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The Influence of the Quranic STEM Approach on Da'wah Development in the Digital Era

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Keywords
Quranic STEM; Da'wah; Digital Era

Abstract
Science, Technology, Engineering, and Mathematics (STEM) are included in the Qur'an, so they can be called Quranic STEM (Q-STEM). The purpose of the study is to find out how Quranic STEM has an influence on da'wah development in the digital era. The research method used is quantitative, with the Kolmogorov-Smirnov normality test (K-S) precondition test and the Levene homogeneity test with Cronbach's Alpha threshold value, as well as hypothesis testing with the t test. The study was conducted on the student population of the Campus Da'wah Institute (LDK) at IPB University with a purposive sampling of as many as 84 people. The results of the normality test found that the Q-STEM variable got a sig value of 0.20 > 0.05 and the digital era da'wah variable 0.20 > 0.05, so that the data was normally distributed. Then, the homogeneity test results were obtained at 0.071 > 0.05, so the data was homogeneous. The results of the t-test hypothesis test were obtained at 0.00 < 0.01, indicating that the research found that Q-STEM had a significant influence on the development of da'wah in the digital era.

Kata kunci
STEM Alquran; Dakwah; Era Digital

Abstrak
Science, Technology, Engineering, dan Mathematics (STEM) terdapat dalam Al-Qur'an sehingga dapat disebut sebagai Quranic STEM (Q-STEM). Tujuan dari penelitian ini adalah untuk mengetahui bagaimana Q-STEM memiliki pengaruh terhadap pengembangan dakwah di era digital. Metode penelitian yang digunakan adalah kuantitatif dengan uji normalitas Kolmogorov Smirnov (K-S) sebagai uji persyaratan dan uji homogenitas Levene dengan nilai ambang Alpha Cronbach, serta pengujian hipotesis dengan uji t. Penelitian ini dilakukan pada populasi mahasiswa Lembaga Dakwah Kampus (LDK) IPB University dengan pengambilan sampel sebanyak 84 orang. Hasil uji normalitas menunjukkan bahwa variabel Q-STEM mendapatkan nilai sig sebesar 0,20 > 0,05 dan variabel dakwah era digital sebesar 0,20 > 0,05 sehingga data terdistribusi secara normal. Kemudian, hasil uji homogenitas diperoleh nilai 0,071 > 0,05 sehingga data homogen. Hasil pengujian hipotesis uji t didapatkan nilai 0,00 < 0,01 sehingga penelitian menemukan bahwa Q-STEM memiliki pengaruh yang signifikan terhadap perkembangan dakwah di era digital.

Introduction

Science, technology, engineering, and mathematics (STEM) is a combination of science, technology, engineering, and mathematics disciplines to develop creativity in solving everyday problems (Karmiati et al., 2021). STEM is used to overcome real-world situations based on problem-solving processes so that they can improve skills in critical thinking, cooperation, communication, and creativity (Siregar, 2022). In the Qur'an, some verses explain STEM, which is termed "Quranic STEM." Quranic STEM also called Q-STEM is a STEM approach derived from the interpretation of the Qur'an (Marwiyah, 2022). This approach was developed to help people understand Qur'anic verses more deeply and dive into their content from different points of view to gain a more holistic understanding of life. However, in terms of science the term Q-STEM has never been used, arguably first appeared in this study. Some are familiar with scientific interpretation, but Q-STEM only focuses on four fields namely science, technology, engineering, and mathematics, so it is termed "Quranic STEM" or Q-STEM.

Q-STEM needs to be carefully discussed as an approach that can be used in various fields, one of which is in da'wah. Data from the Central Statistics Agency (BPS) in 2021 from the Susenas survey shows that the population in Indonesia has reached 53.73% who have accessed the internet (BPS, 2021). This means that more than half of Indonesia's population of 275.8 million people now needs to be reached through da'wah in the digital space. Da'i must be able to develop *soft skills* and master technology so that the methods and materials of da'wah delivered are modern, practical, and comprehensive (Raicita, 2020). Western culture has penetrated the digital world, such as films, comics, songs, video content, stories, and others that contain thoughts, words, and habits that do not follow Islamic values. Therefore, da'wah needs to utilize Q-STEM in developing strategies so that greatness spreads in the digital space, can reach people easily understood, and can solve daily problems. The benefits of STEM for Muslims can facilitate matters of worship such as determining prayer times, determining zakat doses, determining the dates of lunar and solar eclipses, and many others. Not all believers realize this benefit because it is not balanced with the spread and implementation of the Q-STEM approach in practice. STEM which is expected to be able to improve the quality of human resources (HR) in the field of education in Indonesia since 2015 until now has not all been applied (Fathoni et al., 2020).

