

Action Research as a Mixed Methods Research: Definition, Philosophy, Types, Process, Political and Ethical Issues and Pros and Cons

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Abstract. Although not named as a mixed methods research design, defined within qualitative research in the literature and accepted a research strategy, we see that both qualitative and quantitative methods are used together or separately in action researches in social sciences. Thus it can be claimed that action research is a type of research that should be called a mixed research design in which qualitative and quantitative research methods are used together with a more flexible methodology, and it is a type of research that focuses on the practical actions of actor rather than theory. The aim of this article is to define action research and its types and describe the philosophy, the research process, political and ethical issues and pros and cons of action research based on literature on action research in order to understand the similarities and differences between the mixed methods and action study

Keywords: action research, mixed methods research, participation, emancipation

Introduction

Action research is a research that emerged as a popular way to involve practitioners in all fields (eg education, healthcare practitioners) to better understand their work (Zuber-Skerritt & Fletcher, 2007). Action research is a research strategy that combines research with action and participation in the field.

As a method, it goes back to the period just after the Second World War and has become increasingly popular over the past few years, along with other qualitative methods, as people come to see the value of gathering rich data in different ways both qualitatively and quantitatively. It is an applied form of research and is particularly useful in theorizing about practice. The roots of action research can be traced through the part of the research dealt with with democratization and organizational development (Jarvinen, 2009). The idea of action research is based on the German psychologist Kurt Lewin (1890-1947), who believed that change efforts should focus on the group that challenges group norms and processes. The concept of action research arose out of Lewin's strong social beliefs - research will be linked to action to create a process of change on organizational issues directly experienced by practitioners. Lewin argued that good research must make real change and not just end in books. To make this change happen, the researcher had to witness first-hand events as a partner in the process in order to be truly involved in the system. His or her role is not only to document but also to facilitate the process of reflection and questioning (Research Zone, 2020).

One of the experimental based action research by Lewin with Lippitt (1938), which is also known the first scientific research of classroom management, and which was conducted with children aged 10-11 on leadership styles, group relationships and efficiency, two types of leadership were emerged: authoritarian and democratic. In this experimental based action research study, Kurt Lewin and Lippitt (1938) conducted a research involving mask-making tasks among children. It revealed the importance of human behavior and emotions in management (Lewin with Lippitt, 1938).

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Action research has been established as a research paradigm suitable for educational, professional, managerial and organizational development and has been the focus of many articles and books (Burns, 2010; Crookes, 1993; Jarvinen, 2009; Kemmis & Mc Taggart, 2005; Noffke, 1997; Ryan, 2013; Wisniewska, 2011. Zeni, 1998, Zuber-Skerritt, 1996) in recent years. Additionally, in some books and many articles the idea of applying mixed methods in action research has also been the focus in terms of similarities and differences between the two approaches and advantages of applying mixed methods in action (Ivankova, 2015; Gunbayi 2020; Wisniewska, 2011) in recent years.

Method

This is a descriptive study based on literature review. A literature review can generally be described as a systematic way of gathering and synthesizing previous researches (Baumeister & Leary, 1997; Cooper, 1998). Thus in this article it was aimed to define action research and describe the philosophy, and the types, the research process, political and ethical issues and pros and cons of action research based on literature on action research in order to understand the similarities and differences between the mixed methods and action study and following research questions were sought to answer based on literature on action research:

1. What is the definition of action research?
2. What is the philosophy of action research studies?
3. What are the types of action research studies?
4. What is process of action research studies?
5. What are political and ethical issues and philosophy of action research studies?
6. What are the pros and cons of action research studies?

Findings

Based on literature review on action research, this section covers the definition, the philosophy, the types, the process, political and ethical issues and pros and cons of action research.

