morning
	H	M	9	Goes to video shows in the morning
	J	F	10	Gambling
	K	M	10	Wakes up late

Tallying

After capturing data into a basic database as shown above, you need to regroup it further. In many cases, you may have many data, which needs to be sorted. Sorting out data enables you to regroup similar information together so that it can easily be read. A tally table can be used to regroup similar information together. From the table (data-base) above you can regroup your data in a tally table. Here is an example of a tally table.

Reasons for reporting late	Tally	Number of students
-Goes to garden before coming to school	//	2
-Walks a long distance to school	////	4
-Does household chores in the morning	//// /	6
-Says nothing	//	2
-Gambling	//	2
-Wakes up late	//	2
-Goes to video show before coming to school	//// — ////	10

The tally table above shows seven types of reasons that students gave for reporting late. Going to video shows is the reason that is most repeatedly mentioned for reporting late. Others are household chores and long distance. The rest have been mentioned twice each.

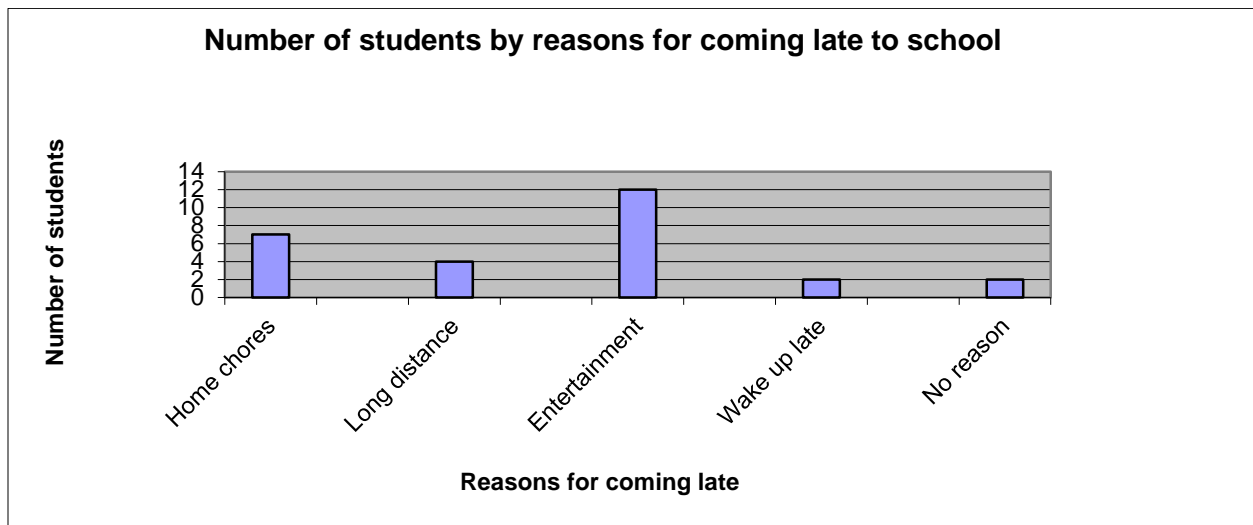
Categorising issues

It is clear that some of these groups can be combined to come up with a smaller number of categories to work with. This enables you to read your data easily. From the tally table above you can come up with the following categories.

Category	Reason for coming late	Number of students
Home chores	Gardening + home chores	7
Long distance	Long distance	4
No reason	No reason	2
Entertainment	Gambling + video shows	12
Wake up late	Wake up late	2

Presentation of the data

The above information can be presented in form of a graph, this will help you to compare the number of students in each category and make informed conclusions.



Data interpretation

Data interpretation is part of the analysis process that centres around drawing meanings from the data. It involves reporting in simple and clear language what the results of data analysis are, as they appear from the particular method of presentation you have used e.g. the graph.

Drawing meanings beyond what is seen

This involves attaching possible meanings and conclusions to the results of an analysis. In the case of the results shown by the graph, you may conclude that in this Action Research there were two major causes for late coming among the students. These were home chores and entertainment. The entertainment included going to video shows and playing njuga with friends before coming to school while home chores included gardening, cleaning utensils and bathing siblings. The minor reasons were waking up late and long distance.

