

Teaching of Science from an Islamic Perspective and Students' Learning Outcomes in Aljamea-Tus-Saifiyah University, Nairobi Campus, Kenya

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Abstract

This study sought to investigate effectiveness of teaching science from an Islamic perspective and students' learning outcomes in Aljamea-tus-Saifiyah, Nairobi, Kenya. The study was underpinned on the Constructive approach theory by Jean Piaget as the theoretical framework. Convergent parallel Mixed Methods design guided the study. A cross-sectional survey was used to collect quantitative data while the qualitative data was collected through a phenomenological design. The study was guided by one research questions: In what ways is the teaching of science from an Islamic perspective beneficial to the learners of Aljamea? The target population comprised of all the teachers and students of Aljamea. Fourteen teachers and seventy-nine students were sampled for this study. Data collection instruments were questionnaires and Interview Guides. Quantitative data analysis was done through SPSS software version 23 to generate frequencies and percentages that summarized data. Qualitative data was organized into themes and presented in direct quotes and narratives. Ethical issues were observed throughout the study. Key findings indicated that teaching science from an Islamic perspective had beneficial learning outcomes for the students in that it helped them better comprehend the epistles of Ikhwān al-Safa on natural science, strengthened their gratitude to the creator and acknowledged His presence, among others. The study recommended that Uloom Kawniyah books can be used in other schools owned by the Dawoodi Bohra community for academic purposes.

Keywords: Kenya, Islamic perspective, acknowledgement, gratitude, Aljamea –tus - Saifiyah Nairobi, mixed-methods

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I. INTRODUCTION

The relationship between religion and science is the subject of continued debate in philosophy and theology. To what extent are religion and science compatible? Are religious beliefs sometimes conducive to science, or do they inevitably pose obstacles to scientific inquiry?(Cruz, 2017).These are the questions many theologians and researchers seek to answer. According to Brooke (2011), most studies on the relationship between science and religion have focused on science and Christianity, with only a small number of publications devoted to other religious traditions. Relatively few monographs pay attention to the relations between science and religion in non-Christian milieus like Judaism and Islam as suggested by Clarke (2011). This is the reason that several Christian authors have attempted to integrate science and religion like Haught (1995) and Lamourex (2008). During the assimilation of western culture in India, Brown (2008) expounds that it prompted various revivalist movements that sought to reaffirm the cultural value of Hinduism. They put forward the idea of Vedic science, where all scientific findings are already prefigured in the Veda and other ancient texts.

A quantitative study was conducted by Berry (2019) in England on Primary school students' perspectives on questions that bridge science and religion. The questionnaire oversaw 16 primary schools in England with over 750 students aged 10–11. The findings indicated that students in this age group have begun to consider how science and religion relate and that while there is a diversity of positions, a significant proportion perceived science and religion to conflict. Therefore, it is essential for Aljamea-tus-Saifiyah whose foundations are on Islamic principles to teach science in such a way that students can critically think and respond to the manufactured conflicts between Islam and religion(Nassaji, 2019).

Syedi Najmuddin (1992) writes about knowledge movement that happened in the Dawoodi Bohra community and that resulted in the formation of Aljamea-tus-Saifiyah. When the centre of Dawat-e-Hadiyah was transferred from Yemen to India, it also meant the transposing of the literary treasures of the Dawat-e-Hadiyah to the new location. These treasures consisted of very valuable manuscripts brought from Egypt to Yemen and continually augmented thereafter. This transfer, however, was made more difficult and entailed

more strenuous efforts. It was a transfer to a non-Arabic area, being undertaken for the first time. It was more like a transplant, as it means carrying even the appropriate soil along with the sapling.

Syedi Najmuddin (1992) further writes that in India the teaching institution was always located where the seat of Dawat-e-Hadiyah would be. One hundred and fifty years ago it was brought to Surat where the seat of the Dawat-e-Hadiyah came by the 43rd Dai-al-Fatemi Syedna Abdeali Saifuddin^{RA}. It was known as Darse Saifee.

