Use of Minecraft Education Edition in The Field of Islamic Education

Muhammad Abror Ahmad Shuhaimi[1], Rosseni Din[2], Rusliza Othman[3], Mohd Haffizuddin Jamaluddin[4], Siti Aisyah Willimina Abdullah[5] & Nabilah Othman[2]

[1]Sekolah Kebangsaan Kuala Tatau, Sarawak, [2]Universiti Kebangsaan Malaysia, Bandar Baru Bangi, Selangor, [3]Institut Pendidikan Guru Kampus Batu Lintang, Kuching, Sarawak, [4]Pejabat Pendidikan Daerah Tatau/Sebauh, [5]Sekolah Kebangsaan Kuala Tatau, Sarawak
Email: abror-shuhaimi@moe.edu.my[1], rusliza.othman@gmail.com[3], mohdhafiz.ppdts@moe.gov.my[4], sitiaisyah1243@gmail.com[5], cik.nabilah001@gmail.com[2]
Corresponding Author Email: rosseni@ukm.edu.my[2]

Abstract
Minecraft Education Edition is software that approaches learning through the method of gamification. In line with the Industrial Revolution 4.0 which emphasizes digitization in everything, 21st -century learning also emphasizes on the use of Digital Tool Resources in teaching and learning therefore making digitization a main requirement in the education sector. Based on previous studies, it has been proven that playing digital games can improve students' leadership, collaborative, creativity and competitiveness skills. The subject of Islamic Education has seven main areas which are faith, worship, Al-Quran, Hadith, Jawi, Sirah and Moral Values. The field of Sirah in Islamic education is one of the challenging fields when explored in teaching and learning. This is because this field of study is hard set on facts and history, which can be boring when given to students during lessons as it is. Therefore, this study aims to create a world in Minecraft Education Edition based on the UDin model, as an alternative learning media in the field of Islamic Education in Year 6 which is titled Jihad. This is to neutralise the malignant view upon Jihad which had been corrupted and twisted into a negative connotation in many digital games. Therefore, it becomes a necessity to clarify jihad in the world of digital games as it should be; not as a negative belief, but as a positive way of life. In addition, the purpose of the study is to identify the usability of the material created through Minecraft Education Edition. The researcher used a quantitative approach in the form of a survey as a questionnaire instrument through Google Form. This study involved 64 primary school students and teachers in Tatau and Sebauh districts. Pre-

and post-tests were also given to respondents to see the significance of the usability of the material that was built. The results of the final study show that this study managed to record more than 90% of respondents who were very satisfied with using Minecraft Education Edition in the field of Islamic Education. The implications of this study can give teachers a wider space for creativity in applying the learning objectives of Islamic Education using Minecraft Education Edition.

Keywords: Minecraft Education Edition, Sirah, Islamic Studies, Gamification

Introduction

The Industrial Revolution 4.0 changes the current pattern of education, including Islamic Education subjects. It has made many transformations especially to the education system (Faisal, 2021). The field of education does not only emphasize the delivery of Islamic knowledge, but goes beyond religious skills and values. This is in line with the National Education Philosophy which emphasizes the comprehensive and integrated development of individual potential to produce people who are balanced and intellectually, spiritually, emotionally and physically harmonious, based on trust and obedience to God (KPM 2019). No matter how fast economic development is, this philosophy needs to be embraced to meet the requirements of the curriculum. At the same time, the development needs to be celebrated by teachers in delivering lessons. The teacher's approach in teaching should be in line with current technological developments. This is because according to Ying (2021) traditional teaching methods are often considered irrelevant and boring. This reinforces that there is a need for a paradigm shift in the delivery techniques of teachers in schools, especially Islamic Education teachers.

The era of Covid-19 pandemic has had a great impact on the changing landscape of the country's education. Motion control commands provide a new perspective in education. This is because students and teachers are exposed to virtual learning during the period of the pandemic. This is supported by a study (Abidin, 2020) which mentions teaching and learning have completely changed to an online mode, which were previously done face-to-face. This gives the impression that the drastic change has an impact on both sides, namely students and teachers. This situation requires the flexibility of all parties to shift to the optimal use of current technology in education. M-learning (Mobile-learning) is becoming a new educational trend as an alternative to face-to-face education. The concept of M-Learning according to Miasan (2021) emphasizes the aspect of portability or the ability of users to easily move the learning process without being tied to the physical classroom. This concept includes education based on digital learning.

Digital learning is one of the elements in 21st Century Learning (PAK-21). This requires the willingness of teachers to combine teaching aids (BBM) and Learning and Facilitation (PdPc) in teaching (Nawi, 2020). Digital Tool Resources are amongst the important elements to implement PAK-21. Therefore, the skills of teachers in the use of technology and the required digital materials should increase along with the development of technology in education. There are various methods and approaches that use digital learning. Among them are the use of computer software such as websites and game-based learning software, such as Kahoot, Quizziz and Padlet. This platform needs to be explored by teachers as a space for creativity and innovation. This coincides with a study (Ibrahim, 2021), which says this situation provides a wonderful opportunity for Islamic Education teachers to apply various interesting forms of learning which relates with the School Transformation 2025 (TS25) which emphasizes on collaborative, creative, critical thinking and leadership elements.