Therefore when planning to improve your practice you may need to focus your attention on the identified factors.

Qualitative data analysis

Firstly, organise the data by going through it a number of times for their accurate translation. Then all the data has to be directly transcribed. This was followed by editing the data to clean it of unnecessary elements. At this stage, clarify ambiguities, insert contextual comments and headings and correct spellings. Care has to be taken to make sure that the gist of the data is not lost in the process.

After organising the data, immerse yourself into the data by reading and re-reading all the transcripts several times. This aims at making sense of the

data so as to identify preliminary major themes from the participants' responses in line with the research questions.

The next stage was coding of the data. Coding entails re-organising, dividing or segmenting the data into themes and categories identified during the immersion stage by applying some coding scheme using numbers, dots of different colours or simply by using abbreviations of key words (Marshall & Rossman, 2006). The coding procedure assists in reducing and categorising large quantity of data into more meaningful units ready for interpretation.

After coding, patterns and themes are identified. At this stage, codes are read and reread to identify significant broader patterns of meaning. This is done by noting patterns and links between participants' responses. Ideas and statements bearing similar constructs are put under the same theme for each group of participants. Then data interpretation follows. This involves evaluating the data by attaching significance to what was found, making sense of the findings, offering explanations, drawing conclusions, extrapolating lessons, making inferences, considering meanings, and otherwise imposing order (Patton, 2000 in Marshall & Rossman, 2006).

Finally, a search for alternative understandings was done by going through literature to determine the existence of consistencies and inconsistencies between what has been found and what is in the literature.

The major challenge during data analysis is how to wade through the large amounts of data that were generated through qualitative data collection methods. The large amounts of data needed to be sought and reduced to a few themes. However, this is dealt with by employing the thematic data

analysis procedure. The steps involved in this procedure helps to systematically draw meaning from the data.

Finally as qualitative researchers in the making you should know that working with qualitative data is a rich and enlightening experience. The more you practice, the easier and more rewarding it will become. As both a science and an art, it involves critical, analytical thinking and creative, innovative perspectives. Be thoughtful, and enjoy it.

Research Ethics

Educational research is concerned with interaction with human subjects as they are the ones that provide the information required to shed light on the research project. Human subjects have to be handled properly in the research process. It is in this regard that ethical standards need to be observed in order to protect human subjects as they participate in educational research. This section aims to highlight various ethical practices that have to be considered when conducting Action Research in education.



Activity 4.2g – Discussing research ethics

Instructions

1. In groups:
 - a. define the term Research Ethics
 - b. describe some of the ethical issues that should be observed when conducting Action Research
2. Share your responses in plenary



Research Ethics Defined

Ethics in research refers to norms of conduct that should be adhered to when doing research involving human subjects. Ethics ensure that participants are not harmed during the research process. There are tensions between research quality and adherence to research ethics. Some authors argue that adherence to ethics compromise the quality of scientific investigation and so they content that the rights of science should override the rights of participants. On the other hand it is argued that no information is so important that it should be obtained at the expense of participants rights (Warwick 1983 in Foard 2006). In this case the rights of participants override the rights of science.

Regardless of this tension, we should as researchers conform to ethics as much as we can for this is part of best practices of conducting research.

In this connection I now highlight some of the ethical issues that should be observed when conducting research involving human subjects.

Ethical issues to be considered in research

Some of the ethical issues to be observed when conducting Action Research are discussed below:

- **Confidentiality:** Research participants should be protected by remaining unidentifiable. Their names should not be used in any written material concerning the research or in discussions of the research project.
- **Voluntary Participation:** This requires that people should not be forced into participating in research. This is relevant as in the past researchers relied on captive audiences for their subjects.

