Teaching the Hajj using Virtual Simulation Technology
with Middle School Students in Saudi Arabia

By
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Abstract

Islamic education in Saudi Arabia is often taught using teacher-centered traditional education methods, which adversely affects students' motivation for learning, hence their achievement level. This project presents a technology-based method for teaching Islamic education, especially the Hajj. Virtual simulation technology has the capacity to enhance students' motivation to learn, to increase their engagement level, and to give them an opportunity to learn by exploring in a safe environment that is very similar to reality. Teaching the Hajj through virtual simulation technology is the key to a better understanding of the Hajj, which leads to a better Hajj performance in the future.

Chapter One

Project Proposal

1. Problem Statement

Research indicates that eighth-grade students in Saudi Arabia are facing difficulties understanding the rites of the Hajj (pilgrimage), which are taught to eighth graders as a part of the Fiqh Curriculum (Islamic Jurisprudence).

The most common methodologies Islamic Studies teachers use to teach the Fiqh Curriculum in Saudi Arabia are lectures, dialogue and discussion (Hamad, 2004).These methods make it hard for students to understand Hajj rites, as most eighth graders have not reached maturity yet, which is one of the requirements for doing the Hajj. Thus, they have not experienced the Hajj in their real life. Teaching a practical topic, like the Hajj, to middle school students, who haven't experienced it yet, by using only lecture style learning cannot give them a complete idea of this concept.

Lack of effective uses of technology in teaching Islamic studies is another reason for this problem. This absence of effective teaching methods has lowered student interest in Islamic Studies and has even made students want a shorter duration time for Islamic Education (Ziden& Abdul Rahman, 2013).

When it comes to Hajj lessons,the methodology isnot the only problem, but also the insufficient training of teachers to use computer technology in the service of teaching Islamic Studies. According to Alajmi (2004), there is weakness in Islamic studies teachers training on the use of computers in the educational process.   However, Alajmibelieves that many Islamic Studies teachers are positively disposed toward using computers to teach Islamic Studies if they receive the proper training to do so.

An Islamic Jurisprudence curriculum includes many subjects that are difficult to teach if only dialogue and discussion methodologies are used. Islamic Jurisprudence curricular lessons often need to be practically experienced to be better understood and followed. For example, when it comes to the Prayers lessons, teachers cannot use only dialogue or discussion methodologies. They need to teach the Prayers in a practical way so students can understand and be able to pray correctly. Hajj also cannot be taught by using only dialogue or discussion methodologies.

2.   Importance and Rationale of the Project

First, the Hajj has high religious value for Muslims, as it is the Fifth Pillar of Islam. Every Muslim must do the Hajj at least once in their lifetime. Allah, the Exalted, says: "And [due] to Allah from the people is a pilgrimage to the House—for whoever is able to find thereto a way" (Quran, 3:97). Thus, all Muslims must fully understand proper observance of the Hajj. Islamic Studies students are taught many subjects to use in their daily lives, not only for examination purposes (Ziden& Abdul Rahman, 2013). For many Muslims, the Hajj is an opportunity experienced only once in their lives, so they would want to do it correctly.

Second, the Hajj has two aspects: religious belief and practical application. Teaching the Hajj with dialogue and discussion would not make its practical aspect clear to students. However, virtual simulation can fill this gap. The practical aspect of the Hajj will be much easier for students to understand when they practice it using virtual simulation technology. This enables students to practice it as if they were in Mecca, which has a very positive effect on their eventual performance of the real Hajj.

Third, the use of dialogue and discussion in teaching the Hajj does not allow for differentiated instruction to include all learners, as it does not consider different students' needs, learning levels, and performance levels. Technology-based virtual simulation enables teachers to differentiate the instruction more easily, so that students can take the time they need to learn the rudiments of the Hajj while advanced students can move to the next level.

Fourth, studies showed that middle-school students love to learn through technology. They become more motivated when teachers blend technology into lessons. Hill (1993) alleges that technological instruction positively affects middle-school students' attitudes, motivation and achievement.