This oldest centre of Islamic learning in the sub-continent, nay Far East was given a new light by the 51st Dai al-Fatemi, when he initiated a new educational upsurge. Darse Saifee was developed on new lines. In tune with the Fatemi philosophy of blending the old and eternal with the new and beneficial, a philosophy known as *Sunnat Thaleth* (third tradition) along with the traditional subjects, new and modern subjects covering social and physical sciences, English language and literature were introduced. Probably it was the first Islamic Institute in India to introduce such subjects. With such a wide range of subjects and varied activities, it became aptly known as Aljamea-tus-Saifiyah (Najmuddin, 1992). A similar kind of reorientation and restructuring of human knowledge according to the Islamic perspective has been projected by (Shiekh, 2013) in his study on Islamic Education in Kenya a Case Study of Islamic Integrated Schools in Garissa County. In his study, the author presents examples of how one can achieve that especially in the field of science.

The 52nd al-Dai al-Mutlaq, His Holiness Dr Syedna Mohammed Burhanuddin^{RA} continued the development initiated by his predecessor. He widened the dimensions of teaching and learning and provided the campus with the latest technology to facilitate it. His Holiness Dr Syedna Mufaddal Saifuddin^{TUS}, 53rd al-Dai al-Mutlaq, is the benefactor of Aljamea-tus-Saifiyah today (Aljamea-tus-Saifiyah, A brief History, 2012-2018). Like his father, His Holiness^{TUS} consistently emphasises the importance of character and moral development alongside education and learning. He has indicated that the study of Fatimi texts and secular subjects in Aljamea should result in a student that is modest and humble yet confident in asserting the relevance and significance of Fatimi thought and culture in today's world. He or she should be able to embrace traditional education and contextualise it with modernity rather than sacrificing its principles and ideals at the altar of notions of progress.

Nasser (2012) elaborates in his research that teaching science from an Islamic Perspective can result in beneficial ways due to the teachers' view on Islam. He opines that teachers play an important role in transferring values of Islamic culture into students. Egypt is 90% Muslim country therefore it is predominantly obvious that it will cause no problem to the teachers or the students to learn and teach science from an Islamic perspective.

Cohering to Nkonge (2014) the subject of religion and science has become a new area of mission and study in Africa. He seeks to find out why religion continues to survive in today's scientifically developing Africa and shows how science affects mission in Africa and concludes that religion and science are distinct but inseparable entities which are both required in Africa. Therefore, Africa needs both of them for its survival and so they should be allowed to co-exist. However, McPhetres (2018) argues that religiosity predicts negative attitudes towards science and lower levels of science literacy. Contradicting to McPhetres (2018) the researcher feels that religiosity increases curiosity in science hence improves scientific literacy because a religious person seeks to investigate and understand the creator's wisdom in creation and how to use the scientific knowledge gained for the benefit of the mankind. Mansour (2012) writes that teacher's religious belief acts as a framework in teaching science from an Islamic Perspective. The more pious the teacher the more values and attitudes are transferred from the teacher to the student.

According to Wamalwa (2016), in a study conducted in Nairobi that science and religion play an important role in developing morality in Kenyan youth. He elucidates that the morality of the youths should be emphasized for a moral society tomorrow. He claims that both science and religion are unique realities in our lives and that how each can contribute uniquely to combating societal problems

It is thus essential for the teacher, parents and the Dawoodi Bohra community to be familiar with how religion and science have impacts on the learners' attitudes, values and beliefs. Thus this study sought to find out the teaching of science from an Islamic perspective and students learning outcomes in Aljamea-tus-Saifiyah, Nairobi, Kenya.

Statement of the Problem

According to Syedi Najmuddin (1980), Islam has a holistic view of learning. It considers it impossible to separate the mundane, empirical and spiritual aspects of man and his education. It was reported by Geary III (2013) in his study on Questions on Spirituality in Education that contemporary education is often devoid of the spiritual dimension and bereft of moral teachings necessary to lead a healthy life (Geary, 2013). Therefore, this study aims through the introduction of Islamic education to correct that imbalance and fashion the student's understandings of his world on the firm belief in a purposeful creation. Similar to the humanistic approach theory (Abend, 2013) it also insists that knowledge has to give rise to practise. Islamic education must, therefore, encompass all that is necessary to make education meaningful in daily life and propel the student towards the actualisation of what is learnt.

There is a concern that students in Aljamea seem not to be equipped with the Islamic concepts that should help them further in their study of Ikhwān al-safā on natural science. This is because the traditional science curriculum is void of some of the basic Islamic concepts like to acknowledge the creator, understand His wisdom in creation and pay gratitude towards him. Therefore, the teacher needs to incorporate these ideas while teaching science.

