

TEACHERS AS CHANGE AGENTS: PROMOTING MEANINGFUL PROFESSIONAL DEVELOPMENT USING ACTION RESEARCH TO SUPPORT INTERNATIONAL EDUCATIONAL REFORM

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Abstract

Professional development is essential in supporting teachers as change agents to foster international educational reform. Arizona State University's Mary Lou Fulton Teachers College acknowledged its role in supporting visiting teachers from the Kingdom of Saudi Arabia in utilizing action research as an opportunity for professional development. This paper explores using action research as an innovative practice to support teacher leaders as change agents in education. Part of the transformation of the educational system in Saudi Arabia is a result of the country moving away from relying on oil for economic growth to one that is heavily invested in human capital. As a result, a framework for conducting action research was developed to assist teachers in creating a plan of implementation once they returned to their home country. Based on the literature, previous research, and the Saudi teacher experiences, the use of action research as professional development holds promise for supporting teachers as agents of change, which can impact international educational reform.

Keywords: professional development, action research, innovative practices, global education, educational reform, Saudi Arabia

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Introduction

Professional development has frequently been used as a means to bring about change in education. Mary Lou Fulton Teachers College at Arizona State University recognized the potential of combining three key elements to support international educational reform: (a) establish a university international partnership, (b) engage in action research as professional development, and (c) implement an action research framework to manage change. Using these innovative practices is an important aspect of global education reform.

Currently, teacher preparation programs engage pre-service teachers in action research. Continuing this practice with in-service teachers contributes to professional development opportunities that will help both new and veteran teachers gain meaningful knowledge about education and schooling (Miskovic, Efron & Ravid, 2012). Action research is the deliberate and systematic inquiry about teaching and learning that is conducted in school and classroom settings (Cochran-Smith & Lytle, 1993). It moves teachers away from merely being consumers of research to teachers as change agents that support educational reform. Through this process, teachers build networks and share their knowledge to provide solutions that have hindered student success. The purpose of this article is to explore using action research as meaningful professional development that supports international educational reform. Saudi Arabian teachers' experiences at Arizona State University will help demonstrate how internationalizing action research can support teachers as change agents.

Investing in Education

Countries around the world invest in their educational systems in order to support economic growth. Educational systems require change in order to keep pace with international economic development. King Abdullah invested \$2.4 billion in 2007 to improve education in Saudi Arabia (Tayan, 2017). In response to developing generations that would contribute to the economic security of Saudi Arabia, King Abdullah's Public Education Development Project or the 'Tatweer' education reforms were created (Tayan, 2017). The intention of this project was to improve the quality of teaching and learning in Saudi Arabia. The Ministry of Education in Saudi Arabia looks to education as a driving force in economic achievement (Pennington, 2017). Tayan (2017) stated the "King Abdullah Public Education Development Project or Tatweer was created to improve the quality of teaching and learning through professional development initiatives, changing demographic structure and the school culture" (p.61). To ensure that the plan was successful, Saudi Arabia provided teachers with various types of training and workshops to improve their teaching skills.

At an international level, school systems recognize that the quality of teaching is an essential component that influences student outcomes (Darling Hammond, 2000). The Kingdom of Saudi Arabia aims to invest in the future of its people by reforming its education system. Saudi Arabia Vision 2030 is the driving force behind a number of education reforms aimed at producing critical, independent thinkers (Pennington, 2017). Investing in education also contributes to the development of nations across the world and is essential for human development and economic success. A strong relationship exists between education and the labor market. Accordingly, Saudi Arabia, which is considered one of the strongest economies in the Middle East, has embarked upon educational reforms to advance the growing young population to compete in the global economy. One of Saudi Arabia's Vision 2030 goals is to provide high quality education to all students and prepare them to be productive and creative citizens. As stated by Tayan, (2017), 25% of the Saudi annual budget is for education. In 2017, the government invested over \$50 billion for public education. Saudi Arabia's 2030 vision states that national income must not be solely based on the oil industry but from a variety of

resources such as agriculture, transportation, and tourism. This transformation requires specialized skills, which will be reinforced in the education system to fulfill new employment opportunities.

