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## A Quantitative Study of Teachers' Perception of Usefulness of Action Research Skill

Farah Mehmood \*

Abid Hussain Ch.†

**Abstract:** *The study was aimed to measure teachers' perception of the usefulness of action research skills. The study was quantitative in approach and experimental in nature. The population of the study consisted of all the female teachers working in public secondary schools of district Kasur. A sample of six teachers from the accessible public school was selected by using the purposive sampling technique. An intervention of "Action Research Training" was administered to measure teachers' perception before training, during training and after training program. The researcher used ABA design in which the researcher established a baseline behaviour ("A" phase), administered an intervention of an action research training ("B" phase), and then withdrew the intervention ("A" phase). A five-point Likert type scale questionnaire developed by Sharar (2016) consisted on 33 statements under four factors with Cronbach's Alpha value of 0.94 was adapted to measure teachers' perceptions about AR before, during and after engaging in ART. Study revealed that during treatment and withdrawal phase teachers developed positive perception about usefulness of action research as compared to baseline phase. The action research training programme has the potential to significantly improve teachers' perceptions about the usefulness of action research skill in solving classroom problems.*

**Key Words:** Quantitative Research, Action Research, Action Research Training, Teachers' Perception

### Introduction

Teaching is a holy profession. It strives to develop the individual mentally, socially, effectively, behaviorally, and spiritually at the same time. Teachers are the executive decision makers in the real environment where the desired innovation is to be integrated into the classroom, hence they have a significant impact on the success or failure of a planned innovation. According to [Burns \(2009\)](#), Action research gives instructors skills they need to better their science and art. In today's schools, boosting all learners' success levels must be our top concern, and teacher quality should be emphasised ([Brown, 2002](#)).

Effective teaching, according to [Coe, Aloisi, Higgins, and Major \(2014\)](#), is an activity that leads to improved student accomplishment through reflection and outputs that matter to enhanced

teacher competence. As a result, there is a need to educate teachers about the use of action research and its potential consequences as a means of addressing low-quality education ([Arends, Winnaar, & Mosimege, 2017](#)).

Action research is a popular method in which teachers recognise an issue while at work, analyse it, and seek to improve their procedures. They transform into insider researchers who study their own performance. As the term implies, this type of research is the methodology that combines action and study. Research refers to the researcher or the client, or both, acquiring a greater understanding of the situation, whereas action relates to bringing about change in a community, organisation, or programme ([Dick, 2015](#)).

Continuous professional development is facilitated through action research. In order to

\* PhD Scholar, Institute of Education and Research, University of Punjab, Punjab, Pakistan.  
Email: [arahmehmood31@gmail.com](mailto:arahmehmood31@gmail.com)

† Dean Faculty of Education, Institute of Education and Research, University of Punjab, Punjab, Pakistan.

improve in-service teachers' effectiveness, they should be given opportunities to investigate their own classrooms. It is impossible to overestimate the importance of the evidence to "action-reflection." Instructors can assess how well a plan of action has been carried out by collecting and analysing data in a systematic manner ([Gallgher & Bashir, 2007](#)).

In the life of a teacher, classroom action research is crucial. Among numerous professional competencies, the ability to do action research is regarded as one of the pedagogical competencies for teachers (Shekhawati, 2014). According to [Danielson and McGreal \(2000\)](#), teaching is tremendously complex, yet most teachers have minimal chance to study common problems and possible answers or share new pedagogical ideas with their peers." The following are some of the issues that Action Research studies have revealed in the educational system: i) Classroom action research has not been integrated into teachers' usual working system; ii) Classroom action research has not been administered regularly. iii) There is not enough reflection in the classroom. Classroom action research continued development demands a mix of study and practice.

Reflection is an important process in the action research implementation because it encourages the teachers as researchers to criticise, exchange and share their findings ([Mettetal, 2002](#)).

