



INTEGRATION SCIENCE AND ISLAM: A NEW PRODUCT TO FACILITATE TEACHING AND LEARNING IN COLLEGE

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Abstract: The dichotomy between science and Islam later became the cause of the decline of Muslim civilization, especially in the field of knowledge. Therefore, some scientists have made an Islamic integrated learning model that will need integrated Islamic teaching materials as a tool and learning resources. This research aims to develop an integrated Islamic enrichment book on transition elements in inorganic chemistry courses. The research was done using the Four Steps Teaching Material Development (4STMD) method, which consists of four steps: the selection step, the structuring step, the characterization step, and the didactic reduction step. At the selection stage, the main source of teaching materials was a book by Sugiyarto, K.H., and Suyanti, Retno, D. (2010), titled Inorganic Metal Chemistry. While at the structuring step, concept maps, macrostructures, and multiple representations of the transition elements were found. In the characterization step, it was found that the concept has a straightforward character with an 85.8% understanding percentage, so the didactic reduction is unnecessary in this study. Teaching material has a percentage of 78% in the feasibility test; the details are 81% on aspects of language, 75% on presentation of the book, 75% on aspects of performance, and 83% on aspects of graphics. It can be concluded that the teaching materials developed are unfit for use. So, in this study, the didactic reduction is not necessary. Teaching material has a percentage of 78% in the characterization test, details 81% on aspects of language, 75% in the presentation aspect of the book, 75% on aspects of performance, and 83% in the graphic aspect. It can be concluded that the teaching materials developed are fit for use. Product development research is needed as a source and medium for integrated Islamic learning.

Keywords: Science and Islam, Teaching and Learning, College

Abstrak: Dikotomi antara ilmu pengetahuan dan Islam kemudian menjadi penyebab kemunduran peradaban umat Islam, khususnya di bidang ilmu pengetahuan. Oleh karena itu, beberapa ilmuwan telah membuat model pembelajaran Islam terpadu yang memerlukan bahan ajar Islam terpadu sebagai alat dan sumber belajar. Penelitian ini bertujuan untuk mengembangkan buku pengayaan Islam terpadu unsur transisi pada mata kuliah kimia anorganik. Penelitian dilakukan dengan menggunakan metode *Four Steps Teaching Material Development* (4STMD), yang terdiri dari empat langkah: langkah seleksi, langkah penataan, langkah karakterisasi, dan langkah reduksi didaktik. Pada tahap seleksi, sumber bahan ajar utama adalah buku karya Sugiyarto, K.H., dan Suyanti, Retno, D. (2010), dengan judul Kimia Logam Anorganik. Sedangkan pada langkah penataan ditemukan peta konsep, struktur makro, dan berbagai representasi elemen transisi. Pada tahap karakterisasi ditemukan bahwa konsep mempunyai karakter lugas dengan persentase pemahaman 85,8%, sehingga reduksi didaktik tidak diperlukan dalam penelitian ini. Bahan ajar mempunyai persentase uji kelayakan sebesar 78%; rinciannya adalah 81% pada aspek kebahasaan, 75% pada aspek penyajian buku, 75% pada aspek pertunjukan, dan 83% pada aspek kegrafikan. Dapat disimpulkan bahwa bahan ajar yang dikembangkan tidak layak digunakan. Jadi, dalam penelitian ini reduksi didaktis tidak diperlukan. Bahan ajar mempunyai persentase sebesar 78% pada uji penokohan, rincian 81% pada aspek kebahasaan, 75% pada aspek penyajian buku, 75% pada aspek pertunjukan, dan 83% pada aspek kegrafikan. bahan ajar yang dikembangkan layak digunakan. Penelitian pengembangan produk diperlukan sebagai sumber dan media pembelajaran Islam terpadu.