Among the digital learning method that has a big impact on students is gamification-based learning. According to Hambali (2022), gamification is a playful approach in the teaching and facilitation process (PdPc) that makes the PdPc process fun, interactive and are able to attract student participation. Some of the main elements that make this method interesting are fun, interactive and engaging student participation. This shows that the educational atmosphere is no longer just a teacher giving a lecture, but a constructive two-way relationship between learners and educators. In addition, this approach is able to foster the value of prudence in using technological resources. This is because, the Alpha generation is the generation that makes the internet, mobile devices and internet data their basic needs (Ying, 2021). This also coincides with the Industrial Revolution 4.0 which highlights the Internet of Things. Therefore, it is necessary to allow both teachers and learners to learn how to use this technology facility correctly.

The field of Sirah or History in Islamic Education is one of the challenging fields for teaching and learning sessions. This is because Sirah is factual and less applied in everyday life. However, the importance of the values present in the subject in our lives cannot be denied. This is supported by Anuar (2022) who says that lack of understanding in the knowledge of Sirah causes many social problems to occur. The problem of student crimes, misconducts and discipline issue at this point is very critical and worrying (Hamzah, 2018), which worryingly also shows that crimes and disciplinary issues and lack of appreciation for Sirah have a high correlation. However, the issue of Sirah's learning appreciation can be improved if the teacher succeeds in creating an active and enjoyable learning environment. At the same time, this situation shows the need to use gamification-based learning in the field of Sirah to make it more enjoyable and engaging to students to obtain their attention.

Appreciation of the value affects a person's life. Prophet Muhammad S.A.W fought and poured energy, wealth, time and blood to uphold Islam. The Jihad chapter in the Year 6 Islamic Education is one of the important topics. Ironically, the field of Sirah is always neglected because it is boring for the students to listen merely to the teacher's narration. This to some extent affects our potential to achieve the goal of the Islamic Education Standard School Curriculum that is to build and form servants and caliphs of Allah SWT who are knowledgeable, faithful, pious, righteous, virtuous and skilled based on the Quran and Sunnah and contribute towards improving the nation's civilization and the country also the well-being of nature in order to achieve the well-being of the world and the hereafter (KPM, 2019).

Innovative and creative teachers are able to lead teaching and learning sessions to achieve the goals of KSSR. The use of information technology in Learning and Facilitation (PdPc) can shape students' attitudes and interest in learning (Abdullah, 2021). In addition, the Jihad chapter is often shown in a negative light by the western media, as the concept of Jihad is adapted into ugly, twisted and manipulative narratives in movies and digital games. This malevolence itself calls for Islamic Education teachers to provide alternative materials so that students are motivated to learn what value Sirah truly emphasise upon and at the same time correcting the already common distorted narrative of Jihad. These two pressing problems can be solved by creating learning materials based on gamification for the Jihad title.

Minecraft Education Edition software is one of the digital game-based learning materials. According to Tangkui (2020), the integration of digital games into the learning environment has resulted in a learning method known as digital game-based learning. This software has been used by teachers from all over the world, from various subjects such as English, science, mathematics, chemistry, computer science and many more. This shows the software is

flexible and subject-friendly for teachers of many subjects. It only takes the teacher's creativity to create a 'world' in Minecraft Education Edition. Islamic education is no exception to this, and the teachers should take advantage of this material for use in teaching and learning.

The use of Minecraft among Islamic Education Teachers has not yet been well received. From one angle, it shows that Islamic Education teachers have a bright opportunity to pioneer innovation using this software. On the other hand, Islamic Education teachers are still lagging behind in using this technological media resource. The use of Minecraft Education Edition in the field of psychology is seen to be able to solve a large number of factual and boring problems which coincides with Tangkui's study (2020) which says the content of the topic, combined with game features and aimed as a support element can provide motivation to learn while playing.

An existing Islamic Education Minecraft world is not yet on the market. This means, Islamic Education teachers who want to use this software need to subscribe and build their own world for the topic they want to teach. After knowing the benefits and advantages of this software, there is a great need to use Minecraft education edition for the title of Jihad in the field of Sirah. Therefore, this study aims to build teaching media using Minecraft Education Edition software. Next, to identify the usability of the built media. The material is named J-CRAFT which stands for Jihad and Minecraft.

Research Methodology
This study uses a Design and Development method based on the UDin Model to design and develop the teaching and learning material subsequently use a quantitative approach in the form of a survey in the evaluation phase to collect data. A survey study that aims to collect data from a set of populations (Shaharom, 2021). It also involves collecting quantitative data while evaluating the usability of J-CRAFT. Data collection is done by using a questionnaire instrument through Google Form as a survey measuring tool on the usability and feedback from the use of this software. Google form was chosen because the information received was faster and more systematic from the respondents. Questionnaires were provided to 64 respondents consisting of students and teachers of Islamic Education in two districts, namely Tatau and Sebauh districts. It was distributed during the Best Practice Sharing Workshop and Test Run on 16 May 2023 and 17 May 2023 at Tatau National School and at the Satelit District Education Office, this study is based on the UDin Model as shown in Figure 1.
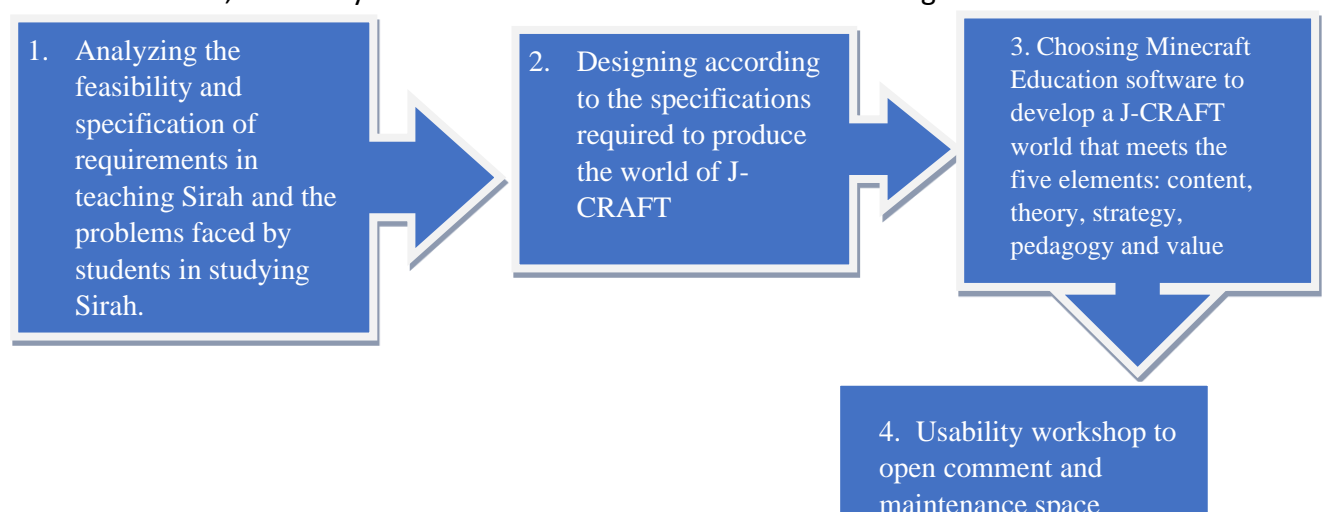