Da'wah in the digital era is important to bring up new thoughts, movements, and findings so that people are always aware of the direction of their life goals that have been stated in the Qur'an. According to (Harriguna & Wahyuningsih, 2021), another problem found by modern humans is how to live under religious teachings contained in the text of the Qur'an but not contrary to the times. How to be authentic (original) as well as modern? According to (Asmar, 2020), this question that Allah has answered to through the Qur'an, is just how Muslims can design their lives so that they continue to develop along with increasing knowledge in the digital era. Da'wah in the digital era prioritizes knowledge and intelligence and can no longer use traditional methods (Muhtadi et al., 2020). The

da'wah method is considered necessary to make effective innovations in line with the changing times. Da'wah in the digital era must indeed have strategies from various approaches, including the Q-STEM approach.

Examples of existing STEM applications, one of which is the explanation of the rain process on the Met Office-UK Weather YouTube channel. In the video, rain is only explained in terms of science, not yet associated with verses of the Qur'an. If based on the Quranic STEM concept, the explanation of rain is based on Surah Al-Baqarah verse 22, then explained from the side of science. In making one video, of course, there is the application of the technology used, such as computers, editing applications, voice recorders, and others where the process it also has engineering and mathematics.

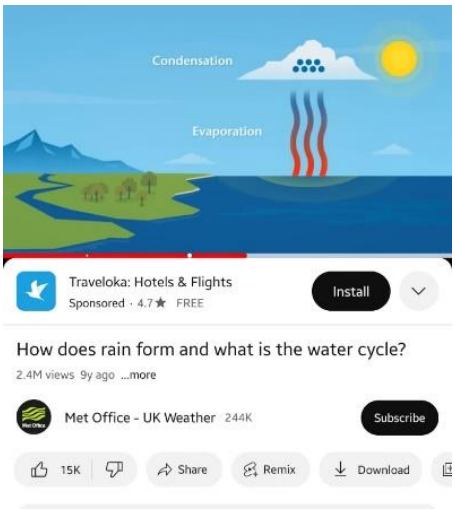

Figure 1. Rain Process

Studies on STEM and da'wah are still rarely carried out, so to see identical studies between STEM and da'wah, researchers separate them into science-da'wah research, technology-da'wah, da'wah-techniques, and mathematics-da'wah. Rohim (2018) in his research entitled "Acculturation of Science: Means of Islamic Da'wah in the Post-Modern Era" shows that science can be used as a tool to strengthen da'wah. In the post-modern era like now, religion needs to be delivered with anthropic-spiritualism principles that place humans as the central subject, as well as increase spiritual consciousness based on science. Hakim (2018) conducted a study entitled "Da'wah Challenges in Technology and Communication Media in the Globalization Era" which showed that the use of technology in the digital era, especially through social media, is an opportunity to do da'wah. Da'wah must always adjust to the development of human culture. Research by (Huda & Sumartono, 2019) entitled Utilization of Mathematical Operational Models on social media as a Means of Religious Da'wah shows that da'wah in the digital era has mathematical operational elements it. Here's one of the STEM application videos that talks about rain, scan below.

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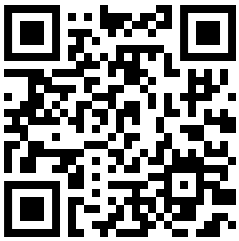

Figure 2. Rain Process based on Quranic STEM

This research looks at how the phenomenon of society that develops in the digital era still requires the guidance of the Qur'an, so it is necessary to understand the verses of the Qur'an from the point of view of modern science such as STEM which is now being developed for the progress of mankind in the 21st century (Cynthia, 2022). Furthermore, da'wah still requires a touch of innovation towards digital so that there is a balance of community progress with its religious side and the absence of the influence of integrating understanding the meaning of Q-STEM verses with the concept of da'wah in the digital era makes the Q-STEM approach important. Therefore, the research will reveal STEM verses related to da'wah in the digital era and then see how Q-STEM influences the da'wah approach of today's digital era.

