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

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Abstract

This study aims to determine the degree of public school teachers' skills regarding action research. The study sample included public school teachers from the Kalamazoo metropolitan area, US (n=20), and Tabuk, Saudi Arabia (n=30). The researchers adopted a descriptive approach to address the study's open-ended questions; Statistical Package for the Social Sciences (SPSS) software was employed to analyze the data collected in this study. The results of the study showed that previously conducted action research 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 students' problems via action research.

Introduction

Scientific human knowledge and practical expertise have become key elements of ensuring individuals' success in society. Currently, many developed nations recognize the importance of scientific research**.** Consequently, the researchers in these countries compete against each other and with researchers from other countries to produce high-quality research and establish funded research centers for this purpose. Therefore, there is a need to engage in the scientific research process using the correct scientific methodology to determine the truth and discover knowledge that facilitates progress. Scientific research is regarded as the basic pillar of the expansion of human knowledge in various fields. Moreover, it is regarded as one of the main characteristics of the modern era. Research helps in detecting and defining problems, raising research questions, verifying the assumptions, and authenticating the results relating to such assumptions. Additionally, it helps in the organization and classification of information. Consequently, such organized and classified new information revealed by research is used correctly, new information is added, and the previous information may be amended for continuous development. Scientific research is a useful means to find solutions for the problems that may be related to health, politics, the environment, the economy, etc. It is also useful in interpreting and predicting natural phenomena by finding commonly applicable designs and laws (Al-Harithi, 2008). Al-Sayed (1982, p**.** 31) stated 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 originated 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 questions related to the education field.

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 to fulfilling the curiosity of researchers regarding developing knowledge, predicting educational phenomena, and organizing such phenomena accurately. Moreover, educational research contributes to developing the individual. This is achieved when the individual develops many ways of thinking by adopting scientific methodologies to resolve the problems faced by educational institutions and the people who are a part of those institutions**.** Through educational research, pedagogical and administrative practices can be improved, with the aim of achieving the goals and objectives of the institutions and people working in these institutions. Academic leaders' aim regarding improving and developing their educational organizations may enhance the importance of scientific research along with a concentrated effort to identify a research methodology that is well suited to the improvement and development that they seek to build in their organizations. One of the most suitable research methodologies aimed at improving teaching practice and school leadership is known as action research (Thaqfan, 2013).

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

1. Pure research: this research aims to find the main realities, principles, and theories to organize the learning process.
2. Applied research: this research aims to test the hypotheses and determine their applicability within the academic field.
3. Action research: this research aims to improve the practices of teachers and of those who assist them within the teaching field and raise their professional performance level by enabling them to investigate their educational practices and the problems they face, subsequently 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 collect data 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 research carried out by participants (teachers, principals, and supervisors) in educational contexts in order to achieve an understanding of their educational practices and consequently evaluate such practices fairly.

Action Research in Education

Currently, in schools, raising the achievement levels of all students is the highest priority; therefore, the quality of the teacher's instruction is of primary importance**.** Educational research is a significant means of teacher development and change—in other words**,** this research helps teachers to become more effective, skilled, and flexible (Lange, 2004). On the other hand, the existing educational and psychological literature categorizes educational research as a scientific research branch, which addresses the educational process components including teachers, students, curriculum, educational strategies, and evaluation. Hence, educational research aims to understand the main realities and principles for organizing the pedagogical process. Additionally, it is concerned with the theoretical basis and application possibilities within the pedagogical field (Al-Qasrawi, 2012).

Johnson (2012) asserted that action research is an effective means of contributing to teachers' professional development, giving them the opportunity to be creative and distinguished due to their role 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 help practitioners develop new knowledge directly related to their classrooms. Second, action research facilitates teacher empowerment, enabling teachers to collect their own data to make 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 enhance the effectiveness of their teaching practices**.** Participation in action research can help teachers in a number of ways: 1) action research can help teachers to place the focus of their research on local needs and reality, 2) awareness of the new research trends through action research can help teachers to develop and maintain a sense of involvement in the larger research community, and 3) for teachers engaged in action research, the role of research in education becomes active rather than passive (Hine & Lavery, 2014).

Action research focuses on specific situations and problems faced by an individual in their current workplace**.** The teacher researcher uses the relevant knowledge, principles, and theories to design a study and collect data related to the research problem. The teacher researcher subsequently analyzes the data to address the problem by employing a scientifically guided framework. The results of such a study contribute toward improving practices in their classroom and/or school. It is also important to note that action research is an applied democratic research method that focuses on individual development. This type of research is dependent on an individual's faith and belief in the importance of such improvement in teaching practices because it allows for the development of local solutions for the issues faced by teachers (Al-Qaddah, 2010).

Action research has the following broad set of objectives: 1) to provide professional development opportunities for teachers, 2) to encourage them to express their professional opinions and perspectives, and 3) to assist teachers in the development of their evaluation skills via their engagement in critical study, analysis, and contemplation about their own practices, that can potentially result in a rich source of data to improve their teaching practices. Moreover, action research reinforces cooperative teamwork and supports and encourages the teacher researcher to read, research, and examine the global research findings relevant to their profession (Nugent, 2012).