Many books and papers have been written on this topic discussing Islamic science but most of them only discuss the contribution of Islam in science (Bakar, *The History and Philosophy of Islamic Science*, 2013) and some of the natural science mentioned in al-Quran al-Majeed and Hadith of Prophet Mohammed ^{SA}, though some have written about the arguments on teaching science through Islamic perspective (Hill, 2014), but they have not specified on how one can put the basic research into practice in real life situations. This necessitates the need for current study to investigate the benefits teaching of science from an Islamic perspective in Aljamea-tus-Saifiyah, Nairobi, Kenya.

Theoretical Framework of the Study

This research paper was guided by the Constructivist approach theory to science as a theoretical framework proposed by Jean Piaget (1896-1980). Piaget's (1936) theory of constructivism argues that people produce knowledge and form meaning based upon their experiences. Jean Piaget, articulated mechanisms by which information from the environment and ideas from the individual interact and result in internalized structures developed by learners. He identified processes of assimilation and accommodation that are key factors in this interaction as individuals construct new knowledge from their experiences.

When individuals assimilate new information, they incorporate it into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding; for example, they may not notice events, may misunderstand input from others, or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations.

According to the theory, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or others' failure.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences.

Social constructivism or socioculturalism encourage the learner or learners to arrive at his or her version of the truth, influenced by his or her background, culture or embedded worldview. Historical developments and symbol systems, such as language, logic, and mathematical systems, are inherited by the learner as a member of a particular culture and these are learned throughout the learner's life. This also stresses the importance of the nature of the learner's social interaction with knowledgeable members of the society. Without the social interaction with other more knowledgeable people, it is impossible to acquire social meaning of important symbol systems and learn how to utilize them. Young children develop their thinking abilities by interacting with other children, adults and the physical world. From the social constructivist viewpoint, it is thus important to take into account the background and culture of the learner throughout the learning process, as this background also helps to shape the knowledge and truth that the learner creates, discovers and attains in the learning process.

This theory aids in constructing scientific knowledge and understanding through the prior knowledge of Islamic beliefs. It deals with how students can see science through Islamic lenses and further construct their understanding of the temporal and spiritual realm. It also helps the student to think independently using the hypothesis. It also supports according to what Khan (2015) concluded that religion and science are two sides of the same coin and that conflict between the two is deliberately manufactured. It is argued that problems arise when Muslims adopt a narrow, reductionist interpretation regarding the holistic concept of knowledge – whereas there are many facets to knowledge (Khan, 2015). Another fact that most students do not or very rarely see any connection between science studied in the school and Islamic beliefs, so this constructivism theory will enable the students to learn and steadfast their Islamic beliefs.

According to Wendy (2011), constructivism calls for the teacher to discard a standardized curriculum in favour of a more personalized course of study based on what the student already knows. This supports the

science curriculum in Aljamea that is personalised to the needs of the students in regards to the prior knowledge about Islam they have gained.

II. REVIEW OF RELATED LITERATURE

Available literature shows that studies have been done on how the teaching of science through Islamic perspective is beneficial to students. For instance, Bakar (2013) has written on *The History and Philosophy of Islamic Science in England*. He discusses the principles behind the different sciences cultivated in the Islamic world from the third century of the Islamic era onwards and the place of science concerning other branches of Islamic learning. In defining what Islamic science means, Bakar shows how these sciences are organically related to the fundamental teachings of Islam such as Avicenna', Ibn Sina was indeed a true polymath with his contributions ranging from medicine, psychology and pharmacology to geology, physics, astronomy, chemistry and philosophy. *The History and Philosophy of Islamic Science* illustrates what Islamic science shares with modern science. He also highlights where the Islamic approach to science differs from the secular, modern approach. He points out that modern science is void of the concept of believing in one creator and to revisit the work of Muslim scholars in the field of science and their contributions.

Bakar (2013) has used an unorthodox approach when dealing with science and religion. The main flaw in his approach is that he has not mentioned about the scientific facts that are present in al-Quran al-Majeed, such as embryo development through stages, planetary movements and states of matter. Rather has forcefully Islamized knowledge.