Figure 1. Research planning (based on the UDin model)

The UDin model is a combination of several instructional design models and software engineering models (Hafifi, 2021; Din 2019; Din, 2020a; Din, 2020b). This model has elements that complete the teaching system comprehensively. This can be seen as in Figure 2 which shows the second phase for design that considers five vital educational elements which are Content, Values, Theory, Pedagogy, and Strategy. In addition, the Instructional Design Model - Universal Design for Learning (ID-UDL) embedded in the UDin model also gives great significance in the development of learning and teaching media (Din, 2019; Din, 2020a; Din, 2020b). It is friendly to Malaysian culture which emphasizes manners and morals in order to achieve the requirements of the National Education Philosophy. The J-CRAFT usability test consists of several phases as which are (i) Phase 1: Analysis and Feasibility; (ii) Phase 2: Design, Development and Usability Testing and (iii) Phase 3: Implementation and Maintenance.
Figure 2: Phase 2 of the Universal Design Model (UDin)

Figure 2. The UDin model

First phase – Feasibility and Need Analysis. At this stage, several analyses have been carried out such as the main problems in learning and teaching the field of spirituality in general. A Likert scale is used to ask questions. The questions asked in the analysis process are as follows:

Questions to the Teacher
1. Is the subject of Islamic Education boring?
2. Is teaching the subject of Islamic Education difficult?
3. Are students usually not interested in the field of Islamic Education?
4. Are students usually unmotivated in the field of Islamic Education?
5. Does teaching Islamic Education require interesting activities?
6. Does teaching Islamic Education require creative learning and teaching materials?
7. Does teaching Islamic Education require student-centered learning?

Questions to the Student
1. Am I bored with teaching that only tells stories?
2. Am I not interested in psychology because it is difficult to remember facts?
3. Am I not motivated to study the field of sirah?
4. Do I not understand what the teacher is teaching?
5. Am I unable to answer the given question?

Through the analysis of problems presented to teachers and students, it indirectly becomes a clear indicator to solve the problems faced. It is also the main factor why developers need to develop media jihad in the field of Islamic education. In addition, a SWOT analysis was carried out as shown in Figure 3 to assess the feasibility of J-CRAFT.

Figure 3. SWOT analysis of the feasibility of J-CRAFT

Second phase – Design, Development and Usability Testing. The design phase is the phase that needs to be researched to achieve the objective of building the application which is simple and fast. From a content point of view, the items in the Curriculum and Assessment Standard Document (DSKP) form the basis of material construction. The main reference to fulfil the assessment required by the government. List study objectives and success criteria based on Learning Standards and Performance Standards. List the assessment activities and exercises that will be used. A replica of the Kaaba was built to add to the feeling of the Prophet's time. The theory used is the theory of constructivism. Learning media that believe that knowledge is built from existing knowledge. Pupils build new knowledge with experience using J-CRAFT. This is in line with the view of Voon (2021) who says that with the new information obtained, students will be able to build new knowledge with old knowledge to form a new understanding. J-CRAFT was developed to help students build knowledge using

Minecraft Education Edition. Various values can be applied in the use of J-CRAFT. Among them is the value of exploration and collaboration. Pupils are required to find info and information in the world, then extract it for use in assessment. Pupils are given the role of movers and scorers throughout the activity. This can be done because students carry out activities in pairs. A material-based learning approach is used to achieve learning objectives. Once designed, the output will be used to develop J-CRAFT. It is very technical and requires technological skills. Minecraft software requires little coding skills and it takes a considerable time to build replicas of the Kaaba and stations that students have to track and complete tasks. After building the world required, Usability Testing will be performed. As in Table 1, the admin provides their Microsoft email and password. This speed up the application process so that time can be used efficiently.

