IOSR Journal of Research & Method in Education (IOSR-JRME)
e-ISSN: 2320–7388, p- ISSN: 2320-737x Volume 11, Issue 4 Ser. IV (Jul. – Aug. 2021), 26-41
www.iosrjournals.org

Action Research Skills among Public School Teachers: A Cross-Cultural Study

Dr. Aishah Albalawi
University of Tabuk

Lynn Nations Johnson
Professor Emeritus , Western Michigan Universitty

Abstract
This study aims to determine the degree of the teacher participants' skills in action research. The study's sample included 50 public school teachers in the Kalamazoo metropolitan area (United States) and Tabuk (Saudi Arabia). The researcher used the descriptive approach method to address the study's open-ended questions, and the Statistical Package for the Social Sciences software (SPSS), was used to analyze the study's data. The results of the study played an important role in supporting qualitative educational research among Saudi Arabian teachers, contributing to the improvement of the teaching environment and helping teachers to solve student problems through action research.

Keywords: *action research , educational research, teacher skills*

Date of Submission: 18-07-2021 Date of Acceptance: 03-08-2021

I. Introduction to Action Research

Scientific human knowledge and practical expertise have become the key to individuals' success in society. Today many developed nations recognized the importance of scientific research**.** As a result, they compete within their countries and with other nations in conducting research and in the establishment of funded research centers for this purpose. Accordingly, it is obvious that there is a need to engage in the scientific research process using the correct scientific methodology in order to reach the truth and discover the knowledge that will allow for progress. Scientific research is regarded as a basic pillar of the expansion of human knowledge in various fields. Moreover, it is regarded as one of the main characteristics of this modern era. Research helps in detecting and defining problems, raising research questions as well as verifying the assumptions and authenticating the results relating to such assumptions. In addition, it helps in the organization and classification of information. As a result, the organization and classification of new information revealed by research will be used correctly, new information will be added and the previous information may be amended for continuous development. Scientific research is a useful means to find solutions for the problems we may face relating either to health, politics, the environment or the economy. It is also useful in interpreting and predicting natural phenomena by finding general designs and laws (Al-Harithi, 2008).

Al Bahi (Bahi, 1982, p**: .** 31) thinks that "society shall challenge any problem faced, either educational, social or economic, and shall find suitable solutions. Consequently, it is a requirement to train researchers to conduct researches in various fields of knowledge."

Educational research had its origins in the early 20th century when the eminent American philosopher, John Dewey, recommended it as the best way to obtain objective and reliable answers to educational questions. Educational research has grown actively in recent decades partly due to the development of new technology and advanced statistical tests that facilitate the handling and analysis of large amounts of data (Ary et al., 2019)

Many studies have demonstrated that educational research contributes into fulfilling the researchers' curiosity to develop knowledge, predict educational phenomena and organize such phenomena accurately. Moreover, educational research contributes to developing the individual through growing many ways of thinking by adopting scientific methodologies to challenge the problems faced by educational institutions and the people who are a part of those institutions**.** Through the research process, the pedagogical and administrative practices can be improved, with the aim to achieve the goals and objectives of the institutions and people working in those institutions. Attention by academic leaders to improve and developtheir organizations may raise the importance of scientific research along with a concentrated effort to identify a research methodology that is well suited to the improvement and development they seek to build in their educational organization. One of the most suitable research methodologies aimed at improving teaching practice and school leadership is what is known as Action Research (Thaqfan, 2013).

In terms of functions, educational research can be divided into three categories**:**

1. Pure research: aims at finding main realities and principles and theories to organize the learning process.
2. Applied research: aims at testing hypotheses and reaching their applicability within the academic field.
3. Action research: aims at improving the practices of teachers and those who assist them within the teaching field and raising their professional performance level through investigating their educational practices and the problems they face, and then finding suitable solutions for such problems (Abu Awad, 2012).

Action Research is a systematic inquiry conducted by teacher researchers, principals, school counselors, or other stakeholders in the teaching/learning environment to gather information about how their particular schools operate, how they teach, and how well their students learn. Mills (2003) defined Action Research as a form of self-contemplative researches carried out by participants (teachers, principals and supervisors) in educational situations in order to achieve an understanding of their educational practices and consequently evaluate such practices fairly.

II. Review of the Literature

Action Research in Education

In schools today, raising the achievement levels of all students must be our highest priority and the quality of the teacher should be a major focus**, .** Educational research**,** in particular, are is a very important means of teacher development and change**,** a means whereby the teacher and the researcher are sustained in becoming more effective, skilled and changeable (Bonner, 2006; Lange, 2004).

On the other hand, the educational and psychological literature categorizes educational research as a scientific research branch where it is characterized by addressing the educational process components including teacher, student, curriculum, educational strategies and evaluation. Hence, educational research aims at reaching main realities and principles for organizing the pedagogical process. In addition, it is concerned with the theoretical basis and application possibilities within the pedagogical field (Qasrawi, 2012). Johnson (2012) added asserted that action research is an effective means of contributing to teachers' professional development and gives them the opportunity to be creative and distinguished as teacher researchers.

Action research offers many benefits for educators committed to a critical, investigative process of improving school practice, policy, or culture. First, action research can be used to fill the gap between theory and practice and helps practitioners develop new knowledge directly related to their classrooms. Second, action research facilitates teacher empowerment when they are able to collect their own data to use in making decisions about their schools and classrooms. Third, action research is an effective and worthwhile means of professional growth and development.

Educators, must continuously make decisions about the teaching and learning context in which they work and the effectiveness of their teaching practices**.** Participation in action research can help teachers in a number of ways: 1) Action research can help teachers keep the focus of their research on local needs and reality, 2) Awareness of what is current can help teachers develop and maintain a sense of involvement in the larger research community and 3) The role of research in education becomes active rather than passive for teachers engaged in action research (Hine & Lavery, 2014).

Action research is focused on specific situations and problems faced by the individual in their current workplace**.** The teacher researcher uses knowledge, principles, and theories to design a study and to collect data related to the problem they are addressing in their research. The teacher researcher then analyzes the data to address the problem within a scientifically guided framework towards improved practices in their classroom and/or school. It is also important to note that action research is an applied democratic research method focused on individual development. This kind of research is dependent on individual's faith and belief in the importance of such development because it allows for the development of local solutions for the issues faced by teachers (Qaddah, 2010).

Action research has a broad set of objectives which are: 1) To provide professional develop opportunities for teachers during their service, 2) Encourage them to express their professional opinions and perspectives and 3) To assist teachers in the development of their evaluation skills through engaging in critical study, analysis, and contemplation about their own practices which can potentially result in a rich source of data to improve their teaching practices. Moreover, action research reinforces cooperative team work and both supports and encourages the teacher researcher to read, research, and examine the global research findings within their profession**.** (Nugent, 2012).