Inevitably, action research provides the means by which the professional teacher may increase the effectiveness of their teaching practices. Specifically, involvement in action research helps teachers to become more aware of student learning, classroom complexity, and their own agency as teachers. Action research is an effective research method in which teachers can find ways to actively address their professional problems during their work. Through reexamination and analysis of the educational practices that concern them, they become "insider researchers," researching their own actions (Abu Sharar, 2016). Action research can support professional development if it is listed within the teacher's educational development process plan. In a study by Hendrix (2014),

teachers, pedagogy specialists, and education specialists stated that action research has many benefits for their teaching lives. These benefits are listed as following:

- Action research enhanced their professional skills through their being responsible for developing their own practices.
- Action research gave pedagogy specialists and teachers an opportunity to publish the results of their research for the benefit of other teachers and practitioners.
- Action research encouraged education specialists to engage in teamwork and cooperative activity that resulted in engaging in daily practices becoming an uplifting and pleasant experience.
- Action research encouraged education specialists to rethink their evaluation methods applied to their students' work.
- Action research helped pedagogy specialists to understand their students' personal and academic strengths.

Action Research Fields

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

Sometimes, action research becomes a cooperative effort where a team of researchers and practitioners work together on a project. Additionally, the project may be undertaken by teachers themselves without any intervention from external researchers. As indicated by many studies, when practitioners carry out action research, the outcome will be more reliable and valuable knowledge. Both McNiff and White Head (2010) claimed that it is necessary to support researches by teacher participants and involve them with academic researchers so that they assume the joint responsibility for education and pedagogy research. This will lead to the development of knowledge and improvement of quality within educational institutions (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 (Al-Qaddah, 2010, pp. 33–35). Al-Qaddah (2010) stated some of these characteristics as follows:

- It is characterized as a spiral technique that starts with developing a framework to find a solution to the research problem by adopting either qualitative or quantitative techniques appropriate to the nature of the problem or a combination of both techniques.

- Action research is practical in nature, 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 of amendment in case of suitable alternatives are found at a later time.
- This type of research helps in the generation of knowledge by the institution's individuals through cooperation. Moreover, it is also regarded as an effective tool of self-evaluation in which the individual investigates their own performance and appreciates their own achievements in light of defined standards.

Action Research Steps

Mettetal (2012) provided some simple steps to be followed by the teacher researcher desirous of carrying out an action research project. These steps are summarized as follows:

- Defining a specific viable question from the teacher's perspective. This emerges from the researcher's sense of a problem in their work. The researcher subsequently studies the existing literature related to the research problem.
- Developing hypotheses based on the researcher's viewpoint of the inherent reasons behind the problem and the assumed solutions. Subsequently, the researcher takes steps to design a plan to carry out the action research, including who will be on the work team if more than one person is involved in the action research project.
- Collecting data after defining the types of data and tools to collect data. The most popular tools of action research include observation, interviewing, and surveying. After the data collection, the researcher analyzes and organizes data through the 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 their impact on the classroom setting, and using success indexes to identify whether or not the solutions resolved the issues completely.

Challenges regarding the Preparation and Implementation of Action Research Studies

Conducting action research is not always an easy process. It can be complicated, involving a significant amount 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 research focus, problem, or area of interest; collecting data; analyzing data; and reflecting on the process (Barnes, 2013). In an action research project conducted by Milton et al. (2010), the teacher participants stated that action research gave them an opportunity to collaborate, allowing teachers to work together and learn from one another, which affected student achievement on multiple grade levels. Additionally, they stated that action research is beneficial in all subject areas and suggested action research projects should be carried out every year by teachers.

Mooi and Mohsin (2014) reported that preservice teachers are more likely to engage in meaningful action research projects of their own choice later in school. They stated that preservice teachers feel positively regarding the role of action research in developing their key understanding of student learning based on theoretical principles and regarding increasing their awareness of student needs within the classroom. Moreover, action research can

enhance their teaching abilities. Action research equips them with some knowledge of factors affecting student learning such as learning needs and learning styles. However, their understanding of student learning is not necessarily comprehensive after a single action research project. Segal (2019) conducted a study focused on a sample of math teachers enrolled in a master's program to understand the benefits of action research. This study's results are as follows:

1. In this study, action research acted as an effective tool for teachers' development by allowing teachers to be involved in the extensive study of their own practices.
2. The incorporation of action research opportunities for teachers allowed the teacher participants to communicate with each other, share their expertise, and share successful experiences, leading the teachers to become more active and knowledgeable in their practice.
3. Action research was found to be useful by the teacher participants for understanding and addressing student needs. Consequently, this study determined that action research is a valuable tool for teachers and students.