Table 1
Implementation Process

Steps in the Implementation Phase	Explanation
Provide email and keywords for each student (Before sharing)	• Teachers need to provide email and keywords in the complete list. • Teachers need to ensure that each laptop has downloaded Minecraft Education edition • Teachers need to ensure that the internet network is stable.
J-CRAFT Usability Test (During sharing)	• Pre-Test • Use of J-CRAFT • Post-test

Third phase - Implementation and Maintenance is after sharing the J-CRAFT usability workshop to the students and teachers involved. All comments and questions throughout use are discussed in the sharing session. The main criteria of the respondents sought are Islamic education teachers and Year 6 students. The questionnaire is divided into a pre-test and a post-test. The pre-test is related to the respondent's information and the problems faced in the teaching and learning of the subject. While the post test is related to the usability of J-CRAFT. Respondents are asked to answer honestly and give criticism if necessary for any improvement. The results of the study are analysed automatically using Google Form. It is displayed in graph form to make it easier for researchers to update and understand the data. The results of this study use frequency scores (f) and percentage (%) only.

Research Findings
Minecraft Education Edition has its own interface. The teacher needs to build according to the creativity and wishes of the activity that he wants to implement. The interface should simplify and avoid complexity of use. Figure 4 shows the main page of J-CRAFT. After using J-CRAFT, respondents gave feedback regarding the usability of the application. The question is divided into several aspects as in Table 2.
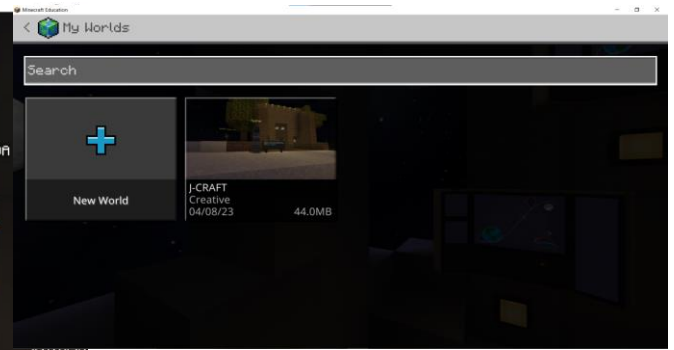
Figure 4. J-CRAFT main menu

Figure 5. J-CRAFT world

Figure 6. Students are required to enter the code to 'join'

Figure 7. After entering the world of J-CRAFT

Figure 8. Speech in the world of J-CRAFT

Figure 9. The first task student must complete

Figure 10. Answers to task 1

Figure 11. The first task student must complete

Figure 12. Answer to task 2

Table 2
Some Usability Items

Ease of use aspect.	User satisfaction aspect
1. Is the game easy to use?	1. Am I satisfied with this game?
2. Is the game user friendly?	2. Would I recommend this game to friends?
3. Does this game require few steps to use?	3. Is the game fun to play?
4. Is the game flexible?	4. Are all functions working properly?
5. Can I use this application without written instructions?	5. Do I feel the need to own this digital game?
6. Am I not seeing any inconsistencies or errors while using this game?	
7. Will I be able to use this game successfully every time?	
Game usefulness aspect	**Game interface aspect**
1. Does this game help me learn the meaning and types of jihads?	6. Does it display the appropriate colour?
2. Does the activity of circumambulating the Kaaba make me more familiar with the background of the place in the Sirah study?	7. Does it display appropriate graphics?
3. Does the activity of feeding animals make me aware for jihad to do good?	8. Does it display the appropriate font?
4. Does archery activity make me more aware of the preparations for jihad against the enemy?	9. Does it display the appropriate audio?
5. Does the activity of rejecting the invitation of wealth and rank make me more careful with jihad against Satan's temptations?	

As in Figure 13, 37(57.8%) strongly agree that J-CRAFT is easy to use, 18(28.1%) agree while 5(7.8%) are unsure, 2(3.1%) disagree and strongly disagree J-CRAFT is easy to use. Next, the bar chart in Figure 14 shows that 38(59.4%) strongly agree that J-CRAFT is user-friendly, 11(17.2%) agree while only 9(14.1%) are not sure, 5(7.8%) disagree, and 1(1.6%) strongly disagrees that J-CRAFT is user-friendly.   Figure 15 shows 18(28.1%) strongly agree that J-CRAFT needs little action, 23(35.9%) agree while 16(25%) are not sure J-CRAFT, 5(7.8%) disagree, and 2(3.1%) strongly disagree J-CRAFT needs little steps. Next, Figure 16 shows that 31(48.4%) strongly agree that J-CRAFT is a flexible game, 15(23.4%) agree with the statement while only 14(21.9%) are not sure J-CRAFT, 1(1.6%) disagrees, and 3(4.7%) strongly disagree J-CRAFT is a flexible game. Figure 17 shows that 26(40.6%) strongly agree that J-CRAFT can be used without written instructions, 13(20.3%) agree while only 15(23.4%) are not sure, 5(7.8%) disagree, and 5(7.8%) strongly disagree that J-CRAFT can be used without written instructions. The bar chart in Figure 18 shows that 13 (20.3%) strongly agree that J-CRAFT does not encounter any errors when using it, 18(28.1%) agree while 18(28.1%) are not sure, 10(15.6%) disagree, and 5(7.8%) strongly disagree that J-CRAFT does not encounter any errors when using it. The bar chart in Figure 19 shows that 33(51.6%) strongly agree that J-CRAFT is used successfully every time. 14(21.9%) agree with the statement while 11(17.2%) are not,