Method

The study used a type of quantitative approach with independent variables, namely Quranic STEM and digital da'wah era as dependent variables. The population is some IPB University students who participated in the activities of the Campus Da'wah Institute (LDK) as many as 217 people consisting of LDK LPQ Al-Hurriyyah 86 people, LDK Al-Hurriyyah Care 44 people, LDK Pusaka Al-Hurriyyah 53 people, and ISC IPB 34 people. Then, samples were obtained using non-probability samples of purposive sampling type from as many as 84 people with the most relevant or representative criteria, namely, a) Knowing the basic concepts of STEM, b) Knowing the kauniyah verses, c) Joining LDK members, and d) Having social media. The study was made in the form of a questionnaire as a statement instrument that uses the *Likert scale* in the form of positive statements with scores of 5, 4, 3, 2, and 1. The scale is divided into categories: Strongly Agree/SS (score 5), Agree/S (score 4), Doubt/RG (score 3), Disagree/TS (score 2), and Strongly Disagree/STS (score 1). The questionnaire is divided into five indicators, namely Quranic Science (Q-S), Quranic Technology (Q-T): Quranic Engineering (Q-E), Quranic Mathematics (Q-M), and digital da'wah. The five indicators have a definition of knowledge concepts related to the Qur'an and are easily operationalized in everyday life. Therefore, the questionnaire contained six Qur'anic verse statements about Q-S, six Q-T statements, six Q-E statements, six Q-M statements, and 10 statements about digital da'wah. The questionnaire was made in the form of a digital Google Form, which was distributed in the IPB University Area, precisely at Al-Hurriyyah Mosque.

The most important aspects of research are validity and reliability (Anggrayni et al., 2023). The Q-STEM validity test was conducted by an expert in the field of STEM (N) and an expert in the field of the Qur'an (A) so 34 questionnaire statements were obtained. The reliability test with Cronbach's Alpha obtained a value of 0.954, so in groups, the instrument data is said to be very reliable because it is close to the criterion of 1.00, which means it is very strong. The data was then processed using t-test analysis techniques with *the original Statistical Program for Social Science* (SPSS) version 29 tool and *Microsoft Excel*. The normality prerequisite test type Kolmogorov-Smirnov (K-S) test has a normally distributed result on the Q-STEM variable is 0.20 and the digital age da'wah variable is 0.20 greater than 0.05 as the threshold value. Then test the homogeneity of the Levene test method (Levene *Test*). This study has the same variance (homogeneity) with a significance value of 0.071 > 0.05, which means homogeneity (Mu'alifah et al., 2020).

Results and Discussion

STEM is used to overcome real-world situations based on problem-solving processes so that they can improve skills in critical thinking, cooperation, communication, and creativity (Siregar, 2022). In the Qur'an, some verses explain STEM, which is termed "Quranic STEM." Quranic STEM also called Q-STEM is a STEM approach derived from the interpretation of the Qur'an (Marwiyah, 2022). This approach was developed to help people understand Qur'anic verses more deeply and dive into their content from different points of view to gain a more holistic understanding of life.

In the implementation of everyday life, STEM can be used for da'wah and Islamic activities. Da'wah can utilize Q-STEM in developing shiar strategies spread in the digital space so that it can reach a wider community, have a comprehensive understanding, and bring influence to daily problem-solving. STEM can facilitate Muslim worship matters such as determining prayer times, determining zakat doses, determining the dates of lunar and solar eclipses, and many others. Therefore, how much knowledge people have about the Qur'an and STEM and their awareness of use in daily life determines the success of da'wah and the progress of Muslims today and in the future.

Table 1. Description of Q-STEM Variable Data and Digital Da'wah Era

Description	Q-STEM (X)	Digital Da'wah (Y)
Maximum	120	40
Minimum	46	20
Range	74	20
Mean	85	29
Median	83	29
Modus	81	32

Table 1 shows that out of 34 questionnaire statements with 84 respondents, the highest score of students in the Q-STEM questionnaire was 120 and the lowest score was obtained 46 so a range of 74 was obtained. From the calculation results, the mean is 85, the median is 83, and the mode is 81. The standard deviation of Q-STEM data is 17. In the digital era da'wah questionnaire was 40 and the lowest score was obtained at 20 so a range of 20 was obtained. From the calculation results, the mean is 29, the median is 29, and the mode is 32. The standard deviation of digital era da'wah data is 5.