- Informed consent: Prospective research participants must be fully informed about the procedures and risks involved in research and must give their consent to participate
- Privacy: Two standards are applied to ensure privacy of research subjects. These are:
 - Confidentiality - Research participants should be protected by remaining unidentifiable. Their names should not be used in any written material concerning the research or in discussions of the research project.
 - Anonymity - This is closely related to confidentiality and it ensures that participants should remain anonymous throughout the study even to the researchers themselves. However this is difficult to accomplish especially in studies where participants have to be measured at multiple time points as in pretest posttest studies.



Summary

Research methodology and research design are terms you must know before starting any research project. Both these elements are essential to the success of a research project. Research design is the overall plan or structure of the research project. It indicates what type of study is planned and what kind of results are expected from this project. It specifically focuses on the final results of the research. It is almost impossible to proceed with a research project without a proper research design. The main function of a research design is to make sure that the information gathered throughout the research answers the initial question unambiguously.

Research Methodology refers to specific procedures that a researcher employs to carry out the study. For you to be able to successfully carry out Action Research, you must be conversant with a variety of methodologies used in

research in general. These include sampling, data collection techniques, data analysis and research ethics. This unit has therefore equipped you with an understanding of research design and methodologies in order to help you undertake rigorous Action Research whose results could be used to improve educational practice. Action Research is done to find effective ways of dealing with challenges experienced in educational settings. In order to undertake a systematic Action Research, it is important to utilize a set of research designs and methodologies.



Unit assessment

1. State any two educational issues from your school setting that could be explored using a survey approach.
2. Name the steps for undertaking qualitative data analysis.
3. Discuss strengths and weaknesses of using interviews for data collection.
4. Outline any four research ethics that should be observed when doing a study involving human subjects.
5. Think of any research topic and suggest some of the ethical issues that should be taken care of.
6. Formulate a simple research question suitable for qualitative data analysis. Make sure that the question can be addressed within your own environment and that it is not ethically sensitive. Design a short, semi-structured interview questionnaire that will enable you to start to explore your research question through a very short (five-minute) interview with a colleague or friend. Transcribe and code the interview. Generate categories from the codes which start to address the research question. Identify the next steps that you would take to continue addressing the research question using qualitative research methods.

UNIT 5 - ACTION RESEARCH IMPLEMENTATION PROCESS



Introduction

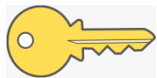
Planning and undertaking an Action Research project means asking questions about what we are doing, why, and how we can evaluate our practice. In this unit, you will explore key ideas and some examples of the steps which are taken in planning starting up and implementing an Action Research project. This will assist you to understand how to approach your action enquiries and develop different insights into the process.



Intended outcomes

By the end of this unit, you must be able to:

- a. Identify an Action Research problem
- b. Formulate an Action Research question
- c. Create an Action Research plan
- d. Implement an Action Research plan
- e. Report Action Research findings
- f. Use Action Research findings to inform practice
- g. Evaluate an Action Research plan



Key concepts

Action Research problem, Action Research question, Action Research plan, Action Research report, Performance target, Process target, Programme target, Action Research cycle



Session 1 - Identifying a problem and asking an Action Research question

You might now be asking yourself, “Where do I start my Action Research?” To begin your Action Research, you must begin with this question, “What is my concern in my practice?” Identify a concern that affects teaching and learning in your school. It should be a concern that you can do something about. It should not depend on others. Notice that the word “concern” calls attention to personal values and you should select some aspect of your school that relates to what is important to you about your students' learning. Action Research is an action-oriented reflective practice, which begins from a concern about some aspect of your practice. This leads to focusing on a particular question for investigating.

Sources for identifying Action Research concerns may be your own experiences in a professional context, such as interest in trying out a promising practice you have read or heard about. The question may arise from a difficulty you are having such as you need to improve student learning. You may need to seek clarity on an unclear situation, such as how to effectively use an instructional approach.

After you determine the concern, define and describe the problem or situation. Identify possible changes in your school that might help resolve it. The problem description should relate to specific school practices and should be a researchable concept. This session provides you with information and activities to help you understand the process of identifying an Action Research problem. It also explains how you should ask the Action Research question.