4(6.3%) disagree, and two people (3.1%) strongly disagree that J-CRAFT is used successfully every time. Figure 20 shows that 41(64.1%) strongly agree that users are satisfied with J-CRAFT, 11(17.2%) agree while 9(14.1%) are not sure 2(3.1%) disagree, and 1(1.6%) strongly disagrees that users are satisfied with J-CRAFT.
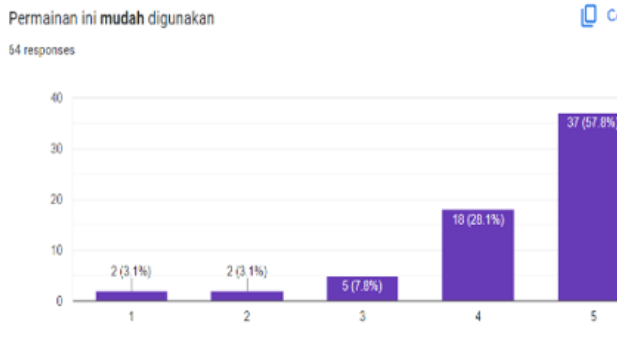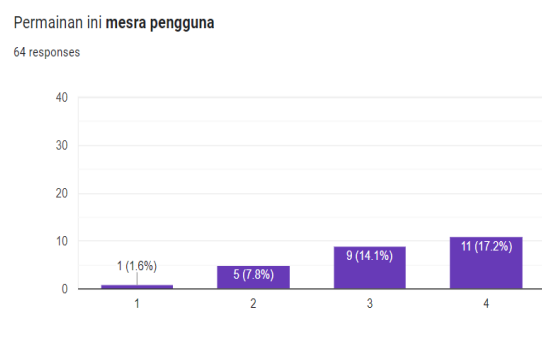

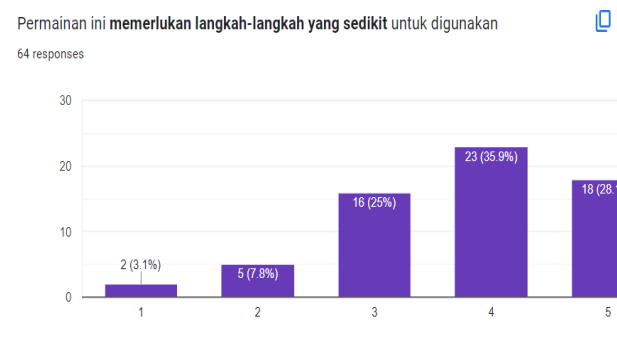Figure 13. J-CRAFT is easy to use

Figure 14. J-CRAFT is user-friendly

Figure 15. J-CRAFT requires few steps
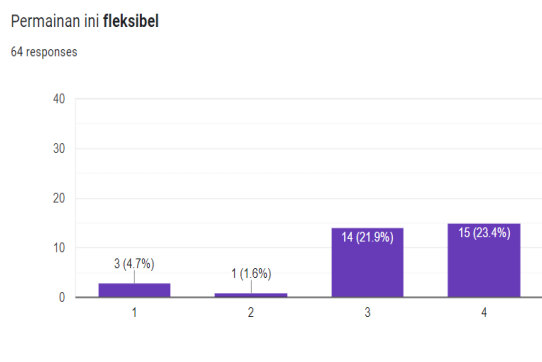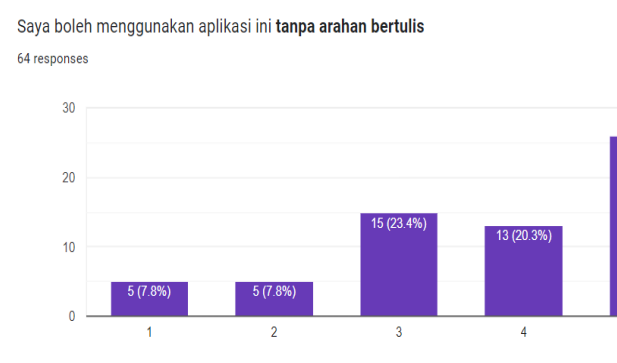

Figure 16. J-CRAFT is a flexible game

Figure 17: J-CRAFT can be used without instructions
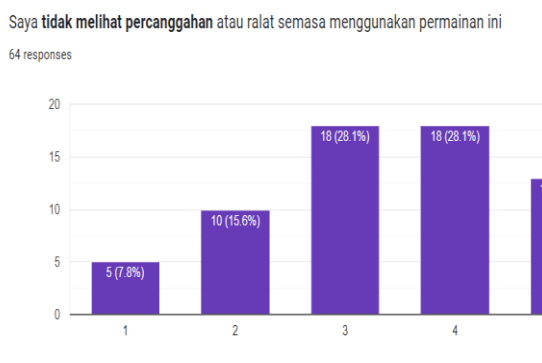
Figure 18: No errors encountered when use

Figure 19. J-CRAFT used successfully every time
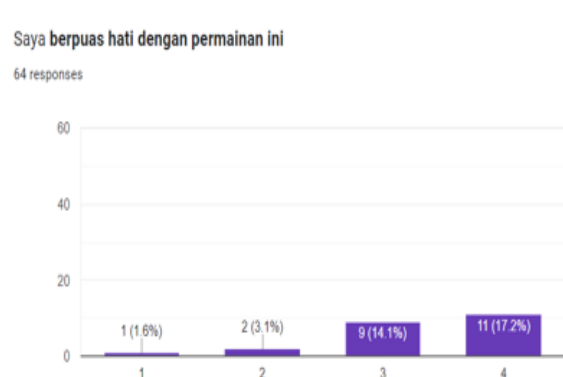
Figure 20. Users are satisfied with J-CRAFT