Studies have been done on Islamic Education. For instance, Jibia(2017) has elucidated the relevance of Islamic education in the modern world: a lesson for the 21st-century generation in Nigeria. The paper discusses the nature of the Divine education, the value of education in Islam, the syndrome of un-Islamic education, the critique of western (un-Islamic education) and finally proffers possible solutions to the problem of un-Islamic education in Nigeria(Jibia, 2017).The author discusses the value of education in Islam and retorts that Islamic education is not merely acquiring intellectual knowledge but it is a means of moulding the nature and character of individuals.

The author in the recommendations states that a conference needs to be arranged where Islamic scholars should gather and discuss a definite curriculum for Modern-Islamic knowledge covering all three sections but does not mention the fundamentals of an Islamic curriculum, such as what they are based on and how one should see them through the modern education which the current study addresses.

A descriptive study conducted by Shiekh (2013) about Islamic education in Kenya a case study of Islamic integrated schools in Garissa County.This study explored the challenges facing Islamic education in Kenya with specific reference to Islamic integrated schools that combines the national secular public school curriculum and Islamic education curriculum as taught in Madrasas and Quranic schools. The study utilized the phenomenological approach to capture and describe the essence of Islamic integrated schools as a social phenomenon and the challenges they face in providing two different types of knowledge with different values.Field data from Garissa County was used to confirm the findings of the study.Finally, the study identified the urban and ethnic bias of the Islamic Integrated schools' phenomenon.

The study did not provide key findings; further target groups and data collection instruments were also not stated which points out to the incredibility of the study. Therefore, the current study intends to fill the gap and provide all of the above in the study.

The author's statement that Islamization does not deal with scientific facts(Shiekh, 2013) displays the inconsistency of the author because as stated above about the fundamentals of Islamic knowledge one has to acknowledge the creator and His presence, so when studying physics one has to appreciate the perfectness and precision in all the laws of nature. By doing this then only one reaches towards the right goal of Islamic knowledge.

Review of the related literature that addressed science, religion and Islam. It also indicated that there is a need in the Muslim world to teach science from an Islamic perspective and to some extent it influences a change in values and attitudes in the Muslim students, though it has not been extensively dealt with.

Most of the related works of literature reviewed were global since there are more Islamic countries and Muslims outside Kenya and Africa. Moreover, there are more dedicated Islamic universities globally. Few studies have been conducted in Africa and Kenya about Islamic science and general Islamic education. Most of the reviewed studies did not capture the aspects of validity and reliability of research instruments which might have compromised the study findings. The current study addressed that to ensure the instruments had detailed content to gather the required information from the participants.

The reviewed literature also did not highlight the scientific position of Al-Quran, therefore, this study sheds light on that one has to keep in mind when reading al-Quran al-Majeed that it should not be treated as scientific encyclopaedia, the *aayat* should be understood metaphorically. As quoted by Khalili (Khan, 2015) Likewise, when Einstein famously said "God does not play dice" he was using a figure of speech to

acknowledge that there are things we don't yet understand but this shouldn't stop us from trying to find out more. The location of the study as reviewed; none has been done in Aljamea-tus-Saifiyah, Nairobi, Kenya.

III. METHODOLOGY

This study used a mixed-method approach particularly convergent parallel design that comprises of both quantitative and qualitative research designs. According to (Creswell, 2011) in a convergent parallel design, the researcher concurrently collects the quantitative and qualitative data in the same phase of the research process, weighs the methods equally, analyses the two components independently, and interprets the results together. The purpose of this design was to emphasis in gathering, analysing and mixing both quantitative and qualitative data in a single study.

This study used a cross-sectional survey to collect quantitative data. It helped the researcher to investigate the teaching of science from an Islamic perspective and students' learning outcomes in Aljamea-tus-Saifiyah, Nairobi, Kenya. The researcher collected information across various categories of teachers and students in the same institution.

The researcher targeted Aljamea Nairobi campus Kenya as an institution of learning, 144 teachers and 794 students from this campus. This gives us a total of 938 participants targeted. The sample size for this study was seventy-nine students of standard eight and nine and fourteen teacher teaching in these classes..

The researcher used a stratified random sampling method to identify the research participants from standard eight and nine. Students were stratified into two groups of standard eight and nine. This was done because each standard studies different epistles of Ikhwan al-Safa on natural science.

Data from students were collected using questionnaires, while interview guides were the data collection instruments used to collect data from teachers. Quantitative data were analysed by the use of SPSS software. Data obtained from interviews was organized into according to research questions to generate themes that were presented in direct quotes and narratives.