Suppose one supports the premise that the single most important factor in increasing student learning is the teacher in the classroom. In that case, professional development designed to foster action research that provides the cyclical process of continuous improvement through reflection and collaboration might be the most effective way to improve teacher competencies that can benefit the institutions in the long run ([Ward, 2004](#)). Thus this research aims to assess the perception of teachers regarding action research's usefulness in the classroom. Moreover, an attempt has been made to train teachers about the use of action research to positively develop their perception of action research.

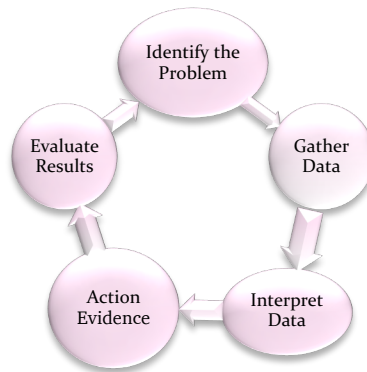
## Literature Review

Teachers, by definition, become researchers, and their professional development in the field of education has always been linked to research work. Teachers can try out new and updated teaching tactics and pedagogies as a result of this. It will assist in determining what will be the most effective method in a given educational setup. It may also help in catering to students' unique desires and aid in analysing educational methods to accommodate the learner's diverse learning styles ([Shanks, Miller, & Rosendale, 2012](#)).

According to [Quidmas \(2017\)](#), capacity building is critical for improving master teachers' quality performance, particularly in research. In order to perform action research, capacity-building activities such as challenging seminars will be beneficial. It will enable them to gain awareness about the significance of classroom action research and get extra experience, allowing them to become more involved in action research writing.

Action research is a popular method in which teachers recognise an issue while at work, analyse it, and seek to improve their procedures. The action research method allows you to reflect on the teaching and learning process in a controlled and disciplined manner. The development of professional dispositions such as reflective and attentive teaching and continuous are at the forefront of teacher research ([Mills, 2011](#)). Action Research is a cyclical process with multiple cycles. Teacher-researchers frequently work on numerous research cycles at once, revisiting issues and revising study questions depending on the reflection and first-hand evidence.

According to Ado (2013), these cycles of action research [Ado](#) are predicated on the idea that instructors may support their students by critically reflecting on their work and seeking strategies to overcome difficulties. According to [Sharar and Hosni \(2016\)](#), action researchers go through five stages of inquiry when conducting action research, as shown in Figure (1) below:



**Figure 1:** Action Research Cycle

### Focus on a Problem Area

In the classroom, teachers may be met with a range of questions that they want to investigate. To educate in a reflective manner, one must look carefully into teaching methods in a way that both the "why" and "how to" issues can be addressed. During their careers, teachers should indulge in processes of reflection. Some of the questions that teachers should ask are as follows:

- i. What is the purpose of my instruction?
- ii. What do I do for a living as a teacher?
- iii. How did I end up like this?
- iv. How could I teach in a different way?
- v. What and how will I educate now?

It is important to note, however, that limit the question that is relevant and acceptable in the context of their day-to-day duties. They should properly prepare at this point to avoid false starts and frustrations. It's critical to assess whether or not the teacher has control over the question while selecting one. Is it anything that piques your curiosity and is worth your time and effort? A discrete problem can sometimes be easily identified. A sense of anxiety or tension in the classroom could also be the source of the problem to be investigated. As a result, the questions picked should be:

- i. Concise.
- ii. The question is already unanswered.
- iii. Meaningful
- iv. A higher-order question rather than a yes/no question.

### Collect Information

Data collection is a crucial stage in determining what actions should be performed. To get a

better perspective, multiple data sources are used of what is going on in the classroom or school. When acquiring data, there are a lot of things to keep in mind.

- i. Is the data simple to gather?
- ii. Are there any readily available resources?
- iii. How well-organised and methodical will the data be?
- iv. Arrange data in sequence.
- v. Make decisions based on triangulation.

### Analyse Information

Action researchers examine and identify relevant facts in accordance with the nature of the topic. Without the use of statistics or technical aid, some of the data can be quantified and assessed. Opinions, attitudes, and checklists, for example, can be summarised in a table format. Non-quantifiable data may be analysed properly, and relevant parts may be recognised.