Definition of action research

Action research is a research that aims to gain learning and knowledge by making deliberate interventions to achieve some desired changes in the organizational environment (Braa and Vidgen, 1999). Action research is a disciplined investigation process carried out by and for those who take the action. The primary reason for participating in action research is to assist the actor in improving their actions (Sagor, 2000). According to Hult and Lennung (1980) action research simultaneously helps problem solving and expands scientific knowledge, as well as enhancing the competencies of relevant actors and is carried out collaboratively in using data feedback in a cyclical process in order to better understand of change processes in social systems (Hult and Lennung, 1980).

There are many different thoughts about what constitutes action research, which is often associated with small-scale research, but action research can be traced back to 1940's when researchers advocated more links between social theory and practical problem solving. Action research does not envisage any specific data collection technique. It is rather a research strategy and qualitative methods are used more frequently. As defined below, action research has four main defining characteristics:

Involvement with practical issues in real world (often in organisations): Action research is practical and applied based on principle that only theory is not good enough, practice derived from theory is better than what books say.

A concern about change: In the 60's quantitative experimental studies were used in social sciences to solve social problems. However, nowadays an action research design in which qualitative methods and quantitative methods are used together is usually done based on practitioner participation. Thus, it is likely to be more democratic than experimental studies of 60's in social sciences.

Cycle: the research - feedback loop: Typically, after reflection, a change -intervention- of some kind is introduced and its effects are assessed, and the process is repeated indefinitely.

Involving those affected in design and implementation (as participants, not research objects): Action research appears to lack control but elevates professional practice to a reflective level and involves practitioner integrally and rejects notion of two stages whereby researchers produce knowledge which is then generated to practitioners. Instead, research, practice and action are integrated. The researcher should be seen as facilitator and the ownership of the research is collective. Especially, participatory nature of action research is probably the most important aspect of participatory and emancipatory types of action researches. Research process can be defined as democratic as practitioner is involved as partners with expertise, not as subordinates, which is the core of interpretive paradigm based on the fact that reality is created as a result of interpersonal interaction via talking-discussion-understanding-reconciliation and radical humanist paradigms aiming to free the individual from the social pressure surrounding him or her through consciousness (Ashworth, 2005; Gunbayi & Sorm, 2020, 2020; Hult and Lennung, 1980; Reason, 2014; Webb and Vulliamy, 2002).

Philosophy of action research

The three of four paradigms of 'radical structuralist', interpretive, and 'radical humanist' (Burrell & Morgan, 1979) and Habermas's (1987) theory of knowledge-constitutive interests have solid philosophical positions to guide the designs of action research in social sciences. In the light of Habermas's (1987) knowledge-constitutive interests, we can interpret human assumptions about the nature of reality and the nature of relationships in three dimensions: Technical interest is related to the objective world that exists outside of us, hermeneutic or practical interest to inter-subjective/social world based on shared meanings and symbols of individuals' life and emancipatory interest to the subjective world that exists as ethnomethodologically. When we evaluate the facts about the nature of reality in terms of people with respect to human relations, the objective world is in parallel with authority and hierarchy in relations, the inter-subjective/ social world with social solidarity and cooperation, and the subjective world with individual freedoms (Gunbayi, 2014; Gunbayi, 2020, Gunbayi & Sorm, 2020).

As an action research is concerned with change and participation and emancipation, mainly three paradigms of radical structuralist, interpretive and radical humanist in guiding an action research. The radical structuralist paradigm assumes that social change will occur with revolutionary, rapid changes, operating in social research methods, it can be said that this paradigm guides action researchers especially in technical action research based on positivism and technical interest as it suggests that reality cannot be changed with people's consciousness (Gunbayi, 2019). Thus, in the guidance radical structuralist paradigm reality or phenomena can be changed through evidences as a result of technical action researches based on positivism and technical interest. The interpretive paradigm is based on the fact that reality is created as a result of interpersonal interaction through talking-discussion-understanding- reconciliation. This paradigm based on positivism and hermeneutic/practical interest guides action researchers especially in participatory and emancipatory action researches due to being participatory and democratic as practitioner is involved as partners with expertise, not as subordinates. The radical humanist paradigm explains how human beings can be freed and how they can freely realize themselves by freeing themselves from the perception of super structures / top actors and the social order that is determined in a radical structuralist way and sustained and protected in a functionalist way by his or her free will (Gunbayi, 2019). This paradigm guides action researchers especially in emancipatory action research and participatory action research in which priority is based on post-modernism and emancipatory interest