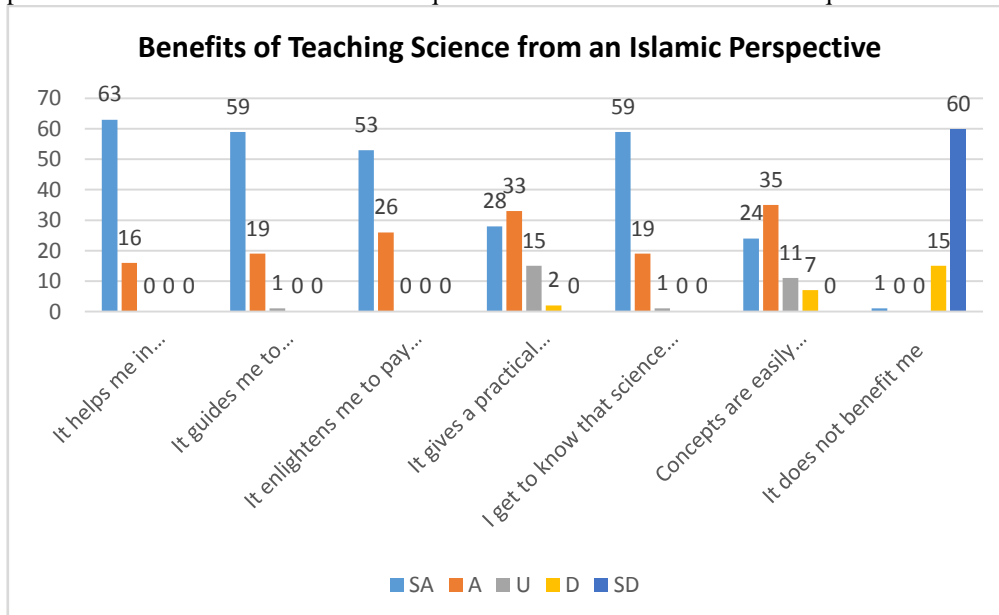
IV. FINDINGS AND DISCUSSIONS

This sought to find the ways in which the teaching of science from an Islamic perspective beneficial to learners in Aljamea-tus-Saifiyah Nairobi campus. The respondents were issued a list of statements that best expressed their opinion on a Likert scale from 1 to 5 where 1= Strongly Agree, 2= Agree, 3= Undecided, 4= Disagree, 5= Strongly Disagree. Strongly agree and agree were combined as a positive response while disagreeing and strongly disagree were incorporated as negative responses.

Benefits of Students Learning Science from an Islamic Perspective

The first research question asked the study participants to state the benefits they obtain through teaching and learning of science from an Islamic perspective. Students were given several statements which they were required to indicate their level of agreement using the following Likert scale.

Figure 1 Cluster Bar Showing Benefits of Teaching Science from an Islamic Perspective. Y-axis indicates the response rate and the X-axis indicates the questions students were asked in the questionnaire survey.



As shown in figure 1, most of the students strongly agreed that teaching science from an Islamic perspective benefit them. The researcher categorised the benefits according to the fundamentals of Islam. They are to acknowledge the creator, to understand Allah's wisdom in creation, to pay gratitude towards the creator, it gives a practical dimension to the classroom and science is an essential part of religion. To list down few examples, students when learning about the intricate design and the complexities in the human body they are guided to contemplate and deduce that there has to be a creator behind this awe-inspiring structure. Students are taught to pay gratitude towards Allah when studying about the bounties such as water, air and land, if they were not to be how would they survive? About 80% of the students strongly agreed that it helps them acknowledge the presence of the creator, while 20% also agreed on the same. Students ponder and contemplate carefully in al-Quran al-Majeed and see that where ever creation is mentioned it has referenced it to Allah Ta'ala. So this is one of the ways it means through the light of al-Quran – means through the guidance of al-Quran al-Majeed that is to relate the creation to Allah Ta'ala and to empirically believe that Allah Ta'ala has created everything.

The findings of this study concur with Maigidia (2017) study on knowledge in modern education and its scriptural justification in Islam. In the study Maigidia argues for the positive disposition of Islam to seek knowledge and justification and evidence from al-Quran and al-Hadith. Therefore there is a need to study al-Quran in such a way that it guides towards a holistic learning.