Fifth, virtual simulation allows students to interact and share information with each other through voice conversations and written chat. Teaching the Hajj to middle-school students through virtual simulation has been shown to be effective: "There is substantial research reporting computer simulations to be an effective approach for improving students' learning" (Strangman& Hall, 2003, p. 4).

3. Background of the Project

Hajj lessons are part of the Fiqh Curriculum in all schools in Saudi Arabia. The ninth unit of the eighth-grade Fiqh Curriculum is all about Hajj and Umrah. The unit has fifteen components, in which students are expected to learn many things, such as the meaning of Ihraam and its rules. (Fiqh Curriculum, 2010, p. 25). Ihraam is "the state which pilgrims enter, upon which certain things become prohibited for them." The word is also used "to denote the clothing worn when performing Hajj or Umrah" (al-'Uthaymeen, 2000, p. 4).

Students must also learn the different kinds of sacrificial animals and learn how to perform Umrah (Fiqh Curriculum, 2010, p. 25). Umrah means "Minor Hajj: the combination of Tawaaf and Sa'yi" (al-'Uthaymeen, 2000, p. 5).

Students must especially learn how to perform Hajj, and need to know some common mistakes made during Hajj and Umrah (Fiqh Curriculum, 2010, p. 25), as they often confuse the different forms of Hajj:

There are three forms of Hajj: Tamattu': This type of Hajj is one in which a person performs an 'Umrah and then a Hajj, both separately. Ifraad: This type of Hajj is one in which a person performs a Hajj only, without an 'Umrah. Qiraan: This type of Hajj is one in which a person combines the rites of Hajj and 'Umrah, not performing each one separately. al-'Uthaymeen, 2000, p. 5.

One way to help Saudi Arabian eighth graders improve their outcomes in Hajj lessons is to effectively integrating technology into the lessons. Using technology is very helpful in teaching eighth grade students because it motivates them to learn. It is difficult to succeed in the educational process if the students are not motivated to learn. Technology has been used in many different ways with teaching The Hajj. For example, teachers can use web 2.0 in teaching Hajj. YouTube contains videos that can make it easier for students to understand how to perform Hajj. Google Earth can be used to help student identify the main Hajj areas such as the Miqat, which will give the students a greater opportunity to identify the geographical environment of Mecca and the different Hajj areas.

Hajj lessons can also be taught through role-playing, which students enjoy because they find it more fun and engaging than lectures, dialogues or discussion. Thus role-playing can increase students' comprehension of the lesson. According to Siew & Abdullah (2012), students taught by this method indicated it was very helpful, because this method enabled them to gain a better understanding of issues from many different perspectives. Nairiyah National Schools in Saudi Arabia have used role-playing to enrich their students' understanding of the Hajj. Some students take part in the play while others watch and observe it; then, in the next lesson, the players and audience switch roles. This experience excited and involved the students in the lessons, and the students showed a good performance.

Furthermore, the use of virtual simulation technology in teaching a theoretical topic is effective, because it gives students a sense of how that topic is applied in reality (Alessi& Trollip (2001), which is especially important for Hajj lessons. Ziden& Abdul Rahman (2013) conducted a study in Malaysia to determine any differences between the educational achievements of students taught with and without simulation technology. The students were divided into two groups: "One group was taught by using multimedia PowerPoint presentations with web-based virtual simulations, whereas the other group was taught by using multimedia PowerPoints without the web-based virtual simulation applications" (Ziden& Abdul Rahman, 2013, p. 216). The virtual simulation created a three-dimensional full-color environment of Mecca and all of its Hajj areas. By moving a mouse, students could follow the arrows in the web-based virtual simulation to navigate their way around Mecca and its Hajj regions. "Students could talk to the teachers or to each other while using the simulation of the Hajj by using voice or typing chat" (Ziden& Abdul Rahman, 2013, p. 217). The researchers found a large difference in the achievement of students in the two groups:

Students who were taught by using the multimedia PowerPoint teaching mode with web-based virtual simulation embedded within the presentation showed better performances than students who were taught by using multimedia PowerPoint without the web-based virtual simulation applications embedded within the PowerPoint presentation. Ziden& Abdul Rahman, 2013, p. 219.