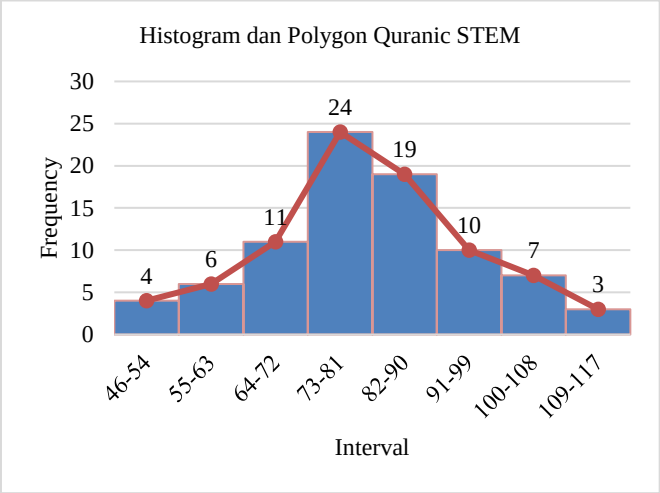

Figure 3. Histogram and Polygon charts of Quranic STEM

The Grampic of the histogram and polygon above, it can be seen that only 4 people, or 0.05% scored 46 – 54, 6 people, or 0.07% scored 55 – 63, 11 people, or 0.13% who scored 64 – 72, 24 people or 0.29% who scored 73 – 81, 19 people or 0.23% who scored 82 – 90, 10 people or 0.12% who scored 91 – 99, 7 people or 0.08% who scored 100-108, and 3 people or 0.04% who scored 109-117.

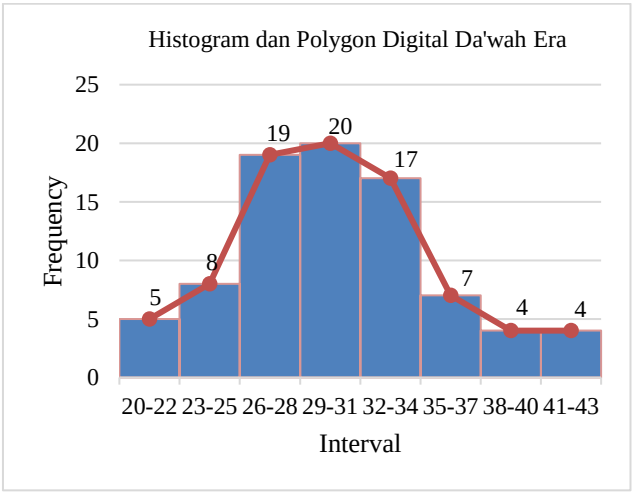

Figure 4. Histogram and Polygon Charts of the Digital Age Da'wah

The histogram and polygon chart above, it can be seen that only 5 people or 0.06% scored 20 – 22, 8 people, or 0.10% scored 23 – 25, 19 people, or 0.23% scored 26 – 28, 20 people, or 0.24% who scored 29 – 31, 17 people or 0.20% who scored 32 – 34, 7 people or 0.08% who scored 35 – 37, 4 people or 0.05% who scored 38-40, and 4 people or 0.05% who scored 41-43.

The significance test is carried out to determine the significance of the influence between variable X and variable Y using the t-test. At a significance level of 0.01 with the following criteria: If the value of sig. < 0.01 then there is a significant effect, and If the value of sig. > 0.01 then the data has no significant effect. The calculation results of the significance test will be explained in the table below:

Table 2. Significance Test Calculation Results (Test t)

t	**sig**	**Data**
	α = 0.01	
0.00	0.01	significant

Based on Table 2. above it is known that the GIS value obtained is 0.00, less than 0.01 it can be concluded that the significant influence of Q-STEM variables on digital da'wah variables means that this study has succeeded in testing the truth of the hypothesis, namely that Q-STEM has a significant influence on Digital Age Da'wah.