for value-based and ideological reasons more than for reasons related to methods and procedures (Greene, 2007; Creswell & Plano Clark, 2011).

Table 1.

Knowledge-constitutive interests and social paradigms in guiding action research studies (ARS)

Knowledge-constitutive interests	Main Paradigms	Social Sub-Paradigms Guiding Social Research	Types of Research Design
Technical	Positivism	Radical structuralist paradigm	Technical action research
Hermeneutic	Post-modernism	Interpretive paradigm, Radical humanist paradigm	Participatory action research
Emancipatory	Post-modernism	Radical humanist paradigm, Interpretive paradigm	Emancipatory action research

As seen in Table 1, although the umbrella philosophy of action research studies is pragmatism, in the light of the application of three paradigms in favour of change and being democratic and Habermas's theory of knowledge-constitutive interests of technical, hermeneutic/practical and emancipatory into action research studies (ARS), it can be concluded that from the perspective of the interpretive paradigm and radical humanist paradigm based on post-modernism, hermeneutic/practical and emancipatory interests, it is highly applicable to participatory action research and emancipatory action research and from the perspective of radical structuralist paradigm based on positivism and technical interest is very suitable with technical action research.

Types of action research

Action research strategy is a research design in which qualitative methods and quantitative methods are used together (Gunbayi & Akcan; 2015). There are three types of action researches:

Technical/ scientific /cooperative: As it is based on radical structuralist paradigm and technical interest, researcher puts an action into practice and tells practitioner what to do based on feedbacks. Thus, technical action research is a research design where practitioners depend greatly on researcher as facilitator and the main aim is to improve effectiveness. For example, Gunbayi, Vezne & Yoruk (2017) carried out a study called 'Improving technical drawing skills of vet teachers: an action research project' which is an action research with technical type. In this study, qualitative data from face-to-face interviews on participants' experiences, thoughts and feelings pertaining to the training and quantitative data from pre and post-test applied to participants before and after the trainings decided, organized and carried out by researchers to determine the differences between their opinions before and after the trainings were collected and analyzed to understand and determine the effect of the trainings on teacher effectiveness and to improve technical drawing skills of VET teachers.

Practitioner & Reconciliation based / Participatory: Researcher and practitioner put an action into practice together based on reconciliation. It is also called as practical action research which aims to improve effectiveness as well as enhancing the practitioner's understanding and professional development (encouraging practitioner practical deliberation and self reflection). For example, Gunbayi and Akcan (2015) carried out a study called 'Making vocational and technical upper secondary schools more attractive for students to prefer: An action research' which is an action research with participatory type. In this study qualitative data from semi-structured interviews and focus group interviews with participants were used to understand their attitudes to technical and vocational training at the beginning of the project prior to form action plan based on their views. After putting the action plan into practice, qualitative data from semi-structured interviews and focus group interviews with participants were collected and analysed in order to understand whether there was a change in students' attitudes to vocational and technical uppersecondary education and quantitative data from school statistics of the number of the students who graduated from junior high school in the sample and preferred and attended to technical

and vocational upper secondary schools to compare differences between previous year and following year when the action research were carried out were collected and analysed. Thus both qualitative and quantitative data were collected and analysed to help the students to identify professions appropriate with their abilities, interests and personality traits and to guide the students to technical and vocational training especially at upper secondary level with their own will and consciously.