Activity 5.1a - Identifying an Action Research problem

Instructions

1. Individually:
 - a. Identify practice-based concerns that you might be able to do something about in a reasonable amount of time.
 - b. Try to specify what it is about the concern that you wish to change (*this could be identified as changes in activities, social relationships, among others*).
 - c. What instructional/organizational/supervision changes would you like to make?
2. Share your work in plenary



Problems that can be addressed through Action Research

Here are some examples of problems that have been addressed through Action Research:

- Students cannot read.
- Students do not see the purpose of practice.
- Teachers do not know how to tell if their students are learning.
- Students do not bear a shared responsibility for learning.
- Struggling readers need a system of formative evaluation.
- Parents are reluctant to get involved in the operations of the school.

The selection of a focus for one's Action Research is a step that mustn't be taken lightly. Prematurely rushing to a research focus may be the single worst thing a prospective Action Researcher can do. While there is no best way to choose a focus for inquiry, there are a number of strategies that have proven helpful. Some of the specific strategies that have assisted educational Action

Researchers in identifying high-priority, meaningful topics for study are *reflective writing, journaling, reflective interviewing, analytic discourse, and team reflection*. This means that identifying an Action Research problem also involves data collection and analysis in the form of literature review and peer engagement.

To be of importance, your Action Research focus should be located in the school's *priority achievement targets*. The range of categories and nature of achievement targets is broad. The three categories that emerge most frequently for teacher/school-Action Researchers are:

- Performance targets
- Process targets
- Program targets

Performance targets relate to what students are expected to gain from our actions such as assessment and curriculum goals. Performance target help us focus on what students should know, should be able to do and/or choose to do, and may even cause us to look for changes in how students should feel if the instruction was successful. There are four major categories of performance targets:

- Cognitive: What students know
- Demonstrative: What students can do
- Behavioral: What they choose to do
- Affective: How they feel about themselves and the situation they are part of

Process targets relate to techniques or strategies that you want to be part of your teaching repertoire. Process targets focus on specific improvements that you would like to see in yourselves (i.e. your teaching skills). For example,

you might want to improve your ability to conduct classroom discussions or become better at modeling problem-solving strategies.

Program targets focus on outcomes for an entire classroom or school as an organisation. In many ways, program targets are similar to performance targets, but with program targets, we are primarily concerned with the impact on the group or the organisation as opposed to the impact on any one individual participant. For example, a program target might refer to the impact a program will have on school climate, teacher morale, or parental involvement.

Asking the Action Research question

Next, you need to create an Action Research question by examining the problem statement for its relationship to specific teaching and learning practices. The main Action Research question should be specific and result in an observable problem solving action. You should be able to link the question to specific teaching and school practices. An important question to ask yourself is whether or not the problem/question is something over which you have influence. Also ask if the change that will come about as a result of your research is worth your time and effort (Hollingsworth, 2001-2005).

The key question here is: 'What do I want to accomplish?' In this stage, Action Researchers clearly articulate their goals, clarify each of the sub-skills or attributes that contribute to success for each goal, and specify detailed criteria that can be used with validity and reliability to achieve the desired improvement.

In formulating the research question, describe the problem or situation on which the question is based. The question should address

observations/concerns about your teaching and students' learning. Why do you think something is happening? Although you may have several concerns, limit your Action Research to one question. That question should:

- be a higher-order question—not a yes/no
- be stated in common language, avoiding jargon
- be concise
- be meaningful
- not already have an answer

Once you have determined a concern that you can address and make a legitimate change in your school, write down your concern/problem in the form of a research question. State what you'll expect to see if the plan works as a research question.