Inevitably, Action research provides the means by which the professional teacher may increase the effectiveness of the work in which they are engaged. More specifically, involvement in action research helps teachers to be even more aware of student learning, classroom complexity, and their own agency as teachers. Action research is an effective research method where teachers can find a way to actively address their professional problems during their work. Through re-examination and analysis of educational practices that

concern them**.** , they become "insider researchers" researching their own actions.(Abu sharer, 2016). Action research can be the supporting power for professional development if it is listed within the teacher's educational development process plan. Hendrix (2014) indicated teachers, pedagogy specialists and education specialists stated that action research had many benefits for their teaching lives as follows:

- Made their job more professional through being responsible for developing their own practices.
- Gave the opportunity to pedagogy specialists and teachers to publish the results of their research so that others might use their expertise.
- Encouraged education specialists to engage in team work and cooperative activity to which resulted in more work that was more uplifting and pleasant.
- Encouraged education specialists to re-think their evaluation methods applied on to their students' work.
- Helped teaching specialists to recognize their students personally and academically.

Action Research Fields

A number of studies have indicated that action research can addresses many areas including instructional issues related to curriculum, educational strategies and methods, and data collection and analysis techniques. In addition, action research may address the psychological issues represented in students' feelings and attitude. Moreover, it may address social issues such as poor communication between students, aggressive attitudes and absence from some classes. It is also useful in solving the environmental issues related to a particular school environment and to what extent it is suitable to the educational s aims of the institution (Qaddah, 2010,p. 39).

Sometimes action research becomes a cooperative effort where a team of researchers and practitioners work together on the project. Also, the project may be undertaken by teachers themselves without any intervention from external researchers. As is indicated by many studies, when the practitioners themselves carryout action research, then it will be a more reliable and valuable source of knowledge. Both McNiff and White Head (2010) claimed it is necessary to support researches by participants and involve them with academic researchers so that they assume the joint responsibility for education and pedagogy. No doubt that the objective of such educational researches, provided by teachers, faculty members or people focused on improving their curriculum and pedagogy, is the development of knowledge and improvement of quality within educational institutions. (Cheri Hendrix, 2014).

Action Research Characteristics

Action research has many characteristics based on its nature, the concepts that guide the research, and the results of the research (Qaddah, 2010,p. 33-35). Qaddah states that some of these characteristics are as follows:

- It is characterized as a spiral technique which starts with developing a framework for the problem to finding the solution through adopting qualitative or quantitative techniques appropriate to the nature of the problem and a combination of both techniques.
- It is characterized by its practicality where results are linked to the problem within the environmental reality where the researcher works. Fast and flexible answers and solutions may be reached with the possibility to amend in case of suitable alternatives that are found at a later time.
- This kind of research helps in generating knowledge by the institution's individuals through cooperative ways described as clear and transparent. Moreover, it is also regarded as an effective tool of self-evaluation where the individual investigates their own performance and appreciates their own achievements in light of defined standards.

Action Research Steps

Juan Mettetal (2012) tried to provide some simple steps to be followed by the prospective teacher researcher in case they are desirous to carry out an action research project, and they may be summarized as follows:

- Defining a specific viable question from the teacher's view. It emerges from the researcher's sense that they have a problem in their work, hence, they have found the action research problem. The researcher then goes on to study the research literatures related to the research problem.
- Developing hypotheses as they are theoretical assumptions from the researcher's perspective of the inherent reasons behind the problem and the supposed solutions as well as taking the step to design an action plan to carry out the research including the action research steps and who will be on the work team if more than one person will be involved in the action research project.
- Collecting data after defining data type and the tools to collect data. The most popular tools of action research include (observation, interviewing and surveying). The data collection is followed by working on analyzing and organizing data through development of tables and/or understandable narrative outlines.

- Developing possible alternatives and solutions based on the data analysis results, ordering the results by importance, examining the most important results and the impact on the classroom setting, using success indexes to identify whether or not the alternatives that were identified as important worked or not.

Challenges of the Preparation for and Conduct of Action Research Studies

Conducting action research is not always an easy process. It can be messy and involve a lot of time for planning, approval, implementation, and data collection. Action research is generally a process of self-monitoring that involves a combination of the following elements: identifying a focus, problem, or area of interest; collecting data; analyzing data; and reflecting on the process (Barnes, 2013).

Milton et al.(2010) described teachers' experience after engaging in an action research project. They stated that action research gave them an opportunity to collaborate, through allowing teachers to work together and learn from one another to affect student achievement on multiple grade levels. Additionally, they believe that action research would be beneficial in all subject areas and suggest to other teachers to continue conducting action research projects each year.

Mooi and Mohsin (2014) reported that pre-service teachers are more likely to engage in meaningful action research projects of their own choice later in school. They felt positively towards the role of action research in developing their key understanding of student learning based on theoretical principles, and increasing their awareness of student needs within the classroom. Moreover, action research can enhance their qualities as teachers. Action research has equipped them with some knowledge of factors affecting student learning such as learning needs and learning styles. However, their understandings of student learning is not necessarily in-depth comprehensive after a single action research project.

Segal (2019) carried out a study focused on a sample of math teachers enrolled in a master's program in order to know about action research benefits. The study produced the following results:

1. Action researches acted as an effective tool for development through allowing teachers to be involved in the extensive study of their own practices.
2. The incorporation of action research opportunities for teachers allowed the participating teachers to communicate with each other, share their expertise and share successful experiences leading the teachers to be more active and wise in their practice.
3. Action research is useful in understanding and addressing student needs. Consequently, action research is a valuable addition to the teacher and their students.

In the same regard, O'Connor & others (2006) carried out a survey to answer two questions: First, "What is the most difficult part in the action research process?" Second, "Is there is a positive impact on teachers when participating in scientific research?" The research sample was composed of 34 students in a master's program for primary education who studied action research throughout two successive courses. In relation to the first question, results indicated that the data analysis process was the most difficult step in action research for this population of teachers. In relation to the second question, the results indicated that when the teachers incorporated their research work into the improvement of their educational practices, it enabled teachers to change and enhanced their professional development, helped in future pedagogical educational decisions making and made teachers more confident and wise in adopting strategic methods and seeking new experiences. In this study, researchers claimed in it is necessary to give the school support for teachers in carrying out action researches. Moreover, researchers asserted the need to organize statistics courses in universities for students and teachers who carry out research using statistical analysis.

In spite of the great role played by this kind of research in the field of education, still there is a lack of application in K-12 classrooms. The lack of action research in K-12 classrooms was identified by the study of Abdulqadir and Al-Omary (2015) where they found that the participants in their research sample lacked understanding of the basic elements of action research and the essential skills that are necessary to conduct an action research study. As a result few teachers carried out an action research study. Abdulqadir and Al-Omary (2015) attributed this lack of understanding to a lack of training courses for teachers focused on the development of action research skills in addition to a lack of time and administrative support to prepare and conduct action research studies.

Al-Adeem (2013) also conducted a study in which the results agreed with the Abdulqadir and Al-Omary (2015) study. Al-Adeem found that there is an observable gap in applying action research skills by female teachers during the teaching process. The study recommended that it is necessary to link the theoretical aspects of action research with practice related to action research skills in teacher preparation programs. Moreover, the study recommended raising the teachers' awareness of the positive role of action research in improving their educational practices.