Education is regarded as an investment in a nation's future. Particularly, educational reform in Saudi Arabia is needed to support an economy that moving away from relying merely on oil money as a source of income. The former Minister of Saudi Education, Dr. Al-Alissa (2015-2018) believed that the education system needed to enable future generations to develop skills to be successful in a nation that aims to vary resources that generate income and reduce the reliance of revenue produced by petroleum production (Pennington, 2017). The launch of Vision 2030 in Saudi Arabia strives to transform education to establish a productive and efficient workforce that contributes to this more diversified economy (Tatweer, 2010).

University International Partnerships

Historically, university researchers were the only ones considered qualified to conduct research. Universities in many countries are working in partnership with schools and governments to use action research as a strategy to transform education (Somekh & Zeichner, 2009). To support action research as professional development, Elliot (2007) suggests working with a university partner to support teacher growth. The success of university-school partnerships is based on the establishment of clear goals and expectations (Parker, Templin, & Setiawan, 2012), where each partner brings expertise to the collaboration. "Teachers have often felt that traditional educational research is not relevant to their needs..." (Stremmel, 2007). University researchers have become more interested and involved in finding solutions to the problems of teaching and learning in schools. They have also begun to recognize the value of research taking place in schools by teachers and school administrators.

Across the globe, university partnerships provide opportunities to aid with school reform, to identify solutions to teachers' needs through action research projects. This often occurs during teacher preparation school placements or on-site professional development. It is for this reason that the visiting teachers from Saudi Arabia were placed in local Arizona classrooms. In Saudi Arabia, the Ministry of Education encourages university partnerships and selects about 1,000 teachers annually to travel abroad for one year to gain international training and experience (Pennington 2017). According to Dr. Al-Alissa, Minister of Saudi Education (2015-2018), this teaching training program is an opportunity to engage in real-life experience and gain insight as to how education should move forward (Pennington, 2019). Specifically, for the teachers from Saudi Arabia, K-12 school district partners assign one international scholar per classroom with a school mentor teacher aligned to his or her content area. Prospects for professional development benefit student learning, the experience of teaching, and exposure to school culture (Crawford, Roberts & Hickmann, 2008). University faculty with international expertise function as mentors for the visiting teachers by answering questions about the American education system, following up on the everyday school immersion experience, and by coaching them during the design and development of their individual action research project. University mentors visit mentees in their assigned classes to observe scholars as they apply their new knowledge during teaching, co-teaching, and teacher interaction. McCorkel-Clinard & Ariav (1998) maintain that international university partnerships impact the mentors as well as the participants through cross-cultural experiences.

A university partnership creates long-lasting professional relationships built strategically and carefully with a shared vision in mind. The leadership team, administrators, teachers, visiting teachers, and students understand the value of the collaboration and can identify the benefits from their participation. All university partnerships expect to see “change” in the process as an outcome of the collaboration. Parker et al. (2012) explain the focus on change and sustainability of the projects and the challenges to reach the different levels of change. The support of key administrators, school principals, mentor teachers, and scholars is essential to the partnership. This partnership helps people grow in accountability and empowers them to meet the overall outcomes of the project.

Perspectives

The term “action research” was devised in the 1940s by Kurt Lewin, a social psychologist and educator (Ferrance, 2000). Lewin described research as the joining of investigation and action through a cyclical process (McFarland & Stansell, 1993) that included observing, acting and reflecting (Noffke & Stevenson, 1995). Action research is solution-oriented inquiry that focuses on trying out practices as a way to increase knowledge about teaching and learning (Kemmis & McTaggart, 1982). John Elliot (1987) describes action research conducted by teachers as being concerned with everyday practical problems experienced by teachers, rather than the “theoretical problems” defined by pure researchers within a discipline of knowledge. This type of systematic classroom research uses participant observation, methods of ethnography, and traits of case study methodology (Belanger, 1992). Thus, teachers are active members of research immersed in the teaching and learning process.