In order for your action plan to resolve the problem, the question must be valid and doable. To ensure that the question meets these criteria, you may ask yourself clarifying questions such as these:

1. What are some areas of interest I want to improve?

- *Example: I am concerned that my students have trouble comprehending expository text.*

2. Why do I want to research this problem?

- *Example: Students are unable to read their textbooks and comprehend the information independently.*

3. What are some potential solutions?

- *Example: Consult / hire a coach.*
- *Find an expert within the school to come to my class.*
- *Explicitly teach and model how to read expository text.*
- *Change the forms of feedback given to the students*

4. Which of these possible solutions can I investigate over an eight-week period?
 - *Example: Explicitly teach and model how to read expository text.*
5. What kinds of evidence do I have or can I find as a baseline?
 - *Example: Research journals, observations, tests, worksheets, informal reading assessments*
6. Formulate a research question.
 - *Example question 1: Does reading comprehension on expository text improve as a result of providing explicit small group instruction for two 20-minute periods two times per week? (Brozo, 2011)*
 - *Example question 2: What are the relationships of different forms of feedback to changes in students' performance in reading comprehension?*
 - *Example question 3: How effective is parental involvement in improving the overall behaviour of Form 2 students?*



Activity 5.1b - Formulating an Action Research question

Instruction

1. Individually, try formulating an Action Research question using the steps provided in the graphic organizer given below

Why is the problem happening <i>(Note that the why determines the action)</i>	List several possible causes
--	------------------------------

	<p><i>(Choose the one that you can do something about in a reasonable period of time)</i></p>
Brainstorm several solutions	<p>List several possible causes</p> <p><i>(Choose the one that you can do something about in a reasonable period of time)</i></p>
Write your research question	

2. Share your work in plenary using gallery walk



Steps to identifying an Action Research problem

In summary, to begin your Action Research you must identify a valid problem, reflect on a possible solution, and ask a researchable question. The steps are:

- Describe the problem or situation.
- Make a plan to resolve the problem. (*Plan something YOU can do about the problem.*)
- Turn your problem and plan into a research question.
- State what you will expect to see if the plan works as a research question.

(Hollingsworth, 2001-2005)



Session 2 - Creating and enacting the Action Research plan

This overall objective of this session is to provide content and activities to assist you to understand the process of creating and enacting the Action Research plan.



Activity 5.2a - Creating and enacting the Action Research plan

Instructions

1. Using the graphic organiser presented below, create your Action Research plan

Problem you identified	
Context of your Action Research	

Participants in the Action Research	
How will the research be conducted	
Timeline for the research	
Criteria for measuring achievement	
Data collection plan	
Data analysis plan	
Anticipated obstacles and how they could be overcome	
Resources required	

2. Share your work in plenary



Developing an Action Research plan

Once you find a focus and develop your research question, the next question is "What am I going to do about it?" Ask yourself if there is some change you could introduce to your school that would help you help them improve the quality of their learning.

Before you come up with the solution, you need to seek knowledge. You will need to consult many resources to formulate your action plan. You will need to know more before you do something. Seeking knowledge to support your research concern should be a deliberate, systematic process of gathering additional information about the concern. This knowledge will help you refine the action focus and form the Action Research plan. There are many sources for acquiring information to help you with your plan. Investigate what others say about your concern and listen to suggestions they may have on alternative approaches. Talk with your students, teachers and other stakeholders to get a sense of how they view the quality of the school practices. Consult with fellow educators and, most importantly, examine professional literature (Brozo: 2011).

A review of professional literature is very crucial as it will provide information that will be helpful to you. Reading professional journals, books, yearbooks, and reports will enhance your understanding of Action Research and identify what others have done in the area about which you are concerned. Their experiences will lend rigor and scholarship to your Action Research project. This is why literature review is a very important aspect in refining your Action Research plans and focus.

After identifying a research concern, gathering additional information, and refining the focus of the research, the plan of action needs to be developed and implemented. The action plan involves specification of the participants, strategies, available resources, evaluation procedures, and timeline. Using your clarified question and research concern, your action plan should answer these questions:

- Where will the research take place?
 - *Specify the context for the Action Research: district, school, classroom, and grade level.*

- Who will participate in the research?
 - *Identify specifically the individuals who are the focus of the Action Research. Will it be students from one classroom or multiple classrooms? Will it be all students from these classrooms or specific students (lowest-achieving students in one class, unmotivated students identified by the teacher)?*

- What will happen with the participants?
 - *Specify what participants will experience as part of the research. For example, "First-grade students will be taught explicit reading strategies for comprehending nonfiction text."*

- How will the research be conducted?
 - *Specify what needs to be accomplished in order for the research to be conducted with the participants. For example, "First-grade students will be taught explicitly how to use nonfiction texts in their small groups at their specific reading levels for 20 minutes each day."*

- When will the research be conducted?
 - *Establish a timeline or schedule for conducting all phases of the Action Research. The timeline should specify the start and end dates for each activity and how frequently the activity will occur. For example, "The research will begin the second nine weeks of*

school and end after nine weeks. The small group instruction will occur each day for the students involved."