The results showed that Q-STEM has a significant influence on the development of digital da'wah. This is supported by the understanding of LDK IPB University students on the concept of STEM which is associated with kauniyah verses in learning in lectures and can be applied in real da'wah activities on campus and in the digital social media space. Another factor that influences these results is that students often conduct studies on scientific phenomena on campus, as usually held by LDK Pusaka Al-Hurriyyah.

According to Sumarni et al. (2019), the ability to understand a field enters cognitive aspects that if processed with the conditions of the problem being faced, will give rise to a creative thinking process to be able to find solutions to the problems at hand. If connected with IPB University students who understand STEM and its relation to kauniyah verses (Q-STEM), students can look at the world in their daily lives with various points of view so that they have creative and new solutions to face problems in everyday life.

STEM that is integrated with learning can affect cognitive abilities both in terms of knowledge and practicality, then plus the basic concepts of STEM are verses of the Qur'an (Q-STEM) to provide diverse solution options to problems that need to be solved (Sumarni et al., 2019). In addition, STEM can be an approach that helps students think scientifically. There have been surveys showing that someone who gets a STEM education has a higher scientific thinking ability of 22.62% than those who have not received it, which is only 10.28% (Agustina et al., 2022). This scientific thinking is very important for students because as a generation that plays a role in the future of the nation,

and in solving current community problems, students must be able to think scientifically to produce scientific, appropriate, creative, systematic, and innovative solutions.

Critical thinking is also a Q-STEM factor that influences digital da'wah because every individual can observe and recognize problems critically because of high curiosity, the ability to imagine, the dare to take risks, and respecting the rights of others. Q-STEM constructs students' ability to deal with ambiguity and be tolerant, curious, and creative. Among the three ways of thinking STEM has an approach that includes 1) reflection, 2) research, 3) discovery, 4) application, and 5) communication (Sandi, 2021). These five stages give rise to creative, critical, and scientific thinking processes to be able to reflect on the problems at hand, find out the causes and factors that may exist in a problem, and process possible solutions that can be done both from pre-existing solutions to discoveries. The application of the method or method of solving the problem at hand is by communicating so that the solution can become data for other problems (Sandi, 2021).

Choiriah (2019) added that with existing STEM concepts, individuals will gain an understanding of 95.56 compared to ordinary or conventional concepts in general, which is 75.56. With the foundation of the Qur'an as a guide to life, there will be a proper collaboration between theoretical and practical science in dealing with life's problems. This can happen because of good communication skills and the delivery of instructions for solving problems in everyday life (Hidayati &; Irmawati, 2022). That way, STEM development based on religious values is considered a necessity and relevant for students because it can emphasize practical aspects with a strong foundation (Yahaya et al., 2022).

An example of a problem that is being faced today is the lack of people's understanding of the Qur'an from reading to understanding the interpretation of the Qur'an. Q-STEM is one approach that has proven to have significant effects and can be used to solve the problem. Seeing this problem, LDK IPB University students facilitate a forum for general students to the public to understand kauniyah verses and scientific phenomena through studies. Not only that, digital da'wah content in the form of verses, advice, and stories is made so that it can reach a wider range of netizens. This is one of the creative processes produced through the Q-STEM approach.

Other evidence can be seen from the results of this study. LDK IPB University students who were selected as respondents not only knew the process of rain from the point of view of science learning but also understood the source of the Qur'an which is mutually sustainable according to QS An-Nur: 43. Not only that, respondents use technology to create graphic or video designs, elaborate on digital communication techniques and organizations, and calculate predictions to be communicated in content on social media.

The respondent understood that a good tree would grow from good soil as per QS Al-Araf:58, realizing that the mountain he saw in his eyes did not move, when in fact it was moving. This is stated in QS An-Naml: 88 which states that the mountains on Earth are moving. This explanation proves that before the formation of continents, as they are today, there was only one large continent called Pangea. Now, after hundreds of years,

the earth has formed the Asian continent, the American continent, the African continent, and others (Nurrohman, 2019). Activities that require scientific knowledge, such as ginger as a plant that can be one type of drink that can be consumed, are regulated in QS Al-Insan: 17 and are familiar among IPB University students.

On the technology side, for example, students know that alcoholic beverages made from wine are the result of fermentation production involving bacteria to become intoxicating drinks. The verse that mentions this is QS An-Nahl: 67. How to find out everything related to the explanation of science can only be known by reading either directly through the mushaf sheet or through applications that have now appeared on *many mobile phones.* This is what LDK IPB University students do, even though they do not bring the Qur'an mushaf but, still read the Qur'an through the application on their *cellphone*.