Kata Kunci: Islam dan Ilmu Pengetahuan, Pembelajaran, Perguruan Tinggi

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INTRODUCTION

Integrating science and Islam with innovative approaches to facilitate teaching and learning in higher education environments is very important. This integration aims to harmonize scientific knowledge and Islamic principles, forming a synergy that aligns with contemporary educational needs. The integration combines one element with another to form a single unit (Ramli and Muslim, 2019; Suyadi and Widodo, 2019). The elements that are combined are scientific concepts integrated with Islam. The integration of science and Islam is carried out to align science with religion by combining the two sciences. The universality of Islamic values is based on the Qur'an and Hadits and natural phenomena (Fauzan, 2017; Azhar, 2017; El-Seedi et al., 2019; Hasan, 2023). Ramli and Muslim (2019), in their article entitled "*Integrasi Pencemaran Logam Berat dan Islam Menggunakan Metode 4STMD*" explains that the idea of science integration emerged because of the dichotomy or separation between religious sciences and other general sciences, along with developing the scientific integration movement, especially religion and science (Hamzah, 2016; Mustafa, Baharuddin, and Saifuddeen, 2021).

In recent years, there has been increasing recognition of the importance of aligning scientific concepts with Islamic values. The universality of Islamic principles originating from the Al-Qur'an and Hadith is needed in various fields. The intersection between science and Islam offers an opportunity to bridge the gap between modern science and Islam that has been felt since the 19th century and revive the deep connection between knowledge and faith. The dichotomy of science and Islam that has occurred since the 19th century indirectly affects the deterioration of Muslims in aspects of knowledge, including chemistry (Safkolam et al., 2021). Some scientists then make an effort to be able to overcome the dichotomy of science, one of them by performing an integrated Islamic education (Kurniawan, Jaenullah, Jannah, and Dedi Setiawan, 2023; Hasani, 2022). In many countries, the integration of Science and Islam is widely known, like in Iran, Malaysia, America, and other countries (Hashim and Sekamanya, 2013; Huddin, 2016; Kashim et al., 2023). In Indonesia, recently developed integration paradigms of Islamic science have been developed, including integration of general science and religious science in UIN Jakarta, integration interconnecting with metaphoric cobwebs in UIN Yogyakarta, the main tree in UIN Malang, wheel carts or revelation to guide science in UIN Bandung, and integrated twin towers in UIN Surabaya (Hanifah, 2018).

Efforts to integrate science and Islam have been implemented in several countries, including Yemen, Malaysia, England, Germany, Iran, and Brunei Darussalam (Al-Hadab n.d., 2016; Zain et al., 2016; Lubis, 2015; Freitas, Correa, and Freitas 2018). Malaysia has implemented integration between science and Islam at the university level, one of which is at the International Islamic University Malaysia (IIUM) (Khalid et al., 2022; Suciati et al., 2022). One of the elements necessary to realize integrated Islamic education is a book from the perspective of Islam (Zain et al., 2020), as well as media and learning resources. Books are needed in the learning process because they are highly effective learning materials for learning activities (Liany, Desnita, and Raihanati, 2018). However, based on observations made by researchers at the official site of several Islamic university libraries in Indonesia, integrated science and Islamic books are not yet widely

available. As in tulis.uinjkt.ac.id (The official website of UIN Jakarta library) and libcat.uin-malang.ac.id (The official website of UIN Malang library), only one book discusses natural phenomena from an Islamic perspective without referring to the student's learning program.

Based on this background, this study will develop a product to facilitate learning that integrates science and Islam on the topic of the first line of transition elements. Through this study aimed at creating a science book integrated with Islamic teachings, we aim to foster a deeper understanding of the harmonious coexistence of science and Islam and offer a valuable resource for educators and students. This article will explore this effort's development process, goals, and expected outcomes, highlighting the potential benefits of an integrative approach of science and Islam to education in higher education settings.