- Develop criteria to measure changes/achievements with priority achievement targets
 - *Establish criteria which you will use to measure growth on each of the major achievement targets. You need to visualise excellence. The criteria should specify the traits that you want to achieve with your Action Research. You have to create a continuum of what would be the minimum and maximum performance one might observe. For example, "I want to see a collegial workplace that is supportive of continuous progress toward universal excellence in student performance. I envision a professional work environment that supports the needs of the faculty and produces high levels of staff morale."*

- Develop a data collection plan
 - *The important question here is, "What evidence will let me make a judgment about what I did?" This evidence could be created by students or developed by you.*
 - *Data can be defined as bits and pieces of information found in the environment that are collected in systematic ways to provide an evidential base from which to make interpretations and statements intended to advance knowledge and understanding concerning a research question or problem (Lankshear and Knobel, 2004).*
 - *To determine reliable answers to research questions, researchers must make careful decisions about what kind and how much data to collect. What counts as appropriate data will depend on the*

research question and the nature of the Action Research. Data collection is a process of documenting the results of your action plan by collecting evidence about the plan.

- *You need to think about data collection strategies and see that they are in place before you enact your plan. Determine the types of data that need to be collected to lead to meaningful, accurate, and appropriate conclusions regarding your research question. Take advantage of data you usually collect in your normal school processes. What do you do in your daily routine that will provide relevant information about your Action Research project? Action Researchers should think critically about how life in the classroom or school can be captured naturally as data and ask themselves these questions:*
- *What kinds of data do I need to collect in order to answer the research question?*
- *What kinds of data collection strategies will be used to collect the data I need?*
- *How do the various data sources collected help in answering my research question?*
- *Think about and describe the methods you will use to collect evidence. Observe and record what happens as the result of the first action step. Some of the data collection methods are: talking with other teachers asking them to give feedback, designing specific tasks for students that will show changes in their work. Interview selected students. Choose some students who are doing well and some who are not to interview in a group or alone (Brozo, 2011). Compiling multiple sources of information provides a better understanding of what is happening in the classroom. There are*

many sources for data collection available to the teacher researcher.

- Develop the data analysis plan
 - *Data analysis means trying to make sense of your data. It involve figuring out a way to liberate a story that is lying dormant inside your data and give it an opportunity to take form and reveal itself. The nature of the data you collected will influence the strategy you will employ to analyse it (whether qualitative or quantitative analysis).*
 - *When creating Action Research data, your goal is to accomplish two things:*
 - a. *Tracing any and all changes in performance that occurred in the effort to reach your priority achievement targets*
 - b. *Understand whatever pertinent factors or circumstances contributed to those changes*
 - *The primary task of the Action Researcher when conducting data analysis is to use the data gathered to deepen understanding regarding which of all the infinite number of things that transpired influenced changes in the performance noted on the dependable variable.*
 - *During data analysis, the Action Researcher should endeavour to answer the following three generic questions:*
 - a. *What did I or we do?*
 - i. *Was the implementation roadmap followed as planned?*
 - ii. *In what fashion was the implementation roadmap implemented?*

- iii. *What if any elements of the implementation roadmap were omitted or changed?*
 - iv. *What if any significant actions were taken that was not part of the original implementation roadmap?*
 - b. *What changes occurred regarding the achievement targets?*
 - c. *What was the relationship between the actions taken and any changes in performance on the targets?*
- *The analysis process concludes with the generation of a list of findings and tentative conclusions backed by the data.*

In developing your action plan, you also need to consider the following:

- What could interfere with your plan and what you will do to avoid these obstacles?
- Will the method of study answer the research question?
- Is the timeline realistic?
- Identify who could help and who could be involved. Note that ideally Action Research means active involvement of those who are affected in the process of action and reflection.
- Identify the resources (time and materials) that you have available to devote to the project.
- Identify the resources (time and materials) that you have available to devote to the project.