Several studies indicated that, with the numerous benefits action research offers educators, there are several challenges associated with this research methodology. First, teachers may find that it is a time-consuming process to conduct research in addition to the demands of their own instructional practice. Second, action research is usually carried out by individuals who are participant observers in the action research process,

the validity of c the data collection and analysis may be questionable with potential bias because of the participant observer role of teachers in the action research process. A third challenge faced by action researchers is to suspend any preconceived ideas of what the potential solution(s) to the problem might be (Hine & Lavery, 2014).

Teacher researchers need collaboration on many fronts to insure solid research methodologies and interpretations**, .** Teachers should receive support from actual researchers in the education field. Additionally, partnership offers teachers opportunity for induction to the profession as well as for continuous renewal of professional practices (Barnes, 2013, p. 26).

III. Methodology

Aims

This study aims to determine the degree of the 50 teacher's' skills with action research in the Kalamazoo, Michigan metropolitan area (United States) and the Tabuk area (Saudi Arabia). The proposed study will address the following questions:

1. To what extent do teachers in Tabuk (Saudi Arabia) know action research skills?
2. To what extent do teachers in Kalamazoo (United States) know action research skills?
3. Are there any statistically significant differences with action research skills among the study sample?
4. For those teachers who have conducted action research studies, what impact has action research had on their teaching and planning?

Data Analysis

Quantitative analysis was conducted using the most updated version of SPSS statistical software. The SPSS software has proven to be consistently reliable in a variety of statistical projects.

Frequency Counts and Summary Statistics

The frequency distributions (counts and percentages) were tabulated for all questions with a categorical response (nominal or ordinal). Summary statistics (e.g. means or standard deviations (SD)) have been reported depending on whether a variable is normally distributed for questions with continuous responses.

Variable Scoring

Variable scores were created from the scales used in the survey average. The conceptual operational definitions of the score, derived from the Likert scale, are provided in the results section.

Multivariate Analysis

The independent sample t-test and the ANOVA were run as part of the Multivariate analysis to establish statistical significance at p =.05. The t-test and ANOVA provide data on whether the group means differ from one another. The t-test compares two groups, while the ANOVA compares the means from more than two samples.

IV. Results

Teacher Participant Sample Profile

Demographics. The sample consisted of 50 survey participants. The demographic profiles of the sample are summarized in Tables 1 to 4 below. Sixty percent of the participants sampled were from Saudi Arabia (n = 30, 60 %), and the remainder forty percent of the sample studied were from the USA (n = 20, 40 %). A majority of the sample had completed their undergraduate studies (n = 31, 62 %) and the remainder had studied at a post-graduate level or higher (n = 19, 38 %). A majority of the sample have taught at an the elementary school level (n = 27, 56 %) and the remainder have taught at middle school or higher levels (n = 21, 44 %). A majority of the teachers in the sample had undertaken training courses (n = 35, 70 %), and the remainder had not completed or attended any training courses (n = 15, 30 %).

Table 1: Country

	Frequency	Percent
USA	20	40.0
Saudi Arabia	30	60.0
Total	50	100.0

Table 2: Academic Qualifications

	Frequency	Percent
Bachelor's	31	62.0
Masters or more	19	38.0
Total	50	100.0

Table 3: Grade Levels Taught

	Frequency	Percent
Elementary School	27	56.0
Middle School or More	21	44.0
Total	48	100.0

Table 4: Number of Training Courses

	Frequency	Percent
0	15	30.0
1-2	21	42.0
2-4	14	28.0
Total	50	100.0

Measurement of teacher's skills with action research. The teacher's' self-reports of their skills with action research were collated using a three-part,14 question questionnaire with the results tabulated on a scale of three, 1 = Not Capable, 2 = Fairly Capable, and 3 = Fully Capable. The three parts to the questionnaire were; : 1) Identifying a problem, 2) Developing a research plan, and 3) Investigating/validating the outcomes of their action research skills.

Part 1—To what extent are you able to identify a problem? The results are summarized in Tables 5a thru 5d.

The majority of participants indicated they could clearly express what the problem is was (n = 46, 92 %) and the number of participants that were not capable of expressing the nature of the problem was low (n = 4, 8 %).

The majority of participants were able to determine the factors of the problem (n = 47, 94 %) and only a mere 6% claimed they were not capable of determining the factors of the problem (n = 3, 6%).

The majority of participants could use previous studies to identify the nature of a problem (n = 45, 90%) and only 10% were unable to use previous studies (n = 5, 10%).

The majority of participants were able to develop a hypothesis to help test or further ascertain in identifying a problem (n = 45, 91%) and merely 8% of the sample collected were unable to develop a hypothesis (n = 5, 8%).

Table 5a: Expressing Clearly

	Frequency	Percent
Not Capable	4	8.0
Fairly Capable	25	50.0
Fully Capable	21	42.0
Total	50	100.0

Table 5b: Determining Factors of the Problem

	Frequency	Percent
Not Capable	3	6.0
Fairly Capable	33	66.0
Fully Capable	14	28.0
Total	50	100.0

Table 5c: Using Previous Studies

	Frequency	Percent
Not Capable	5	10.0
Fairly Capable	28	56.0
Fully Capable	17	34.0
Total	50	100.0

Table 5d: Developing a Hypothesis

	Frequency	Percent
Not Capable	4	8.0
Fairly Capable	31	63.0
Fully Capable	14	29.0
Total	49	100.0

Part 2- To what extent are you able to develop a research plan? The results are summarized in Tables 6a thru 6e.

The majority of the participants indicated they could write an appropriate title for a research plan (n = 46, 92 %). Only 6% of the sample were unable to write an appropriate title for a research plan (n = 3, 6 %).

Most of the participants said they could set time limitations for developing their research plans (n = 45, 90%), and only 8% indicated they were unable to set time limitations (n = 4, 8%).

A majority of participants indicated that they were fairly capable (n = 32, 64 %) or fully capable (n = 11, 22%) of selecting the appropriate research term (n = 43, 86%), only 12% indicated they were unable to select the appropriate research term (n = 6, 12 %).

The majority of participants indicated that they could explain/ justify why they are were developing a research plan (n = 44, 88%), of which 52 % were fairly capable (n = 26, 52 %) and 36 % were fully capable (n = 18, 36 %). Only 8% indicated that they were not capable (n = 4, 8 %).
The majority of participants also indicated that they were capable of selecting suitable tools for developing a research plan (n = 46, 92 %), of which 60 % indicated that they were fairly capable (n = 30, 60 %) and 32 % indicated they were fully capable (n = 16, 32 %). Only 6 % indicated that they were not capable (n = 3, 6 %).