LITERATURE REVIEW

Book of Enrichment

An enrichment book is a book that contains information supplementary to the main lesson book. The enrichment book contains information about specific languages in the curriculum that are discussed more broadly (Zain et al. 2016; 2020). The book created in this research is a knowledge enrichment book that contains material that can enrich and improve the mastery of *IPTEKS*. Because its nature is not significantly tied to the curriculum, the academic community and the general public can read knowledge enrichment books. It is influenced by the increased control of science and technology (Adriani, Subyantoro, and Mardikantoro, 2018). The content of the enrichment book is more profound and comprehensive and is usually not found in the primary textbooks. The characteristics of knowledge enrichment books include presenting accurate material, developing science-focused reading materials, and developing various knowledge such as fact, conceptual, procedural, and metacognitive knowledge. Reading an enrichment book can enrich knowledge, especially for pupils (Danial, Gani, and Husnaeni, 2017).

Integrating General Knowledge with Islam

Integrating science and Islam can harmonize science and religion (Fauzan, 2017). If its historicity is reviewed, the concept of integration of science is not new, as classical Islamic scholars have discussed it. For example, al-Shafi'i founded his masterpiece's illustration in his monumental work *al-Umm* by positioning the Qur'an and Hadith as the primary source of knowledge (Iskandar, 2016). In addition, Jabir bin Hayyan, known as the father of chemistry, was also a scientist who studied and disseminated the integrated chemical science of Islam. It was reflected in the philosophical thoughts of Jabir bin Hayyan's education on divinity, man, and nature and was influenced by his figure as a rationalist and *shufi* scientist who advanced empirical methods in experimental form (Chandra, 2012). Other scientists studying Islam's integrated science are Mehdi Golshani and Mulyadi Kertanegara. Mehdi Golshani is a world scholar and Muslim physicist born in Isfahan, Iran, in 1939. Among the awards won by the Sharif University of Technology in Tehran, Iran, is the John Templeton Award for Progress in Religion (2002). His great idea of Islamic science is reflected in his works *Can Science Dispense with Religion* and

The Holy Quran and the Science of Nature. Mehdi Golshani (n.d.) argued that science and religion in Islam can not be distinguished because religion and science are equally oriented to understanding God. Man can understand natural phenomena and enrich his knowledge with science to better know his Creator. Mulyadi Kertanegara is famous for his mystic-philosophical thinking. According to Mulyadi Kertanegara, Mistico-philosophical is a term for giving birth to new colors as a form that the existence of Islamic philosophy has a diverse discourse that continues to live and develop (Matroni, 2018).

As a Muslim student, studying general science integrated with Islam is very important. Through integrated learning, students can be educated and trained to understand and uphold Islamic religion, law, and morality. The importance of integrated Islamic curriculum (Z. A. S. Zain, Ismail, and Al-Bathi, 2016), among others:

- 1) To ensure that all students gain knowledge and understanding of Islamic heritage, history, and pride in being Muslim scholars.
- 2) To activate students, distinguish themselves from non-Muslims, feel proud of these differences, and not hesitate to preserve them. To become aware of their true abilities.
- 3) A true vision of Islam will stop for a Muslim influenced by other ideologies.
- 4) To emphasize that Islam is a religion relevant to human life and every subject of the curriculum in education

Integration of science with Islam can be done with several integration models (Jamal, 2017), including:

- 1) International Federation of Institutes of Advance Study (IFIAS). The model states that Islamic integration is achieved through research by eliminating human emotions, deviations, and prejudices.
- 2) Model Academy of Islamic Sciences Malaysia (ASASI). The ASASI approach uses the scholarly thinking of classical scholars like al-Ghazali, who generally use the *fiqh* approach on one side, and the approach of philosophers such as al-Farabi on the other. ASASI argues that knowledge can also be obtained through intuition, heuristics, dreams, and inspiration from God and senses of perception, induction, and deduction.
- 3) In the view of the Islamic world, this model considers that the epistemology of Islamic science is comprehensively and integrally based on the Islamic worldview.
- 4) The Structure of Islamic Knowledge (SPI). This model assumes that science has been systematically organized within various academic disciplines and builds SPI to develop a comprehensive relationship between science and religion. It is only possible if Muslims acknowledge that knowledge has been systematically organized and divided into several scientific disciplines.
- 5) An integrated model of science based on classical philosophy, the classical philosophy-based integration model seeks to dig into the legacy of classical Islamic philosophy. The Lord of God is the first of the worlds.
- 6) The model of socialism. This model integrates science with the way to find the correspondence of verses in the Qur'an with scientific discoveries.

