



## **Student Responses to Biology E-Module Integrated Enrichment Imtaq Values in Sense System Material**

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**Abstract:** This study aims to determine students' responses to the electronic material module product of the sensory system integrated with the values of faith and piety that have been developed. This research is research and development (R&D) using the modified Analysis, Design, Development, Implementation and Evaluation (ADDIE) model, but this research only reaches the development or development stage. The sample of students was by purposive sampling with a total sample of 60 students from 3 schools. Student responses were obtained through limited trials at SMAN 2 Siak Hulu, Al Azhar Syifa Budi Pekanbaru High School, and MA Al-Ihsan Boarding School. Data were collected through observation, documentation, interviews, and questionnaires. Data were analyzed descriptively. The results showed that the developed e-module received a very good response from students with an average of 92.14%. Thus the developed E-module can proceed to the large-scale trial stage.

**Keywords:** Student Response, E-Module, Integration, Imtaq Values

### **INTRODUCTION**

Teachers in the learning process are one of the parties responsible for improving the quality of education, are expected to have expertise, skills, and abilities that can be relied upon in carrying out their duties as educators, who can give birth to future generations who are competent, independent, creative is not easy to give up and fear of God Almighty, therefore it takes a teacher who can design teaching materials. Once the complexity of the teacher's task in the learning process in the classroom, one of the steps that the teacher needs to take is to develop teaching materials (Suprihatin & Manik, 2019) Teaching materials are one of the most important elements for the formation of learning. The existence of teaching materials can assist teachers in designing learning, while for students teaching materials can assist them in mastering learning competencies. Teaching materials developed should be able to be used independently and easily accessed by students, as an effort to adapt to the times so that they are more practical and efficient, modules are made in electronic form (e-modules). (Kimianti & Prasetyo, 2019) An e-module is a module with an electronic format that runs on a computer. E-modules can display text, images, animations, and videos through electronic devices such as computers. Advances in technology have also made it possible for e-modules to be

displayed via smartphones. Another advantage of e-modules is that they reduce the use of paper in the learning process. An e-module is arranged systematically in a language that adapts to students' abilities, so it doesn't confuse students in understanding it. The use of e-modules is not limited by place and time because it depends on the ability of students to use e-modules. Thus the developed e-module can be used anytime and anywhere, using a smartphone that the average student already has in this technological era. (Laili et al., 2019) The image values with science also mean a unification between science and religion through various forms of facilities and role models in learning with the main objective so that students when studying this knowledge not only increases their knowledge but also has implications for increasing awareness of being closer students towards their Lord, to make improvements to their morals. the inculcation of the values of Faith and Taqwa (Imtaq) in education, especially in the learning process at school is a must and even a very important thing. By implementing the inculcation of the values of Faith and Taqwa (Imtaq), it is hoped that students can understand more deeply the nature of divinity so that there are no social deviations committed by students.(Siti Robiah, 2017).

One of the e-module developments that integrate imtaq values is Biology(Rahmayani et al.,2022) Biology is the science that studies the origin, evolution, and characteristics of living things, as well as their vital processes, behavior, and interactions with one another and with the environment. In general, biology is divided into several fields including anatomy, biophysics, biogeography, biochemistry, marine biology, molecular biology, cell biology, botany, biotechnology, physiology, microbiology, paleontology, pathology, virology, and zoology. In the Qur'an, there are several signs indirectly showing the connection between several fields in the field of biology. One of the biological materials that are integrated with imtaq values is the sensory system material(Maksum et al., 2017) One of the materials related to imtaq values is the sensory system. The sensory system is part of the nervous system that functions to process sensory information, the sensory system consists of the senses of sight, hearing, smell, taste, and touch.

Based on the results of observations and interviews that have been conducted in three schools, teachers have never developed enrichment e-module teaching materials that integrate imtaq values at school, that Teachers need e-module teaching materials that are integrated with imtaq values because there is development The e-module is expected to be able to add and change students' attitudes to be better, easily accessible, broadly effective, and with the existence of e-modules can increase faith and piety in the students' personalities. And students also have never used e-modules at school, some have but only briefly when they are still online, the teaching materials used still use textbooks and worksheets, students also strongly agree if there is development of teaching materials in the form of integrated e-modules -modules with imtaq values, There are several relevant studies related to the development of e-modules integrated with biological imtaq values that have been carried out by several researchers, including research conducted by Anggia Dwi Larasati, et al (2020) with the title "Development of E -Modules Integrated Islamic Values in Respiratory System Material". And research conducted by Hafis M Kaunang Ataji, et al (2021) with the title "Development of an Integrated Viral Material Module on Islamic Values Based on E-Learning and QR Code". And research conducted by Hardiani Alvia, et al (2020) with the title "Development of Problem Solving-Based High School Biology Learning Modules by Integrating Islamic Values in Ecological Materials". Based on the relevant research

above, Based on the background and problems above, the researcher is interested in conducting research with the title "Development of E-Module Biology Integrated Enrichment of Imtaq Values in Sensory System Material for Class XI SMA/MA Students"