Table 6a: Writing an Appropriate Title

	Frequency	Percent
Not Capable	3	6.0
Fairly Capable	24	48.0
Fully Capable	22	44.0
Total	49	100.0

Table 6b: Setting Time Limitations

	Frequency	Percent
Not Capable	4	8.0
Fairly Capable	26	53.0
Fully Capable	19	39.0
Total	49	100.0

Table 6c: Selecting the Appropriate Research Term

	Frequency	Percent
Not Capable	6	12.0
Fairly Capable	32	65.0
Fully Capable	11	23.0
Total	49	100.0

Table 6d: The Ability to Explain/Justify

	Frequency	Percent
Not Capable	4	8.0
Fairly Capable	26	52.0
Fully Capable	18	36.0
Total	50	100.0

Table 6e: Selecting Suitable Tools

	Frequency	Percent
Not Capable	3	6.0
Fairly Capable	30	60.0
Fully Capable	16	32.0
Total	50	100.0

Part 3- To what extent are you able to investigate and validate the outcomes of an Action Research study? The results are summarized in Tables 7a to 7e.
The majority of the participants indicated that they were capable of presenting the outcomes of research conducted (n = 48, 96%), of which 54% were fairly capable (n = 27, 54 %) and 42 % were fully capable (n = 21, 42%). There was only one participant who answered not capable (n = 1, 2%).
A large majority of participants indicated they were capable of analyzing the outcomes of a research study (n = 45, 90 %), of which 54 % indicated that they were fairly capable (n = 27, 54 %) and 36 % indicated they were fully capable (n = 18, 36 %). Only 8% have indicated that they were not capable of analyzing the outcomes (n = 4, 8 %).
The majority of the participants were capable of interpreting the outcomes of a research study (n = 44, 88%), of which 58% indicated they were fairly capable (n = 29, 58 %) and 30 % indicated they were fully capable (n = 15, 30%). Only 10% of the sample indicated that they were not capable of interpreting the outcomes of a research study (n = 5, 10%).
The majority of the participants were capable of providing a summary of the study's results (n = 46, 92%), of which 52% indicated they were fairly capable (n = 26, 52 %) and 40% said they were fully capable (n = 20, 40%). Only three participants said they were not capable of providing a summary of the results (n = 3, 6%).
A vast majority of the participants also indicated they were capable of following an academic method of documenting (n = 43, 86%), of which 50% indicated they were fairly capable (n = 25, 50%) and 36 % said they were fully capable (n = 13, 36%). Only 10% of the participants indicated that they were not capable of following an academic method of documenting (n = 5, 10%).

Table 7a: The Ability to Present Final outcomes

	Percent	Percent
Not Capable	1	2.0
Fairly Capable	27	54.0
Fully Capable	21	42.0
Total	50	100.0

Table 7b: Analyzing the Outcomes

	Frequency	Percent
Not Capable	4	8.0
Fairly Capable	27	54.0
Fully Capable	18	36.0
Total	50	100.0

Table 7c: Interpreting the Outcomes

	Frequency	Percent
Not Capable	5	10.0
Fairly Capable	29	58.0
Fully Capable	15	30.0
Total	50	100.0

Table 7d: Providing a Summary of the Study's Results

	Frequency	Percent
Not Capable	3	6.0
Fairly Capable	26	52.0
Fully Capable	20	40.0
Total	50	100.0

Table 7e: Following an Academic Method of Documenting

	Frequency	Percent
Not Capable	5	10.0
Fairly Capable	25	50.0
Fully Capable	18	36.0
Total	50	100.0

Variable Scoring. Three variables scores were calculated using a three-point Likert scale, 1 = Not Capable, 2 = Fairly Capable, and 3 = Fully Capable. The conceptual and operational definitions have been provided in Table 8.

Table 8: Conceptual and Operational Definitions of Three Variable scores

Variable	Conceptual Definition	Operational Definition		
		Number of Items	Computation	Interpretation of Scores
Identify problem	The extent of ability to identify a problem	4	Average rating of 1 to 3 scores for all items	1=Not Capable 3=Fully Capable
Develop a research plan	The extent of ability to develop a research plan	5	Average rating of 1 to 3 scores for all items	1=Not Capable 3=Fully Capable
Investigate and validate	The extent of ability to investigate and validate research outcomes	5	Average rating of 1 to 3 scores for all items	1=Not Capable 3=Fully Capable

***Tests of Normality*.** A Shapiro-Wilk test of normality was conducted to establish if the problem identification skills, research plan development skills, and investigating/validating outcomes of the research were the variables studied in the questionnaire. The results from Table 9 indicate that all three variables can be assumed to follow a Normal Distribution as they all score a p-value equal to or greater than alpha = 0.01. The subsequent use of independent t-tests/ parametric statistics is now justified.

Table 9: Test of Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Identify problem	.907	47	.001
Develop research plan	.929	47	.007
Investigate and validate	.921	47	.004

Addressing research questions. *To what extent do did teachers in (Tabuk) Saudi Arabia see themselves as having Action Research skills?*

The mean score of 2.14 indicated on the 3-point Likert scale, that a majority of participants from the Saudi Arabia sample (n =30) indicated that they were fairly capable of identifying a problem in action research. Furthermore, within the subsections of Identifying a Problem, a majority of participants indicated that they were fairly capable of expressing clearly what the problem is (n = 17, 56.7%), fairly capable of determining the factors of a problem (n = 22, 73.3 %), fairly capable of using previous studies to assist in identifying a problem (n = 20, 66.67 %), and fairly capable of developing a hypothesis (n = 21, 72.4 %).

Table 10a: Action Research Skills – Identifying a Problem

		Saudi Arabia
Identify Problem		2.14
Part 1- Expressing Clearly	Total	30
	Not Capable	10.0%
	Fairly Capable	56.7%
	Fully Capable	33.3%
Part 1- Determining Factors of the Problem Accurately	Total	30
	Not Capable	10.0%
	Fairly Capable	73.3%
	Fully Capable	16.7%
Part 1- Using Previous Studies	Total	30
	Not Capable	13.3%
	Fairly Capable	66.7%
	Fully Capable	20.0%
Part 1- Developing a Hypothesis	Total	29
	Not Capable	10.3%
	Fairly Capable	72.4%
	Fully Capable	17.2%

The mean score of the results from this question, that is the extent to which teachers saw themselves as capable of developing a research plan scored 2.17. On the 3-point Likert scale, this scores closer to fairly capable. Therefore, a majority of teachers in Saudi Arabia saw themselves as fairly capable of developing a research plan.

The percentages from the sub-sections focused on developing a research plan scored; a majority of teachers are fairly capable of writing an appropriate title for a research plan (n = 16, 55.2 %), a majority of teachers are fairly capable of setting time limitations (n = 17, 58.6 %); a majority of teachers are fairly capable of selecting the appropriate research term (n = 16, 55.2 %); a majority of teachers are fairly capable of explaining or justifying their research plans (n = 16, 57.1 %); and a vast majority of teachers are fairly capable of selecting the suitable tools for developing a research plan (n = 20, 69 %).