The study found that virtual simulation assists students greatly in understanding the Hajj and preparing for actually performing it when they reach Mecca.

4.   **Statement of Purpose**

A review of many solutions to the Hajj education deficit concluded that the best one is to integrate technology into teaching the Hajj. This project's purpose is to develop a plan for implementing a virtual simulation environment in which students can navigate a three-dimensional game of Makah and the Hajj holy sites, during which students will interact with each other verbally via headphones. Through this method, students can learn the path of the Hajj in a self-paced way, which will hopefully lead to a more differentiated lesson and a better performance when it comes time for their pilgrimages to Mecca.

The Hajj includes many subjects that need to be practically experienced to better understand it. Virtual simulation of the Hajj gives students precisely that experience. The visualization will improve their performance in many aspects, including motivation, engagement, sense of reality, and understanding. Besides, students perform better when they individually use game-based learning (Merchant, Goetz, Cifuentes, Keeney-Kennicutt, & Davis, 2014), as it is more like a live experience in which they learn by doing instead of merely listening and talking. This

method will also help them to develop many other skills such as communication and social interaction by playing the game together. This method is especially motivating for this age group, who enjoy playing games.

5.   Objectives of the Project

Since many students in Saudi Arabia are not performing well in the Hajj unit, this project aims to increase students' Hajj performance. Teachers in Saudi schools usually rely on theoretical approaches to teaching Islamic Studies, which makes it difficult for students to clearly understand how to actually perform the Hajj, and many students easily forget how to perform it after studying it. Studies have shown that people learn better if they can practice the material over and over. So a curriculum-based virtual simulation of the Hajj would allow students that practice in their own classroom. They can go through the materials over and over until they feel comfortable about what they have learned. This method allows teachers to guide, rather than lecture, the students by working with them one-on-one if they need help.

To test this project's effectiveness, I will assemble two groups of eighth graders: the 'control' group, who will study the Hajj using traditional methods, and the 'treatment' group, who will study the Hajj through virtual simulation technology. All students in both groups will initially take a pre-test; after applying their respective teaching methods, they will take a post-test. This project will be successful if the 'treatment' students have an improvement of no less than 60% and achieve at least 20% higher success than the 'control' group.

6. Definition of Terms

Fiqh Curriculum. This is a Saudi curriculum that covers Islamic Jurisprudence. It mainly covers practical Islamic rituals.

Islamic education. This covers Muslim lives from an Islamic perspective in many different aspects: morality, human relations, politics, business transactions, health, etc.

Islamic Jurisprudence. This is what Islamic jurists understand from the Quran and the Sunnah. It contains Islamic rituals and morals applied in many aspects of a person's life.

Islamic Studies. These encompass all religious topics Muslims study from the Quran, the Five Pillars, Shahadah, the Prayers, Zakat, fasting Ramadan, the Hajj.

Mecca or Makah. Both names are for the Muslims' holy city. It has the Sacred Mosque and the Kaaba. All Muslims around the world must face the Kaaba in their prayers. Millions of Muslims visit Mecca each year during Hajj time.

Miqat. This is a place Muslims must pass by to start Ihram as a first step to performing Hajj or Umrah. There are five Miqats around Mecca.

Nairiyah National Schools. This is an educational academy that has elementary, middle and high schools. It is located in Riyadh, Saudi Arabia.

Rites of Hajj. These are the steps of Hajj that Muslims need to perform in their proper order during their Hajj Journey.

The Hajj. This is the Fifth Pillar of Islam. It is a religious journey to Mecca, where all able Muslims must go at least once in their lifetime. The Hajj takes place in Mecca each year for a couple of days. (Smith, 2014)

The Prayers lessons. As part of the Fiqh Curriculum, these lessons instruct students in how to perform the Prayers and teach them the meanings and values of the Prayers.

