



Module of Integrated the Qur'an and Hadith Values in Excretion System Learning to Improve Students' Problem Solving Ability and Spiritual Quotient

Nurika Nurika ✉, Siti Alimah, Siti Harnina Bintari

Pascasarjana, Universitas Negeri Semarang, Indonesia

Article Info	Abstract
<p>Article History : October 2022 Accepted January 2023 Published April 2023</p> <p>Keywords: Modules, Excretion System, Al-Qur'an and Hadith, Problem Solving, SQ.</p>	<p>The skills that students need to master to face life in the 21st century are critical thinking skills and problem solving, collaboration and leadership, and adaptability, Islam and science have become major topics in international scientific forums, because Islam discusses many scientific facts that have been stated. in the Qur'an and Hadith. This study aims to analyze the feasibility of the module, test the effectiveness of the module and describe the profile of students' Spiritual Quotient (SQ) intelligence in learning the integrated excretory system of the Qur'an and Hadith. This research design uses the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). Based on the results of the module assessment recapitulation by the material and media expert validators it was stated that the integrated excretion system module of the Al-Qur'an and Hadith was very suitable for use in learning. The effectiveness of the integrated excretion system module of the Qur'an and Hadith is shown by the acquisition of test scores in the experimental class and control class, where the test scores of the experimental class are higher than the control class. Students who study the Al-Qur'an and Hadith integrated excretory system module have SQ scores in the very good category.</p>

✉ correspondence :
Jalan Kelud Utara III No.37, Kota Semarang,
Jawa Tengah, Indonesia 50237
E-mail: nurikakusba@students.unnes.ac.id

p-ISSN 2252-6412

e-ISSN 2502-4523

INTRODUCTION

The government has indeed made the spiritual dimension a core learning competency, but the Regulation of the Minister of Education and Culture Number 22 of 2016 concerning process standards does not technically explain the learning process which directs students to acquire spiritual attitude competencies so that their development can be carried out by the teacher himself, through a process learning. One of the ways that teachers can do this is to develop the capacity for spiritual attitudes in Islamic-based schools, in this case the use of basic knowledge of Islamic teachings in the subject learning process. The learning process in educational units is organized interactively, inspiring, fun, challenging, motivating students to actively participate, providing sufficient space for initiative, creativity, independence in accordance with the talents, interests, and physical and psychological development of students. For this reason, each educational unit carries out lesson plans, implements the learning process and evaluates the learning process to increase the efficiency and effectiveness of achieving graduate competencies (Sekolah, 2019).

The term 21st Century Skills is often used in educational contexts to discuss the foundational skills that help students navigate and succeed in today's world (Taar & Palojoki, 2022). National education is related to education for the life of the nation, with the aim of developing the potential of students to become human beings who believe in and fear God Almighty, develop the skills and values of a nation's civilization. Become citizens who have noble character, are healthy, knowledgeable, capable, creative, independent, democratic and responsible (Halistin et al., 2022). The teacher-guided learning process is associated with strengthening cognitive, emotional and psychomotor aspects and is intended to develop students' independence and enable them to become a guide in their lives in the future (Buto & Hafifuddin, 2018).

Biology as one of the subjects taught in schools in the 2013 curriculum, also plays an important role in the development of Islamic values in schools, especially in Islamic-based schools. Ways that can be done to realize the development of students' Islamic values in biology subjects include

integrating the Qur'an and Hadith into the origin of developing Islamic values in biology learning. Learning practices that occur at MAN III Cirebon, especially biology learning is still happening divided into two between the concepts of science and religion. This results in low learning output and student motivation, as evidenced by the average value of biology lessons only reaching 69% of daily test results. The results of the interview stated that some students did not understand that biology and other subjects were actually connected using the concept of faith. They still think that generic science, especially biology and belief, are different matters, as a result, their enthusiasm for curiosity is low. Given the importance of the position of *aqidah*, the most essential goal according to Islamic education is to instill *aqidah* validly into students' self. Studying biology in high school equips students with useful concepts, principles and theories that will enable them to face challenges both before and after graduation (Babalola et al., 2022).

Students who are able to solve problems are able to apply their knowledge to the problems they face. Problem solving is very suitable if applied in the learning process, because problem solving not only requires students to only listen, take notes, and then memorize topics, but through problem solving, students become active in thinking, receiving information, communicating, searching, and processing data, and finally draw a conclusion (Palennari et al., 2021). Problem solving skills are expected in learning activities so that students can compete in the era of globalization and be able to take advantage of technological advances properly. Study (Pratiwi et al., 2016) expresses the need to learn to solve problems, arguing that learning to solve problems is basically learning to use the scientific method or to think systematically, logically, regularly and thoroughly. The goal is to solve problems rationally, directly, and thoroughly. Therefore, the ability of students to master concepts, principles and generalizations is very necessary (Bahri et al., 2018).