Table 10b: Action Research skills- Develop a research plan

		Saudi Arabia
Develop a research plan		2.17
Part 2- Writing an Appropriate title	Total	29
	Not Capable	10.3%
	Fairly Capable	55.2%
	Fully Capable	34.5%
Part 2- Setting time limitation	Total	29
	Not Capable	13.8%
	Fairly Capable	58.6%
	Fully Capable	27.6%
Part 2- Selecting the appropriate research term	Total	29
	Not Capable	17.2%
	Fairly Capable	55.2%
	Fully Capable	27.6%
Part 2- The ability to explain/ justify	Total	28

	Not Capable	14.3%
	Fairly Capable	57.1%
	Fully Capable	28.6%
Part 2- Selecting suitable tools	Total	29
	Not Capable	10.3%
	Fairly Capable	69.0%
	Fully Capable	20.7%

The mean score of the results from this question, which is the extent to which teachers can investigate and validate the outcomes of research executed scored 2.16. On the 3-point Likert scale, this responses to this question score closer to fairly capable. Therefore, a majority of the Saudi Arabian teacher participants saw themselves as fairly capable of investigating and validating the outcomes of the action research they conducted.

The percentages from the sub-sections investigating a research plan; a majority of teachers are fairly capable of presenting final outcomes of research conducted (n = 16, 55.2 %), a majority of teachers are fairly capable of analyzing the outcomes of research conducted (n = 15, 51.7 %), a majority of teachers are fairly capable of interpreting the outcomes of research conducted (n = 17, 58.6 %), a majority of teachers are fairly capable of providing a summary of the study's results (n = 19, 65.5 %), a majority of teachers are fairly capable of following an academic method of documenting(n = 16, 57.1 %).

To what extent do did the teachers participants in the USA report knowing Action Research skills?

The mean score of 2.46 (round up to 2.50) indicates on the 3-point Likert scale that a majority of participants from the USA sample (n =20) saw themselves as fully capable of identifying a problem in action research.

Furthermore, within the subsections of Identifying a problem, a majority of participants indicated that they were fully capable of 1) Expressing clearly what the problem is (n = 11, 55.0%), 2) Fairly capable of determining the factors of a problem (n = 11, 55.0 %), 3) Fully capable of using previous studies to assist in identifying a problem (n = 11, 55 %), and 4) Fairly capable of developing a hypothesis (n = 10, 50 %).

Table10c: Action Research skills—Investigating/ validating the Outcomes of a Research Plan

		Saudi Arabia
Investigating/ Validating		2.16
Part 3- The ability to present final outcomes	Total	29
	Not Capable	3.4%
	Fairly Capable	55.2%
	Fully Capable	41.4%
Part 3- Analyzing the outcomes	Total	29
	Not Capable	13.8%
	Fairly Capable	51.7%
	Fully Capable	34.5%
Part 3- Interpreting the outcomes	Total	29
	Not Capable	17.2%
	Fairly Capable	58.6%
	Fully Capable	24.1%
Part 3- Providing a summary of the study's results	Total	29
	Not Capable	10.3%
	Fairly Capable	65.5%
	Fully Capable	24.1%
Part 3- Following an academic method of documenting	Total	28
	Not Capable	17.9%
	Fairly Capable	53.6%
	Fully Capable	28.6%

Table 11a: Action Research skills—Identifying a problem

		USA
Identify problem		2.46
Part 1- Expressing clearly	Total	20
	Not Capable	5.0%
	Fairly Capable	40.0%
	Fully Capable	55.0%
Part 1- Determining	Total	20
	Not Capable	0.0%
	Fairly Capable	55.0%
	Fully Capable	45.0%
Part 1- Using previous studies	Total	20
	Not Capable	5.0%
	Fairly Capable	40.0%
	Fully Capable	55.0%

Part 1- Developing a Hypothesis	Total	20
	Not Capable	5.0%
	Fairly Capable	50.0%
	Fully Capable	45.0%

The mean score of the results from this question, that is the extent to which teachers saw themselves as being able to develop a research plan, scored 2.45 (rounded up to 2.50). On the 3-point Likert scale, this scores closer to fully capable. Therefore, a majority of the participants from the USA saw themselves as fully capable of developing a research plan.

The percentages from the subsections focused on developing a research plan indicated that a majority of teachers are fully capable of writing an appropriate title for a research plan (n = 12, 60.0 %), a majority of teachers are fully capable of setting time limitations (n = 11, 55.0 %), a majority of teachers are fairly capable of selecting the appropriate research term (n = 16, 80 %), a majority of teachers are fairly capable (n= 10, 50.0 %) and fully capable of explaining or justifying their research plans (n = 10, 50.0%), and a vast majority of teachers are fairly capable (n = 10, 50.0 %) and fully capable of selecting the suitable tools for developing a research plan (n = 10, 50.0 %).

Table11b: Action Research skills- Develop research plan

		USA
Develop a research plan		2.45
Part 2- Writing an Appropriate title	Total	20
	Not Capable	0.0%
	Fairly Capable	40.0%
	Fully Capable	60.0%
Part 2- Setting time limitation	Total	20
	Not Capable	0.0%
	Fairly Capable	45.0%
	Fully Capable	55.0%
Part 2- Selecting the appropriate research term	Total	20
	Not Capable	5.0%
	Fairly Capable	80.0%
	Fully Capable	15.0%
Part 2- The ability to explain/ justify	Total	20
	Not Capable	0.0%
	Fairly Capable	50.0%
	Fully Capable	50.0%
Part 2- Selecting suitable tools	Total	20
	Not Capable	0.0%
	Fairly Capable	50.0%
	Fully Capable	50.0%

This question is focused on the extent to which the teacher participants saw themselves as being able to investigate and validate the outcomes of research. The mean score of the results is 2.48 (round up to 2.50). On the 3-point Likert scale, this result scores closer to fully capable. Therefore, a majority of the teacher participants from the USA saw themselves as fully capable of investigating and validating the outcomes of the research they conducted.

The percentages from the sub-sections investigating developing an action research plan indicated that a majority of the teacher participants saw themselves as fairly capable of 1) presenting the final outcomes of the action research they conducted (n = 11, 55.0 %), 2) analyzing the outcomes of their research (n = 12, 60.0 %), and 3) interpreting the outcomes of the action research they conducted (n = 12, 60.0 %). In addition, a majority of the teacher participants indicated they were fully capable of providing a summary of their action research study results (n = 13, 65.0 %). Finally, a majority of the teachers the teacher participants indicated that they were both fairly capable (n = 10, 50.0 %) and fully capable of following an academic method of documenting the results of their action research (n = 10, 50.0 %).

Table 11c: Action Research skills- Investigating/ validating the outcomes of a research plan

		USA
Investigate and validate		2.48
Part 3- The ability to present final outcomes	Total	20
	Not Capable	0.0%
	Fairly Capable	55.0%
	Fully Capable	45.0%
Part 3- Analyzing the outcomes	Total	20
	Not Capable	0.0%
	Fairly Capable	60.0%

	Fully Capable	40.0%
Part 3- Interpreting the outcomes	Total	20
	Not Capable	0.0%
	Fairly Capable	60.0%
	Fully Capable	40.0%
Part 3- Providing a summary of the study's results	Total	20
	Not Capable	0.0%
	Fairly Capable	35.0%
	Fully Capable	65.0%
Part 3- Following an academic method of documenting	Total	20
	Not Capable	0.0%
	Fairly Capable	50.0%
	Fully Capable	50.0%

Are there any statistically significant differences with Action Research skills among the study sample due to the surveyed variables?