Virtual Simulation Technology. This allows users to interact with a computerized man-made environment that mimics reality. It is usually used for educational purposes, because it enables the users to practice a rite, such as the Hajj, as if they were in that environment, hence prepares them for actually being there.

7. Scope of the Project

This project will cover the practical aspect of the Hajj only. Students will practice the Hajj through simulation technology. Teachers will need to align their instruction with this simulation for a different delivery method that covers the theoretical aspect of the Hajj. Students can practice its performance after they have learned most of its theoretical aspect.

This project has the following limitations:

1. This project will require support from the Saudi Ministry of Education to cover the costs for designing the virtual simulation, implementing the program in pilot schools, and holding some professional development sessions for teachers.

2. Some schools in Saudi Arabia do not have the technology resources needed to implement this project, or some have limited financial resources, which limits or eliminates the possibility of implementation of this project in some Saudi schools.

3.   Some Saudi Arabian classrooms have a large number of students, which can limit the use of simulation technology, especially in schools with limited technological or financial resources.

Chapter Two

Literature Review

8. Introduction

As technology develops each day, educational technology is advancing in efficiency. Simulation technology creates an environment that is very similar to reality, where learners can explore and learn in a safe, non-threatening environment with no risks or fears. This learning style makes it easier for students to explore new environments and to practice skills by allowing the students several attempts at a certain task until they achieve its desired result. Simulation technology also enables students to explore new information and practice what they have learned individually or in peer groups. This method allows students to learn at their own paces, to review the material as slowly or quickly as they need to do.

In many Saudi schools, the Hajj is taught through traditional learning methods such as the textbook. Other teachers in Saudi schools use video clips of the Hajj to facilitate student learning. These methods are ineffective when used alone, because they do not allow the learners to understand the whole idea of the Hajj. It is very hard for the students to fully understand all the Hajj aspects based on hearing about it from a book or watching a video clip about it only.

Thus, a virtual simulation of the Hajj can provide the learners with a safe environment that can cover all aspects of the Hajj, let the students explore them easily, and allow them to experience the Hajj more realistically in a more enjoyable way. This project will use a virtual simulation of the Hajj area that students can navigate while interacting with each other. Students will see, listen, think and interact all at once. The aim of this project is to improve students' performance and learning outcomes in the Hajj unit through virtual simulation.

As most eighth graders in Saudi Arabia have not yet experienced the Hajj, this simulation will enable them to practice it in a safe environment in the convenience of their homes or classrooms, thus preparing them to do the Hajj accurately and safely in the future.

9. Theory/Rationale

This project will follow the constructive theory of learning, because: "Constructivist principles are fundamental, underlying our understanding of learning in a virtual reality environment… Without doubt, a constructivist understanding provides learners more freedom to select and coordinate their learning processes with other learners" (Huang, Rauch, &Liaw, 2010, p. 1173). Constructivists believe that students gain knowledge and develop skills based on previous experiences.

Teachers will be encouraged to introduce the content to the students using the traditional lecture method; after that, the students will use the information from the lecture to explore and navigate the virtual simulation of the Hajj. This method helps learners to communicate with each other—which helps them to develop communication skills—and to use higher-order-thinking skills, all in a fun learning environment of highly interactive virtual experiences that are models for real-life experiences.

The quality of student learning is affected by the level of effort teachers put into planning the lessons. Incorporating more than one approach into the lessons can provide the learners with the best of each approach, which hopefully leads to better learning outcomes. Research has shown that a blend of traditional and online instruction is one of the most effective instructional methods (McCown, 2010).