Similarly, O'Connor et al. (2006) conducted a survey to answer two questions: (1) "What is the most difficult part in the action research process?" and (2) "Is there is a positive impact on teachers after participating in action research?" The research sample comprised 34 students who were enrolled in a master's program for primary education who studied action research throughout two successive courses. Regarding the first question, the study results indicated that the data analysis process was the most difficult step in action research for this population of teachers. Regarding the second question, the results indicated that when the teachers incorporated their research results into their educational practices, it enabled them to change existing ineffective practices and enhance their professional development. This helped in future pedagogical educational decision-making, and made teachers more confident and knowledgeable regarding adopting strategic methods and seeking new experiences. In this study, the researchers claimed that it is necessary for schools to provide support to teachers to conduct action research projects. Moreover, the researchers asserted the need to organize statistics courses in universities for students and teachers to enable them to conduct research using statistical analysis.

Despite the significant role played by action research in the field of education, there is still a lack of application in K-12 classrooms. The lack of application of action research in K-12 classrooms was identified by Abdelkader and Al-Omari (2015). They found that the participants in their research sample lacked an understanding of the basic elements of action research and the essential skills necessary to conduct an action research study. Consequently, few teachers conducted an action research study. Abdelkader and Al-Omari (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 design and conduct action research studies. The results of the study conducted by Adyim (2013) agreed with those of Abdelkader and Al-Omari (2015). Adyim (2013) found, in this study, when comparing the application of action research skills by female and male teachers, an observable gap was observed between male and female teachers. 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 teachers' awareness of the positive role of action research to improve their educational practices.

Several studies have indicated that while there are numerous benefits that action research offers educators, there are several challenges associated with this research methodology. First, teachers may find it time-consuming 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, and the validity of 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).

Methodology

Aims

This study aims to determine the degree of the' action research skills of 20 teachers from the Kalamazoo, Michigan metropolitan area, US, and 30 teachers from Tabuk, Saudi Arabia. This study addressed the following questions:

1. To what extent do teachers in Tabuk (Saudi Arabia) possess action research skills?
2. To what extent do teachers in Kalamazoo (the US) possess action research skills?
3. Are there any statistically significant differences regarding action research skills among the study sample?
4. For teachers who have previously 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 software as SPSS software has proven to be consistently reliable in a variety of statistical projects.

Frequency Counts and Summary Statistics

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

Variable Scoring

Variable scores were created using the scale used in the survey. The conceptual and operational definitions of the variables, derived from the Likert scale, are provided in the Results section.

Multivariate Analysis

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

Results

Teacher Participant Sample Profile

Demographics

The sample comprised 50 participants. The demographic profiles of the participants are summarized in Tables 1 to 4. Sixty percent of the participants sampled were from Saudi Arabia (n = 30), and the remainder 40% of the sample studied were from the US (n = 20). 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 participants had experience teaching at the elementary school level (n = 27, 56%) and the remainder had experience teaching 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. Sample Characteristics: Country of Origin

	Frequency	Percentage (%)
US	20	40.0
Saudi Arabia	30	60.0
Total	50	100.0

Table 2. Sample Characteristics: Academic Qualifications

	Frequency	Percentage (%)
Bachelor's degree	31	62.0
Master's degree or higher	19	38.0
Total	50	100.0

Table 3. Sample Characteristics: Teaching Experience

	Frequency	Percentage (%)
Elementary School	27	56.0
Middle School or higher	21	44.0
Total	48	100.0

Table 4. Sample Characteristics: Number of Training Courses

	Frequency	Percentage (%)
0	15	30.0
1–2	21	42.0
2–4	14	28.0
Total	50	100.0

Measurement of Teachers' Action Research Skills

The teachers' self-reported action research skills were collated using a three-part, 14-question questionnaire; the results were tabulated on a 3-point Likert scale (1 = not capable, 2 = fairly capable, and 3 = fully capable). The three parts of the questionnaire were as follows: 1) identifying a problem, 2) developing a research plan, and 3) investigating and validating the outcomes of one's action research project outcomes.

Part 1: To what extent are you able to identify a problem?

The results are summarized from Tables 5a–5d. A majority of the participants indicated that they could describe the problem (n = 46, 92%) and the number of participants who were not capable of expressing the nature of the problem was low (n = 4, 8%). A majority of the participants were able to determine the factors of the problem (n = 47, 94%), and only a mere 6% of the participants claimed they were not capable of determining the factors of the problem (n = 3, 6%). A majority of the participants reported that they were able to use previous studies to identify the nature of a problem (n = 45, 90%); only 10% of the participants were unable to use previous studies (n = 5, 10%). A majority of the participants were able to develop a hypothesis to help test or further ascertain a problem (n = 45, 91%); only 8% of the participants were unable to develop a hypothesis (n = 5, 8%).

Table 5a. Item: Expressing a Problem Clearly

	Frequency	Percentage (%)
Not Capable	4	8.0
Fairly Capable	25	50.0
Fully Capable	21	42.0
Total	50	100.0

Table 5b. Item: Determining Factors of the Problem

	Frequency	Percentage (%)
Not Capable	3	6.0
Fairly Capable	33	66.0
Fully Capable	14	28.0
Total	50	100.0

Table 5c. Item: Using Previous Studies

	Frequency	Percentage (%)
Not Capable	5	10.0
Fairly Capable	28	56.0
Fully Capable	17	34.0
Total	50	100.0

Table 5d. Item: Developing a Hypothesis

	Frequency	Percentage (%)
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 an action research plan?