In the 21st century, there is a need to empower teachers as researchers for educational reform. Critical constructivism looks at education to determine the purpose of school and how it is structured to capitalize on student learning (Steinberg, 2014). Action research is rooted in critical constructivism that connects research, teaching and knowledge production (Steinberg, 2014). According to this theory, researchers are active participants that construct knowledge based on personal experience and critical reflection (Bentley, Fleury & Garrison, 2007). Furthermore, using prior knowledge, social interactions, and ongoing experiences, teachers may determine the most effective strategies for their students (Bentley, Ebert, & Ebert, 2007).

In a study conducted by Hathorn and Dillon (2018), the researchers found that teachers in the United Arab Emirates valued action research but needed additional time during school hours to work on its implementation in order for educational reform to be successful. The study was conducted on the premise that because teachers are best suited for defining problems in the classroom and developing solutions, action research would be a suitable choice for teachers to be agents of change. Garcés and Granada (2016) also discuss the importance of teachers reflecting on their own practice and inquiry, an important aspect of action research.

Action Research as Professional Development

The traditional model of professional development involves disseminating information to participants but does not always result in meaningful educational practice and significant change in the classroom (Dana & Yendol-Hoppey, 2003). When teachers attend trainings, they are in search of direct connections to classroom practice, and this is often lacking in professional development opportunities (Gore et al., 2017). Carr and Kemmis (1986) refer to action research as theory and knowledge established from research-based educational practices. When educators research their own practice, it helps them to

understand and solve problems using reflection (Miskovic et al., 2012; Somekh & Zeichner, 2009).

Action research is beneficial to educators as they can identify problems that impact them directly because they are immersed in an environment where research and practice overlap (Ferrance, 2000). When action research becomes an integral part of professional development teachers recognize the value of their work and reflect on the benefits of the strategies they are implementing into the classroom (Ferrance, 2000). Through engaging in this process, teachers can discuss the strategies that they use in the classroom to impact students and build their own practice.

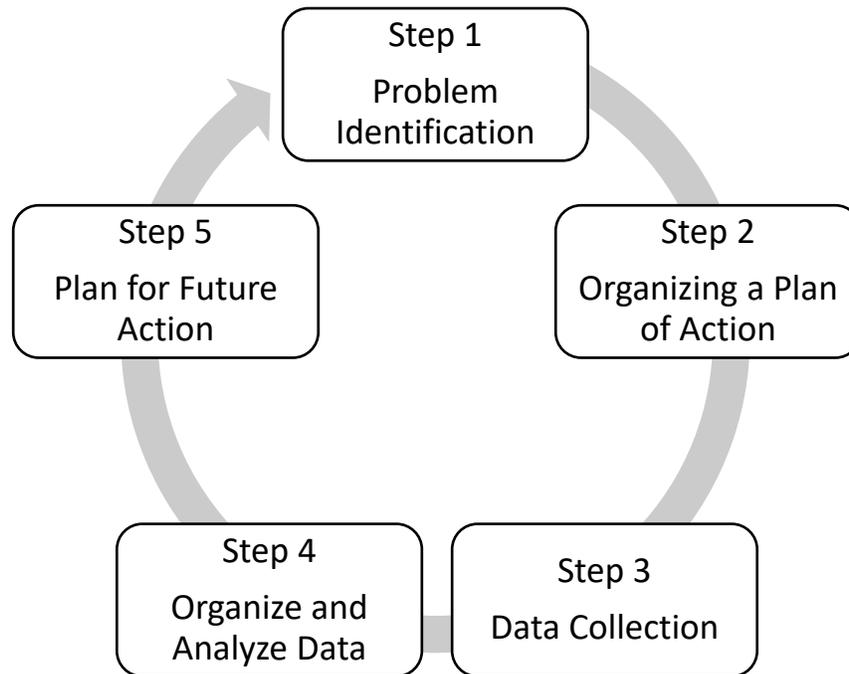
In February 2018, 46 primary and secondary teachers from the Kingdom of Saudi Arabia embarked on a year-long teacher leadership journey in Mary Lou Fulton's Teachers College, at Arizona State University. This group of teachers comprised 10 women and 36 men. The group included 27 English teachers, 5 religious studies and Arabic teachers, 2 science teachers, 3 special education teachers, 6 math teachers and 3 computer science teachers. Throughout this experience, the teachers were expected to explore topics to develop an action research plan. They learned how using action research as professional development for teachers can promote meaningful learning opportunities that impact student achievement. Through this process, teachers collaborated in educational research by examining their own problems and issues in their home country. They played an active role in the research process to facilitate change based on the new knowledge that they created (Carr & Kemmis, 1986).