College students also believe in teleportation technology. The verse that discusses this is in QS An-Naml: 39. Although science has not yet presented this technology, the Qur'an has proven that teleportation can be done (Sani, 2022). Gradually, with the development of science and technology will increasingly develop and prove the greatness of the Qur'an verses and the authenticity of the knowledge it has. Then, the history of sending letters has been listed in QS An-Naml: 22 about the hud-hud bird that sent a message from the land of Saba to Prophet Sulayman (as). Another piece of knowledge that is close to everyday life is about the origin of wool making in QS An-Nahl: 5, which states that the fur of farm animals can warm the human body. This is, of course, done through processing first and producing wool material from animal hair. Then, there is satellite technology that proves that humans can penetrate space and time as QS Ar-Rahman: 33 says, with the power of Allah through His sciences. Humans understand and produce today's satellite technology.

The engineering aspect is usually identical to physics which involves observation and calculation in recognizing it. From physical phenomena, a person can grow his critical thinking process, this is by QS Al-Isra: 36, which states that humans need to review and understand what they see based on science (Purnama et al., 2021). Things related to techniques in everyday life, for example, the existence of gravitational force according to QS Al-Hajj: 31. The famous force of apples falling from the tree and being observed by Newton made man understand that the earth has a force in it. If the earth did not have the force of gravity, then humans would not recognize falling objects and would not understand the explanation that falling objects would point downward according to the physical formula. Gravitational force is a factor in how living things living on Earth can walk on land and move (Sabry & Arsyad, 2019).

Other examples of engineering are scattered around the immediate environment of humans, including objects made of metal and iron. These two objects are different from the process of making other objects in that they have a science that specifically discusses metal and iron, namely metallurgy (Shidik &; Sidiq, 2022). This is in harmony with the Qur'an which also mentions metal and iron in QS Al-Kahf: 96-97 and QS Al-Anbiya

verse: 80. In these three verses, Allah mentions the word 'iron'. Armor is one of the processes of making metal and iron products; besides that, there are many objects made of both materials that are close to humans, such as household utensils and tools.

Other verses discuss engineering science, such as buildings that are anti-lightning. Civil engineering science is following QS Ar-Rad: 12-13, which discusses the properties of engineering and the power of knowledge so that anti-lightning buildings can be designed. Lightning is formed by Comonolimbous clouds. Inside the cloud, there are positively charged (+) and negatively charged (-) particles. The positive particles gather above, and the negative particles gather below. Then rub against each other, so that if the energy is enough, it will be released in the form of lightning (Permana, 2020). This is a collaboration of knowledge and skills between civil engineering and electrical engineering because lightning will affect the flow of electricity in buildings that can be reached.

Another Qur'anic verse on engineering is QS An-Nahl: 79 about birds can fly due to their wings moving using the principle of Bernouli force or lift force on aircraft (Diantoro et al., 2022). Then, QS An-Nahl: 68 talks about making honeycombs. Beehives are often found on the roofs of buildings, on tree branches, and in other high places. It is already mentioned in the Qur'an that bees are asked by Allah to make their nests in mountains, wooden trees, and places made by man.

Not to be missed for the mathematical aspect, respondents answered questionnaires according to things close to themselves. The Qur'an tells us that the calculations that exist today are derived from them; the calculations of simple to complex operations are all in the mathematical verses of the Qur'an. Such an exponential rank exists in QS Al-Baqarah: 261. People often find events that require rank calculations, for example in food shopping, or daily schedule calculations, to be important to the development of life (Eva, 2021). Then, the calculation of days in QS Al-Isra: 12. Continued with the concepts of dosage that Allah mentions in QS Al-An'an: 152. The short length of the shadow is due to the movement of the sun according to the trigonometric concept of QS Al-Baqarah: 149, which commands the Prophet to face the Qibla from the Aqsa Mosque to the Kaaba. In QS Luqman: 27, he also mentioned the concept of infinity, which is in line with the concept of tawhid.