The self-reported responses of the participants are summarized in Tables 6a–6e. A majority of the participants indicated that they could write an appropriate title for a research plan (n = 46, 92%). Only 6% of the participants were unable to write an appropriate title for a research plan (n = 3, 6%). A majority of the participants stated they could set time limitations for developing their research plans (n = 45, 90%); only 8% of the participants indicated they were unable to set time limitations (n = 4, 8%). A majority of the participants indicated that they were fairly capable (n = 32, 64%) or fully capable (n = 11, 22%) of selecting the appropriate research keywords (n = 43, 86%); only 12% of the participants indicated they were unable to select the appropriate research term (n = 6, 12%).

A majority of the participants indicated that they could explain or justify why they 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% of the participants indicated that they were not capable of developing a research plan (n = 4, 8%). Additionally, a majority of the participants 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 % of the participants indicated that they were not capable (n = 3, 6%) of selecting suitable tools for developing a research plan.

Table 6a. Item: Writing an Appropriate Title

	Frequency	Percentage (%)
Not Capable	3	6.0
Fairly Capable	24	48.0
Fully Capable	22	44.0
Total	49	100.0

Table 6b. Item: Setting Time Limitations

	Frequency	Percentage (%)
Not Capable	4	8.0
Fairly Capable	26	53.0
Fully Capable	19	39.0
Total	49	100.0

Table 6c. Item: Selecting the Appropriate Research Term

	Frequency	Percentage (%)
Not Capable	6	12.0
Fairly Capable	32	65.0
Fully Capable	11	23.0
Total	49	100.0

Table 6d. Item: The Ability of Explaining/Justifying a Research Plan

	Frequency	Percentage (%)
Not Capable	4	8.0
Fairly Capable	26	52.0
Fully Capable	18	36.0
Total	50	100.0

Table 6e. Item: Selecting Suitable Tools for Developing a Research Plan

	Frequency	Percentage (%)
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–7e.

A majority of the participants indicated that they were capable of presenting the outcomes of the study conducted (n = 48, 96%), of which 54% stated that they were fairly capable (n = 27, 54 %) and 42 % were fully capable (n = 21, 42%). Only one participant answered that they were not capable of presenting the outcomes of the research study conducted (n = 1, 2%). A majority of the participants indicated that 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 that they were fully capable (n = 18, 36%). Only 8% of the participants indicated that they were not capable of analyzing the outcomes of a research study (n = 4, 8%).

A majority of the participants were capable of interpreting the outcomes of a research study (n = 44, 88%), of which 58% indicated that they were fairly capable (n = 29, 58%) and 30 % indicated that 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%).

A majority of the participants were capable of providing a summary of the study's results (n = 46, 92%), of which 52% indicated that they were fairly capable (n = 26, 52%) and 40% stated that they were fully capable (n = 20, 40%). Only three participants stated that they were not capable of providing a summary of the study results (n = 3, 6%).

A vast majority of the participants also indicated that they were capable of following an academic method of documenting study results (n = 43, 86%), of which 50% indicated that they were fairly capable (n = 25, 50%) and 36 % stated that 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. Item: The Ability to Present Final outcomes of the Study Conducted

	Frequency	Percentage (%)
Not Capable	1	2.0
Fairly Capable	27	54.0
Fully Capable	21	42.0
Total	50	100.0

Table 7b. Item: Analyzing the Study Outcomes

	Frequency	Percentage (%)
Not Capable	4	8.0
Fairly Capable	27	54.0
Fully Capable	18	36.0
Total	50	100.0

Table 7c. Item: Interpreting the Study Outcomes

	Frequency	Percentage (%)
Not Capable	5	10.0
Fairly Capable	29	58.0
Fully Capable	15	30.0
Total	50	100.0

Table 7d. Item: Providing a Summary Study Results

	Frequency	Percentage (%)
Not Capable	3	6.0
Fairly Capable	26	52.0
Fully Capable	20	40.0
Total	50	100.0

Table 7e. Item: Following an Academic Method of Documenting Study Results

	Frequency	Percentage (%)
Not Capable	5	10.0
Fairly Capable	25	50.0
Fully Capable	18	36.0
Total	50	100.0

Variable Scoring

The scores of the abovementioned three variables were calculated using a 3-point Likert scale: 1 = not capable, 2 = fairly capable, and 3 = fully capable. The conceptual and operational definitions of the variables are presented in Table 8.

Table 8. Conceptual and Operational Definitions of the Study Variables

Variable	Conceptual Definition	Operational Definition		
		Number of Items	Computation	Interpretation of Scores
Identifying a problem	The extent of ability to identify a problem	4	Average rating of 1–3 points for all items	1=Not Capable 2=Fairly Capable 3=Fully Capable
Developing a research plan	The extent of ability to develop a research plan	5	Average rating of 1–3 points for all items	1=Not Capable 2=Fairly Capable 3=Fully Capable
Investigating and validating study outcomes	The extent of ability to investigate and validate study outcomes	5	Average rating of 1–3 points for all items	1=Not Capable 2=Fairly 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 study outcomes were the variables assessed in the questionnaire. The results presented in 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 an α level of 0.01. The subsequent use of independent t-tests/ parametric statistics is thus justified.