### Take Action Based on Results

A plan of action is established following the analysis of the data and a review of the current literature to allow action researchers to launch and evaluate a change. It's crucial that only one variable be altered. If multiple adjustments are made at the same time, this would be impossible to distinguish which act remains more responsive to the result. During the execution of the new method, performance results are regularly gathered and described.

### Assess Results

Examine outcomes of intervention to assess whether any change was made. If not, how may

the actions be improved to achieve better results? Develop new questions raised by data as a result of the action research study and establish plans for more improvements, adjustments, modifications, and next measures.

Teachers can use action research to analyse their teaching objectively. This may provide a rationale for activities taken, which will aid in the development of their repertoire, the identification of problems, and the development of solutions for improvement (Lejarde, 2017).

As described by Pena (2018), to establish a conceptual grasp of new knowledge, teachers must grow and gain new knowledge, which necessitates a professional development framework that supports ongoing professional development.

Educators should look at models and examples that try to look into the instructional and practical understanding of a certain research. Educators can also incorporate new knowledge and ideas into individual and group curricular and instructional reform projects (Marcelo, 2018).

One of the main objectives of action research is to identify strategies to improve the lives of students in education while also improving the lives of people who work in educational systems. Teachers should engage in action research because it presents an analytical and interactive approach that seeks out relevant aspects of

teaching learning process and proposes solutions for them. In addition, this type of research offers teacher with precise information they need to affect positive change in classroom and communities (Galarion, 2018).

Most of the experts believe that action research is less rigorous form of education rather than a more relaxed approach. Because most action research is practical and limited, and because instructors are the principal researchers, action research is characterised as "applied" rather than "real" research. As a result, while this distinction has some merit, certain action research does play a significant role in improving schools, according to the authors (Anzaldo, & Cudiamat, 2019).

Different perspectives on action research were offered from the aforementioned literatures in order to throw light on its function in education, particularly for teachers. This study was done to analyse teachers' perceptions of the utility of action research before, during, and after participating in an action research training programme in order to assist them upgrade and develop their skills.

## Conceptual Framework of the Study

The Study Followed the Following Conceptual Framework as Show in Figure 2.



Figure 2: Conceptual Framework of the Study

## Research Objectives

To measure teachers' perceptions about the effectiveness of action research, during baseline phase (before training), treatment phase (Action-Research Training Program) and withdrawal phase (after training).

## Research Hypothesis

There is no significant mean difference in teachers' perception about action research

effectiveness, during baseline phase (before training), treatment phase (Action-Research based Training Program) and withdrawal phase (after training).

## Research Methodology

The goal of this study was to use a linear approach to confirm assumptions generated from relevant ideas and literature. It collected and entered data using quantitative measures and

applied quantitative data analysis techniques. As a result, it fits into the positivist paradigm. The ABA withdrawal design of single subject research designs was used in this research. The single subject design's goal is to observe one or a few subjects' performance as the dependent variable across time and compare changes in performance

(perceptions) to establish the effectiveness of an intervention ([Gall, et al., 2003](#)).

Phases of measurement in this design as described by [Gay, Mills, and Peter \(2012\)](#) can be described systematically as:



**Figure 3:**

### Population and Sample Size

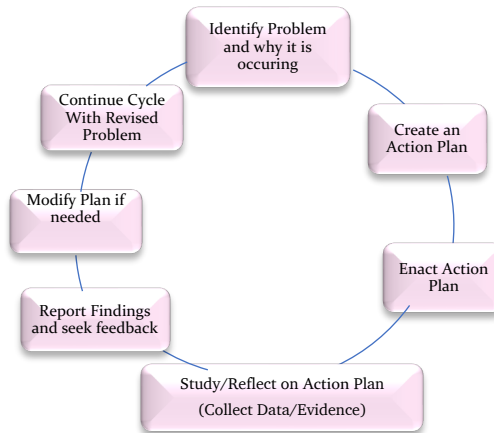
The population of the study consisted of all female teachers serving in the public sector of district Kasur. The researcher worked with Secondary School Teachers (SST), Elementary School Teachers (EST), and Primary School Teachers (PST). The population of the study consisted of all female teachers serving in the public sector of district Kasur. Keeping in view the nature of study, a sample of six individuals was selected from secondary school to participate in the study. Two SSTs, two ESTs and two PSTs were selected as a sample from school.