The excretory system is one of the systems of the human body. This system functions to get rid of metabolic waste products that the body no longer needs. In addition to removing metabolic waste products. The excretory system can also regulate the concentration of salt and water in the body (Vol & No, 2016). This module is one of the materials that

is designed as attractive as possible, using indicators and learning objectives, using language that is easy to understand and use by students independently. Module development efforts have broad applications in science learning such as biology, physics and chemistry (Lestari et al., 2019). The development of learning modules based on the Qur'an and Hadith is a development that will produce products that have been tested for effectiveness, usability and effectiveness by a team or validated expert. The product that has been declared eligible by the validator team is the product that will be used by the teacher in the teaching process.

The purpose of this study was to analyze the feasibility of the module, the effectiveness of the module and the students' SQ scores on the integrated excretory system material of the Qur'an and hadith to improve students' problem-solving skills and SQ.

METHODS

The research method used in this study is the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). This model consists of five steps, namely: (1) Analysis (*Analyze*), (2) Design (3) Development (development), (4) Implementation (*Implementation*), and (5) Evaluation (*Evaluation*).

This effectiveness test was carried out at MAN III Cirebon, Cirebon Regency, West Java Province. The sample class was taken by 36 students in the control class XI MIPA-5 and 36 students in the experimental class in class XI MIPA-4. The data collection method includes module validation by material and media experts, then teacher and student response instruments are added to find out about the excretory system module that is integrated with the Qur'an and Hadith. Student test scores to measure the effectiveness of the integrated excretion system module of the Al-Qur'an and Hadith and to improve students' problem-solving abilities. The SQ questionnaire is used to determine students' SQ scores after using the integrated excretory system module of the Al-Qur'an and Hadith.

RESULTS AND DISCUSSION

Feasibility of the Al-Qur'an and Hadith Integrated Excretion System Module

The modules that have been completed are then assessed for their validity by material experts and media experts to determine the feasibility of product development from this assessment. The following is an assessment of material experts and media experts for the integrated excretion system module of the Qur'an and hadith, see table below. Material expert validator assessment consists of 7 aspects, among others, suitability of material with core competencies and basic competencies, accuracy of material, up-to-date material, suitability with students' level of understanding, communicative and interactive, appropriateness with correct Indonesian, coherence and unity of ideas. The results of the module assessment by material experts can be seen in the table below.

1. Module Validation By Material Experts

Table 1. Average Module Validation Results by Material Experts

No	Validators	Score	Percentage	Criteria
1	Validators 1	78	98 %	Very worthy
2	Validators 2	78	98%	Very worthy
3	Validators 3 (A1-75 Qur'an and Hadith)		94%	Very worthy
	Average		97%	Very worthy

Based on the results of the recapitulation of the average module assessment by material expert validators I and II, it obtained a score of 98% with the criteria of Very Eligible to be used in learning at school. Based on the results of the module assessment recapitulation by the material expert validator based on the Al-Qur'an and Hadith, a score of 94% was obtained with the criteria of Very Eligible to be used in school learning. Based on 3 expert validators, this module material is very suitable for use in school learning. In line with research (Kristanto *et al.*, 2018) that using integrated Al-Qur'an and Hadith modules, the validity criteria for the percentage module are in a very suitable category for use in learning. Therefore, the resulting media is feasible to be applied in learning activities. Also in line with research (Syahrir *et al.*, 2019) which produces modules that are valid, practical, effective, and interesting modules based on Islamic values.

2. Module Validation by Media Experts

The media expert validator's assessment consists of 5 aspects including presentation techniques, support for presentation of material, module size, module cover design, module cover illustration. The results of the Module assessment by media experts can be seen in the table below.

Table 2. Average Value of Module Validation by Media Experts

No	Validators	Score	Percentage	Criteria
1	Validators 1	120	94	Very worthy
2	Validators 2	117	91	Very worthy
3	Validators 3 (Al-Qur'an and Hadith)	121	95	Very worthy
	Average		93	Very worthy

Based on the results of the average recapitulation of module assessment by media expert validators I, II, and III with 5 aspects obtaining an average score of 93% with Very Eligible criteria. This shows that the integrated excretion system module of the Qur'an and Hadith is very suitable for use in learning. From the results of the expert assessment, the validity level of the integrated excretion system module of the Al-Qur'an and Hadith was calculated. In line with research (Ruqiah Ganda Putri Panjaitan *et al.*, 2019) The human excretory system module can be used as teaching material for class XI human excretion at MAN 3 Cirebon.

Teacher's Response to the Al-Qur'an and Hadith Integrated Excretion System Module

Based on the research that has been done, the questionnaire data for teachers about the integrated excretion system module of the Al-Qur'an and Hadith in the trials carried out at the MA Islamic Center are presented in the following graph.