- 7) The Fiqh-based integration model. The Qur'an and Sunnah are the highest of all truths.
- 8) Integration model of science based on Tasawuf. This model connects de-Islamization with Westernization, though not overall. From there, he connected the Islamization program of modern science with de-westernization.
- 9) The Aligargh Group Model. This model states that science and ethics can be produced from knowledge in an atmosphere of '*ilm* and *tasykir*'.
- 10) Integration model of science based on Ijmali (Ijmali Group). This model integrates knowledge and Islam with the aim not to seek the truth but to conduct scientific research according to the wishes of the Muslim community based on the ethos of Islam dug from the Qur'an.

The Transition One

A transition element is an element either in the form of a neutral atom or in its compound containing an incomplete electronic configuration on the orbital d. Transition elements are divided into three groups: the first transition (3d), the second transition (4d), and the third transition (5d). This time, the research will specifically develop an enrichment book that studies the group of elements of the third-grade transition (3d) only, i.e., the scandium to zinc elements. The transition element is more discussed because it is the most used by humans daily. Elements discussed in the textbooks developed, among others, scandium, titanium, vanadium, chromium, manganese, Ferrum, cobalt, nickel, kuprum, and zinc.

The study of the enrichment of transitional elements of the first degree includes abundance, extraction, physical properties, chemical properties, and the synthesis and application of the respective elements in everyday life. The abundance of elements in the universe is determined to reveal the mystery of the origin of the elements, which also means the origins of the Universe (Woodford, 2020). The scientists divided the abundance of elements into four: abundance in the sun and stars, abundance on the earth and meteorites, abundance in gas and interstellar gas nebulae, and abundance of elements in nature.

The abundant elements in nature do not all exist in pure form, but some are present in a mineral along with others, so some must be extracted first. Extraction is a chemical separation by separating dissolved substances using two different solvents. Both solvents must be able to dissolve the dissolved substance, but not mutually (immiscible) (Muslim and Erlinawati 2016). A simple example of the extraction process in everyday life is the process of brewing coffee. Physical properties of substances are related to physical changes in substances, such as color, smell, taste, density, boiling point, melting point, freezing point, and magnetism. Chemical properties indicate the ability of substances to perform chemical reactions such as easy or not burning, substance stability, reactivation of the substances, and decay (Muslim and Erlinawati, 2016).

Synthesis is derived from the English synthesis, which means "combining separate parts into one integral unity" (Oxford Learner's Pocket Dictionary, 2008). Some new transitional elements can be exploited in the form of their compounds. Therefore, the synthesis of inorganic compounds is necessary. The application is derived from the

English word Apply, which means "using something". The application of the transitional elements of the first row in everyday life, for example, is similar to the use of nickel on metal money.

RESEARCH METHODOLOGY

The Four Steps Teaching Material Development (4STMD) method developed the Products. The product was tested for feasibility by a media expert. There are four steps in the 4STMD method, including the selection step, structuring step, characterization step, and didactic reduction step (Hasanah and Anwar, 2018).

Research Design

The research is research and development (R & D). The research design uses the 4STMD (Four Step Teaching Material Development) method. Research and development are used to produce specific products (Astuti and Anwar, 2018).