### Intervention

Using a systematic technique of action research, training programme aimed to include educators in examining their classroom difficulties and also take intentional measures to overcome such problems. It also gave them the theoretical grounding in Action Research Skill (ARS) that they needed. Before intervention (B phase), the researcher personally collected the data by administering questionnaire until a baseline phase

was established. At 2<sup>nd</sup> phase (intervention) training was conducted on action research skill development for selected teachers. Training session was held once a week for teachers in the respective school. The teachers received 14 hours training, one hour session in a week for 14 weeks.

To avoid interruption in teachers' daily work routine, flexible time was set for training purpose with the consultation of concerned teachers so that unexpected or unplanned events might not disturb the study objectives. With the spiral structure of action research, teachers were needed to identify and characterise the problem, establish an action plan, enact the plan, reflect on the plan, report the findings, adjust the plan, and revise the cycle. For continual improvement of classroom procedures, these processes were repeated and applied to any learning setting or difficulty. In this study, the cyclical steps of continual reflection were linked to Hollingsworth's AR cycle. The following given AR cycle illustrates the steps that the participants followed to solve classroom problems.



**Figure 4:** Action Research Cycle

During the intervention phase, instructors were able to express their thoughts, experiences, and opinions through a variety of activities such as group work, presentations, and reflective activities. It increased teachers' self-confidence in analysing and inventing ways to deal with their own key teaching challenges.

### Instrument

A five-point Likert-type scale questionnaire developed by Sharar (2016) was adapted to measure teachers' perceptions about AR before, during and after engaging in ARTP. Teachers' perception of the effectiveness of action research was measured through four domains, i.e., nature of action research, teachers as researchers, data collection and limitations of action research.

### Validity and Reliability of Instrument

After consulting with five educational experts in the related fields, the validity questionnaire was ensured. Content, face, and language validity were all tested on the instruments, and they were finalised after receiving feedback from specialists. The instrument was piloted and tested from n=36 teachers (other than the sample). Reliability for the survey was (0.931), indicating adequate use of questionnaire for conducting the study.

### Data Collection and Analysis

The researcher personally collected the data. The quantitative data was gathered nine times from six

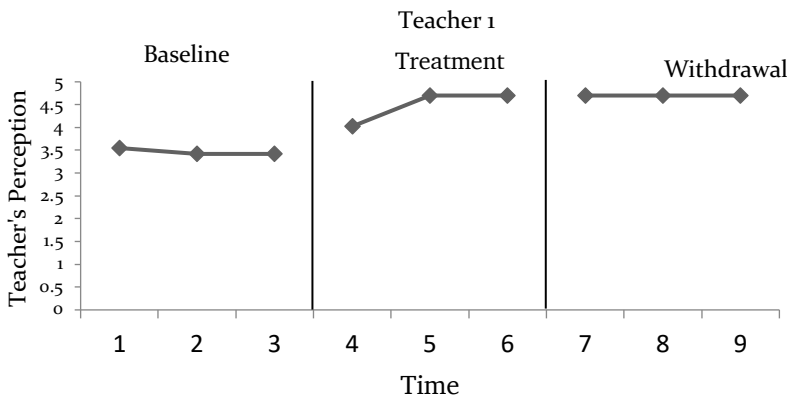
teachers. In 1<sup>st</sup> phase, quantitative data was collected from the sample by using a questionnaire until a baseline was stabled. The questionnaire was administered to measure the perception of teachers about the importance of action research in the teaching-learning process. At 2<sup>nd</sup> phase, teachers were trained about the importance of action research and how to apply action research skills to solve classroom problems. During the treatment phase, data were collected using the same instrument multiple times. At 3<sup>rd</sup> phase, data was collected without involving the teacher in the training program. The second baseline was made in the extinction period in which teachers were observed without treatment.