Using a Framework to Manage Change

Professional development in education is increasingly becoming a focus for many countries that are moving towards educational reform (Dillon & Hathorn, 2018). A common characteristic of professional development frequently provides a one-size-fits-all approach and limited opportunities to reflect and plan for next steps (Martell, 2014). Archibald, Coggshall, Croft & Goe (2011) consider professional development to be meaningful and effective when teachers become active in their professional learning. This action connects current educational best practices to classroom application (Garet, Porter, Desimone, Birman & Kwag, 2001). Action research provides teachers with the opportunity to simultaneously develop knowledge with action and reflection (Steele, 2012). The applied model of professional development can help teachers find solutions to problems they are confronted with in their classrooms (O'Connor, Greene & Anderson, 2006). This type of practice lends itself to educational reform, as teachers make changes based on their experiences and the results of their implementation plans.

Elliot and Tsai (2008) discuss using action research to change education curriculum. Education reform occurs when action research is utilized because it is developed around the notion of testing ideas and engaging in reflection as a means to improve teaching and learning practices (Elliott & Tsai, 2008). Furthermore, action research is an opportunity to improve instruction by finding solutions to everyday problems experienced by teachers and increase student achievement Ferrance (2000). Action research allows teachers to systematically investigate research-based practices and adjust accordingly to meet the needs of their students. An integral part of action research is that teachers will develop questions, gather data, and determine a plan of action (Ferrance, 2000). Through these phases, decisions to change teaching and learning practices are constructed. Figure 1.1 provides an overview of the framework used to support the teachers from Saudi Arabia to develop their action research plans.

Figure 1.1 Framework for Action Research Projects (Adapted from Midwest Brain and Learning Institute, 2004).



Adapted from the Midwest Brain and Learning Institute (2004), this framework was simplified to support the teachers from Saudi Arabia, as English was their second language. To begin the action research process, the visiting teachers from Saudi Arabia were asked to determine an area in teaching and learning they wanted to explore with a focus on change or improvement. Furthermore, the expectation was to provide a rationale for the change or improvement and the impact it would have on student learning. The teachers described in detail what specifically they wanted to implement. Differentiation, student engagement, behavior modification, motivation, problem based learning and technology were common themes chosen by the visiting teachers. The second step of the process included organizing a plan of action where teachers were asked to explain how the changes or improvement would be made and who would carry out these changes. The chart was completed to establish a timeline and identify the resources needed for implementation. The chart also established how each part of the timeline would be evaluated to determine completion. In addition, the teachers were asked to explain the background and rationale of their chosen topic and describe why it was important to explore. In this section, the teachers also cited 2-3 articles relevant to the topic and highlighted what they experienced during school immersion regarding their topic of study.

As noted above, the university partnership helped to place the participants in local school districts assigned to a school mentor in the same grade level and content area. This provided the participants with an opportunity to explore their action research topic in American schools and refine their experiences for implementation in Saudi Arabia. The connection to school immersion provided the teachers with authentic experiences that helped them build an understanding about their topic of study. The experiences of three teachers

outlined below demonstrated how the action research topic was developed through the school immersion experience in local Arizona school districts.