From Table 12a, the three segregated means by the USA and Saudi Arabia have been scored in comparison to the three variables; identifying a problem, developing a research plan, and investigating and validating the outcomes of the research. The means for the USA score higher and approximately closer to fully capable on all three counts.

With regard to identifying a problem, the USA teacher participant responses scored 2.46 while the Saudi Arabian teacher participant responses scored 2.13. Therefore, the sample from the USA scores indicate that the teacher participants from the USA saw themselves as fully capable while the sample Saudi Arabian teacher participants saw themselves is as fairly capable of identifying a problem in regards to Action Research skills. Furthermore, the p-value was at a significant level of 0.05 or lower was scored at alpha= 0.011, which can be interpreted as the mean differences between the two teacher participant groups being statistically significant.

Where developing a research plan was concerned, the USA teacher participant responses scored 2.45 while the Saudi Arabian teacher participants scored 2.17, therefore the sample from the USA viewed themselves as fully capable of developing a research plan while the teacher participants from Saudi Arabia viewed themselves as fairly capable of developing a research plan. Furthermore, the p-value for this particular comparison was statistically significant at a level of 0.05 or lower, which was scored at alpha= 0.043.

The next question was focused on the teacher participants' views of their abilities with investigating and validating their research. The USA participant mean scores was 2.48 while the Saudi Arabian participant mean scores was 2.15. The sample from the USA score fully capable whilst the sample from Saudi Arabia scores fairly capable of developing a research plan. . Furthermore, the p-value at a significance level of 0.05 or lower is scored at alpha= 0.029 which can be interpreted as the mean differences being statistically significant.

Table 12a: Descriptive statistics by country

Country		N	Mean	SD	SE Mean
Identify problem	USA	20	2.4625	0.43886	0.09813
	Saudi Arabia	29	2.1379	0.40963	0.07607
Develop a research plan	USA	20	2.4500	0.37767	0.08445
	Saudi Arabia	28	2.1714	0.50395	0.09524
Investigate and validate	USA	20	2.4800	0.41244	0.09222
	Saudi Arabia	28	2.1571	0.53432	0.10098

Table 12b: Independent t-test for descriptive statistics by country

	t-test for Equality of Means						
	t	df	Sig.	Mean Diff.	SE Diff.	95% CI	
						LB	UB
Identify problem	2.648	47	0.011	0.325	0.123	0.078	0.571
Develop a research plan	2.086	46	0.043	0.279	0.134	0.010	0.547
Investigate and validate	2.261	46	0.029	0.323	0.143	0.035	0.610

Table 12c, is focused on the three segregated means grouped by the education levels the teachers taught at. The elementary school, middle school and high school results have been scored in comparison to the three variables--identifying a problem, developing a research plan, and investigating and validating the outcomes of the research. The means focused on the middle school and high school teacher participants' survey data scored

higher than elementary school teachers and both the middles school and high school means are scored at fairly capable.

In regards to identifying a problem, a comparison was conducted which focused on the grade level of the students that the teacher participants were working with. Teachers who have taught at the middle school or higher level scored a mean of 2.35 while teachers who had taught at the elementary school levels scored a mean of 2.17. The middle and high school teacher participants was a greater score than the sample from teachers that have taught at the elementary school level. The p-value was at a significance level of 0.05 or lower is and was scored at alpha= 0.158, which can be interpreted as the mean differences not being statistically significant.

With regard to developing a research plan, teachers who have taught at a middle school level or higher scored 2.35 while elementary school teachers scored 2.23. Therefore, the middle and high school teacher participant sample is greater than the mean recorded for the elementary school teachers. At the same time, they have both scored as fairly capable. The p-value is at a significance level of 0.05 or lower and is scored at alpha= 0.391, which can be interpreted as the mean differences not being statistically significant.

In regard to investigating and validating research, the teacher participants who taught at a middle or high school level scored 2.32 while elementary school teachers scored 2.24, both of these scores fall within the "fairly capable" range. The p-value comparing the mean difference between these two scores was not at a significant level of 0.05 or lower; it was scored at alpha= 0.608.

Table 12c: Descriptive statistics by education level taught

Grade Levels Taught		N	Mean	SD	SE Mean
Identify problem	Elementary School	27	2.1759	0.44837	0.08629
	Middle School or More	21	2.3571	0.41512	0.09059
Develop research plan	Elementary School	26	2.2308	0.51751	0.10149
	Middle School or More	21	2.3524	0.42381	0.09248
Investigate and validate	Elementary School	26	2.2462	0.51941	0.10186
	Middle School or More	21	2.3238	0.50389	0.10996

Table 12 d: Independent t-test for descriptive statistics; by education level taught

	t-test for Equality of Means						
	t	df	Sig.	Mean Diff.	SE Diff.	95% CI	
						LB	UB
Identify problem	-1.434	46	0.158	-0.181	0.126	-0.436	0.073
Develop research plan	-0.867	45	0.391	-0.122	0.140	-0.404	0.161
Investigate and validate	-0.516	45	0.608	-0.078	0.150	-0.381	0.225

Table 12e is focused on the way in which the teacher participants viewed training courses as helpful in assisting them in the identification of research problems; the mean scores for teachers who have attended 1-2 training courses, and 2-4 training courses have scored a higher mean, 2.313 and 2.411 respectively, whereas teachers who have attended 0 training courses have recorded a mean of 2.083. Therefore, whether teacher participants attended a training course or did not attend, they viewed themselves as fairly capable of identifying a research problem they could address through action research. Furthermore, as indicated in Table 12f, these results have a p-value significance level of alpha= 0.05, there is no significance in the mean differences recorded at alpha = 0.123. Therefore, the results of this study indicate that for these teacher participants, the number of training courses they attended did not have a statistically valid impact with regard to how they saw themselves as being able to identify a research problem.

From Table 12e, with regard to developing a research plan; the mean scores for teachers who had attended 1-2 training courses, and 2-4 training courses had a higher mean, 2.430 and 2.457 respectively, whereas teachers who had attended 0 training courses scored a mean of 1.914. This clearly indicates that teachers who had attended 2-4 training courses viewed themselves as fully capable of developing an action research plan, and teachers who had attended 1-2 courses or had not attended a training course saw themselves as fairly capable of developing a research plan. As Table 12f indicates, these scores are at a p-value significance level of alpha= 0.05, and there is a significance in the mean differences recorded at alpha = 0.001. Therefore, the number of training courses these teachers had participated in had validity in regards to how they viewed their enhanced ability to develop an action research plan.