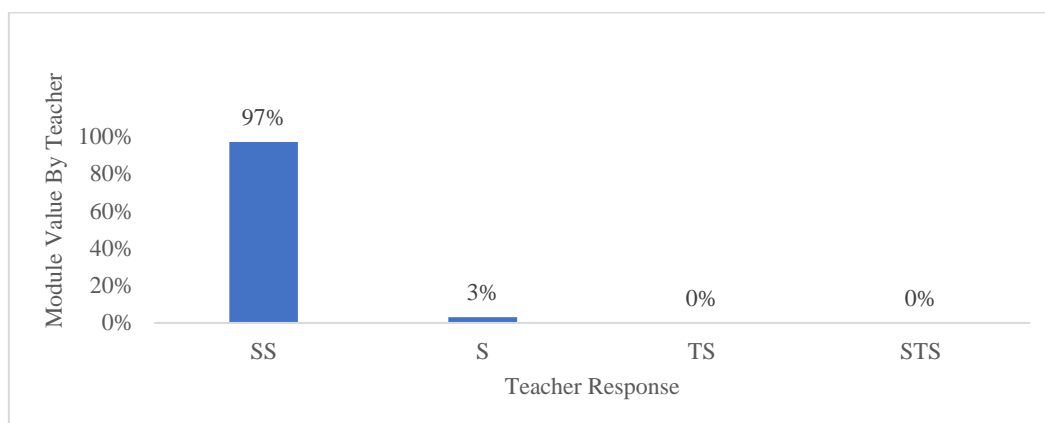


Figure 1. Teacher Response to the Al-Qur'an and Hadith Integrated Excretion System Module in the Trial at the MA Islamic Center

Based on Figure 1, it can be obtained that the questionnaire regarding the integrated excretory system module of the Qur'an and Hadith scores from the MA Islamic Center teachers obtained that SS (Strongly Agree) as much as 97%, those who answered S (Agreed) 3%, those who answered TS (Disagree) 0%, and those who answered STS (Strongly Disagree) 0%, with 15 questionnaire questions, where the highest score is 4 and the lowest score is 0. It can be seen that on average the teacher very much agrees and is happy with using excretory system module that integrates Al-Qur'an

and Hadith. In line with research (Khairani & Nasution, 2020) the teacher's response to the learning module with an achievement level of 90% is in the very good category.

Based on the research that has been done, further research is to find out the value of the module in the effectiveness test, which was carried out at MAN 3 Cirebon. Questionnaire data for teachers about the integrated excretory system module of the Qur'an and Hadith is presented in the following graph.

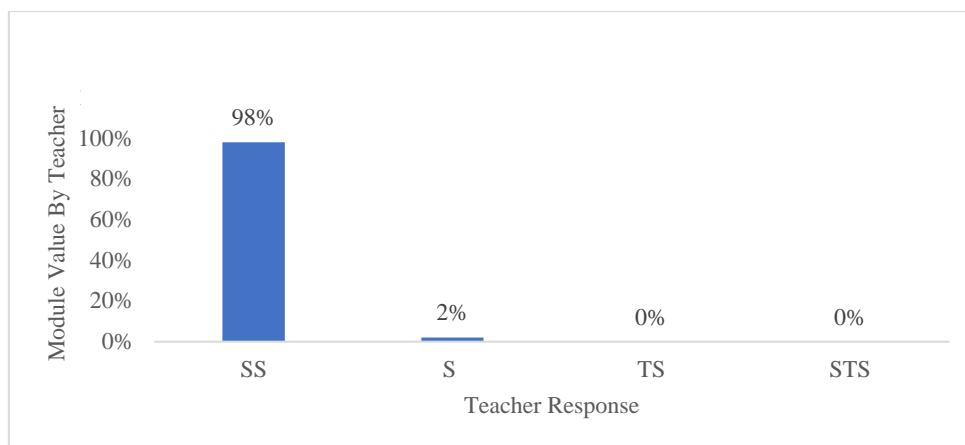


Figure 2. Teacher Response to Learning the Integrated Excretion System Module of the Qur'an and Hadith in the Effectiveness Test at MAN 3 Cirebon

Based on Figure 2, it can be obtained that the questionnaire about the integrated excretory system module of the Qur'an and Hadith values from the Cirebon MAN 3 teacher obtained that SS (Strongly Agree) as much as 98%, those who answered S (Agreed) 2%, those who answered TS (Disagree) 0%, and those who answered STS (Strongly Disagree) 0%, with 15 questionnaire questions, where the highest score is 4 and the lowest score is 0. It can be seen that on average the teacher is very agree and happy with learning Biology uses an excretory system module which is integrated with the Al-Qur'an and Hadith. This shows that the integrated excretion system module of the Qur'an and Hadith is very suitable for use. This is in line with research (Rahmadhania *et al.*, 2017) concerning the feasibility of the integrated excretion system

module of the Qur'an and Hadith applied to classroom learning. Also in line with research (R G P Panjaitan, 2017) that the teacher's response to the human excretory system module, the average percentage of the response is very high and strong, the average percentage of the affective response is 80% with very feasible criteria for the module to be used in classroom learning.

Student Responses to the Al-Qur'an and Hadith Integrated Excretion System Module

Based on the research that has been done, the questionnaire data on the integrated excretory system learning module of the Qur'an and Hadith in the trials carried out at the MA Islamic Center are presented in the following graph.