The researcher found out that 75% of the students strongly agreed that teaching science from an Islamic perspective guides them to understand Allah Ta'ala's wisdom in creation while 24% of the students agreed on the same, however 1% of the respondents were undecided. The researcher did not find this aspect in any of the reviewed literature therefore it is the unique point of this current study. Students understand scientific examples through understanding Allah Ta'ala's wisdom, for example why we humans have teeth and birds have beaks. Students here ponder and comment that it was due to Allah's wisdom that it made birds fly to accommodate it gave bird's beak to reduce jaw bone weight.

Paying gratitude towards Allah is one of the most important fundamentals of Islamic belief so the researcher sought to find out that teaching science from an Islamic perspective help student reach that goal. The majority of 67% of the students strongly agreed that teaching science from an Islamic perspective enlightens them to pay gratitude towards His bounties, while 33% also agreed on the same. Science through Islamic perspective guides students to be aware of their surrounding and thank the provider. This enables them to use every resource with utmost care and diligence. Therefore, this study is in line with the findings of Abdullah (2012) who sheds light on conservationist approach in nature in his study on Islamic Eco-cosmology in Ikhwan al-Safa view. He retorts that humans to have an attitude of paying thanks to the creator when using natural resources, this attitude will bring about a change in moderate use of resources therefore will result in homeostasis. The findings of this study and the concurred reviewed literature suggest that paying gratitude towards the creator should be implied to all science lessons.

Regarding as to whether the resourcefulness of the content that is taught through Islamic perspective, 36% of the students participants strongly agreed that teaching science from an Islamic perspective gives a practical dimension to the content while 42% also agreed that. On the other hand, 19% were still undecided and 3% disagreed. One of the core values of Islamic knowledge is to display knowledge through application. Students of Aljamea-tus-Saifiyah get an opportunity to practice what they learn in the real life. One of the examples is given in the appendix VI in regards to application of knowledge. Therefore, the findings of this study agrees with that of Khalili (2016) that the rise in the development in the Muslim world in the 16th and the 17th century was due to usage of knowledge by the scholars in solving problems of the society. It also coincides with the findings of Abdulaziz (2017) where he discusses various avenues about practical implementation solution of Islamic education and bringing about a modern technological change. Therefore, the researcher deems it very important that all knowledge should be reflected through application and it is also what the participants agreed upon.

The researcher investigated about the unification of science and religion through teaching science from an Islamic perspective and students responded to the statement that they get to know that science is strongly related to religion. The majority of 75% of the students strongly agreed and 24% agreed on that statement while 1% was undecided. Students of Aljamea-tus-Saifiyah are taught science under one umbrella of Uloom Kawniyah underpinning that knowledge is one. It considers it impossible to separate the mundane, empirical and spiritual aspects of man and his education. Contemporary education is often devoid of the spiritual dimension and bereft of moral teachings necessary to lead a healthy life. Islamic education seeks to correct that imbalance and fashion the student understandings of his world on the firm belief in a purposeful creation. One of the teacher quoted “*we believe that all knowledge is descended from one source that is Allah, so who are we to separate it*”.

These were in line with the findings of Nkonge (2014) that religion and science are distinct but inseparable entities which are both required in Africa. Therefore it is imperative for Aljamea-tus-Saifiyah to up bring its students on this philosophy of unification to encourage them to seek all knowledge and benefits everyone.

The researcher stipulated the understanding of the concepts through the teaching of science from an Islamic perspective. About 31% of the respondents strongly agree that concepts are easily understood and 46% of them also agreed. 14% responded as being undecided while 9% disagreed. Students can easily understand some scientific concepts when given examples from their real-life, which is the approach Uloom Kawniyah has taken. To make students understand the concept of different types of motion such as circular motion, example of moving around the holy Kaaba would help them understand in one go. One of the student quoted *"for me comprehending cell and organelles was first difficult, but after my teacher related it as Aljamea, cell as a university, it became very clear and easy"*. However, none of the reviewed literature discussed this point therefore; researcher intends to fill the knowledge gap through this current research.

To conclude on the results of the outcomes, the researcher investigated the negative aspects of teaching science from an Islamic perspective where the majority of the respondents strongly disagreed. Although, 79% of the respondents strongly disagreed and 20% disagreed, 1% of the respondents were undecided. One teacher participant quoted *"Islamic education is a way of life for the students of Aljamea-tus-Saifiyah; therefore, there would not be anything that does not benefit them"*. The findings of this study agreed with Fatuma (2012) in her study on the role of Islamic education programme in moral and religious development of learners. In her study she affirmed that this kind of education helps in moulding future members of society.