In this project, the teacher will begin by presenting the content to the learners, and then the students will use that content to develop their knowledge through the virtual simulation process. The students can go over the material as many times as they need—in fact, the more practice time they take, the better they will master the material. They can also navigate through Makkah and the Hajj areas from home. At home, students will be required to do online activities such as blogs, using Web 2.0 and other tools, to practice higher-order thinking, because when students write blogs or comment on each other's, they will be evaluating and analyzing, not just memorizing. A blended method of classwork, virtual simulation and online activities would be the best fit for my students and my subject area.

10. Research/Evaluation

Islamic Studies - Teachers and Technology.Islamic Studies cover many different areas that can be taught in multiple ways. Since technology can help students achieve better learning outcomes, it is important to know Islamic Studies teachers' attitudes toward integrating technology into their lessons and whether or not they find the technology useful. When teachers are well trained in this technology, they would be more open to using it in their classrooms (Harvey & Wilson, 1985), and research shows that, in general, they have positive attitudes toward doing so (Razak, Othman, Hamzah, &Zulkifli, 2014).

However, many Islamic Studies teachers lack the skills they need to apply technology to their instruction, and many do not know how to use the Internet to deliver knowledge or to communicate with their students (Razak et al., 2014). Furthermore, the large workloads Islamic teachers bear do not allow them enough time to receive training in technology (Meerah, 2003). A study conducted by Razak et al. (2014)

found a strong relationship between Islamic Studies teachers' level of readiness in technology and their attitudes toward it: when teachers have the ability to use technology, they can be more motivated to use it in their teaching. "With the initiation of Information and Communication Technology, teachers can diversify their teaching methods and even can improve the quality of teaching by using various facilities available in ICT" (p. 153).

Islamic Studies: Students and Technology. Technology has a stronger impact in the classroom when students are involved in it as well. Students in general have positive attitudes toward technology, and Islamic Studies students are very open to it (Noh, Omar &Kesan, 2013). In fact, many would prefer to learn through technology rather than through atraditional method of instruction.

In a study conducted by Noh et al. (2013) to determine influences on student achievement in Islamic Studies, one interviewed student said that he did not find Islamic Studies to be boring in itself, but that it can become boring when the teacher uses traditional methods such as reading from a book only. This method also made it harder for him to understand the subject. On the other hand, Farsi (2016) conducted a comparative study focusing on teaching the Islamic Prayer to primary-school students in Saudi Arabia, for which the researcher designed interactive Islamic Prayer software, a virtual simulation game that teaches student how to perform the Prayer. The students loved this method of learning and wanted to continue using the software after class. The study showed that this approach conduced to a more enjoyable learning environment, hence better academic performance.

Computer-based Games and Students' Motivation. The aim of this project is to increase students' academic performance in the Hajj unit. To do so, they need to be both motivated to learn and highly engaged in the learning process. Games have been proven to motivate students, especially teenagers, to learn, as they increase students' engagement in and focus on the educational material (Papastergiou, 2009).

This project's Hajj simulation will be designed as a game in which students explore and practice simulated Hajj rites while interacting with each other, as they do in video games. This is in line with the result of a study that aimed to test a game's effectiveness in engaging and motivating students to learn history. The researchers used two large sample populations: a 'control' group, taught through a traditional learning method, and an 'experimental' group, taught by using a developed game. The results showed no significant differences between the groups in motivation to learn history, but the students who used the developed game were more engaged in the learning process and gained more knowledge than those who received traditional instruction (Huizenga, Admiraal, Akkerman& Ten Dam, 2009).

In addition, Merchant, Goetz, Cifuentes, Keeney-Kennicutt, & Davis (2014) conducted a meta-analysis to examine the effect of virtual reality on students' educational outcomes. The results indicated that games, virtual worlds and simulation enhance students' academic achievement, and that games are the best of the three aforementioned methods. The study also indicated that students perform better when they play the game individually.

Interestingly, research also shows that boys tend to get more involved in virtual simulation games than girls, but that academic achievements do not significantly differ between the genders (Papastergiou, 2009).