Session 3 - Reporting your Action Research results

Remember, the most important stage of your Action Research is sharing your findings with others to get validation of your views and also a different perspective on your interpretations. The question is “How will you share your story with others?”

You have to prepare a written report that summarizes your concern, your action, your evidence, and your interpretation of the evidence. Describe how you implemented your plan. Organize the report in a way that will explain what happened, what surprised you, and what this means for future lessons. Then meet with other teachers to invite them to comment on your report, to offer suggestions for going further, and to offer additional interpretations of your evidence. Potential audiences may include your colleagues, administrators, parents, attendees at conferences, or even readers of a journal.



Activity 5.3a - Outlining parts of an Action Research report

This session presents a template and guidelines for compiling the Action Research report.

Instructions

1. Individually outline what you think should be part of an Action Research report
2. Share your response with a colleague and consolidate your responses
3. Share your responses in plenary

Parts of an Action Research report

Outlined below are some of the critical parts of an Action Research report

- i. Abstract
- ii. Table of contents
- iii. List of tables
- iv. List of figures

- v. Introduction to the problem (describe your problem, situation, or observation)
 - a. What it is? How did it come about?
 - b. Why is it a problem?
- vi. Outline your specific plan.
 - a. List the specific steps and actions in your plan to resolve the research question.
 - b. When will you do it? Make a timeline. (Work backwards from the deadline.)
 - c. If your plan works, what kind of changes are you likely to see?
 - d. What obstacles arose as you implemented your plan and how did you resolve them?
- vii. Research question
 - a. Turn your problem and your plan into a research question.
- viii. Literature review
- ix. Methodology
 - a. Data collection (Summarised how you collected the data)
 - b. Summarize how you analyzed and reported the results of the Action Research project.
 - c. Ethical considerations
- x. Findings and discussion
 - a. What changes occurred regarding performance on the achievement targets?
 - b. What were the relationships, if any, between the actions taken and the changes in performance?
 - c. What factors influenced the results and how?
- xi. Conclusions and recommendations
 - a. What have you learned (What humps, surprises, or paradoxes did you notice? What might you do differently next time?).

- xii. References
- xiii. Appendices



Session 4 - Evaluating the Action Research plan, taking action, reflecting and re-planning

A cycle of action and reflection is the heart of Action Research. Once you have collected the data and analysed it, you will need to act on the information. Some of the questions that arise at this stage are: Did your plan achieve the desired results? Do you need to modify the plan to make another change and study that change? What questions were raised by the data? How can you plan for additional improvements? How will you plan for the second Action Research cycle? What will you actually do? How you will observe the results of your action and collect evidence? In this case, you only need to alter those variables you think will give you improved results. When you modify the plan, you will continue to collect and analyse data.

It is important to remember that Action Research proceeds through moments of action and reflection. It does not end (as problem solving does) with a single planning and acting cycle but continues on a spiral of action and reflection. The second and subsequent Action Research cycles will be based on the reflection of the previous cycle(s). This session will assist you to understand the process of turning our Action Research results into further actions.



Activity 5.4a – Re-planning your Action Research

Instructions

1. In groups of 5:
 - a. how you would make use of Action Research findings
 - b. how you would modify your Action Research plan based on your findings
2. Share your responses in plenary



Turning findings into action plans

The data analysis process concluded with the generation of a list of findings and tentative conclusions backed up with your data. The greatest value of what you learn from your Action Research lies in the power of the new knowledge and the insights gained for informing your future actions and consequently providing benefits for your students and schools. This value is realized when you make use of our findings and conclusions to make adjustments to your mode of practice and generate new operative theories of action. There are many ways to implement Action Research results in schools. For example, study results can be used in the classroom, school or educational district to improve instruction, procedures and outcomes and aid teacher understanding of instruction and other applications (Sagor, 2005).