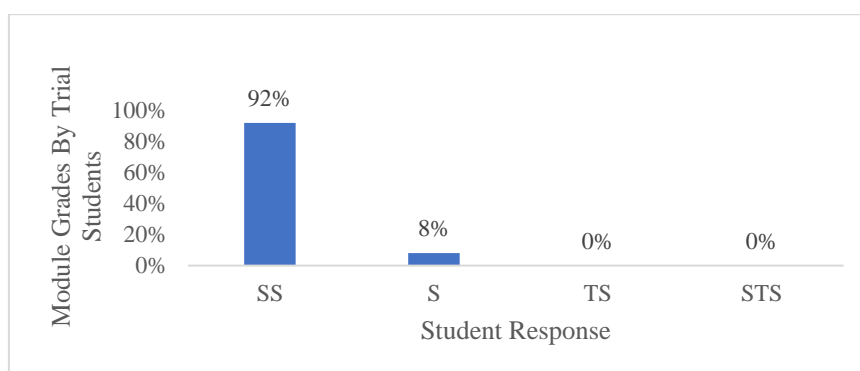


Figure 3. Student Responses to Learning the Al-Qur'an and Hadith Integrated Excretion System Module in the Trial at the MA Islamic Center

Based on Figure 3, it can be obtained that the questionnaire regarding the integrated excretory system module of the Qur'an and Hadith from 20 students obtained that students who answered SS

(Strongly Agree) were 92%, those who answered S (Agreed) 8%, those who answered TS (Disagree) 0%, and those who answered STS (Strongly Disagree) 0%. It can be seen that the average student

is very agreeable and happy with learning biology using the excretory system module which is integrated with the Qur'an and Hadith. This shows that the integrated excretion system module of the Qur'an and Hadith is very suitable for classroom learning.

Based on the research that has been done, the questionnaire data regarding the integrated excretory system learning module of the Qur'an and Hadith in the effectiveness test carried out at MAN 3 Cirebon is presented in the following graph.

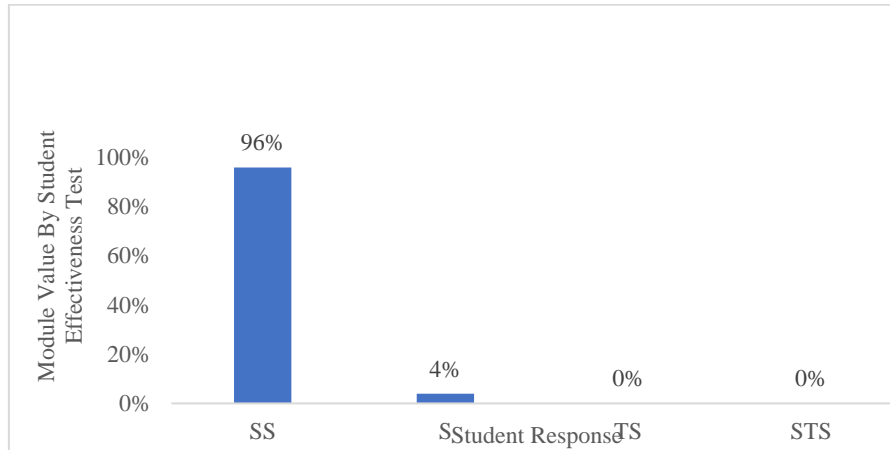


Figure 4. Student Responses to Learning the Al-Qur'an and Hadith Integrated Excretion System Module in the Effectiveness Test at MAN 3 Cirebon

Based on Figure 4, it can be obtained that the questionnaire regarding the integrated excretory system biology learning module integrated with the Qur'an and Hadith from 36 students obtained that students who answered SS (Strongly Agree) were 96%, those who answered S (Agreed) 4%, those who answered TS (Disagree) 0%, and those who answered STS (Strongly Disagree) 0%. It can be seen that the average student is very agreeable and happy with using the excretory system module which is integrated with the Qur'an and Hadith in the effectiveness test at MAN 3 Cirebon.

The Effectiveness of the Al-Qur'an and Hadith Integrated Excretion System Module in Improving Problem Solving Ability

Based on the research that has been done, it can be seen that in this implementation test students are given valid questions, namely 32 multiple choice questions, which are given at the pretest, namely 32 questions to measure students before receiving learning and 32 posttest questions to measure students after learning, in this module test there were 2 meetings in the learning carried out, the following is a graph of the average percentage of pretest and posttest results in the module trial at MAN 3 Cirebon.

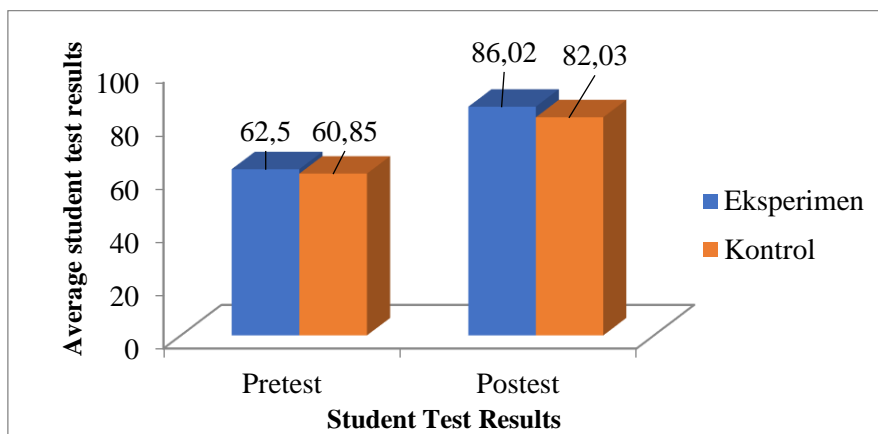


Figure 5. Average Percentage of Test Results in the Trial Module at MAN 3 Cirebon.