Table 12e is focused on the survey question associated with the how training courses affected the ways in which the teachers viewed their ability to investigate and validate the outcomes of a research plan. The mean scores for teachers who had attended 1-2 training courses, and 2-4 training courses were 2.35 and 2.557 respectively, whereas teachers who had attended 0 training courses recorded a mean of 1.943. These results indicate that the teachers participants who had attended 2-4 training courses viewed themselves as fully capable of developing an action research plan, and teachers who had attended 1-2 courses or not attended a training course saw themselves as fairly capable of developing a research plan. As Table 12f indicates, these scores have

a p-value significance level of alpha= 0.05, and there is a significance in the mean differences recorded at alpha = 0.003. Therefore, the differences in the number of training courses a teacher has attended has validity in regards to how teachers view their ability to investigate and validate the outcomes of the research.

Table 12e: Descriptive statistics by the number of training courses attended

						95% CI	
		N	Mean	SD	SE	LB	UB
Identify problem	0	15	2.083	0.440	0.114	1.840	2.327
	1-2	20	2.313	0.405	0.090	2.123	2.502
	2-4	14	2.411	0.476	0.127	2.136	2.686
	Total	49	2.270	0.447	0.064	2.142	2.399
Develop research plan	0	14	1.914	0.339	0.091	1.718	2.110
	1-2	20	2.430	0.455	0.102	2.217	2.643
	2-4	14	2.457	0.418	0.112	2.216	2.699
	Total	48	2.288	0.472	0.068	2.150	2.425
Investigate and validate	0	14	1.943	0.327	0.088	1.754	2.132
	1-2	20	2.350	0.523	0.117	2.105	2.595
	2-4	14	2.557	0.465	0.124	2.288	2.826
	Total	48	2.292	0.509	0.073	2.144	2.439

Table 12f: ANOVA or comparison of means of the number of training courses attended

		Sum of Squares	df	Mean Square	F	Sig.
Identify problem	Between Groups	0.836	2	0.418	2.193	0.123
	Within Groups	8.769	46	0.191		
	Total	9.605	48			
Develop a research plan	Between Groups	2.759	2	1.380	8.048	0.001
	Within Groups	7.713	45	0.171		
	Total	10.473	47			
Investigate and validate	Between Groups	2.758	2	1.379	6.603	0.003
	Within Groups	9.399	45	0.209		
	Total	12.157	47			

For those teachers who have conducted action research studies, what impact has Action Research had on their teaching and planning? A range of open-ended responses were obtained when asked about the impact action research had on the teacher participants' teaching and planning. These responses are summarized in Table 13 below. The majority of the responses indicated a positive view of action research and its applications.

Table 13: Open-ended responses—Teachers Experiences with Action Research

Part 4. Please share your ideas or experience with action research and how it has affected your teaching and/or planning.
Action research has broadened my tools to investigate a problem or question I have. I feel confident in triangulating data and carrying out action research. I like to teach my students to carry out similar methods when they have questions too.
Action research helped find practical solutions for a problem that teachers face with their students. It also helped teachers share the problems they face in the educational environment with their colleagues and search for solutions cooperatively by conducting action research.
Action research is so similar to analyzing academics/behaviours in special education. The only difference is instead of writing it in an IEP (Individualized Education Program) you are writing it as a paper. I don't know if other special education teachers feel this way, but I feel that I had a much greater understanding of action research because of my bachelor in special education.
Action research was conducted to solve the problem of vice-principals refusing to accept leadership roles in the school, and based on this research the problem was solved in a clear, precise, and scientific manner.
Due to the nature of the ESL students that I am working with, I found that it is truly important to understand their cultural background and historical journey to conduct an effective survey for learning by using appropriate wordings. I strongly felt that to be respectful and be sensitive about their situation and upbringing which may help to decrease the cultural barriers and increase the trust between teachers and students.
First, it helps me to focus on one problem. Besides, it helps me to validate the methods I tried to address the problem. It is not assuming which works better and the result is validated with the analysis of the data collection. The research result is more objective by using triangulated data.
For my master's program in the practice of teaching my capstone was a case study in which I used ABA therapy to improve the student's attention span and appropriate behaviours.
From my perspective, the in-class research project with my students can help me bound with them.
I am not a teacher right now, and I just finished my research. I think learning how to do the research and be a

researcher when there is a problem helped me to learn to find a solution for the problems not just by reading about the problems but also to hear from people who have the same difficulties and have who have experience. I hope this response is helping.
I completed the education research course at WMU with Dr Nations. This was my first formal course related to research. I learned how to formulate a study, organize it, and carry it out to complete the Capstone course for the Masters in Education program.
I think the concept is wonderful and could help students tremendously. The problem is that teachers are not given the time and resources to follow through with this. We can do part 1, but part 2 and 3 are non-existent due to time/resource restraints.
It has helped me to build a stronger and better community classroom who cares about each other and their learning as well. Each year, this is my goal and I do not lower my expectation about it. Every other week, I have a community meeting with my students to address issues and concerns in our class, and also having a community circle time every morning for 5 min.
It helped me in solving problems, finding solutions, formulating hypothesizes, and it helped me in planning for lessons in a way that is suitable for the educational environment
It helped me to take a step back to focus on the way I teach and how I can improve as an educator.
It is helpful for proper planning of the lesson and it facilitates the comprehension of the explained material to the students
It is useful and helps in summarizing the information
My action research has affected my teaching in many ways. First and foremost, I am more intentional with my teaching and reflecting because of the action research I sought out. Secondly, my action research motivated me in my teaching because it allowed me to develop and understand a theme that was important to me.
My experience with conducting an action research study has been positive. I can identify problem areas within students and use appropriate teaching strategies that will have improve the students' academic performance.
Using action research has helped me reflect and examine the ways I teach and how my students learn. It helps me refine the way I teach and my thoughts on a particular issue. I can also help educators with whom I work with better understand the problem at hand.

V. Conclusion

This study aimed to determine the degree of the teacher's skills in action research, and to compare the results from the Kalamazoo metropolitan area (USA) , and Tabuk (Saudi Arabia), and ascertain if the differences in results are statistically significant. The aims of conducting this research were to answer the following research questions:

1.To what extent do teachers in Tabuk (Saudi Arabia) know action research skills?

- The sample of teacher participants from Saudi Arabia scored a mean of 2.14 in regards to identifying a problem while conducting research. This indicated that the sample considered themselves fairly capable of identifying a research problem as part of their set of skills when they conduct action research.
- The teacher participants from Saudi Arabia scored a mean of 2.17 in regard to their facility with developing a research plan. This indicated that the they viewed themselves as fairly capable of developing a research plan.
- The Saudi Arabian teacher participants scored a mean of 2.16 in regard to their ability with investigating and validating a research plan problem. This indicated that they saw themselves as fairly capable of investigating and validating a research plan.