Simulation Technology. Simulation technology, especially physical simulation, has been used and tested in many areas and has shown very good results. It is used in aviation schools to train pilots through virtual flight simulators. Medical schools use virtual simulations in training surgeons (Aggarwal, Ward, Balasundaram, Sains, Athanasiou&Darzi, 2007). It is also used to train firefighters how to deal with emergency situations and critical cases, letting them practice as if they were in the real situation, but without the risks. These are examples of how virtual environments allow learners to make decisions without the risk of making a wrong one, and to sharpen their skills in a fun, non-threatening way.

In the annual Hajj, millions of Muslims gather at the same place to do the journey. Preparing them for this in advance by using a Hajj simulation enables them to practice and learn the procedure in a safe environment without the pressure to "do it right." Thus, when they go to do the Hajj, they will be well prepared and will have a very good idea of what to expect. This will hopefully lead them to do a safer, more accurate Hajj.

To effectively integrate technology into the Hajj lessons, it is important to consider both the conceptual and practical aspects of the Hajj. A study was conducted in 2012 in a civil engineering course to determine whether incorporating computer simulations into teaching linear scheduling would lead the learners to some improvements in their understanding of the concepts and techniques of linear scheduling. In this study the population was divided into two groups: a 'control' group, taught through only traditional methods of linear scheduling instruction,

and an 'experimental' group, taught entirely through simulations technology. After completing the study, both groups answered a questionnaire designed to test their understanding of linear scheduling techniques. They were also asked to evaluate the particular teaching method they experienced in the study. The results showed that the group of students taught through simulation technology had a better understanding of the concepts and techniques of linear scheduling than the group taught traditionally. This study suggests that computer simulation technology is a more effective teaching method for linear scheduling techniques than traditional teaching methods (Forcael, Glagola& Gonzalez, 2012).

Simulation technology can help the student learn faster as well. A 2007 study aimed to discern the differences in learning outcomes for laparoscopic cholecystectomy by training two random groups of surgeons with no differences in basic skills. The 'experimental' group was trained through a virtual reality curriculum, while the 'control' group was trained with traditional methods. The study did not reveal huge differences between the groups in terms of performance, but the results showed that the learning duration of the 'experimental' group was shorter than that of the control group (Aggarwal et al., 2007). Using a Hajj simulation to teach the Hajj would hopefully lead to similar results.

11. Summary

In a place where millions of people are gathered at the same time, like the Hajj, many accidents can happen, but if most of the people are fully trained, mistakes that can lead to serious injuries and even death can be reduced.

The virtual simulation of the Hajj gives learners a full experience that cannot be obtained through mere reading or listening. Simulation technology takes learning to a level at which the students are in charge of their own discoveries. Simulation technology, as a tool, has been tested in many areas, and the results have shown it to be very effective in enhancing students' learning outcomes, academic performances, and motivation to learn.

Simulation also allows effective interactions between the students to occur while they enjoy the learning process. This fun environment also encourages students to prolong the learning time without feeling bored, and also provides them with instant feedback that helps to guide their learning. In these safe environments, students are stress-free so they can take the time they need and practice as many times as necessary with minimal worry. Instructional and educational technologies, especially virtual simulation, motivate and encourage students to participate in the lessons. Also, games can help students to develop teamwork skills as well as problem-solving skills, due to the decisions they need to make while playing the game.

Admittedly, not many Islamic Studies teachers employ technology. Yet many have the desire and potential to do so. Therefore, more training and professional development would enable them to use more technology in teaching. Students would love that to happen, because they are drawn to technology for both education and recreation.

Unfortunately, little research has tested the effectiveness of virtual simulation technology in Islamic Studies instruction in Saudi Arabia. Much of the available research took place in other Islamic nations,

mostly in Malaysia. Despite the religious similarities between Saudi Arabia and Malaysia, they differ in many cultural and societal aspects, and in their curricula. These differences can limit the applicability of the research findings. Future research on this topic should be conducted in Saudi culture settings.