Table 1.1 Action Research and the Immersion Experience

Participant Background & Action Research Plan Topic	Local School Immersion Experience
Teacher A High School English Teacher Supervisor Professional Learning Communities (PLCs)	My school immersion experience was an excellent example of how Professional Learning Communities are addressed to increase student achievement and teachers' collaboration. Mrs. (District Mentor Teacher) and her team would meet in weekly PLC meetings to discuss the data from formative tests to address different levels of students. Teachers shared strategies and learning activities that would teach each level to create differentiated lessons. At the end of the week, after providing a variety of levels of activities, another test would be given to prove the learning that had occurred.
Teacher B Special Education & Gifted Instructor The Gifted Hearing- Impaired Students	In my internship in Arizona, my university mentor teacher set up appointments with teachers of hearing impaired students and psychologists, who helped to discuss my ideas. I also met with the Supervisor of Special Education. We decided to try this idea in the (Name) District, and to give survey about hearing impairment and gifted students to the teachers and train the teachers about these ideas.
Teacher C High School Mathematics Integrating Math with Language to Improve Content and Language Skills	... in my school immersion, I have seen math teachers use activities including the use of graphic organizers and sentence frames. I found that graph organizers are a powerful cognitive tool. Indeed, many of my students find mathematical notations manageable when paired with language through using graphic organizers than by themselves.

Teacher A discussed Professional Learning Communities (PLC) as opportunities to engage with other teachers to solve problems associated with teaching and learning and to improve teaching methods by collaboration. She noted that she wanted teachers to be more collaborative in solving problems rather than working individually. Teacher A wanted to use PLCs as a way to support teachers, to collaborate and solve these problems, reduce the isolation of teachers and increase commitment to student success.

Teacher B explored opportunities to improve special education practices by identifying students who were hearing impaired and gifted. In his experiences, he outlined that they do not have programs in Saudi Arabia for hearing impaired gifted of students and

there is a lack of appropriate school curriculum for them. Teacher B also highlighted that the abilities of these students are not addressed because they are not placed in the appropriate educational environment. Furthermore, he noted that teachers are not trained to meet the needs of these students. His intent in the immersion experience was to obtain information on how local districts support hearing impaired students who are gifted. It was through this experience that he realized that this was also a need in a local Arizona school district.

Teacher C examined how the use of academic language to define, describe and represent the mathematical problem-solving process, through the use of graphic organizers and sentences frames, increases competence in academic language and builds conceptual understanding in mathematics. He further explored how using these strategies can shift the focus of students' critical thinking development from the lower levels of knowledge and comprehension on Bloom's Taxonomy to the upper levels of evaluation and synthesis, contributing to higher student achievement. Through his immersion experience he was able to observe how academic language can support instruction in mathematics.

Table 1.1 outlines the experiences these three teachers had during school immersion and how this helped in planning the implementation of their action research projects.

The third step of the plan involved explaining how data would be collected using three different sources to ensure triangulation. The fourth and fifth steps would to be conducted in country when the teachers returned to Saudi Arabia. Step four included organizing and analyzing the data by making observations initially without judgements, highlighting themes and patterns noticed and determining if any gaps existed. At this stage, the teachers would interpret, summarize and describe their findings. Finally, in step five, the teachers would explore what they had learned and how they would move forward based on their conclusions. The teachers were also asked to consider the questions that emerged from the data and to consider who else might be interested in the conclusions.

The framework for the action research project was built on the premise that the Saudi teachers would develop the action plan at Arizona State University with the support of faculty mentors. The framework outlined the steps to identify the problem the teachers were researching, organize a plan of action and create a plan to collect data. Each step supported the teachers to reflect on practices and how the action research would contribute to change. Furthermore, starting points, guidelines, reflection questions and examples were provided throughout the framework. This helped to scaffold the planning for the action plan so that the teachers had a comprehensive understanding of the steps involved in the process. When the teachers return to Saudi Arabia, they will implement the action plan, analyze data and complete a plan for future action based on their findings.

Action research can be used to promote improvement in education. As outlined by Mertler and Hartley (2017) action research is systematic and involves collecting data and using the data to make informed decisions about teaching and learning. This type of research design empowers educators to address specific questions or problems in their own classrooms (Mertler & Hartley, 2017). To determine if the initial action research plan would be effective, the visiting teachers from Saudi Arabia presented to a panel of educators from the university and local school districts. Feedback forms were used to communicate areas of strength and provided an opportunity for the panelists to ask questions and make suggestions. This preliminary opportunity to obtain feedback was used to support reflection and to reiterate that the "The best way to know if something will work with your students or in your classroom is to try it out, collect and analyze data to assess its effectiveness, and then make a decision about your next steps based on your direct experience" (Mertler & Hartley, 2017). The types of feedback the participants received included questions that introduced different

cultural perspectives, affirmation of problem statements, engagement in reflection and questions that encouraged critical thinking. Receiving this feedback provided the teachers with an opportunity to reflect on the implementation of their action research plans and informed them on how they will move forward in carrying out the plan.