Research Procedure

The research procedure consists of four stages, namely: selection stage, structuring stage, characterization stage, and didactic reduction stage (Syamsuri, Anwar, and Sumarna 2017). The first step is the selection step. The selection step is carried out by analyzing the content of the curriculum standards, collecting source materials, and then inserting the Islamic aspects contained in the material. Furthermore, Islamic-integrated content is validated by Islamic integration experts to determine the validity of the content. The next step is structuring. The structuring step involves creating a concept map, macrostructure, and multiple representations. These three elements are then incorporated into the draft enrichment books. The third step is the characterization step. The characterization step is done by making the research instrument, conducting field trials, and analyzing the complex concepts. A concept is said to be difficult if its understanding percentage is below 60%, following the understanding criteria by Rankin and Culhane. The last step in the 4SMTD method is the didactic reduction step. The didactic reduction step is done by creating a grating didactic reduction. After grating, the didactic reduction is made, and then the didactic reduction. Furthermore, the product has been developed and tested for feasibility by validating the enrichment book. Books are validated by media experts with criteria for appropriateness of teaching materials and suitability according to the curriculum.

Research Participants

Subjects in this study are the product of the enrichment book integrated into Islam. The object of this research is the chemical education students at Syarif Hidayatullah State Islamic University Jakarta in 2014.

Data Collection

Research instruments are tools to retrieve and collect data (Marfu'ah and Anwar, 2018). Some research instruments used in the 4STMD teaching material development method include 1) Islamic integration validation sheet, used at the selection stage; 2) modified gap test question sheet, used at the characterization stage; 3) teaching material feasibility validation sheet, used afterward reduction stage.

Data Analysis

Data analysis of Islamic integration validation using the Guttman scale: the Guttman Scale is a scale used to get a firm answer to a problem being asked in the form of a "yes-no" answer, "True False,;" "ever-never," positive-negative" and others (Rahman, Chandra, and Anwar 2019). Interval test question data can be processed by counting the number of students who answered correctly on each question, dividing by the total number of students, multiplying by 100%, and then categorizing based on the level of understanding of the text, according to Rankin and Culhane. Validation of the suitability of teaching materials is carried out using a Likert scale. The Likert scale is a scale used to measure the attitudes, opinions, and perceptions of a person or group of people about social phenomena (Syamsuri, Anwar, and Sumarna, 2017).

FINDINGS AND DISCUSSION

The results of this study are the product of an integrated Islamic book entitled "*Kimia Islami pada Unsur Transisi Deret Satu*". Topics of the series transition elements are taken because the series transition element is one of a group of elements widely used in everyday life. Other than that, by taking the topics in chemistry, one can find out about the almighty of Allah and those appointed by Allah (Muslim and Erlinawati, 2016).

Findings

Selection Step

In the selection step, PLO was obtained on the material transition element series of them: 1) the abundance of transition elements first line in nature; 2) the extraction method of transition elements first line; 3) the physical properties of the transition elements first line; 4) the chemical properties of transition elements first line; and 5) the synthesis and application of the transition elements series. The PLO is then lowered into the five indicators of achievement in learning as follows: 1) The student can describe the abundance of elements in the transition element series that exist in nature; 2) The student can describe how to extract the transition element series; 3) The student can identify the physical properties of the transition element series; 4) The student can identify the chemical nature of the transition element series; and 5) The student can apply the usability series of the transition elements in daily life and be able to describe methods of synthesizing such compounds. The indicators obtained from 51 concepts relate to the material elements of the transition element. The concept was later analyzed and incorporated into Islamic integration. Islamic integrated concepts can be seen in Table 1.