## METHOD

This research method uses the research and development (r&d) method which refers to the modified ADDIE model (analyze, design, development, implementation, evaluation). However, this research is a follow-up study of Robiah and Yeni's research (2023) which is only in the development stage of e-module validation by a team of experts and teachers, while this research is continued to the limited trial stage in schools to get student responses to E-Values -Integrated Module from Imtaq Concerning the Subject of the Indra System for class XI SMA/MA which was developed.

### Research Design

This research was conducted in three schools, namely SMA N 2 Siak Hulu, SMA Al Azhar Syifa Budi Pekanbaru II, and MA Al Ihsan Boarding School. This research was conducted in July 2023.

Research data was collected by filling in the e-module development validation sheet. The data is obtained from the validation results of each validator to determine the results of the e-module development. To assess the validity of the resource persons who are considered experts in the field of e-module, they consist of six people consisting of three lecturers as experts in the interpretation of the Qur'an and hadith, material experts, and media experts as well as three class XI biology teachers SMA / MA science.

The validator provides general impressions, suggestions for improvement, and criticism of the product being developed. In addition, the validator also provides a statement about the validity of the developed e-module. Then a limited trial was carried out on 60 students of class XI IPA SMA/MA by giving a student response questionnaire regarding the integrated e-module imtaq values.

### Population and Sample

The population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by the researcher to be studied and then conclusions drawn. So the population is not only people but also objects and other natural objects. The population is also not just the amount that exists in the object/subject being studied but includes all the characteristics/traits possessed by that subject/object (Sugiyono 2019: 126).

Table 1. Research Population

No	School name	Class	Population
1.	SMA N 2 Siak Hulu	XI MIPA 6	35
2.	Al Azhar Syifa Budi High School Pekanbaru	XI MIPA	23
3.	MA Al Ihsan Boarding School	XI IPA	23
<b>TOTAL</b>			81

The sample is part of the number and characteristics possessed by the population if the population is large and the researcher cannot study everything in the population. The meaning of the sample according to Husein Umar is part of the population (Saputra, 2018)

The sampling technique is a sampling technique. To determine the sample to be used in research, there are various sampling techniques used. The sampling technique used by researchers is by using a purposive sampling technique. According to Sugiyono (2019), purposive sampling is a technique for taking samples from data sources with certain considerations.

In this study, the researchers took samples based on certain criteria, namely accredited public high schools/MA and majoring in biology. The samples taken for the main field trial were carried out in 3 schools, namely:

Table 2. Research Sample

No	School name	Class	Samples
1.	SMA N 2 Siak Hulu	XI MIPA 6	20
2.	Al Azhar Syifa Budi High School Pekanbaru	XI MIPA	20
3.	MA Al Ihsan Boarding School	XI IPA	20
<b>TOTAL</b>			60

### Research Instrument

The research data collection instruments include a Validation sheet and a student response questionnaire. Data derived from the results of the e-module validation sheets for al-Qur'an and hadith commentators, material experts, media experts, and teachers were then analyzed to evaluate teaching materials. The analysis carried out was data analysis in the form of input descriptions and suggestions from experts in the interpretation of the Qur'an and hadith, material experts, media experts, and biology teachers. The data is then selected and summarized so that it can be used as a basis for carrying out revisions to the e-module being developed.

The e-module that has been produced will then be validated in advance by the biology education lecturer in the field of education. The observed components of the e-module include aspects of learning, material, integration, and display. Each aspect of the assessment has several points and at each point has a rating scale (score) between 1-4

## RESULT AND DISCUSSION

### Result of Research Procedure

The following are the results of students' responses to the biology e-module integrated enrichment of Imtaq values in the sensory system material. There are suggestions and comments from each school, namely:

Table 4.11 Results of Student Responses by SMAN 2 Siak Hulu

No	Name	Comments and Suggestions
1	Galuh Pawestri Noviana Sutanto	Color Combination to Get More Attention Again
2	Amanda Febriana Putri	Color Combination to Get More Attention Again
3	Eka Nurmellisa	Color Combination to Get More Attention Again