Table 9. Normality Test

	Shapiro-Wilk		
	Statistic	df	Sig.
Identifying a problem	.907	47	.001
Developing a research plan	.929	47	.007
Investigating and validating study outcomes	.921	47	.004

Addressing the Research Questions: To what extent did teachers in Tabuk, Saudi Arabia, see themselves as possessing action research skills?

The mean score of 2.14 on the 3-point Likert scale indicated that a majority of the participants from the sample in Saudi Arabia (n =30) were fairly capable of identifying a problem in action research. Furthermore, within the subsections of identifying a problem, a majority of the participants indicated that they were fairly capable of clearly describing the problem (n = 17, 56.7%), fairly capable of determining the factors of a problem (n = 22, 73.3%), fairly capable of using previous studies to identify a problem (n = 20, 66.67%), and fairly capable of developing a hypothesis (n = 21, 72.4%). The mean score of the results for the question item of the extent to which teachers in Saudi Arabia viewed themselves as capable of developing a research plan was 2.17 on a 3-point Likert scale. Thus, this score ranges in the vicinity of teachers being fairly capable of developing a research problem. Therefore, a majority of the teachers in Saudi Arabia saw themselves as fairly capable of developing a research plan.

Table 10a. Action Research Skills – Identifying a Problem - Saudi Arabia

Identifying a Problem		M=2.14
1a. Expressing a Problem Clearly	Total	30
	Not Capable	10.0%
	Fairly Capable	56.7%
	Fully Capable	33.3%
1b. Determining Factors of the Problem Accurately	Total	30
	Not Capable	10.0%
	Fairly Capable	73.3%
	Fully Capable	16.7%
1c. Using Previous Studies	Total	30
	Not Capable	13.3%
	Fairly Capable	66.7%
	Fully Capable	20.0%
1d. Developing a Hypothesis	Total	29
	Not Capable	10.3%
	Fairly Capable	72.4%
	Fully Capable	17.2%

The percentages from the subsections focused on scoring items relating to developing a research plan; a majority of the teachers in Saudi Arabia were fairly capable of writing an appropriate title for a research plan (n = 16, 55.2%), a majority of the teachers were fairly capable of setting time limitations (n = 17, 58.6%), a majority of the teachers were fairly capable of selecting the appropriate research term (n = 16, 55.2%), a majority of the teachers were fairly capable of explaining or justifying their research plans (n = 16, 57.1%), and a vast majority of teachers were fairly capable of selecting suitable tools for developing a research plan (n = 20, 69%).

Table 10b. Action Research Skills - Developing a research plan - Saudi Arabia

Develop a research plan		M=2.17
2a. Writing an Appropriate title for a Research Plan	Total	29
	Not Capable	10.3%
	Fairly Capable	55.2%
	Fully Capable	34.5%
Part 2b. Setting time limitations	Total	29
	Not Capable	13.8%
	Fairly Capable	58.6%
	Fully Capable	27.6%
Part 2c. Selecting the appropriate research term	Total	29
	Not Capable	17.2%
	Fairly Capable	55.2%
	Fully Capable	27.6%
Part 2d. The ability to explain/ justify a research plan	Total	28
	Not Capable	14.3%
	Fairly Capable	57.1%
	Fully Capable	28.6%
Part 2e Selecting suitable tools for developing a research plan	Total	29
	Not Capable	10.3%
	Fairly Capable	69.0%
	Fully Capable	20.7%

The mean score of the results of the extent to which teachers in Saudi Arabia can investigate and validate the outcomes of the research executed was 2.16 on the 3-point Likert scale. Thus, the score of the responses to this question item was in the vicinity of teachers being fairly capable. Therefore, a majority of the Saudi Arabian teacher participants viewed themselves as fairly capable of investigating and validating the outcomes of the action research they conducted.

The percentages from the subsections of investigating and validating the outcomes of a research were as follows: a majority of teachers were fairly capable of presenting the final outcomes of research conducted (n = 16, 55.2%), a majority of teachers were fairly capable of analyzing the outcomes of research conducted (n = 15, 51.7 %), a majority of teachers were fairly capable of interpreting the outcomes of research conducted (n = 17, 58.6 %); a majority of teachers were fairly capable of providing a summary of the study's results (n = 19, 65.5 %), and a majority of teachers were fairly capable of following an academic method of documenting (n = 16, 57.1%).

Table10c. Action Research Skills —Investigating/validating Study Outcomes - Saudi Arabia

Investigating/ Validating Study Outcomes		M= 2.16
3a. The ability to present final outcomes	Total	29
	Not Capable	3.4%
	Fairly Capable	55.2%
	Fully Capable	41.4%
3b. 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%

To what extent do teachers in the US reported possessing action research skills?