Again, Action Research results leads to new questions to examine, thus forging new forms of understanding and deeper insights in practice. After you have concluded your action and analysed the data, it is time for to return to your action plan and modify it based on what you now know. A classic way to illustrate change over time is by contrasting the “before” and “after” pictures. Your initial action plan represents a “before” picture, a sketch of your best thinking “before” initiating action and prior to conducting your investigation. The “after” picture is a portrait of your best thinking after completing your study. At this point you would be wise to redo the action plan based on what you have learned through the analysis of the data.

Taking stock of what you have learned

You have to take stock of what you have learned through your Action Research by reviewing your list of findings and the tentative assertions you drafted. Then take out the implementation roadmap you designed prior to implementation. Now, take a slow and deliberate walk through your implementation roadmap, asking a set of questions of every event or activity and relationship or cluster of relationships you encounter along the way.

For every activity or event, ask,

Based on what I have learned, do I now think that;

1. there were other critical events or activities that should have occurred before engaging in this activity?
2. this activity is still necessary to achieve success with this target?
3. there are additional activities that ought to be added to improve performance on this target?
4. there are other ways I would have allocated my time and energies?

For each Relationship,

Based on what I have learned, do I now think that:

1. This relationship is still important?
2. These activities or events influence each other in the manner illustrated?
3. There are other relationships that should be added to this theory?

Based on your answers to those questions, make all the additions, deletions, and alterations to the initial implementation roadmap that you now deem necessary. Once you have made the changes you feel are warranted, proof your new implementation roadmap. Once you are satisfied that your new implementation roadmap illustrates a theory of action with real promise for

producing universal success on your priority achievement targets, you have created your “after” picture (Sagor, 2005).

Now place your “before” and “after” pictures side by side and identify significant disparities revealed by your data. Take a look at the changes you have made to your original theory and ask yourself (or your teammates) what other strategies you are aware of that have been used elsewhere in an attempt to achieve success with the achievement targets can be added. To find more alternative strategies that hold promise to solve your problem, it is a good idea to conduct another literature review to compile a list of action alternatives (Sagor, 2005).

Having collected a comprehensive set of action alternatives, it is time to evaluate each one of them. Take each action alternative and weigh it against the following question:

Is the implementation of this action alternative likely to have a positive influence, negative influence, or no influence?

Repeat this process with each of the action alternatives. Once each action alternative has been assessed create a ranked list the action alternatives based on the assessment.

Completing the cycle: revised theory of action 2

Remember, what you have accomplished, however, is having completed one full lap around the Action Research cycle. You are now nearly ready to restart the process. Therefore, the only thing left for you to do before commencing your second round of research is to do a final review of your revised theory. It is now time to examine the revised theory of action you developed earlier

in this chapter and ask if it requires any further modification in light of the action alternatives you have just adopted, considered, or rejected for your program. If it does, you should insert those changes and alter your priority pie indicating any revisions in the proposed allocation of time and energy (Sagor, 2005).

Once you are satisfied that you have a revised theory of action that captures your best current thinking, that is consistent with the findings of your research, and incorporates any action alternatives you are adding, you are ready to select a new set of research questions and rejoin the action phase of the process. However, this time you will begin your work at Stage 2, with the establishment of a new set of research questions.



Summary

This unit has provided you with an understanding of the Action Research implementation process by presenting a discussion on key steps to be followed. Knowledge of these steps would help you to plan and execute Action Research projects in your schools. The unit has also presented a discussion on the need to utilize Action Research findings to improve your practice.



Unit assessment

Having covered the content and completed the activities of this unit, it is expected that you have been equipped with the necessary skills to effectively plan and carry out an Action Research project at your school. To check your level of understanding of the unit, consider the following:

1. Is there something in your teaching situation that you would like to change?
2. What 'burning questions' do you have about your students' learning?

3. Have you ever tried out a new idea in your school and wondered whether it really helped your students to learn better? Describe it
4. Are there aspects of the way your school operates that you would like to improve? How would you use Action Research to improve them?



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