4	Ghefira Aisha Sabilla	Color Combination to Get More Attention Again
5	Aurelia Nafiska	Color Combination to Get More Attention Again
6	Laura Fanesia Selviana	-
7	Natasya Aulia	-
8	Yulia Almaida	-
9	Chelsea Auriel	-
10	Nabillah Najla Mutia	-
11	Chindy Tri Kirana	-
12	Novi Aulia N	-
13	Herlin Yulianti	The explanation can be reduced, so that readers are not confused
14	Tiara Ramadhani	-
15	Visca Adeliya Putri	At the beginning of the e-module, the text can be enlarged further
16	Cindy Aprilia	The letters are not big enough
17	Silvy Adelia Putri	-
18	Mutia Almahirah	Cover is a bit monotonous
19	Zazkia Velina	-
20	Diwashira Sukma A	-

Table 4.12 Response Results from Al-Azhar Syifa Budi Pekanbaru II High School Students

No	Name	Comments and Suggestions
1	M Fariz Tiroz	Create Dark Mode, so that when you open it at night it's better
2	Kalinda Aisyah Adzkie	-
3	Rindiani Orvala Indra	-
4	Azam W	-
5	Alif Budhi Imansyah	Button beside the screen for the next page
6	Waki Rahmat Pratama	-
7	Athaya Kimi Aqilah	-
8	Yaumi Alfathni Maulia	-
9	Ribs Maharani Shavira	-
10	M. Faatir	Color Gradation on Title Cover
11	Arief Maulana	-

12	M. Zulfikri	Attractive and easy to understand appearance
13	Dewi Zahra Fadhila	Good, And Improve The Presentation
14	M. Yaga Nafi	-
15	Syafira Aulia	Already good
16	Fayyadh	The explanation can be shortened
17	Fabilian D	Good and interesting, easy to understand
18	Riska Humaira Sari	-
19	Macello Aqeel P	Photos in each chapter to make it even better
20	M. Hafiz	Arranging Fonts to Get Noticed

Table 4.13 Results of MA Al Ihsan Boarding School Student Responses

No	Name	Comments and Suggestions
1	Ziyad Robbani	-
2	Keyza Ramadhansena A	-
3	Ryamizard Mutual R	If the learning system is like this, you will be happy in the learning process
4	Vishal Andriansyah	-
5	Khairul Faqih	-
6	Helmi	-
7	Alfaradza Hernanda	-
8	M. Rakha Imtiyaz	There are additional learning videos, so it makes it easier for students
9	Fadlan Rimi Alwafi	-
10	M. Ismail	-
11	Dwi Rizky Ramadhani	-
12	Hafla Aqli	Watermark Removed on Pages 12 and 36, Check Again Page 26 E-Module Link is Inactive, The argument for every material is good,
13	Kurniawan Refado	-

14	M. Fatih Alfaiz	Check Again Page 26 E-Module Link Is Inactive
15	Zacky Akasya Fadya	-
16	Ahmad Alfatih A	-
17	M. Nail Akmal Falufi	-
18	M Fatih Al Mubarak	-
19	Heidar Amar Wiratama	-
20	Dzafif Alfarizy	Interesting To Me

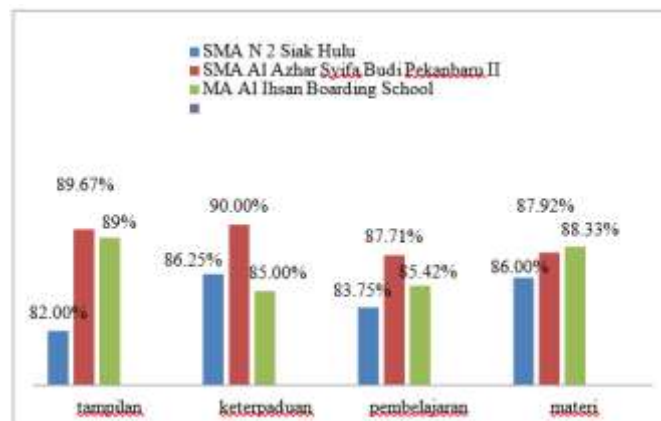
Table 4.10 Results of Student Responses to the Development of an Integrated Enrichment Biology E-Module with Imtaq Values