2. To what extent do teachers in Kalamazoo (United States) know action research skills?

- The teacher participant sample from the USA scored a mean of 2.46 (rounded up to 2.50) in regard to identifying a problem while conducting action research. This indicated that saw themselves as being fully capable of identifying a problem in regard to Action Research skills.
- The USA teacher participant sample scored a mean of 2.45 (rounded up to 2.50) regarding the development of a research plan. This indicated that they viewed themselves as fully capable of developing a research plan.
- The teacher participant sample from the USA scored a mean of 2.48 (rounded up to 2.50) in regards to investigating and validating an action research plan problem. This indicated that they saw themselves as fully capable of investigating and validating a research plan.

3. Are there any statistically significant differences with action research skills among the study samples?

- The p-values for the three variables utilized to compare the samples, that is identifying a problem, developing a research plan, and investigating or validating the outcomes of an action research plan were statistically significant.

- This implies that the mean differences were significant and therefore the conclusion can be drawn that teachers from the USA viewed themselves as fully capable in comparison to the Saudi Arabian teachers who viewed themselves as fairly capable.
- However, when the education level that the teachers taught at or the number of training courses they attended were examined, the means collated were not significant and so we are not able to draw any conclusions.

4. For those teachers who have conducted action research studies, what impact has action research had on their teaching and planning?

The sample from the teachers living in both countries who participated in this action research study claim to have had a myriad of benefits from the activities and training courses they had taken. The responses ranged from confidence in handling and interpreting data, better equipped to find practical solutions to teaching and learning, assisting English as a Second language (ESL) and Special Education teachers in understanding the history, preparing profiles of their pupils, and enhanced ability for self-gauging metrics.

References

[1]. In APA format, the last name of the authors is listed along with the initials of their first names. I have marked the first three to show you:

[2]. Al- harthy, F. A. K. (2008)**.** *The extent to which the post graduate students at the Faculty of Education at Umm Al Qura University have the basic knowledge in preparing the educational research plan*. Search Master unpublished. Department of Psychology, Umm Al Qura University.

[3]. Arwa A**.** (2013). *Obstacles to benefit from the results of educational research of the Ministry of Education***, .** Masters thesis unpublished. Faculty of Social Sciences, Imam Muhammad bin Saud Islamic University.

[4]. Al-Sayed**. ,** F. A-B. (1982). Educational research problems, objectives, types. *Arab Journal of Educational Research***,** Tunis. You need to list the *volume #* (issue number), page numbers here. They would have a format like this: *22*(2), 235-250**.**

[5]. Abu Awad, Ferial Mohamed (2012) Action research. Amman, Jordan: Dar Al Masirah for Publishing and Distribution, Amman, Jordan.

[6]. Al-Qadah, Mohammed Ibrahim (2010). Action research in the development of educational institutions, Amman, Jordan: Dar Wael Publishing.

[7]. Al-Qasrawi, Emad Shawqi (2012). Educational research as a branch of scientific research, 1, Cairo: *World of books*. If this is a journal, see directions for formatting journals. If this is a chapter in a book, see directions for formatting a chapter in a book. What is the #1 for? A volume?

[8]. Mustafa, Taghreed (2006). The use of the method of procedural research in the development of questioning skills for teachers of primary schools. Unpublished Master Thesis, College of Graduate Studies, University of Jordan. In APA format, the references on the reference page are organized by the last name of the first author. This reference needs to be moved.

[9]. Adim, Hamoud Rashid (2013). To which extent social studies teachers use skills of scientific research in teaching, unpublished master's thesis, Department of Curriculum and Teaching Methods, College of Education, King Saud University.

[10]. Al-Ghamdi, Mohammed Ibrahim (2014). To which extent educational research contributes to solving educational problems from the point of view of educational supervisors in Yanbu governorate. Unpublished MA, Islamic University of Madinah, Faculty of Da'wah and Fundamentals of Religion: Department of Education.

[11]. Abdelkader, Mohamed Abdelkader El Sayed, and Amer bin Suhail al-Omari, children. (2015). The degree of theachers' availability of action research skills in basic education schools in Dhofar province - Sultanate of Oman. Journal of Faculty of Education: University of Banha. 26. 139-162. 10.12816 / 0022106.

[12]. Mettetal, G. (2012). The What, Why and How of Classroom Action Research. Journal of the Scholarship of Teaching and Learning, 2(1), 6-13. Retrieved from https://scholarworks.iu.edu/journals/index.php/josotl/article/view/1589

[13]. Mills,G,E.(2003) Action research: A Guide for the teacher researcher. Upper saddle river, NJ: Merrill/prentice hall.

[14]. Johnson, A. P. (2012). A short guide to action research (4th ed.). New Jersey: Pearson Education.

[15]. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101.

[16]. Lange, E. A. (2004). Transformative and restorative learning: A vital dialectic for sustainable societies. Adult Education Quarterly, 54, 121–139.

[17]. Segal,S.U.(2009).Action research in mathematics education.(unpublished Doctorate's Thesis) .Montana State University.

[18]. O'Connor, Katherine & Greene, H & Anderson, Patricia. (2006). Action Research: A Tool for Improving Teacher Quality and Classroom Practice. Ontario Action Researcher. http://files.eric.ed.gov/fulltext/ED494955.pdf

[19]. Moi Mooi, L ;Mohsin, M.(2014). How do Pre-service Teachers Develop Understanding of Student Learning through Action Research Project. Procedia - Social and Behavioral Sciences 114 (2014) 877 – 882.

[20]. Moi Mooi, L ;Mohsin, M.(2012). Developing competency of pre-service teachers in doing action research: outcome and issues. International Journal of Arts & Sciences, 5(5):429–441 (2012).

[21]. Milton-Brkich, K.; Shumbera, K. & Beran, B. (2010). Action research. Science and Children, 47(9), 47-51. Retrieved from http://libproxy.library.wmich.edu/login?url=https://search.proquest.com/docview/762456791?accountid=15099

[22]. Barnes, J. S. (2013). Teachers' continuation of action research elements after conducting studies during a master's program Available from ERIC. (1773223396; ED558954). Retrieved from http://libproxy.library.wmich.edu/login?url=https://search.proquest.com/docview/1773223396?accountid=15099

[23]. Abu Sharar,A.M. (2016).The effectiveness of an action research-based training program in improving in-service teachers'teachniqes in teaching English language skills and areas.(Unpublished Master's Thesis). The Islamic University, Gaza.

[24]. Wen, J. (2019) A Study on Creating a Successful Classroom Learning Community via Action Research. Open Journal of Social Sciences, 7, 387-396. doi: 10.4236/jss.2019.710033.

[25]. Hine, G., & Lavery, S. D. (2014). The importance of action research in teacher education programs : Three testimonies. Teaching and Learning Forum 2014: Transformative, Innovative and Engaging.

[26]. Ary, Donald; Jacobs, Lucy Cheser; Sorensen Irvine, Christine K.; Walker, David(2019). Introduction to research in Education (10th ed).Boston: Cengage learning.

[27]. Hair, J. F., Black, W. C., & Babin, B. J. (2020). *By Joseph F. Hair, William C. Black, Barry J. Babin, Rolph E. Anderson: Multivariate Data Analysis (7th Edition) Seventh (7th) Edition* (7th ed.). Pearson Education, Inc.