Emancipatory / developmental / critical: This type of action study is based on the assumption that people will change by throwing the chains of psychic impressions that tie them to alienating lifestyles. It is the belief in the ability to change people consciousness by changing the way people think, see and understand the world. It allows practitioner to rearrange their experiences individually and with others. Consciousness is therefore the driving force; it is the essence of radical humanism (Zuber-Skerrit, 1996). In this type of action research, it is intended to give the practitioner new knowledge, skills and experiences and to gain a critical and original perspective towards the practitioner's own practices. Accordingly, this design is towards change and aims to advance the causes of social justice by identifying power imbalances and empowering individuals and / or communities (Greene, 2007). For example, Muslu, Gunbayi & Ardahan (2016) carried out a research project called 'The effect of motivational interview program on coping and adaptation processing of individuals diagnosed type 2 diabetes mellitus. An action research', which is an action research with emancipatory type. In this study qualitative data from motivational interview sessions with individuals and document analysis of the records from participants' metabolic values (A1c, APG, LDL-c, HDL-c, Triglyceride, weight, BMI, systolic and diastolic blood pressure) and quantitative data from the Summary of Diabetes Self-Care Activities Questionnaire (SDSCA), Diabetes Mellitus Self-efficacy Scale (DMSES), and Coping And Adaptation Processing Scale (CAPS) were collected and analyzed to understand the effect of motivational interview sessions structured according to Roy Adaptation Model on the levels of coping and adaptation processing of individuals diagnosed Type 2 Diabetes Mellitus (Muslu, 2016).

Process of action research

Susman and Evered (1978) defined action research process as the cyclical process with the five steps: diagnosing: identifying or defining a problem, action planning: considering alternative course of action for problem solving, action taking, selecting a course of action, evaluating, studying the consequences of an action and specifying learning: identifying general findings, which is similar to a general problem-solving process. Checkland (1991) also describes an action research process consisting of a seven-step cyclic process. enter the problem situation; create roles; declare the methodology and framework of opinion; take part in the change process; rethink roles, methodology and framework of ideas and take part in subsequent change processes; exit from the problem situation; reflect and record learning in relation to the framework of ideas, methodology and application area. Similarly, Sagor (2000), defined action research process as the cyclical process with seven steps regardless of the situation. These seven steps, which become an endless cycle for the inquiring practioner, are as follows:

1. **Selecting a focus:** The action research process begins with serious reflection on identifying a topic or issues worthy of a busy practitioner's time. It is therefore vital to choose a focus that is the first step in the process based on asking what elements of practice to investigate.
2. **Clarifying theories:** The second step involves identifying the values, beliefs, and theoretical perspectives researchers have regarding their focal points.
3. **Identifying research questions:** Once a focus area has been selected and the researcher's perspectives and beliefs about that focus have been clarified, the next step is to create personally meaningful research questions to guide the inquiry.
4. **Collecting data:** To ensure reasonable validity and reliability, action researchers should avoid relying on any single data source. Most researchers use a process called triangulation to increase the validity and reliability of their findings. Basically, triangulation means using a large number of independent sources of quantitative and qualitative data similar to a mixed methods research to answer research questions.

5. Analyzing data: Although data analysis suggests analysis of very complex statistical calculations, this is rarely the case for the action researcher. A range of quantitative and qualitative data analysis techniques can help a practitioner identify trends and patterns in action research data. In this part of the seven-step process, researchers will methodically sort, sift, sort and examine the phenomenon under investigation to better understand. Based on the data collected, the researcher can better understand the phenomenon under investigation and ultimately produce a fundamental basis on what can be done to improve it.
6. Reporting results: Action research results can be published as project reports or as articles and books.
7. Taking informed action: With every improvement of practice, action researchers obtain valid and reliable data on developing skills (Sagor, 2000)

Political and ethical issues of action research

Of course, as with all social science designs, there are political and ethical issues for action research as it explicitly includes discourse and enables discussion of its practice.