When action research is well planned, it contributes to teacher learning as inquiry and to the greater body of knowledge in education (Stremmel, 2002). During their experience at Arizona State University, teachers from Saudi Arabia explored using this framework tool and the steps involved in the action research cycle to address how this can support complex change. The framework helped participants deepen their understanding of how to design, consistently implement, monitor, and manage change. To put application to practice, the participants explored this multifaceted approach to process how this framework could impact international professional development and educational reform.

Significance and Conclusion

The education system is crucial to the success of nations around the world. Countries are investing in education to engage in educational reform to meet economic challenges. Saudi Arabia's education is being reformed and improved. As indicated previously, Tayan (2017) stated that "the \$2.4 billion for King Abdullah Public Education Development Project, commonly referred to as Tatweer, was implemented in 2007 to improve the education competence of the Saudi population in order to create a productive and efficient workforce within a dynamic and innovative economy." This was also heightened by the 2030 Vision, which strives to transform education to improve the educational competence of the Saudi population and contribute to an economy that will sustain itself without relying solely on profits from petroleum production (Tatweer, 2010).

When teachers pose their own questions about teaching and learning and test their solutions Oliver (1980) attributes this to action research, which fosters continued professional development. This connection between action research and professional development is heightened by the ability of the teacher to focus on his or her own professional growth highlighting areas of their practice that need additional improvement (Mertler & Hartley, 2017). Throughout their experiences, the teachers from Saudi Arabia were expected to explore topics to complete an action research plan. They learned how using action research as professional development for teachers can promote meaningful learning opportunities that impact student achievement. The teachers were able to develop and enhance a growth mindset and see themselves as change agents by combining three key elements in supporting international educational reform: (a) establishing a university international partnership, (b) engaging in action research as professional development, and (c) implementing an action research framework to manage change. Many of the teachers shared how they felt better prepared to make change in their own classrooms and also to invite colleagues to engage in opportunities that support educational reform.

Teachers are beginning to recognize that the classroom is a place where change can occur. As previously described, professional development should not be restricted to meetings or training sessions but should be an opportunity to enhance pedagogical practices (Garcés & Granada, 2016). The future of professional development programs and educational reform will be influenced by an opportunity for teachers to critically examine their own teaching and learning practices through action research (Johnson, 1993). The intersection of research and practice in action research benefits teachers as they are able to identify problems that have a direct impact on them (Ferrance 2000). Teachers can reflect on the importance of their efforts when action research becomes part of professional development (Ferrance, 2000). This

strategy for professional development is a valuable tool as the results of action research is an authentic experience.

In collaboration with the university, the teachers from Saudi Arabia created an action research plan that would support them as change agents for educational reform. This was heightened by the school immersion experience to explore and study the topic of their action research and to receive feedback from both school district leaders and university faculty. The partnership set the stage for using action research as professional development to support international educational reform. The implication for applying this innovative practice is that it creates a foundation for teachers to build upon when enhancing their own teacher practice. Once the visiting teachers return to their home country, future studies will explore the impact and findings of their action research. Additional follow up should be provided to determine how action research has enriched their teaching and learning practices and has contributed to the goal of supporting international educational reform.

As we consider the implications of teachers as change agents at an international level, we must consider the importance of collaboration, research, and teacher growth. The university partnership helped the participants engage in action research using relevant literature and developing a plan to collect data. This collaborative partnership also provided the participants with context in regard to how their topic of study was embedded in American schools through the school immersion experience. Using action research to further their professional development solidified how the participants would grow and develop as teachers to implement change in their home country. Arizona State University regards the work accomplished on this project as an innovative practice to support teacher leaders as change agents in education. We also recognize that the success of this practice is reliant on using action research as professional development and leveraging the university's strengths in research involving district partnerships to support teacher growth.

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