Table 1. The concept integrated the Islamic aspect

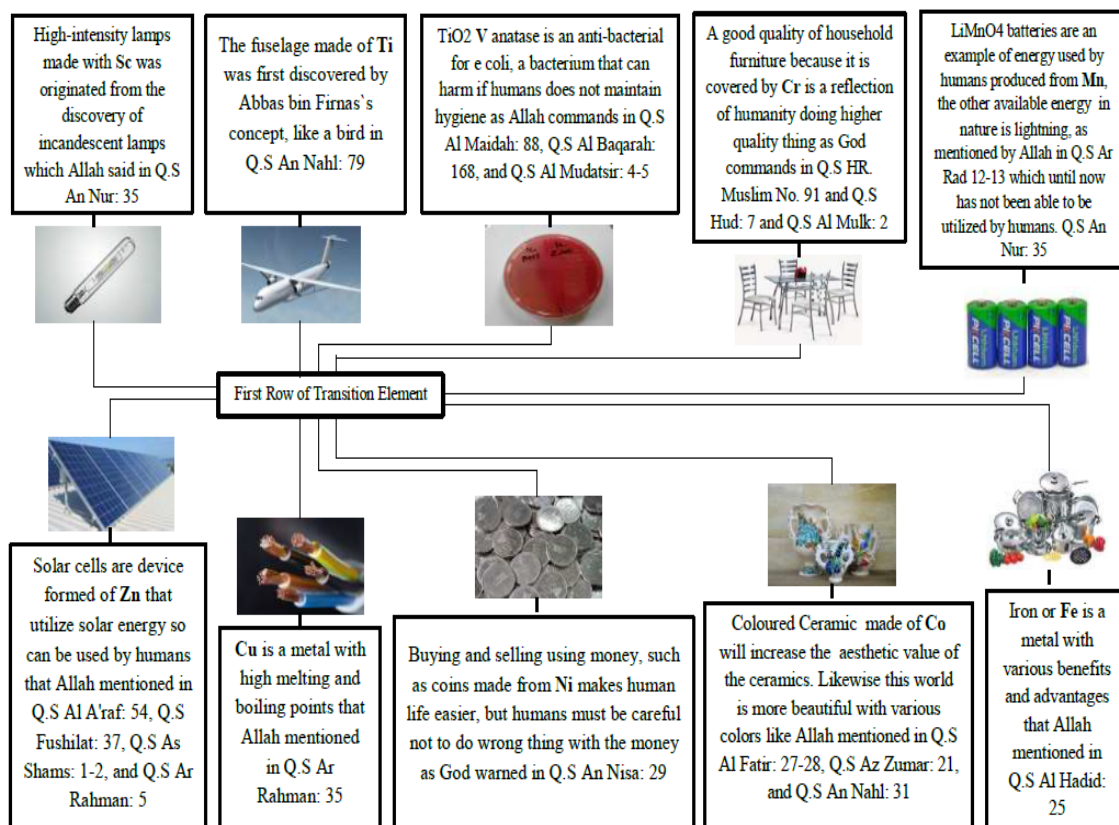
No	Concept	Islamic Integration
1.	Synthesis and application of Sc in everyday life	Al Quran surah An Nur: 35
2.	Synthesis and application of Ti in everyday life	Al Quran surah An-Nahl: 79
3.	Synthesis and V applications in everyday life	Al Quran Surah Al Maidah: 88 Al Quran surah Al-Baqarah: 168

	Al Quran surah Al Mudatsir: 4-5
4. Synthesis and application of Cr in everyday life	Al Quran surah Al Hudd: 7 Al Quran surah Al-Mulk: 2 Hadiths Muslim history No. 91
5. Synthesis and application of Mn in everyday life	Al Quran surah Ar Rum: 24 Al Quran surah Ar Ra`d: 12-13 Natural phenomenon Lightning
6. Physical properties of Fe	Al Quran surah Al Hadid: 25
7. Synthesis and Application Co in Everyday Life	Al Quran surat Fatir: 27-28 Al Quran surah Az-Zumar: 21 Al Quran surah An-Nahl: 31 Al Quran Surah Al-Hashr: 24 Al Quran surah Ar Rum: 22
8. Synthesis and application of Ni in everyday life	Al Quran surah An-Nisa: 29
9. Physical properties of Cu	Al Quran surah Ar-Rahman: 35
10. Synthesis and applications of Zn in everyday life	Al Quran surah Al A`raf: 54 Al Quran surah Fushilat: 37 Al Quran surah Shams: 1-2 Al Quran surah Ar-Rahman: 5