Data collected through different tools were analysed to draw conclusions and verify the hypotheses of the study. Descriptive statistics, inferential statistics and visual analysis were applied to the data collected through questionnaires.

### Findings

Visual analysis was used to examine the effect of action research training on teachers' perception of the

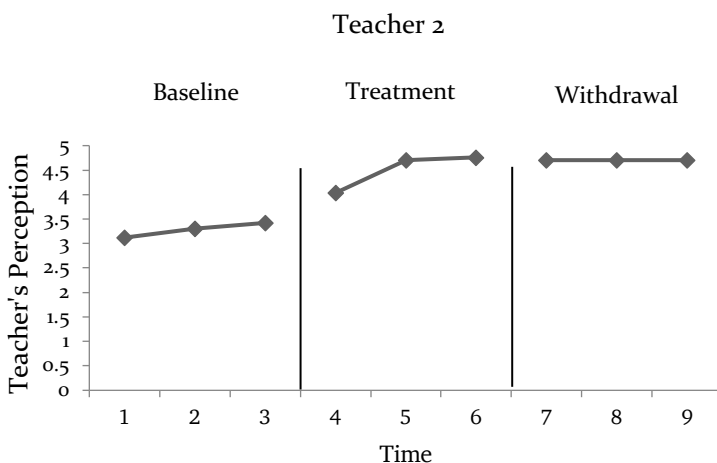
effectiveness of action research. The data was collected and analysed in three phases. A figure was drawn based on the respondent's mean scores in each phase. Ethical concerns were considered and discussed with the study's participants ahead of time.



**Figure 5:** Teacher 1 Perception of Effectiveness of Action Research during Baseline, Treatment and Withdrawal Phases

Figure 5 shows the mean score of the perception of teachers about action research during three phases of the experiment. In three phases of the experiment, the perception of teachers about the effectiveness of action research has changed through engaging in an action research training

program. Training program on action research has a positive effect on teachers' perception of action research. In the treatment to withdrawal phase, the perception of the teacher remained stable about action research and did not have much variability.

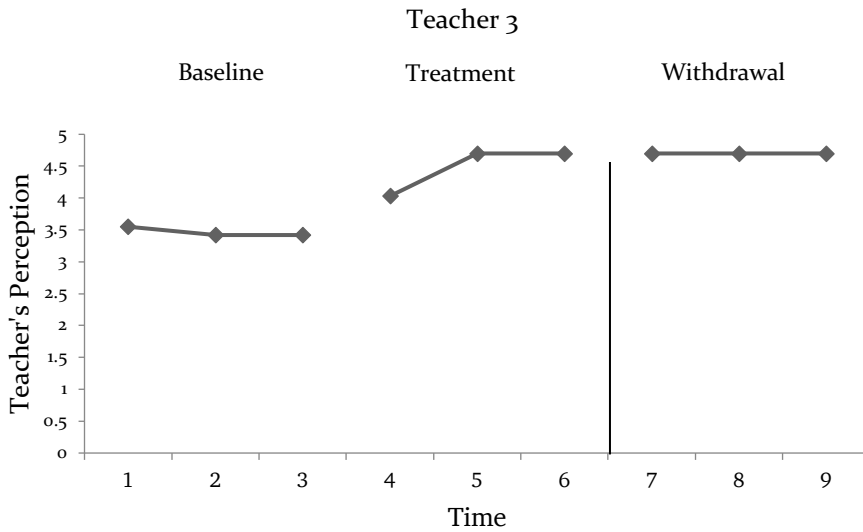


**Figure 6:** Teacher 2 Perception of Effectiveness of Action Research during Baseline, Treatment and Withdrawal Phases

Figure 6 illustrates the mean score of perception of teachers about the effectiveness of action research during the baseline, treatment and withdrawal phase. In the baseline phase, the teacher has a stable pattern of perception about the effectiveness of action research skills. The perception of the teacher changed during the

treatment phase by engaging her in ARBTP. During treatment, the teacher knows more about the effectiveness of action research. In the withdrawal phase, the perception of the teacher reached a stable position and was not changing after going through the treatment phase.