12. Conclusion

Many studies have proven that simulation technology can enhance the outcomes of the learning process by creating safe virtual environments similar to reality for students to explore. Teachers are strongly encouraged to integrate this technology into their lesson plans, because it can enhance students' academic performance and motivation to learn.

The findings of this literature review support the use of simulation technology in teaching the Hajj to eighth graders. I will be incorporating this technology into the lessons to achieve the desired educational goals and learning outcomes.

As educators, we always seek more effective learning tools that can help our students to achieve their learning targets and to perform better. With the diverse needs of different students in each class, well-planned lessons, with the help of technology, can meet each student's needs. Virtual reality simulation of the Hajj can help our students to perform the actual Hajj better and give them a better understanding of the theoretical aspects of the Hajj.

Chapter Three

Project Description

13.Introduction

Islamic Studies teachers in Saudi Arabia rely heavily on traditional learning methods to teach Islamic subjects, which results in students' struggles to understand and master the Islamic lessons. A large number of eighth graders in Saudi schools are experiencing this difficulty with the Hajj unit, which is taught mostly through lectures, making it harder for students to fully understand this crucial journey.

This project intends to provide learners with superior knowledge acquisition methods and more effective learning experiences by engaging them in an interactive virtual environment that mimics the Hajj. The project is also concerned with increasing student performance in Hajj topics, which is not going well in the Hajj unit due to the complexity of the material and the inefficiency of the teaching methods. To that end, this project aims to replace those traditional methods with more efficient, technology-based ones.

This chapter will start with a brief review of the project components, followed by a description of the project's assessment and evaluation methods and their measurement of success. Then the project conclusions will be addressed, appraising the researcher's findings. Finally, this chapter will suggest ways to implement those findings, address some obstacles that may occur when doing so, and suggest topics for further research.

14. Project Components

The desired learning objectives of the Hajj unit are as follows:

1. Students will understand the significance of Hajj history.

2. Students will be able to determine the Hajj benefits of the Hajj for society and individuals.

3. Students will discover the Ihram rules.

4. Students will be able to perform Talbiyah correctly.

5. Students will be able to distinguish between the three forms of Hajj: Tamattu, Ifraad, and Qiraan.

6. Students will be able to practice performing the Hajj correctly.

7. Students will be qualified to perform the Hajj properly in the future.

In addition to the unit goals and learning objectives, there are specific lesson goals and benchmarks that are assigned with to each lesson individually, including such as the following:

- Students will be able to use Google Earth to identify the hajjHajj areas and the holy cities with at least 95% accuracy.

- Students will learn new techniques of searching for information in using a private sources and the Internet.

- Students will be able to use king the King Fahad national National library website (http://www.kfnl.org.sa/Ar/Pages/default.aspx) to locate and analyze related articles.

This project contains a number of lessons on the Hajj unit, which is a part of the Saudi Islamic Fiqh Curriculum for eighth graders. These courses are provided to the students through several means, most notably creating a virtual environment through created by the simulation technology and by following the constructive theory of learning. In this environment, students find themselves in the same environment as thea simulated Hajj ambiance, where students they learn through exploration.

Before using they begin to use the simulation, the teachers will explain the lesson so the students can get an overview and basic information using WebQuest (see Appendix C for samples), and then the students use and build upon the provided knowledge by thoroughly exploring and navigating the virtual simulation of the Hajj. To ensure maximum utilization of the lesson, the students, after the simulation, exercise on a number of online applications that comes in several forms, whether at home or at school. In addition, the students are required to write a short blog entry about what they have learned after each lesson, and to participate in the class online discussion.

Appendix A contains a variety of educational activities that are in line with the Hajj lessons to ensure students' performance.

Appendix B contains the survey that students will take after completing the Hajj unit in order to measure their impressions of and satisfaction with regard to the teaching method used.

Appendix C contains a WebQuest sample unit aligned with assessments.