The bar chart in Figure 21 shows that 37 respondents(57.8%) strongly agree that J-CRAFT will be recommended to friends, 19(29.7%) agree while 6(9.4%) are not sure, none(0%) disagrees, and 2(3.1%) strongly disagree to recommend to friends. The bar chart in Figure 22 shows that 54(84.4%) strongly agree that J-CRAFT is fun to play, 6(9.4%) agree while 3(4.7%) are not sure J-CRAFT is fun to play, none(0%) disagrees, and one (1.6%) strongly disagrees. Figure 23 shows that 30(46.9%) strongly agree that J-CRAFT works well, 17(26.6%) agree while 9(14.1%) are not sure that J-CRAFT works well, 7(10.9%) disagree and 0(1.6%) strongly disagrees that it works well. Figure 24 shows that 39(60.9%) strongly agree that J-CRAFT is necessary to own this game, 16 people (25%) agree while 6(9.4%) are not sure J-CRAFT, 1(1.6%) disagrees, and 2(3.1%) strongly disagree that it is necessary to have J-CRAFT game.
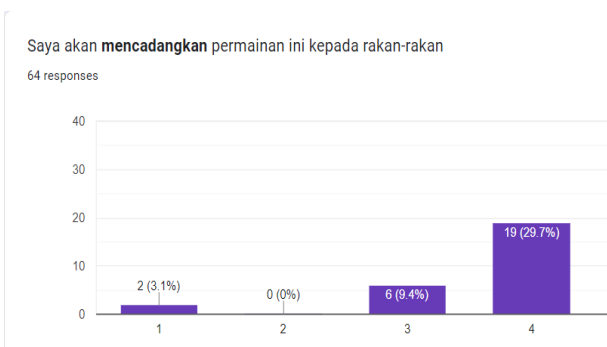

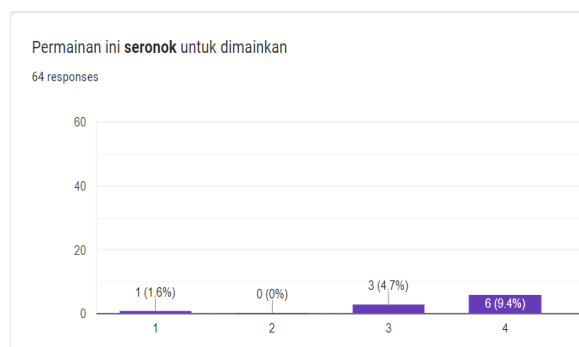Figure 21. J-CRAFT will be suggested to friends

Figure 22. J-CRAFT is fun to play
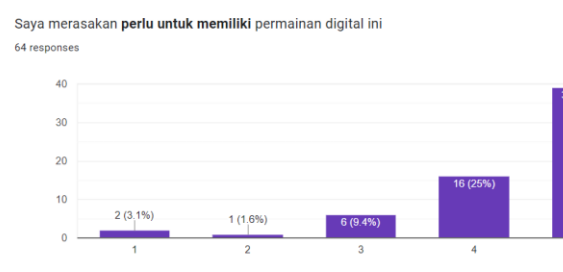

Figure 23. J-CRAFT works well

Figure 24. J-CRAFT felt necessary to have this game

Figure 25 shows that 40(62.5%) respondents strongly agree that J-CRAFT displays appropriate colours, 14(21.9%) agree while 6(9.4%) are not sure, 3(4.7%) disagree, and 1(1.6%) strongly disagrees that J-CRAFT displays the appropriate colours. Figure 26 shows that 43(67.2%) strongly agree that J-CRAFT displays appropriate graphics, 10(15.6%) agree while 8(12.5%) are not sure, 1(1.6%) disagrees and 2(3.1%) strongly disagree. Figure 27 shows that 33(51.6%) strongly agree that J-CRAFT displays appropriate fonts, 17 (26.6%) agree while 12(18.8%) are not sure J-CRAFT displays the appropriate font, 2(3.1%) disagree, 0(0%) strongly disagrees. Figure 28 shows that 40(62.5%) strongly agree that J-CRAFT displays appropriate audio, 14(21.9%) agree while 7(10.9%) are not sure, 2(3.1%) disagree, and 1(1.6%) strongly disagrees that J-CRAFT displays appropriate audio. The bar chart in Figure 29 shows that 51(79.7%) strongly agree that J-CRAFT helps students learn the meaning and types of jihads, 10(15.6%) agree while 3(4.7%) are not sure, 0(0%) disagrees, and 0(0%) strongly disagree that J-CRAFT helps students learn the meaning and types jihad. Figure 30 shows as many as 45 people (70.3%) strongly agree that the tawaf activity makes students more aware of the background of the prophet's head, 16(25%) agree while 3(4.7%) are not sure, 0(0%) disagrees, and 0(0%) strongly disagrees that the tawaf activity makes students more aware of the background place of the prophet's head.
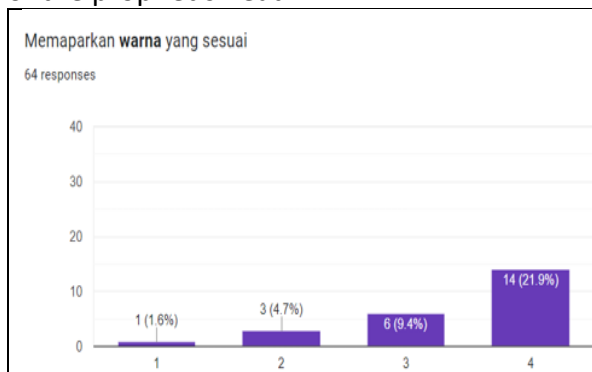