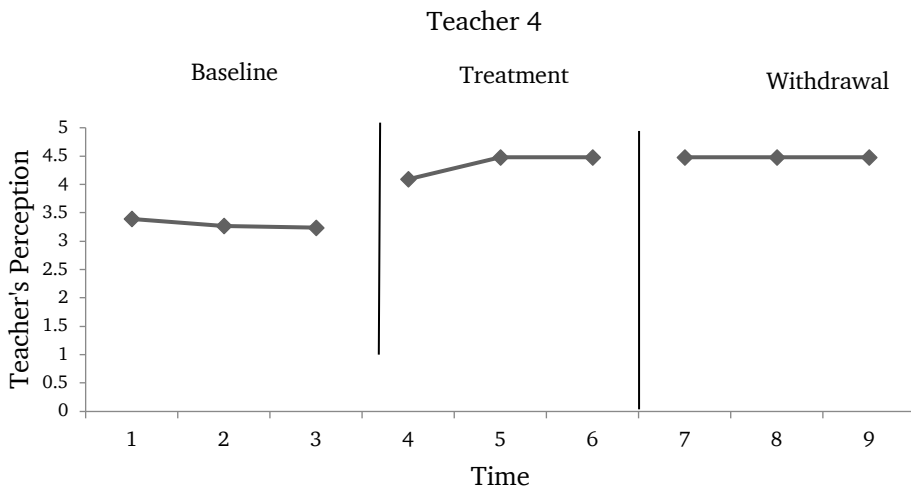




**Figure 7:** Teacher 2 Perception of Effectiveness of Action Research during Baseline, Treatment and Withdrawal Phases

Figure 7 demonstrates the mean score of teachers' perception of action research effectiveness over the period of time in three phases. In three phases of measurement, teacher perception is changing about action research. In the baseline phase, the teacher is not considering action research more useful, but in the treatment phase, the mean score

shows that teacher tends to consider action research effective after engaging in action research training. In the withdrawal phase, the teacher has a stable pattern of perception about action research. The teacher considers action research effective even after the removal of the action research training program.



**Figure 8:** Teacher 2 Perception of Effectiveness of Action Research During Baseline, treatment and Withdrawal Phases



Figure 8 shows the mean score of perception of teacher 4 about the effectiveness of action research. In three phases of measurement, the teacher has a different level of perception. In the baseline phase, the teacher is not considering action research much useful and has variability in perception. In the treatment phase, the teacher

became aware of the effectiveness of action research skills when she was engaged in action research training. With time, her perception of the usefulness of action research is changing. In the withdrawal phase, the level of perception remained persistent and did not have much variability.

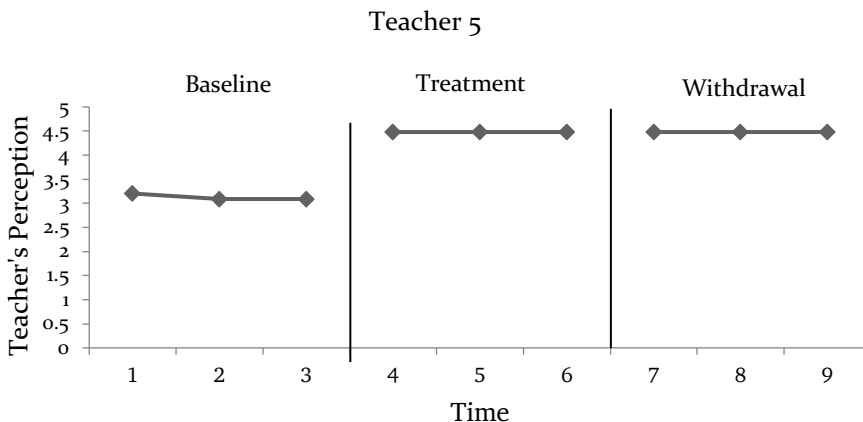


Figure 9: Teacher 2 Perception of Effectiveness of Action Research during Baseline, Treatment and Withdrawal Phases