15. **Project Evaluation**

The main goal for using the virtual simulation technology of the Hajj is to help students to better their performance of the Hajj. To evaluate this project, test its benefits for students, and measure its success or failure, different assessment methods will be used:

1. An experimental method. Two groups of students will participate in it: (a) the 'control' group, who will be taught the Hajj unit in a traditional lecture method with limited demonstration tools such as a textbook and a chalkboard; and (b) the 'treatment' group, who will be taught the Hajj unit through the developed method, in which the teacher will introduce the knowledge to the student, and then they will build upon that knowledge by navigating through a virtual simulation of the Hajj. Students will be required to complete in-class and online educational activities that are in line with the virtual simulation technology (see Appendix A for samples of the activities).

In the beginning of the unit, all students in both groups will take a two-page pre-test to determine their existing knowledge of the Hajj, including Hajj history, the importance of the Hajj, the benefits of the Hajj for individuals and society, the religious value of the Hajj, the Hajj rites, and the timing of the Hajj. The pre-test will comprise true-or-false equations, multiple-choice questions, and open-ended essay or short-answer questions. The pre-test results will give the researcher a clear idea of students' current knowledge about the Hajj, which will be very helpful for teachers. By the end of the unit, these results will also be compared to those of the post-test in order to determine the effectiveness of the developed method.

After the unit is over, all students in both groups will take a post-test that will be very similar to the pre-test in terms of format and topics covered. The results of the pre-test and post-test will be analyzed to determine the effectiveness of the developed method. If the 'treatment' group has shown improvement of at least 60% and no less than 20% more success than the 'control' group, then this project will be considered successful.

2. Teachers' activities. Teachers will be asked to observe students and take notes on their observations, perform continuous assessment of the efficiency of the technology, determine the progress of students' learning from the technology, and specify the obstacles students are facing. Those notes will be used to evaluate the project's effectiveness.

3. A questionnaire. After completing the Hajj unit, all students will fill out a questionnaire to measure the extent of their satisfaction in learning the Hajj unit using virtual simulation of the Hajj. The questionnaire will focus on several areas, from the students' perspective, covering topics including:

•   How much did you benefit from the simulation of reality in learning the Hajj unit?

•   How comfortable are you with this method of learning?

•   Are you satisfied with what you have learned?

•   Did you find the learning more enjoyable with the use of simulation?

Considering the results of the survey, a percentage of at least 80 percent positive results are required to consider this project successful (see Appendix B).

16.Project Conclusions

Teaching Islamic Studies to students in various stages of education, including the eighth grade, poses many problems, which are indicated by students' poor degrees in Islamic Studies courses and complaints from students and their parents of the difficulty of learning these courses. The problem lies in their failure to employ modern instructional technology, which studies have confirmed to be effective in increasing performance. One of these technologies is virtual simulation, which will give students an effective learning experience that is more useful and exciting as they are attracted to the use of electronic gaming in the educational process.

For this purpose, Islamic Studies teachers must be trained to use computers and technology effectively in the teaching process. They also need special programs to enable them to keep up with educational developments so they can replace memorization-focused methods with more effective means within a clear program and a specific timetable. Teachers must also be strongly encouraged to keep up with developments in technology at the time of their studies at universities.

Students, too, must be trained to use computers and technology effectively in the learning process, particularly to search for information properly so they may keep up with the rapid development in this area. There is a particular need to upgrade educational technology sources in Saudi schools, so both students and teachers there can make good use of those sources to teach the Hajj most effectively.

17.Plans for Implementation

This project's main goal is to help students perform better in the Hajj unit. It aims to do so by integrating technology into the Hajj lessons in a way that makes the teaching and learning process effective and more enjoyable for both students and teachers. For this plan to work at top efficiency, teachers must consider numerous factors that might limit their ability to benefit from this project, such as the lack of technology resources in their schools or the large numbers of students in their classrooms.

The researcher recommends the pursuit of more specialized studies in the field of simulation for the purpose of teaching Islamic Studies, so specialists can benefit from the results of the technological development of Islamic education in Saudi Arabia.

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