The above verses prove that mathematics integrated with the Qur'an is to develop mathematics from the Qur'an; use mathematics to carry out the Qur'an; use mathematics to uncover the mathematical wonders of the Qur'an, use mathematics to explain the Qur'an, use mathematics to convey the Qur'an, and teach mathematics with Qur'anic values. Studying mathematics accompanied by interpreting the Quran applied in everyday life will produce a comprehensive view of the Quran and hints at the concept of tafakkur, which is seen as very important for every creative thought or progress of civilization in all aspects of life (Sugilar et al., 2019).

The Q-STEM verses mentioned above show that respondents' knowledge and understanding of Q-STEM influenced the practice of digital da'wah. As a generation that

lives in an era without borders and is fast-paced, respondents realize that the role of digital media is most likely to be used to reach mad'u, such as by utilizing social media, namely YouTube, Facebook, Instagram, and Tiktok (Lestari, 2020). Da'wah based on the perspective of the Qur'an as the main source of truth in all aspects of life brings a reflection in the lifestyle or *manhajul* of the father in the form of the actalization of Qur'anic values in everyday concrete actions. Digital media that changes aspects of life so that they are faster and more dynamic is used so that the path of da'wah can adapt equally quickly (Shofiyullahul &; Vita, 2022). Verses about natural phenomena are broadcast, and da'wah content that answers people's problems is made with a creative, innovative, and solution-oriented process so that STEM elements become part of it.

Da'wah practitioners can discuss religious values on digital platforms, which are also practiced by respondents in their da'wah media. This is one of the digital communication skills that a da'i must have. Digital communication requires a strategy to generate or manage information into something useful and valuable for the recipient (Aripradono, 2020). Therefore, da'i must be able to process da'wah material into a communication language that is easily accepted by social media users. Da'i also invites netizens to do good things together, such as protecting the environment, according to QS Al-Araf: 56, because if only conveying is not called a da'wah actor, da'i is a person who invites goodness, including protecting the environment.

This da'wah activity focuses on linking the values of the Qur'an and STEM in everyday life so that community problems, needs and work can be simultaneously produced through digital da'wah. Thus, da'wah is the goal of the respondents to do both in digital and real life so that every second is inseparable from the guidelines taught in the Qur'an. Therefore, the importance of digital da'wah in the current era requires an effective and efficient approach that reaches Muslims and is packaged in useful works. With the Q-STEM approach, the development of digital da'wah has a significant effect and provides innovations in spreading the values of the Qur'an.

This approach can be used for da'wah activities for students, activists, preachers, and academics. Q-STEM provides a more holistic perspective in looking at the phenomena of world science and its relation to Qur'anic verses. This research is the beginning of bringing about da'wah changes in the digital era. The approach using Q-STEM can be done by all groups, starting from the planning process to the end of the evaluation. However, this is only the initial stage of introducing the concept of a digital da'wah approach, so there are many shortcomings in the discussion. There are still many Q-STEM verses that have not been mentioned, and the explanation of good verses from the side of Qur'anic interpretation and the scientific side has not been discussed in depth, it is still necessary to deepen the mastery of STEM and understanding of Q-STEM verses. In addition, the cooperation of various parties, both in terms of science and religion, is needed to develop the Q-STEM concept so that it can be used for solutions to people's problems in the future. The Q-STEM concept requires quality and comprehensive

reference sources from books, expert discussions, seminars, and research to jointly advance the goal of da'wah that *rahmatan lil'alamin* in the digital era.

Conclusion

This research originated from the phenomenon of da'wah which still requires a touch of digital innovation and the absence of the influence of integrating the understanding of the meaning of Quranic verses STEM (Q-STEM) with the concept of da'wah in the digital era, so it is necessary to see the influence of the Q-STEM approach on the development of da'wah in the digital era. The research found that the Q-STEM approach has a significant effect on the development of da'wah in the digital era. This is evidenced by the results of testing the t-test hypothesis with a sig value of 0.00 < 0.01 so that the H0 hypothesis is rejected and the H1 hypothesis is accepted. Based on calculation data from the results of 84 LDK IPB University students, namely those who filled out 34 validated and reliable questionnaire statements with the number 0.954, the data can be scattered and analyzed with statistical descriptions to prerequisite tests. The prerequisite test revealed that the data were normally distributed, with a normality value of 0.20 > 0.05 for the Q-STEM variable and a normality value of 0.20 > 0.05 for the digital era da'wah variable. The homogeneity test result is homogeneous data of 0.071 > 0.05.

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