The mean score of 2.46 (rounded up to 2.50) on the 3-point Likert scale indicated that a majority of teacher participants from the US sample (n =20) considered themselves as fully capable of identifying a problem in action research. Furthermore, within the subsections of identifying a problem, a majority of the participants indicated that they were fully capable of expressing clearly what the problem was (n = 11, 55.0%); they were fairly capable of determining the factors of a problem (n = 11, 55.0%); they were fully capable of using previous studies to identify a problem (n = 11, 55%); they were fairly capable of developing a hypothesis (n = 10, 50%).

Table 11a. Action Research Skills —Identifying a problem - US

Identifying a problem		M=2.46
1a, Expressing a problem clearly	Total	20
	Not Capable	5.0%
	Fairly Capable	40.0%
	Fully Capable	55.0%
1b. Determining Factors of a Problem Accurately	Total	20
	Not Capable	0.0%
	Fairly Capable	55.0%
	Fully Capable	45.0%
1c. Using previous studies	Total	20
	Not Capable	5.0%
	Fairly Capable	40.0%
	Fully Capable	55.0%
1d. 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 viewed themselves as being able to develop a research plan, was 2.45 (rounded up to 2.50) on a 3-point Likert scale. Thus, this score was in the vicinity of teachers being fully capable. Therefore, a majority of the participants from the US viewed 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 the teachers were fully capable of writing an appropriate title for a research plan (n = 12, 60.0%); they were fully capable of setting time limitations (n = 11, 55.0%); they were fairly capable of selecting the appropriate research term (n = 16, 80%); they were fairly capable (n= 10, 50.0%) and fully capable of explaining or justifying their research plans (n = 10, 50.0%), and a majority of the teachers were fairly capable (n = 10, 50.0%) and fully capable of selecting suitable tools for developing a research plan (n = 10, 50.0%). The mean score of the results of the question focused on the extent to which the teacher participants saw themselves as being able to investigate and validate the outcomes of the research was 2.48 (rounded up to 2.50) on a 3-point Likert scale. Thus, this result was in the vicinity of teachers being fully capable. Therefore, a majority of the teacher participants from the US viewed themselves as fully capable of investigating and validating the outcomes of the research they conducted.

The percentages from the subsections of investigating and validating an action research project indicated that a majority of the teacher participants considered 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%). Additionally, a majority of the teacher participants indicated that they were fully capable of providing a summary of their action research study results (n = 13, 65.0%). Finally, a majority of 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%).

Table11b. Action Research Skills - Developing a research plan - US

Developing a research plan		M=2.45
2a. Writing an Appropriate title	Total	20
	Not Capable	0.0%
	Fairly Capable	40.0%
	Fully Capable	60.0%
2b. Setting time limitations	Total	20
	Not Capable	0.0%
	Fairly Capable	45.0%
	Fully Capable	55.0%
2c. Selecting the appropriate research term	Total	20
	Not Capable	5.0%
	Fairly Capable	80.0%
	Fully Capable	15.0%
2d. The ability to explain/ justify a research plan	Total	20
	Not Capable	0.0%
	Fairly Capable	50.0%
	Fully Capable	50.0%
2e. Selecting suitable tools	Total	20
	Not Capable	0.0%
	Fairly Capable	50.0%
	Fully Capable	50.0%

Table 11c. Action Research Skills - Investigating/ validating the outcomes of a research - US

Investigating and validating study outcomes		M=2.48
3a. The ability to present final outcomes	Total	20
	Not Capable	0.0%
	Fairly Capable	55.0%
	Fully Capable	45.0%
3b. Analyzing the outcomes	Total	20
	Not Capable	0.0%
	Fairly Capable	60.0%
	Fully Capable	40.0%
3c. Interpreting the outcomes	Total	20
	Not Capable	0.0%
	Fairly Capable	60.0%
	Fully Capable	40.0%
3d.- Providing a summary of the study's results	Total	20
	Not Capable	0.0%
	Fairly Capable	35.0%
	Fully Capable	65.0%
3e. 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 regarding action research skills among the study sample regarding the surveyed variables?

From Table 12a, the three segregated means considering the US and Saudi Arabia have been scored in comparison to the following three variables: identifying a problem, developing a research plan, and investigating and validating the outcomes of the research. The mean scores for the teacher participants in the US were higher and approximately closer to fully capable of all three counts as compared to the scores of the Saudi Arabian teacher participants.

Table 12a. Descriptive Statistics by Country

Country		N	Mean	SD	SE Mean
Identifying a problem	US	20	2.4625	0.43886	0.09813
	Saudi Arabia	29	2.1379	0.40963	0.07607
Developing a research plan	US	20	2.4500	0.37767	0.08445
	Saudi Arabia	28	2.1714	0.50395	0.09524
Investigating and validating outcomes	US	20	2.4800	0.41244	0.09222
	Saudi Arabia	28	2.1571	0.53432	0.10098

With regard to the variable "identifying a problem," on a 3-point Likert scale, the mean score of the US teacher participants was 2.46, while that of the Saudi Arabian teacher participants was 2.13. Therefore, the sample from the US scores indicated that the teacher participants from the US viewed themselves as fully capable, while the sample Saudi Arabian teacher participants saw themselves as fairly capable of identifying a research problem. Furthermore, the p-value was at an α level of 0.05, and p-value was lower that an α level of 0.011, respectively. Thus, the mean difference between the two teacher participant groups is statistically significant.