Based on Figure 5 above, the percentage of student test scores in the module effectiveness test at MAN 3 Cirebon. Based on the graph above, it can be seen that the results in the experimental class are higher than the control class. In this case, the average percentage of student test results in the experimental class was 62.5% in the pretest and 86.02% in the posttest. Meanwhile in the control class it was 60.85% during the Pretest and 82.03% during the Posttest. Based on the percentage results above, it can also be seen that there is an increase in student test scores during the pretest and posttest in the module effectiveness test. The experimental class is higher than the control class. Based on the results

of the Pretest and Posttest tests in the control and experimental classes, this shows that the biology module of the excretory system integrated with the Qur'an and hadith is very effectively used in learning to improve students' problem solving abilities. In line with research from (Ayeni & On, 2022) a significant posttest difference is the result of the effect of the treatment on the experimental group. The experimental group had the highest adjusted mean score, followed by the problem solving group.

Test Troubleshooting Value and Test Module Effectiveness

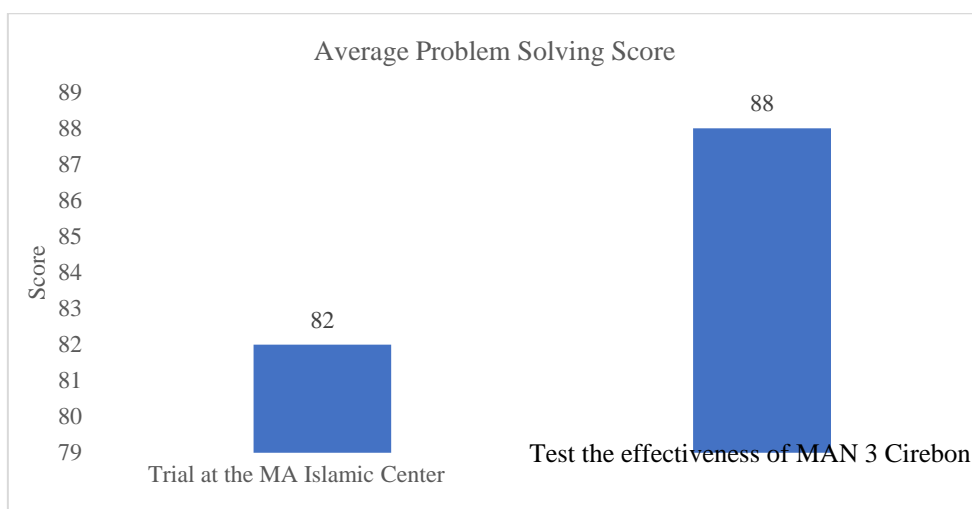


Figure 6. Average Problem Solving Value in Learning

Based on Figure 6, the average score of solving learning problems using the integrated excretory system module of the Qur'an and Hadith in 2 meetings on the trial and test of effectiveness shows an increase in problem solving. The average score for problem solving was 82 in the trial at the Islamic Center while the KKM at this school was 79. This proves that the integrated excretory system module of the Qur'an and Hadith can improve students' problem solving skills. In the effectiveness test at MAN 3 Cirebon, the average score for solving learning problems was 88, while the KKM at MAN 3 Cirebon was 81. This shows an increase in students' problem-solving abilities in learning. Based on this, this proves that the integrated excretion system module of the Qur'an and Hadith is able to improve students' problem solving abilities. According to research from (Ayeni & On, 2022) a significant posttest difference is the result of the

effect of the treatment on the experimental group. The experimental group had the highest adjusted mean score, followed by the problem solving group. The problem solving strategy follows the experimental group with treatment. The results are consistent with findings confirming that the experimental group was taught problem-solving strategies at a higher level.

Learning using integrated excretion system modules of the Qur'an and Hadith is able to improve problem solving abilities, making students have new experiences and more knowledge, in line with research (Syafii & Yasin, 2013) which shows that there are significant differences in students' problem solving abilities of the two groups, the average percentage of the experimental group was higher than the control group. This is because the learning carried out for the control group was not directed at problem solving activities, all input was received

from the teacher and students were not actively involved in learning. The experimental group used the integrated excretory system module of the Qur'an and Hadith for real-life problems and were asked to solve it using book sources, the internet and group discussions.

SQ Value of Students who Study the Excretory System Using the Al-Qur'an and Hadith Integrated Module

1. Students' SQ Scores in Trials

Based on the research that has been done, the questionnaire data on the trials carried out at the MA Islamic Center are presented in the following graph.