Politically, emancipatory and participatory action researches is ideological and value-based as researcher is a party to the development and liberation of the practitioner. Since emancipatory action research studies with its value-based and ideological reasons is guided by the radical humanist paradigm, which explains how human beings can be freed and how they can freely realize themselves by freeing themselves from the perception of super structures / top actors and the social order. In particular, emancipatory action research has an explicitly political view of the research process and respects practitioner knowledge because it will involve change that challenges the existing system, as opposed to simply experimenting with technical changes aimed at higher efficiency (Greene, 2007; Gunbayi, 2019; Cresswell & Plano Clark, 2011).

Ethical issues in action research are extensively examined in the literature (Parsons, Hewson, Adrian & Day, 2013; Zeni 1998; Winter, 1989) For instance, Winter (1989) argues that the development of the study should remain visible and open to the suggestions of others, obtain permission from others before reviewing documents, disclosure and perspectives of others' work should be negotiated before publication and the researcher should protect confidentiality. Similar to other types of researches, there are a variety of ethical issues that must be taken into consideration in an action research based on five principle : minimizing the risk of harm, obtaining informed consent, protecting anonymity and confidentiality, avoiding deceptive practices and providing the right to withdraw (Parsons, Hewson, Adrian & Day, 2013) by keeping in mind that action research is a research conducted by insiders rather than outsiders.

An action researcher should get ethical approval before doing the research both for quantitative and qualitative strands of research. Prior to the data collection process, all research ethics should be carefully adhered in every stage. The researcher should get permissions from ethical committee and the institution where the action study is to be carried in legal and respective way with relevant documents such as questionnaires, interview questions and consent forms. Then, the researcher should select the potential participants based on the information on the permissions. The researcher should get an official letter as legal proof for presenting to the participants for inviting them to take part in action study and data collection process.

At research level in the setting, the researcher should explain the objectives of the research study to the participants through informed consent letter prior to semi-structured interview and questionnaires. The action and gathering data process should not precede unless there are no voluntary agreements with participants' signature. To be more confident in privacy assurance, the names of participants should not be released. The informed consent letters should clearly state about the rights of informants in refusing to answer the questions which they think that they are sensitive, and they have a say to withdraw from this research any time.

After data collection, all the collected data should be treated in a confidential manner that is protected the confidentiality and anonymity of the participants and organization involved in the research. All records of this study should be kept private and inaccessible to other people. All the data stored in a computer should be password-protected. Certainly, there should be an agreement between researcher and each participant about the use of the data in terms of how its analysis would be reported and disseminated.

Pros and cons of action research

Used in social scientific studies as well as experimental or mixed method experimental re-searches with its more flexible methodology, action research studies has some advantages and disadvantages as follows:

Advantages

- As it relies on practice more than theory, it establishes direct links between research and problem solving,
- Reflective involvement of the researcher as a participant in the action and process of change,
- In terms of career management and self actualization at work, it has possible personal benefits for practitioner/professional self development,
- In terms of organisational benefits, an action research should involve a continuous cycle of change and development,
- If it is done based on practitioner participation – i.e. participatory and emancipatory types – it is likely to be more democratic than technical one,
- A growing number of action researches are likely to support policy and practice changes in an organization,
- Possibility of both sequential and concurrent data collection similar to mixed methods researches.
- In terms of complementarity of data and triangulation, similar to mixed methods researches, action researchers employ a greater variety of data collection methods and techniques of both qualitative and quantitative.