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
Identifying a problem	2.648	47	0.011	0.325	0.123	0.078	0.571
Developing a research plan	2.086	46	0.043	0.279	0.134	0.010	0.547
Investigating and validating outcomes	2.261	46	0.029	0.323	0.143	0.035	0.610

Regarding the variable "developing a research plan," the mean score of the US teacher participants was 2.45, while that of the Saudi Arabian teacher participants was 2.17. Therefore, the US teacher participants 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, regarding this, the mean difference between the two teacher participant groups was statistically significant at a level of 0.05 or lower, which was scored at alpha= 0.043.

Regarding the teacher participants' views of their abilities to investigate and validate their research outcomes, the US participants' mean score was 2.48, while that of the Saudi Arabian participants was 2.15. This indicated that the US teacher participants were fully capable, while the Saudi Arabian teacher participants were fairly capable of developing a research plan. Furthermore, the p-value at a significance level of 0.05, or lower, was scored at alpha= 0.029, that can be interpreted as the mean difference being statistically significant.

Table 12c focuses on the three segregated means grouped by the grade level of the students that the teacher participants were working with. The responses regarding the elementary, middle, and high school levels were scored in comparison to the three variables (identifying a problem, developing a research plan, and investigating and validating the research outcomes). The means focused on the middle school and high school teacher participants' survey data were higher than that of elementary school teachers, and both the middle school and high school teacher participants' means were scored at being fairly capable regarding the three variables.

Table 12c. Descriptive Statistics by Education Level Taught

Grade Levels Taught		N	Mean	SD	SE Mean
Identifying a problem	Elementary School	27	2.1759	0.44837	0.08629
	Middle School or Higher	21	2.3571	0.41512	0.09059
Developing a research plan	Elementary School	26	2.2308	0.51751	0.10149
	Middle School or Higher	21	2.3524	0.42381	0.09248
Investigating and validating outcomes	Elementary School	26	2.2462	0.51941	0.10186
	Middle School or Higher	21	2.3238	0.50389	0.10996

Regarding identifying a problem, a comparison was conducted that focused on the grade level of the students that the teacher participants were working with. On a 3-point Likert scale, teachers taught at the middle school or higher level scored a mean of 2.35, while teachers who taught at the elementary school level scored a mean of 2.17. The mean scores of the middle and high school teacher participants were higher than that of the elementary school teacher participants. The p-value was at a significance level of 0.05 or lower, and was scored at alpha= 0.158, which can be interpreted as the mean difference not being statistically significant.

Regarding developing a research plan, the mean score of the teachers who taught at a middle school level or higher was 2.35, while that of the elementary school teachers was 2.23. Therefore, the mean of the middle and high school teacher participant sample was greater than the mean recorded for elementary school teachers. Simultaneously, they were 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 difference not being statistically significant.

Regarding investigating and validating research outcomes, the mean score of the teacher participants who taught at a middle or high school level was 2.32 while that of the elementary school teachers was 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 significance level of 0.05, or lower; it was scored at alpha= 0.608.

Table 12d. 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
Identifying a problem	-1.434	46	0.158	-0.181	0.126	-0.436	0.073
Developing a research plan	-0.867	45	0.391	-0.122	0.140	-0.404	0.161
Investigating and validating outcomes	-0.516	45	0.608	-0.078	0.150	-0.381	0.225

Table 12e focuses 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 attended 1–2 training courses and 2–4 training courses were 2.313 and 2.411, respectively; teachers who attended 0 training courses recorded a mean score of 2.083. Therefore, regardless of whether or not teacher participants attended a training course, they viewed themselves as fairly capable of identifying a research problem that they could address through action research. Furthermore, as indicated in Table 12f, these results have a p-value significance level of alpha= 0.05, and there is no significance in the mean differences recorded at alpha = 0.123. Therefore, the results of this study indicated that for these teacher participants, the number of training courses they attended did not have a statistically significant impact with regard to how they viewed themselves as being able to identify a research problem.

Table 12e. Descriptive Statistics by the Number of Training Courses Attended

						95% CI	
		N	Mean	SD	SE	LB	UB
Identifying a 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
Developing a 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
Investigating and validating research outcomes	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

From Table 12e, with regard to developing a research plan, the mean scores for teachers who attended 1–2 training courses, and 2–-4 training courses were 2.430 and 2.457, respectively; teachers who attended 0 training courses had a mean score of 1.914. This indicates that teachers who had attended 2–4 training courses viewed themselves as fully capable of developing an action research plan; 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 that these teachers had participated in had a significant impact with regard to how they viewed their enhanced ability to develop an action research plan.

Table 12e presents results regarding the survey question how training courses affected the ways in which the teacher participants viewed their ability to investigate and validate the outcomes of a research. 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 indicated that the teacher participants who had attended 2–4 training courses viewed themselves as fully capable of developing an action research plan; whether or not teachers had attended 1–2 courses did not impact their view of themselves as being fairly capable of developing a research plan. As indicated by Table 12f, 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 attended had a significant impact with regard to how teachers viewed their ability to investigate and validate the outcomes of a research.