No	Aspect	Presentation Validity( % )			Average Percentag e	Qualificati on
		I	II	III		
1.	Appearance	82.00%	89.67%	89%	86.89%	SB
2.	Integratation	86.25%	90%	85%	87.08%	SB
3.	learning	83.75%	87.71%	85.42%	85.62%	SB
4.	Material	86%	87.92%	88.33%	87.41%	SB
<b>Average percentage</b>		<b>84.5%</b>	<b>88.82%</b>	<b>86.93%</b>	<b>86.75%</b>	<b>SB</b>
<b>Qualification</b>		<b>B</b>	<b>SB</b>	<b>SB</b>		
<b>Average student percentage</b>		<b>86.75%</b>				

Information: I: SMAN 2 Siak Hulu

II: Al-Azhar Syifa Budi Pekanbaru II High School

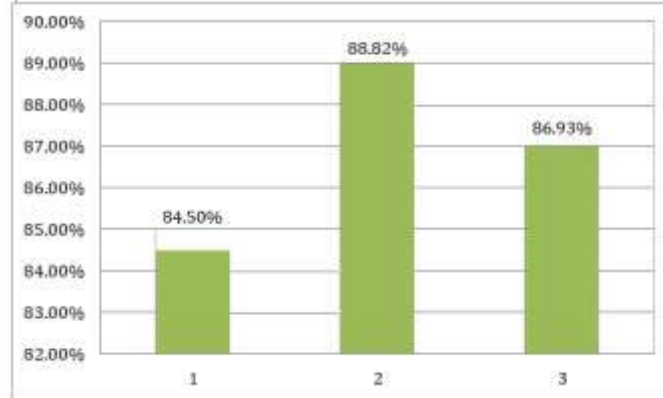
\III: MA Al Ihsan Boarding School



Graph 7. Student responses to the biology e-module integrated enrichment with imtaq values by high school students

To see the average percentage of e-module assessments from the three sample schools can be seen in the graph below as follows:

Graph 8. Average Results of Student Responses to Biology E-Module Integrated Enrichment of Imtaq Values by Students



### Discussion

Based on the results of student responses that have been carried out in 3 high school schools, an average presentation of 86.75% is obtained with a very nice category. In more detail, according to students in the three high schools, there were several responses from students, namely the e-module being developed was presented attractively, and the images in the e-module were accompanied by a video link.

According to (Yudianto, 2017) Learning with video media fosters interest and motivates one to always pay attention to the lesson. Video media is also the most appropriate and accurate learning media for conveying messages and will greatly help students' understanding. With video media, students will understand more about the material conveyed by educators through showing a film that is played.

### CONCLUSION

Based on the results of research on student response tests as many as 60 people obtained a presentation with a validity level of 86.75%, it can be concluded that the E-Module Integrated Enrichment Biology Imtaq Values that has been developed " Very nice"