Disadvantages

- Difficulty in establishing researcher objectivity,
- Limiting research scope and scale due to the essential involvement of the practitioner,
- Limiting generalizability due to 'Work-site' approach,
- Limiting exercising controls due to the integration of research and practice,
- Nature of research constrained by what is permissible and ethical in workplace setting,
- Ownership of research contestable due to likely disagreement over analysis of research, publication and its implications by researcher and practitioners,
- Possibility of an extra load of work for the practitioner,
- Possibility of being accused of being atheoretical and thus its contribution to the understanding of the issue based on practice is questionable,
- Professional's perceptions may not be accurate or match those with whom they are working,
- Funding institution / researchers may have a specific agenda,
- Daily problems identified by professionals may or may not be the most important,
- The idea of cooperation is problematic, as researchers can have the status of 'experts' and have significant cultural capital,
- Quantitative data are simply calculated as the emphasis is on qualitative strand,
- Instead of writing research questions explicitly, the researchers may state only the problem or define the goal of the research or write action plan explicitly,

- Research findings may not be considered immediately, as the impact of the research is often uncertain and indirect. Therefore, action research may not be applied immediately, especially if time or resources are required or if it represents a challenge to pre-existing norms and practices (Ashworth, 2005; Jonsson, 1991, Galliers, 1985, Gunbayi & Akcan; 2015, Research Zone, 2020, Wisniewska, 2011, Wood-Harper, 1985, Zuber-Skerrit, and Fletcher, 2007).

Discussion and Conclusion

As can be understood from the above explanations related to definition, types, process, political and ethical issues and pros and cons, action research has found a place for itself as a research design that is frequently used in social scientific studies as well as experimental or mixed method experimental researches with its more flexible methodology, focusing on the practical actions of participants rather than theoretical not only in educational sciences but also in all fields of social sciences.

Although not defined as a mixed methods study in literature, indeed action research is a type of research that should be called a mixed research study as it allows quantitative and qualitative data to be used and learning to occur through action and reflection (Ivankova, 2015; Beard, Dale and Hutchins, 2007).

The advantages of action research are identical: it has direct links between research and problem solving, personal benefits for professional self development and supports democratization and development in terms of policy and practice changes in an organization.

Despite these advantages, action research is not without its disadvantages such limited research scope, extra load of work for the practitioner, daily problems, funding problems, limitation to generalizability, atheoretical, lack of control, disagreement over analysis of research, publication and its implications by researcher and practitioners (Ashworth, 2005; Research Zone, 2020, Zuber-Skerrit, and Fletcher, 2007). Another disadvantage of action study is the fact that the samples of participants in action research studies are much smaller (Wisniewska, 2011) and so researcher uses equal small or medium sample size for both the quantitative and qualitative samples. Although this type of sample size is conducted in some of the mixed methods studies in convergent design (Creswell & Plano Clark, 2018), this causes to lose of some of the richness of qualitative data collected from each participant and limits the types of quantitative analysis that can be done due to low statistical power. However, this type of sample size has also its advantages as it provides the researcher with the opportunity to merge data for each participant if thought useful (Creswell & Plano Clark, 2018). Moreover, action study may not be welcomed by the editors of the important international journals as it is not perceived as a typical research study due to its flexible methodology.

Habermas's (1987) three knowledge-constitutive interests-technical, hermeneutic and emancipatory- and Burrell & Morgan's (1979) three of four paradigms-radical structuralist, interpretive and radical humanist- are effective stances used to advocate action research studies since they inquiry social phenomena based on three main analytical approaches, objective real world, inter-subjective world and subjective world viewpoints. Accordingly, action research can be categorized under three types: technical, participatory and emancipatory. Technical action research is carried out by the researcher based on technical interest and without considering the opinions of the participants. Participatory action research is based on mainly inter-subjective world and hermeneutic interest and action plans are applied and evaluated mutually within the framework of the practitioners' opinions. Emancipatory action research is based on mainly subjective world and emancipatory interest, and the main purpose is to enable the practitioners to make their own decisions, put them into practice and develop themselves with their own mind and will, rather than the orders of their superiors.

To sum up further studies and books on similarities and differences between the mixed methods and action study and applying mixed methods in action researches will contribute to the acceptance of action research as a research design in mixed method studies.

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