V. SUMMARY

This study investigated the teaching of science from an Islamic perspective and students' learning outcomes, a study of Aljamea-tus-Saifiyah, Nairobi campus. It was supported by the constructivism theory guided by the following one research question: In what ways is the teaching of science from an Islamic perspective beneficial to the learners?

From the analysis of data for this study, teaching science from an Islamic perspective in Aljamea-tus-Saifiyah has significant beneficial outcomes on students' science learning experience. According to most of the participants, teaching science from an Islamic perspective helps them adhere to the Islamic principles of believing in one creator – Allah Ta'ala and to be in His obedience, comprehending His wisdom in creation, paying gratitude towards His bounties and using the knowledge for the betterment of mankind.

VI. CONCLUSIONS

The participants were classified according to classes in which the epistles of Ikhwān al-Safa to find out the learning outcome of teaching science from an Islamic perspective. All the data was collected from teachers and students of Aljamea tus-Saifiyah. As indicated by the findings of the study, there was a significant positive impression of teaching science from an Islamic perspective in regards to the fundamentals of Islam. Despite all the researched positive and challenges of teaching science from an Islamic perspective, the participants had positive outcomes on their academic performance.

VII. RECOMMENDATIONS

Dawoodi Bohra Community

The findings of this research will be used in schools owned and run by the Dawoodi Bohra community such as Al-Madrasa Saifiyah Burhaniyah to emphasis on the teaching of science from an Islamic perspective. Uloom Kawniyah books should be widely used in schools and religious institutions owned by the Dawoodi Bohra community because it is the fundamental belief of the Dawoodi Bohra community to look into any knowledge in the light of al-Quran and the saying of Rasulallah ^{SA}.

Teachers

The findings of this research will aid the teachers to construct their understanding about teaching science through an Islamic perspective. Further it will also guide teachers of Ikhwan al-Safa in Aljamea-tus-Saifiyah to develop their lesson plans and incorporate concepts from Uloom Kawniyah books. This will help them to relate contemporary ideas with the concepts in Ikhwan al-Safa.

Students

The findings of this research will be of assistance to the students Aljamea-tus-Saifiyah and will enhance them and better equip them in understanding the epistles of Ikhwan al-Safa on natural science. It will help them to be steadfast on their religious believes rather than having confused thoughts on creation, more specifically on the theory of evolution. It will also aid them in guiding the other members of the Dawoodi bohra community when they go for community service.

Curriculum Developers

The findings of this research will also be of help to the local, regional and other Islamic schools to assess and evaluate the current methodology of teaching science through Islamic perspective in Kenya and all around the world.