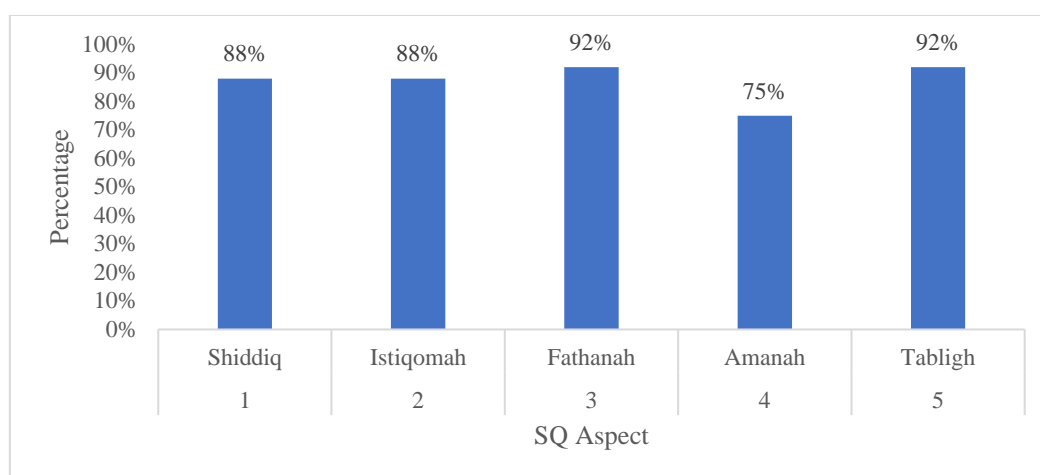


Figure 7. Average Percentage of Students' SQ Scores in the Trial at the MA Islamic Center.

Based on Figure 7 above, there are 5 aspects of student SQ namely Shiddiq, Istiqomah, fathanah, Amanah, and Tabligh. Based on the data obtained in the trials at the MA Islamic Center, the average SQ shiddiq aspects were 88%, Istiqomah 88%, Fathanah 92%, Amanah 75%, and Tabligh 92%. This proves that students' SQ scores in the Al-Qur'an and Hadith integrated excretion system module are very good and the Al-Qur'an and Hadith integrated excretion system module can increase students' SQ scores. It can be seen that the average student has a very good SQ score. Students are very responsive to learning using the integrated excretion system module of the Qur'an and Hadith which is applied in the experimental class. Based on the research that has been done, the value of SQ measured through a questionnaire is the attitude of students' SQ towards problems related to excretory system material in humans related to the Al-Qur'an and Hadith. Based on research, student responses to the integrated excretion system module of the Al-Qur'an and Hadith are very good, so this proves that the integrated excretion system module of the Al-Qur'an

and Hadith is very good to apply in classroom learning.

Spiritual Quotient enables individuals to align their emotions, feelings and thoughts to express and give meaning to every action. Spiritual intelligence is the ability to access one's deepest meanings, values, goals, and motivations. SQ is the wisdom in the human soul. Spiritual wisdom gives the ability to see the positive value in every problem and the wisdom to deal with it. People with high spiritual intelligence bring spiritual values to their work, making them more resistant to stress and more difficult to beat when they fail. SQ supports people physically and mentally. In addition, SQ creates a positive mindset, making it easier to see opportunities and live a happier life (Puspitacandri *et al.*, 2020).

2. Students' SQ scores in the Effectiveness Test

Based on the research that has been done, the questionnaire data on the effectiveness test carried out at MAN 3 Cirebon is presented in the following graph.

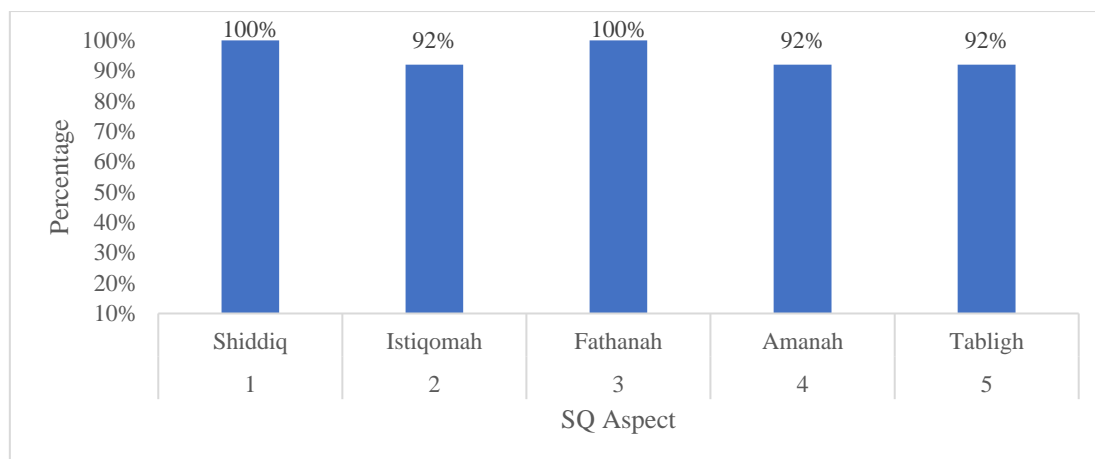


Figure 8. Average Percentage of Students' SQ Scores in the Effectiveness Test at MAN 3 Cirebon.