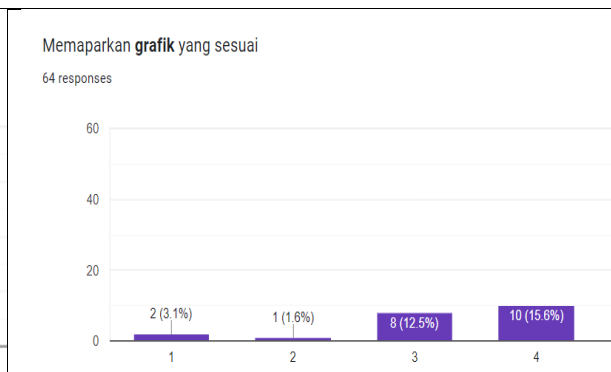Figure 25. J-CRAFT displays the appropriate colors

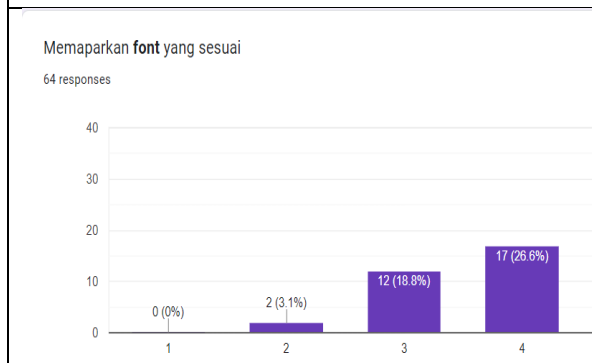Figure 26. J-CRAFT displays the appropriate graphics

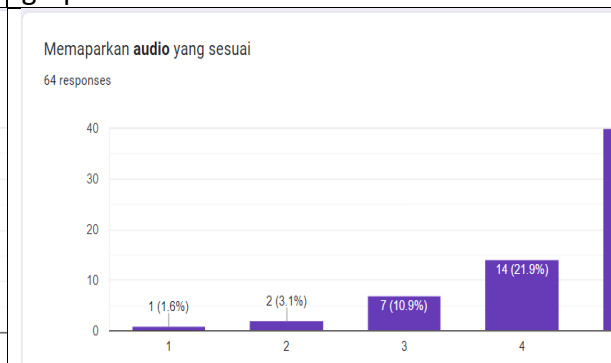Figure 27. J-CRAFT displays the appropriate font
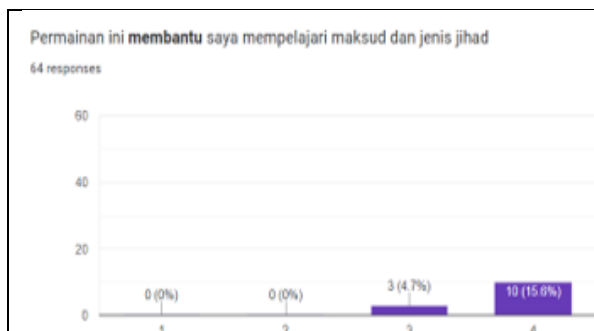

Figure 28. J-CRAFT plays the appropriate audio

Figure 29. J-CRAFT helps students learn the meaning and types of jihads	Figure 30. Tawaf activities make students more aware of the background of the Prophet's history.

Figure 31 shows that as many as 48(75%) respondents strongly agree that the activity of feeding animals makes them aware for jihad to do good, and 10(15.6%) agree while 5(7.8%) are not sure, 0(1.6%) disagrees, and 0(0%) strongly disagrees. Figure 32 shows that as many as 37(57.8%) respondents strongly agree that archery activities make students more prepared for jihad against the enemy, 16 people (25%) agree while 7(10.9%) are not sure, 2(3.1%) disagree, 2(3.1%) strongly disagree that archery activities make students more prepared for jihad against the enemy. Figure 33 shows as many as 49(76.6%) strongly agree that the activity of rejecting the invitation of wealth and rank makes students more careful with jihad against the devil's temptations, 9(14.1%) agree while 4(6.3%) are not sure, 1(1.6%) disagrees, and 1(1.6%) strongly disagrees. Figure 34 shows as many as 48(75%) strongly agree that the activity of feeding animals makes students aware of jihad to do good, 10(15.6%) agree while 5(7.8%) are not sure, 1(1.6%) disagrees and 0(0%) strongly disagrees that the activity of feeding animals makes students aware of jihad to do good.

Conclusion

Using Minecraft Education Edition in Islamic education needs to be strengthened and be made a norm/culture for teachers of the subject to embrace. 21st century learning and the era of Industrial Revolution 4.0 encourages teachers to be competitive and to constantly innovate to improve student achievement. This can help students build leadership skills and student creativity in solving problems. This research provides an alternative to the problem of boring and uninspired Sirah teaching especially for students who are not interested and motivated in learning Sirah. This effort will also strengthens the technology skills of teachers in cultivating Technology and Information in teaching.
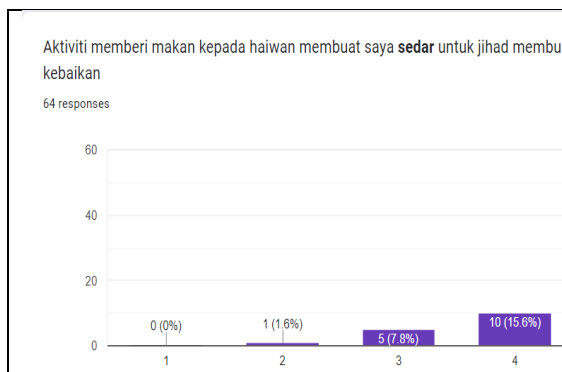
Figure 31. The activity of feeding the animals made me aware of jihad to do good