After having found the integrated concept, reference can be used as a resource in developing products. The primary references used as sources of the product are books in Indonesia by Sugiyarto, K. H., and Suyanti, Retno D. (2010). *Kimia Anorganik Logam* Yogyakarta: Graha Ilmu (Suyanti and Sugiyarto 2010).

Structuring Step

The structuring step will produce a concept map, macrostructure, and various representations. Three steps are taken to avoid partial learning between concepts (Ashri and Lilik, 2015). Overall, the series had 10 integrated Islamic concepts on transition elements. Islamic concepts not integrated into the product continue to be developed for the integration model of Islamic Knowledge Structure (*Struktur Pengetahuan Islam*). The knowledge structure has not changed; it remains original (Jamal, 2017). Concept maps were made to form a conceptual understanding of the structure of a well-organized organization (Andrianto, 2017; Nadila, Joewono, and Sulistyono, 2022). While the macro-structure and multiple representations were made to maintain the clarity of the relationship between units of text so that the concept can be represented in different formats (Fahyuni et al., 2020; Nuraeni et al., 2017), Concept maps can be seen in Picture 1.



Picture 1. Concept Maps of First Line Transition Element

Characterization Step

The characterization step is done so that the teaching materials are developed following the views, the level of cognitive development, and the level of psychological development of learners (Ashri et al., 2015). At the step of product characterization, the obtained product has a straightforward character with an understanding percentage of 85.5%, so it is not necessary to do the didactic reduction step.

Discussion

This research aims to create a product in the form of an integrated Islamic enrichment book on first-order transition element material. Enrichment books contain complementary information from the primary textbooks used in classroom learning (Liany et al., 2018). The enrichment book developed in this research is entitled "Kimia Islami pada Unsur Transisi Deret Satu." The Islamic information contained in the first series of transition elements material is discussed more extensively in the enrichment book. The enrichment provided in this book focuses on information about Islamic aspects contained in the first series of transition elements.

Selection Step

The primary reference found at the selection stage in the research results was a book entitled "Kimia Anorganik Logam " written by Sugiyarto, K. H and Suyanti, Retno, D. (2010) and published in Yogyakarta with the publisher Graha Ilmu. The primary source was selected considering the source of the overall load on the material definition of the concept of a first-line transition element. The definition of the concept developed into products must come from a very reliable source to ensure the scientific validity of the

concept (Astuti and Anwar 2018). The support resources are drawn from 16 other sources that contain books in Indonesia and national and international scientific articles.

Experts in Islamic integration then validated Islamic-integrated content. Validation is done to ensure the validity and accuracy of the product (Hendri and Setiawan, 2016). The results of the validation of the book declared it to have valid enrichment with some additional explanatory material on some of the concepts.

Structuring Step

A concept map, macrostructure, and multiple first-series transition element material representations are obtained at the structuring stage. These three elements are then arranged to form the structure of an enrichment book. Structuring is carried out to prevent partial learning between concepts (Ashri et al., 2015).

Concept Map

The first in-series transition element concept map shows that the concept with the highest position is labeled the first series transition element concept, while the others are below that concept. Concept maps are created by referring to concept analysis. A concept map is created referring to the position in the concept analysis. Concept maps help students build their cognitive structures related to the material/concepts they will study (Fahyuni et al., 2020; Nuraeni et al., 2017).