Figure 9 shows the mean score of teacher 5 perceptions in different phases of the experiment. During the baseline phase, the teacher is not considering action research much effective. In the second phase, while receiving action research training, her perception of the usefulness of action research skills changed. In the third phase, after the training program teacher developed a certain level of perception about action research and considered it useful in the withdrawal phase, which was equal to the treatment phase.

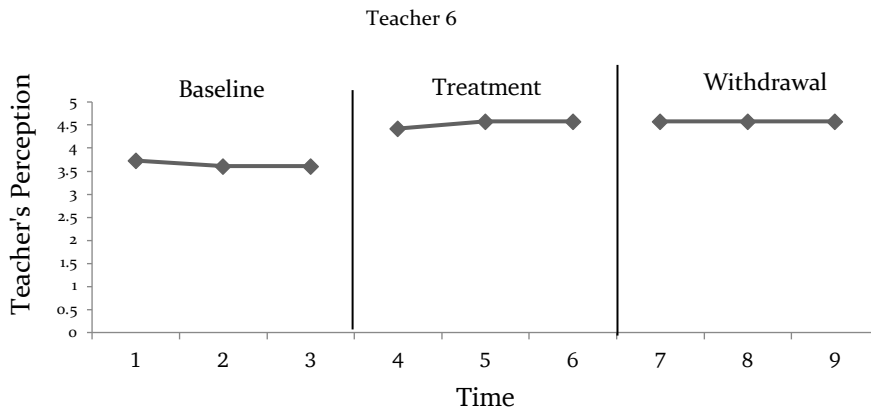


Figure 10: Teacher 2 Perception of Effectiveness of Action Research during Baseline, Treatment and Withdrawal Phases

Figure 10 shows the perception of teacher 6, who participated in action research skill development training. The perception of teacher 6 about the effectiveness of action research is not having much variability. In the baseline phase, she has a certain kind of perception about action research skills. In the treatment phase, her perception tends to change, and she developed a positive perception of the effectiveness of action research. In the withdrawal phase, the teacher has a stable level of perception, which is not changing anymore.

## **Discussion**

The current study aimed to measure teachers' perception of the usefulness of action research skills. Analysis of the data collected from teachers in each phase, i.e., before, during and after the intervention, showed that the perception of teachers about action research significantly differed over the nine measurements taken. During the treatment phase, teachers developed a positive perception of the effectiveness of action research as compared to the baseline phase. During the withdrawal phase, teachers had a stable level of perception, which did not change even after the removal of treatment, as reported by [Sharar \(2016\)](#) as well.

"Improving Teaching Practices through Action Research," a study conducted by [Brown \(2002\)](#), looked into teachers' views about the impact of action research on their teaching practices and their ability to teach in the class. The researcher employed a quantitative technique to

address the research questions of how much action research changes teachers' perceptions about classroom teaching methods. The findings revealed that teachers were given a rational framework for delivering instruction and examining their daily routine practices designed to improve the teaching and learning process by incorporating them in the stages of action research. The study's findings also corroborate those of many earlier studies, such as [Gungor \(2016\)](#), who found that action research was effective and practical in improving instructors' professional knowledge. [Sowa \(2009\)](#) also conducted a study on action research and found that action research had a favourable impact on the knowledge and activities of pre-service teachers. In short, the training programme gave teachers a unique opportunity that can benefit teachers to learn about the nature of action research, as well as its dynamics and processes.

## **Recommendations**

According to the study's findings, the following recommendations are therefore endorsed: gender-sensitive research training should be provided, and other teacher profiles should be addressed while building capacity. The Department of Education should hold extended action research seminar workshops to offer educators additional knowledge and a deeper understanding of writing research. Teachers should do action research not just to assure compliance but also to improve their writing abilities.

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