Figure 32. Archery activities make students more prepared for jihad against the enemy

Figure 33. The activity of rejecting the invitation of wealth and rank makes students more careful with jihad against the temptations of the devil
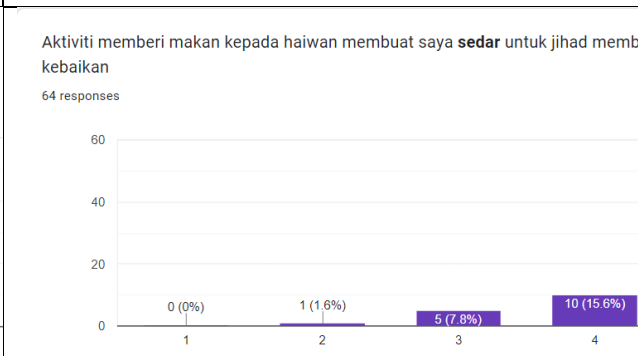

Figure 34. The activity of feeding animals makes students aware of jihad to do good

References
Abdullah, F., & Razak, K. A. (2021). Tahap Minat dan Penerimaan Pelajar Terhadap Gamifikasi dalam Bidang Sirah. *Journal of Quran Sunnah Education & Special Needs*, 5(1), 27-38.

Abidin, S. Z., Sulaiman, S. H., Lip, S. M., Shahisdan, N., Ariffin, N., Ishal, M. F., & Sabilan, S. (2020). Tekanan emosi pensyarah dalam melaksanakan pengajaran dan pembelajaran atas talian di era pandemik COVID-19. In Seminar Antarabangsa Isu-isu Pendidikan (ISPEN), 289-296.

Anuar, A. S., & Razak, K. A. (2022). Penggunaan "Augmented Reality" di dalam Pengajaran Sirah *International Journal of Advanced Research in Islamic Studies and Education,* 2(2), 56-67.

Din, R. (2020a). Partial Least Square Structural Equation Modelling in the Final Phase of Product and Instrument Development Using Universal Design and Agile Development Model. Jurnal Kejuruteraan SI, 3(1),103-109.

Din, R. (2019). Partial Least Square Structural Equation Modeling in the Final Phase of Product and Instrument Development Using Universal Design and Agile Development Model. *11th International Conference of Numerical Analysis in Engineering (NAE)*. 40-41. 20-22 August, Hotel Bangi Putrajaya, Selangor.

Din, R. (2020b). Notes from The Chief Editor: On Universal Design and Agile Development. *Journal of Personalized Learning*, 3(1) : i-vii.

Faisal, S. A. M., & Adnan, N. H. (2021). Tahap Kesediaan Dan Penerimaan Guru dalam Mempraktikkan Penggunaan Teknologi Digital Ri 4.0 Sebagai Bahan Bantu Mengajar Dalam Pendidikan Rendah. *International Journal of Advanced Research in Islamic Studies and Education*, 1(3), 66-80.

Hafifi, M. H. M., & Din, R. (2021). Penggunaan Video Sebagai Medium Pembelajaran Kendiri untuk Meningkatkan Produktiviti Belia Tani. *Journal of Personalized Learning*, 4(1), 43-56.

Hambali, K. B., & Lubis, M. A. (2022). Kepentingan Gamifikasi Dalam Pengajaran Dan Pemudahcaraan (PdPC) Pendidikan Islam. *Asean Comparative Education Research Journal on Islam and Civilization,* 5(1), 58-64.

Hamzah, N., Ghani, M. F. A., Radzi, N. M., & Sehab, M. A. (2018). Reka Bentuk Profil Amalan Terbaik Pengurusan Disiplin Murid. *Jurnal Kepimpinan Pendidikan*, 5(1), 33-63.

Ibrahim, S. A., & Razak, K. A. (2021). Pandemik Covid-19: Cabaran dan Impak Dalam Pendidikan Islam dan Pembelajaran Murid. *International Journal of Advanced Research in Islamic Studies and Education*, 1(1), 89-94.

Kementerian Pendidikan Malaysia. (2019). Kurikulum Standard Sekolah rendah Pendidikan Islam Dokumen Standard Kurikulum dan Pentaksiran Tahun 6 Bahagian Pembangunan Kurikulum. Putrajaya

Miasan, N. A. B. (2021). Pengaplikasian M-Pembelajaran dalam Situasi Pandemik Covid-19: Konsep dan Komponen. *Malaysian Journal of Social Sciences and Humanities*, 6(12), 268-276.

Nawi, M. Z. M. (2020). Transformasi Pengajaran dan Pembelajaran Multimedia dalam Pendidikan Islam: Satu Perbincangan. *Journal of ICT in Education*, 7(2), 14-26.

Shaharom, A. S., & Rahman, M. H. A. (2021). Keberkesanan Aplikasi Mudah Alih 'Algoritma Bersama Algo'bagi Pembelajaran Topik Algoritma dalam Subjek Asas Sains Komputer. *Journal of Engineering, Technology, and Applied Science*, 3(2), 66-81.

Tangkui, R. B., & Keong, T. C. (2020). Kesan Pembelajaran Berasaskan Permainan Digital Minecraft Terhadap Pencapaian Murid Tahun Lima dalam Pecahan*. Malaysian Journal of Social Sciences and Humanities*, 5(9), 98-113.

Ying, S. C., & Surat, S. (2021). Keberkesanan Classcraft Berbasis Mobile Game Terhadap Motivasi Dan Pencapaian Akademik Pembelajaran Generasi. *International Journal of Advanced Research in Islamic Studies and Education,* 1(4), 58-79.