Next, analysis and creation of concept maps are carried out to determine the book's structure, such as the arrangement of chapters and subchapters in the enrichment book. From the concept analysis that has been carried out, the enrichment book is made into 11 chapters, with the first chapter being an introductory chapter and the other 10 chapters being chapters for each first series transition element. In each chapter, there are five subchapters, which in the concept map are written under the concept of transition elements, namely abundance of elements, extraction of elements, physical properties of elements, chemical properties of elements, and synthesis and application of elements. The five subchapters in each chapter are then explained in the contents of the enrichment book.

Macro Structure

The second step in the structuring stage is to create a macrostructure. The first series of transition elements are divided into five macro structures based on the division of the concept map (Muslim, Ramli, and Nursarifah, 2021). The macrostructure is that the first series transition elements are elements with incomplete electronic configurations in d orbitals in period 4 of the periodic table. The abundance of first-series transition elements measures the relative presence of first-series transition elements compared to all elements in the universe. The chemical properties of transition elements in the first series can be observed after chemical changes/reactions are carried out on the first series transition elements. Physical properties of first series transition elements can be observed and measured without changing the composition of first series transition elements, and extraction of first series transition elements is a method of separating the elements' first series transition of the mineral/mixture. Macrostructure is created to show and maintain clarity between the relationships between text units and the accuracy of the structure of the subject matter of the science it represents at various levels (Arifin, 2015).

Multiple Representation

Multiple representations are a way of expressing a concept through various forms (Arifin 2015). The presentation of the first series of transition elements shows the concept of the chemical properties of manganese having a macroscopic representation in the form of manganese metal reacting with water, a submicroscopic representation of manganese metal reacting with water to form hydrogen gas, and a symbolic representation in the form $Mn + 2H_2O \rightarrow MnO_2 + 2H_2$

Characterization Step

The concept of synthesis and application of scandium in everyday life has the highest understanding level with a value of 97%, which may be because the concept is contextual to everyday life. Based on research conducted by (Nuraeni et al., 2017), a contextual approach is proven to improve learners' understanding and achievement in chemistry learning. While the concept of physical properties has the lowest understanding level with a figure of 60%, The concept was considered difficult by students, which could be because it is an abstract concept that is difficult to visualize and concretize except by using tools (Munasprianto Ramli, Buchori Muslim, 2019).

Eligibility Test Products

The results of the feasibility study of the product with the title "*Kimia Islami pada Unsur Transisi Deret Satu*" are 78%. The percentages indicate that the book developed is feasible, with a percentage of 81% on aspects of language, 75% on aspects of presentation, 75% on aspects of performance, and 83% on aspects of graphics. A feasibility test is done to get suitable teaching materials. Suitable teaching materials motivate people to practice marking, note-taking, or sketching to achieve the expected competencies (Suryaningsih, Muslim, and Fitriani, 2020).

CONCLUSION

This research study produced an integrated book between chemistry and Islam entitled "*Kimia Islami pada Unsur Transisi Deret Satu*". Products are developed by the 4STMD method with three steps: selection, structuring, and characterization. In the selection step, Sugiyarto's book, K. H. and Suyanti, Retno, D. (2010), was obtained from "*Kimia Anorganik Logam*". Yogyakarta: Graha Science is the primary source, while 16 other references are used as a support source. In the structuring step, enrichment obtained product books organized into 11 chapters with one introduction chapter and 10 chapters of the transition element series. In the characterization step, the concept is easy, with an understanding percentage of 85%. After assessing feasibility, the percentage of feasibility books gained 78%, so it can be concluded that the enrichment book entitled "*Kimia Islami pada Unsur Transisi Deret Satu*" is fit for use.

The research results, "*Kimia Islami pada Unsur Transisi Deret Satu*", are evidence of the potential for harmonizing science with Islamic values, enriching the general educational landscape and facilitating a deeper understanding of the world between science and Islam. This integrated learning approach demonstrates the compatibility and mutual reinforcement between science and faith, ultimately contributing to a holistic educational experience. It is hoped that further research can develop similar products on

other topics so that students and teaching staff can easily find sources and media for integrated Islamic and science learning.

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