Based on Figure 8 above, there are 5 aspects of student SQ namely Shiddiq, Istiqomah, Fathanah, Amanah, and Tabligh. Based on the data obtained from the implementation test at MAN 3 Cirebon, the average SQ scores of the students were Shiddiq 100%, Istiqomah 92%, Fathanah 100%, Amanah 92% and Tabligh 92%. This proves that the integrated excretion system module of the Al-Qur'an and Hadith is able to increase students' SQ scores in the very good category. Based on this, it can be seen that the average student has a very good SQ score. Students are very responsive to learning the integrated excretion system module of the Qur'an and Hadith which is applied in the experimental class. Based on the research that has been done, the attitude that is measured through a questionnaire is the attitude of students towards problems related to excretory system material in humans related to the Al-Qur'an and Hadith. Based on the research, student responses to the integrated excretion system module of the Qur'an and Hadith have a very good SQ score, so this proves that the integrated excretion system module of the Qur'an and Hadith is a very good category to be applied in biology learning at MAN 3 Cirebon.

Students are very responsive to learning biology using the integrated excretion system module of the Qur'an and Hadith which is applied in the experimental class. In line with research (Muztaba et al., 2020) that the value of SQ applied in learning has a positive and significant value using SQ.

Spiritual intelligence as the intellectual ability to question why we are here and creatively seek answers. Thus, spiritual intelligence involves cognitive processes that lead to social

transformation and shifts in consciousness. Emmons defines spiritual intelligence as the adaptive use of spiritual information to facilitate solving everyday problems and achieving goals. Intelligence is the implementation of a set of tools for a more productive, effective, happier and ultimately more meaningful life. Thus, spiritual intelligence is a mechanism by which people improve their overall quality of life. It is the application of knowledge fields to life problems. SQ is a complex adaptive system of consciousness, so its qualities will have a unique expression of consciousness that arises when the brain encounters a domain of meaning. According to Biberman and McKeage, SQ is intelligence or human ability to more closely associate it with spiritual traits and manifestations such as affection, meaning and purpose, awareness (self-awareness), vision and values (Kumar & Pragadeeswaran, 2011).

CONCLUSION

The integrated excretion system module of the Al-Qur'an and Hadith has a validity value that is very suitable for use in learning from material and media expert validators so that it is implemented with minor revisions. The effectiveness of students in understanding the integrated excretory system module of the Qur'an and Hadith can be seen from the test scores of the experimental class which are higher than the control class, while the average score of learning problem solving in the effectiveness test is higher than the pilot test. The intelligence profile of students who studied the excretory system module integrated with the Al-Qur'an and Hadith in the effectiveness test was higher than the pilot test.

This proves that the integrated excretion system module of the Al-Qur'an and Hadith is able to increase students' SQ scores in the very good category.

ACKNOWLEDGEMENT

The author would like to thank those who have helped in completing the research to write this journal. Hopefully it can be useful for writers and for readers. A big thank you to the headmaster of the MA Islamic Center who has allowed to conduct research, Mr. Abdul Hafidz as a biology teacher at the MA Islamic Center who has guided during the research and students of class XI MIA-1, also the principal of MAN 3 Cirebon who has allowed researchers to conduct research, Mrs. Dini as a biology teacher at MAN 3 Cirebon who has guided during the research, and students of class XI MIA-4 and MIA-5.