Table 12f. ANOVA or Comparison of Means of the Number of Training Courses Attended

		Sum of Squares	df	Mean Square	F	Sig.
Identifying a problem	Between Groups	0.836	2	0.418	2.193	0.123
	Within Groups	8.769	46	0.191		
	Total	9.605	48			
Developing 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			
Investigating and validating outcomes	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 had experience conducting action research studies, what impact has action research had on their teaching and planning?

A range of open-ended responses were obtained when the teacher participants were questioned about the impact action research on their teaching and planning activities. The responses are summarized in Table 13. 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 skills to investigate any problem or question. I feel confident in triangulating data and carrying out action research. I teach my students to implement similar methods when they have questions as well.
In my institution, action research helped find practical solutions for problem faced by teachers 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 similar to analyzing performance/behaviors in special education. The only difference is that instead of writing it in an IEP (Individualized Education Program), you are writing it as a paper. I do not 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's degree 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 English as a Second Language students that I work with, I found that it is truly important to understand their cultural background and historical journey to conduct an effective survey to assess their learning by using appropriate expressions. I strongly felt that being respectful and sensitive about their situation and upbringing helped to decrease the cultural barriers and increase the trust between teachers and students.
First, action research helps me to focus on one problem. Additionally, it helps me to validate the methods I tried using 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 research was a case study in which I used ABA therapy to improve the students' attention span and appropriate behaviors.
From my perspective, the in-class research project with my students strengthened my bond with them.
I am not working as a teacher right now, and I just finished my research. I think learning how to do action 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 hearing from people who have the same difficulties and experiences.
I completed the education research course at Western Michigan University 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 Master's in Education program.
I think the concept of action research 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 in the classroom, including students who cared 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 have a community circle time every morning for 5 min.
Action research helped me in solving problems, finding solutions, formulating hypothesizes; it also helped me in planning for lessons in a manner tailored to 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 in summarizing the information presented in lessons.
My action research has affected my teaching in many ways. First, I am more intentional with my teaching and reflective of it because of the action research I conducted. Second, 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 in students' learning 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 has helped me to refine the way I teach and my thoughts on a particular issue. I can also help educators with whom I work with to better understand the problem at hand due to action research.

Conclusion

This study aimed to determine the degree of teachers' action research skills, to compare the results regarding this of the teacher participants the Kalamazoo metropolitan area (US) and Tabuk (Saudi Arabia), and ascertain whether the differences in the results of these two teacher participant groups are statistically significant. The aim of this research was to answer the following research questions:

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

- The sample of teacher participants from Saudi Arabia had a mean score of 2.14 on a 3-point Likert scale with regard to identifying a problem while conducting research. This indicated that the participants considered themselves fairly capable of identifying a research problem as part of their set of skills when conducting action research.
- The teacher participants from Saudi Arabia had a mean score of 2.17 on a 3-point Likert scale with regard to their capability of developing a research plan. This indicated that they viewed themselves as fairly capable of developing a research plan.
- The Saudi Arabian teacher participants had a mean score of 2.16 on a 3-point Likert scale with regard to their ability to investigate and validate research outcomes. This indicated that they saw themselves as fairly capable of investigating and validating research outcomes.

2. To what extent do teachers in Kalamazoo (US) possess action research skills?

- The teacher participant sample from the US had a mean score of 2.46 (rounded up to 2.50) on a 3-point Likert scale with regard to identifying a problem while conducting action research. This indicated that the participants viewed themselves as being fully capable of identifying a problem while conducting action research
- The US teacher participant sample had a mean score of 2.45 (rounded up to 2.50) on a 3-point Likert scale regarding the development of a research plan. This indicated the participants viewed themselves as fully capable of developing a research plan.
- The teacher participant sample from the US had a mean score of 2.48 (rounded up to 2.50) on a 3-point Likert scale with regard to investigating and validating an action research project's outcomes. This indicated that the participants saw themselves as fully capable of investigating and validating an action research project's outcomes.

3. Are there any statistically significant differences regarding action research skills among the teacher participants from the US and Saudi Arabia?

- The p-values for the three variables (i.e., identifying a problem, developing a research plan, and investigating or validating the outcomes of an action research study) were used to compare the samples. It was determined that the differences in the two groups regarding these variables were statistically significant.
- This implies that the mean differences were significant; therefore, it can be concluded that teachers from the US viewed themselves as fully capable as compared to the Saudi Arabian teachers who viewed themselves as fairly capable regarding the three variables.

- However, when the grade level that the teachers worked with or the number of training courses they attended were examined, the means collated were not significant; therefore, we were not able to draw any conclusions.

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

- The teacher participants residing in both countries who had previously participated action research studies claimed to have benefitted in various ways from the relevant activities and training courses. The responses ranged from confidence in handling and interpreting data, being 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 of students, preparing profiles of ESL and special education pupils, and enhanced ability for self-gauging metrics.

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