REFERENCES

- [1]. Abdi, A. A. (2017). Integration Of Islamic And Secular Education In Kenya: A Synthesis Of The Literature. *International Journal Of Social Sciences And Humanities Research*.
- [2]. Abend, G. (2013). *Usc Libraries*. Retrieved From <https://libguides.usc.edu/writingguide/theoreticalframework>
- [3]. Aljamea-Tus-Saifiyah. (2012-2018). A Brief History. Retrieved From jameasaifiyah.edu/philosophy-history/realisation-of-aljamea-tus-saifiyah/
- [4]. Aljamea-Tus-Saifiyah. (2015). *Uloom Kawniyah*. In *Biology* (P. 2). Mumbai: Dawat-E-Hadiyah.
- [5]. Al-Kalili, J. (2016, March). *Islamic City*. Retrieved From <https://www.islamicity.org/9542/science-in-a-golden-age-optics-the-true-nature-of-light-2/>
- [6]. Altwajiri, D. A. (2017). Strategy For The Development Of Education In The Islamic World. First Isesco Conference Of Education Ministers.
- [7]. Bakar, O. (2013). *The History And Philosophy Of Islamic Science*. Cambridge, United Kingdom: The Islamic Texts Society.
- [8]. Berry, B. (2019). *Teacher Leadership: Prospects And Promises*. Research Article, Pp. 272-278.
- [9]. Brooke, J. H. (2011). *Science And Religion Around The World*. Oxford University Press.
- [10]. Brown, M. (2008). *Good Religion Needs Good Science*. Church Of England.
- [11]. Clark, K. J. (2011). Reidian Religious Epistemology And The Cognitive Science Of Religion. *Journal Of The American Academy Of Religion*, , 79: 639–675.
- [12]. Creswell. (2011). A Convergent Parallel Mixed-Methods Study Of Controversial Issues In Social Studies Classes: A Clash Of Ideologies. *Educational Sciences: Theory & Practice*.
- [13]. Cruz, H. D. (2017). *Religion And Science*. Stanford Encyclopedia Of Philosophy.
- [14]. Darraz, M. A. (2012). *Islamic Eco-Cosmology In Ikhwan Al-Safa's View*. Maarif Institute For Culture And Humanity, 134-135.
- [15]. Geary, J. M. (2013). *Questions Of Spirituality In Education*. University Of Illinois At Urbana-Champaign.
- [16]. Hill, C. (2014). *The Walking Qur'an: Islamic Education, Embodied Knowledge, And History In West Africa*. The University Of North Carolina Press.
- [17]. <https://www.jameasaifiyah.org/teacher/adashboard.aspx>. (2020). *Dashboard*. Retrieved From <https://www.jameasaifiyah.org/teacher/adashboard.aspx>
- [18]. Jibia, A. A. (2017). *The Relevance Of Islamic Education In The Modern World: A Lesson For The 21st Century Generation*. The International Conference Of Nurset Educational And Cultural Co Ltd.
- [19]. Khalili, J. (2009). *Islam And Science*. London, United Kingdom.
- [20]. Khan, Y. (2015). *The Guardian*. Retrieved From *Humanist Vs Islamic Perspectives On Science And The Modern World*: <https://www.theguardian.com/science/blog/2015/nov/06/humanist-vs-islamic-perspectives-on-science-and-the-modern-world>
- [21]. Maigidia, A. Y. (2017). *Knowledge In Modern Education And Its Scriptural Justification In Islam: The Focus On Nigeria*. *Academia*, 1-12.
- [22]. Mansour, N. (2010). *Science Teachers' Interpretations Of Islamic Culture Related To Science Education Versus The Islamic Epistemology And Ontology Of Science*. *Cultural Studies Of Science Education*.
- [23]. Mugenda, A. A. (2012). *Quantitative And Qualitative Approaches*. *Research Methods*.
- [24]. Mw, F. K. (2012). *The Role Of Islamic Integrated Education Programme In Moral And Religious Development Of Learners In Selected Islamic Secondary Schools In Nairobi County*. In *Partial Fulfilment Of The Requirements For The Award Of The Master Of Arts Degree In Religious Studies In The University Of Nairobi*.
- [25]. Najmuddin, D. Y. (1992). *75 Momentous Years*. Mumbai: Department Of Statistics And Information.
- [26]. Nassaji, B. B. (2019). *Primary School Students' Perspectives On Questions That Bridge Science And Religion: Findings From A Survey Study In England*. *British Educational Research Journal*.
- [27]. Nasser, M. (2012). *Science Teachers' Views Of Science And Religion Vs. The Islamic Perspective: Conflictive Or Compatible*. Graduate School Of Education, University Of Exeter, St. Luke's Campus.
- [28]. Nkonge, K. D. (2014). *The Relationship Between Religion And Science In Mission: Reflections From An African Christian Perspective*. Chuka University, Department Of Arts And Humanities.
- [29]. *Piaget's Theory Of Constructivism*. (2020). Retrieved From *Teach-Nology*: <https://www.teach-nology.com/currenttrends/constructivism/piaget/#:~:Text=Piaget's%20theory%20of%20constructivism>

- %20argues,Meaning%20based%20upon%20their%20experiences.&Text=Accommodation%2c%20on%20the%20other%20hand,In%20which%20the%20world%20operates.
- [30]. Shiekh, A. S. (2013). Islamic Education In Kenya A Case Study Of Islamic Integreted Schools In Garissa County. International Institute Of Islamic Thought .
- [31]. Wamalwa, M. (2016). Youth And Morality In Kenya: The Role Of Science And Religion. Journal Of Applied Management Science.

Huzefa Jivanjee. "Teaching of Science from an Islamic Perspective and Students' Learning Outcomes in Aljamea-Tus-Saifiyah University, Nairobi Campus, Kenya." *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 25(11), 2020, pp. 15-23.