### GRATITUDE

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### REFERENCES

- Agustien, R., & Umamah, N. (2018). Development of Two-Dimensional Animation Video Learning Media for the Pekauman Site in Bondowoso Using the Addie Model for History Subject Class
- Astari, NN, Wibowo, Y., & Ratnawati. (2017). Development of a Biodiversity Material Enrichment Module for Class X High School Students in Gunungkidul. *Journal of Biology Education*, 6(6), 353–363.
- Biotik, J., April, E., Biology, P., Tarbiyah, F., Teacher Training, DAN, Ar-raniry, UIN, & Agustina, E. (2015). STUDY OF REFERENCES TO QUR'AN VERSES IN THE THESIS OF BIOLOGY EDUCATION STUDENTS, FACULTY OF TARBIYAH AND TEACHING, UIN AR-RANIRY Elita Agustina. 3(1), 69–74.
- Fauziah, N., Oktariani, & Rahmawati. (2023). Development of Nuanced Learning and Learning E-Modules from Educational Research Results. *Educative: Journal of Educational Sciences*, 5(1), 308–315.
- Gufnan, G., & Mataya, I. (2020). Utilization of Smartphone-Based E-Modules as a Media for Community Literacy. *JISIP (Journal of Social Sciences and Education)*, 4(2). <https://doi.org/10.58258/jisip.v4i2.1060>
- Senses, S., Spiritual, S., & Cognitive, HB (nd). Preparation of Human Sensory System Modules for Spiritual Formulation of Human Sensory System Modules to Increase Cognitive. 253–261.
- Ipa, D.P. (2020). No Title. 4(1), 1053–1062.
- Khulsum, U., Hudiyo, Y., & Sulistyowati, ED (2018). Development of Teaching Materials for Writing Short Stories Using Storyboard Media for Class X High School Students. *DIGLOSIA: Journal of the Study of Language, Literature and Teaching*, 1(1), 1–12. <https://doi.org/10.30872/diglosia.v1i1.pp1-12>
- Kimianti, F., & Prasetyo, Z. K. (2019). Development of a Science E-Module Based on Problem Based Learning to Improve Students' Scientific Literacy. *Kwangsan: Journal of Educational Technology*, 7(2), 91. <https://doi.org/10.31800/jtp.kw.v7n2.p91> 103
- Laili, I., Ganefri, & Usmeldi. (2019). Effectiveness of Project Based Learning E-Module Development in Installation Subjects. *Scientific Journal of Education and Learning*, 3(3), 306–315. <https://ejournal.undiksha.ac.id/index.php/JIPP/article/download/21840/13513>
- Linda\*, R., Zulfarina, Z., Mas'ud, M., & Putra, TP (2021). Increasing Student Independence and Learning Outcomes Through the Implementation of Connected Type Integrated Science Interactive E-Modules in SMP/MTs Energy Materials. *Indonesian Journal of Science Education*, 9(2), 191–200. <https://doi.org/10.24815/jpsi.v9i2.19012>
- Magdalena, I., Sundari, T., Nurkamilah, S., Ayu Amalia, D., & Muhammadiyah Tangerang, U. (2020). Analysis of Teaching Materials. *Journal of Education and Social Sciences*, 2(2), 311–326. <https://ejournal.stitpn.ac.id/index.php/nusantara>
- Maksum, AM, Zulkifli, MY, Ibrahim, MA, Aziz, AA, & Bin Hud Yahya, ABBHYB (2017). Biology in the Koran from a Science Perspective. *Diya Al-Afkar: Journal of al-Quran and al-Hadith Studies*, 5(02), 417. <https://doi.org/10.24235/sqh.v5i02.4348>
- Mellisa, & Imania. (2022). Development of a Canva-Based E-Module on Environmental Pollution Material in Class VII of SMPN Pekanbaru. *Journal of Education and Counseling*, 4(5), 6235.

- Monika, KAL, Mahendra, S., & Suranata, K. (2018). Implementation of Enrichment Teaching for Students Who Have Learning Achievements in the 2013 Curriculum Learning. *Inopendas Scientific Journal of Education*, 1(2), 75–82. <http://jurnal.umk.ac.id/index.php/pendas/index>
- Nurrita, T. (2018). Keywords: Learning Media and Student Learning Outcomes. 03, 171–187.
- Learning, M., Point, P., & Reproduction, S. (2017). *Imtaq Integrated Power Point Media Development on Reproductive System Material*. 6, 18–19.
- Prihatiningtyas, S., & Sholihah, NF (2020). Journal of Physics Education, Muhammadiyah University of Makassar Project Based Learning E-Module to Teach Straight-Motion Material for Prospective Physics Teachers. *Journal of Physics Education*, 8(3), 1–12. <https://doi.org/10.26618/jpf.v8i3.3442>
- Purnaningtyas, GR (2021). Development of Powerpoint-Based Learning Media in Class 5 Science Learning. *Research*, 9(1), 2. <https://osf.io/kxv5d>
- Rahmayani, S., Mahsul, A., & Sholehah, N. (2022). Development of the Human Digestive System Module by Integrating Al-Qur'an Verses. *Journal of Exact Education (Jep)*, 6(1), 69–76. <https://doi.org/10.24036/jep/vol6-iss1/647>
- Saputra, A. (2018). Diversity of Bird Species in the Pasui Watershed (DAS) Pasui Village, Enrekang Regency. Thesis, 1–104. <http://repository.uin-alauddin.ac.id/id/eprint/11985>
- Studi, P., & Tekenologi, P. (2017). APPLICATION OF VIDEO AS A LEARNING MEDIA Arif Yudianto. 234–237.
- Suprihatin, S., & Manik, YM (2019). Teachers Innovate Teaching Materials as a Step to Improve Student Learning Outcomes. *UM Metro Journal of Economic Education*, 1, 65–72.
- Syafeie, AK (2020). Internalization of the Values of Faith and Taqwa in Personality Formation Through Intracurricular Activities. *Al-Tarbawi Al-Haditsah: Journal of Islamic Education*, 5(1), 60–75. <https://doi.org/10.24235/tarbawi.v5i1.6280>
- Yulaika, L. (2022). Demonstration of office administration e-module to improve the quality of contextual learning for class X OTKP SMK Negeri 1 Turen. *Taman Widya Humaniora Education Journal (JPTWH)*, 3(11), 227–251. <https://jurnal.widyahumaniora.org/>