REFERENCES

- Ayeni, M. F., & On, P. S. (2022). Effects of Experiential and Problem-Solving Strategies On Academic Performance of Biology Students in Senior Secondary Schools in Nigeria. *International Journal of Education, Learning and Development*, 10(4), 1–8. <https://doi.org/10.37745/ijeld.2013/vol10n04pp.1-8>
- Babalola, E. O., Ayoola, D. A., & Omolafe, E. V. (2023). *ASEAN Journal of Science and Analysis of Experts' Opinion on the Human Excretory System Model for Teaching Biology in Nigeria*. 3(1), 19–26.
- Bahri, A., Putriana, D., & Idris, I. S. (2018). Peran PBL dalam Meningkatkan Keterampilan The Role of PBL in Improving Biological Problem-Solving Skill. *Jurnal Sainsmat*, 7(2), 114–124. <http://ojs.unm.ac.id/index.php/sainsmat>
- Buto, Z. A., & Hafifuddin, H. (2018). Learning Independence of Students at Dayah Muslim School in North Aceh. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 1(4), 224–231. <https://doi.org/10.33258/birci.v1i4.112>
- Halistin, H., Patih, T., Ayu Melvi Amalia, H., Ahmad, A., Zur, S., . S., & Kadir, A. (2022). Interconnectedness of Math, Biology and Islamic Education: Designing Teaching Materials for High School. *KnE Social Sciences*, 2022, 217–228. <https://doi.org/10.18502/kss.v7i8.10739>
- Khairani, M., & Nasution, I. W. (2020). Analysis of Student Responses to Module Development Based on Islamic Integration in Biology Learning in Class XI. *BEST Journal (Biology Education, Sains and Technology)*, 3(2), 257–262. <https://doi.org/10.30743/best.v3i2.3303>
- Kristanto, A., Mustaji, Mariono, A., Sulistiowati, & Nuryati, D. W. (2018). Developing Media Module Proposed to Editor in Editorial Division. *Journal of Physics: Conference Series*, 947(1). <https://doi.org/10.1088/1742-6596/947/1/012054>
- Kumar, T., & Pragadeeswaran, S. (2011). Effects of Occupational Stress on Spiritual Quotient Among Executives. *International Journal of Trade, Economics and Finance*, 2(4), 288–292. <https://doi.org/10.7763/ijtef.2011.v2.119>
- Lestari, A., Lianah, L., & Hidayat, S. (2019). Pengembangan Modul Pembelajaran Biologi Berbasis Kearifan Lokal Di Kawasan Wisata Goa Kreo Pada Materi Ekosistem Kelas X Sma Negeri 16 Semarang. *Phenomenon: Jurnal Pendidikan MIPA*, 9(1), 1–9. <https://doi.org/10.21580/phen.2019.9.1.13>
- Muztaba, M., Bahri, S., & Farizal, F. (2020). The Effects of Adversity Quotient And Spiritual Quotient on Teacher Performance. *Asian Journal of Science Education*, 2(1), 64–70. <https://doi.org/10.24815/ajse.v2i1.15983>
- Palennari, M., Lasmi, L., & Rachmawaty, R. (2021). Keterampilan Pemecahan Masalah Peserta Didik: Studi Kasus di SMA Negeri 1 Wonomulyo. *Diklabio: Jurnal Pendidikan Dan Pembelajaran Biologi*, 5(2), 208–216. <https://doi.org/10.33369/diklabio.5.2.208-216>
- Panjaitan, R G P. (2017). Respon Siswa Terhadap Modul Sistem Ekskresi Manusia Pada Pembelajaran Biologi Kelas Xi Sma. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa*. <https://jurnal.untan.ac.id/index.php/jpdpb/article/view/24190>

- Panjaitan, Ruqiah Ganda Putri, Sari, D. P., Wahyuni, E. S., Shidiq, G. A., & Shidiq, G. A. (2019). Feasibility of Human Excretory System Module in Biology Learning. *Jurnal Penelitian Dan Pembelajaran IPA*, 5(1), 84. <https://doi.org/10.30870/jppi.v5i1.3894>
- Pratiwi, A. ., Mulyono, & Supriyono. (2016). Analisis Kemampuan Pemecahan Masalah Berdasarkan Disposisi Matematis Peserta Didik dalam Setting Model Anchored Instruction. *Unnes Journal of Mathematics Education*, 5(3), 173–181. <http://journal.unnes.ac.id/sju/index.php/ujme>
- Puspitacandri, A., Warsono, Soesatyo, Y., Roesminingsih, E., & Susanto, H. (2020). The effects of intelligence, emotional, spiritual and adversity quotient on the graduates quality in surabaya shipping polytechnic. *European Journal of Educational Research*, 9(3), 1075–1087. <https://doi.org/10.12973/EU-JER.9.3.1075>
- Rahmadhania, R., Panjaitan, R. G. P., & Wahyuni, E. S. (2017). Kelayakan Modul Materi Sistem Ekskresi Kelas Viii Smp. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa*, 6(12), 1–11.
- Sekolah, P. A. I. D. I. (2019). *Dan Kebudayaan Republik Indonesia Proses Pendidikan Dasar Dan Menengah*. 3(22), 45–69.
- Syafii, W., & Yasin, R. M. (2013). Problem solving skills and learning achievements through problem-based module in teaching and learning biology in high school. *Asian Social Science*, 9(12 SPL ISSUE), 220–228. <https://doi.org/10.5539/ass.v9n12p220>
- Syahrir, S., Syazali, M., Maskur, R., Amrulloh, M. A., Sada, H. J., & Listiani, B. (2019). Calculus Module for Derivative Application Materials with an Islamic Contextual Teaching and Learning Approach. *Journal of Physics: Conference Series*, 1155(1). <https://doi.org/10.1088/1742-6596/1155/1/012079>
- Taar, J., & Palojoki, P. (2022). Applying interthinking for learning 21st-century skills in home economics education. *Learning, Culture and Social Interaction*, 33(March). <https://doi.org/10.1016/j.lcsi.2022.100615>
- Vol, B., & No, I. I. (2016). Pengembangan Compact Disc (Cd) Interaktif Materi Sistem Eksresi Pada Manusia Untuk Siswa Sma. *Bioconcetta*, 2(1), 102–113. <https://doi.org/10.22202/bc.2016.v2i1.1490>