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The development of Madrasah Science Competition Book for Integrated Geography and Economics of Islamic Subjects

A Bashith1,2* and S Amin2
1,2Department of Social Science Education, Faculty of Tarbiyah and Teacher Training, UIN Maulana Malik Ibrahim Malang, Gajayana Street No. 50 Malang, Indonesia
2Doctoral Student, Department of Geography Education, Faculty of Social Science, State University of Malang, Semarang Street No. 5 Malang, Indonesia

*abbash98@pips.uin-malang.ac.id

Abstract. The development of the Madrasah Science Competition Book for Geography and Economic subject containing Islamic material is essential to do immediately. Following actions to meet the needs of the Madrasah Science Competition books were needed because student dependence on books is very high. This study aims to develop a Madrasah Science Competition Book for Geography and Economics at the Madrasah Aliyah (Islamic Senior High School) level which equipped with Islamic subject. This review uses research and development with the Dick and Carey model. The instrument uses an expert validation questionnaire (material, language, book design, learning design, and Islamic integration) and field tests. Data analysis techniques using qualitative descriptive and descriptive statistical analysis. The result that the development book has met the fit standard. That is evidenced by the results of expert validation and field trials which show that the book qualifications are quite valid and effective.

The suggestions for this research, namely (1) various forms of questions integrated with Islamic subjects. (2) Field trials are carried out by taking extended samples in the territory of Indonesia. (3) Test the ability of students before and after reading the book as a result of this development in the form of experimental trials.

1. Introduction

Madrasah Science Competition (MSC)/KompetisiSains Madrasah (KSM) in Indonesian language is one of the Ministry of Religion's excellent programs through the Directorate General of Islamic Education. Together with the Madrasah Arts and Sports Creation program (AjangKompetisiSenidanOlah Raga Madrasah/AKSIOMA) popular called in Indonesia, the MSC/KSM is held annually at the level of Madrasah Ibtidaiyah (MI), Madrasah Tsanawiyah (MTs), and Madrasah Aliyah (MA). The MSC/KSM implementation as a place for scientific competition activities was conducted by screening participants starting from the district, provincial, and national levels. MSC/KSM and AKSIOMA are favorite and elite program of the Ministry of Religion's in Indonesia.

The MSC/KSM program aims to improve students' intellectual and spiritual abilities based on Islamic values [1]. MSC is expected to motivate students to study science and technology. Then later, it will be able to develop the nation and the State in the field of science and technology[1]. For this reason, the MSC program is expected to be the flagship program of the Ministry of Religion to foster young people through madrasas in improving science and technology.

The Social Science Material (Geography and Economy) cluster is one of the lessons included in the MA level [1]. The technical guidelines for the implementation of the Ministry of Religion MSC/KSM outlined the Geography and Economics lessons included in the competition, in addition to scientific theory also contained the approach of Islamic Education. Therefore, not only general subjects (Geography and Economics) but also students must be able to solve the problems of Islamic theory have been presented. The theory test has adapted to the MSC/KSM syllabus in the field of
Geography and Economics, which refers to the national MSC/KSM syllabus standard, which contains the theory of Islam.

The challenge for all Madrasah Aliyah (Islamic Senior High School) is to prepare their best students to participate in MSC/KSM through coaching in schools. Based on the initial survey of several Madrasah Aliyah in Malang City, the average difficulties were faced by teachers and students during coaching, namely the limited sources of learning support books. Most teachers and students look for references from existing textbooks, whereas unique MSC/KSM books are challenging to obtain. They make use of similar books, namely National Science Olympiad books that are circulating in the market. The dependence of MSC/KSM participants in madrasah on books is quite high. However, this dependency won't be supported by the availability of MSC/KSM books in the market. Based on a survey in bookstores, that MSC/KSM books, especially Geography and Economics lessons with Islamic theories have not yet been published.

The high dependence on books is evidenced by Purwanto's (1996) research that almost all teachers cannot teach textbooks, they feel afraid of being wrong, and exploring lack of mastery of subject matter, and books always provide new material so they must be learned [2]. Purwanto's research results prove that books have a vital function in learning [2]. Darwati explains that the purpose of books is as a source and media to achieve learning goals [3]. Right book criteria have based on the relevance of the material with the curriculum, content, and evaluation [4].

Based on the results of interviews with MSC/KSM participants in the fields of geography and economics, they were sufficient for their material needs from teacher explanations, looking for sources from the internet and textbooks, and practicing with previous MSC/KSM questions. For the availability of books, so far they have only used geography and economics textbooks in schools because both materials were tested in the MSC/KSM in Madrasa Aliyah (Senior High School level). This makes students experience difficulties because the material contained in geographic and economic textbooks in schools has lower levels of MSC/KSM material. Often students cannot master the material and have trouble answering MSC/KSM questions.

At present, there is no availability of geographic and economic MSC/KSM books in the market. A kind of olympiad in the fields of geography and economics on the market, namely the book of National Science Olympiad. The National Science Olympiad book that has been circulating has several disadvantages in terms of quality. For example, the National Science Olympiad book published by Bina Prestasi Insani is not equipped with problem exercises in each chapter, so students find it challenging to implement the material in the problem training. Besides, the National Science Olympiad book published by Yrama Widya, the material translation is not too complete, so students have difficulty answering the questions in the book. Both National Science Olympiad geography and economic books that have been published both by Bina Prestasis Insani and Yrama Widya in general only contain geographic and economic scientific material. This is not following the book desired by MSC/KSM participants because it is not equipped with Islamic content.

Based on the results of interviews with MSC/KSM participants in the fields of geography and economics, they were sufficient for their material needs from teacher explanations, looking for sources from the internet and textbooks, and practicing with previous MSC/KSM questions. For the availability of books, so far they have only used geography and economics textbooks in schools. This makes students experience difficulties because the material contained in geographic and economic textbooks in schools has lower levels of MSC/KSM material. Often students cannot master the material and have trouble answering MSC/KSM questions.

Based on the explanation above, it was found that the development activities of the Social Sciences (Geography and Economics) MSC/KSM book containing Islamic material were essential to be done immediately. Following actions to meet the needs of MSC/KSM, books have needed because student dependence on books is very high. This study aims to develop the MSC/KSM book of social studies (Geography and Economics) at the MA level, which is equipped with Islamic Religion. This research is expected to produce geographic and economic MSC/KSM books that are feasible to be published and marketed. This study aims to develop a book on the Science (Madrasah and Economic) Madrasah Science Competition book for the integration of Islam for Madrasah Aliyah. This development book uses standard grammar, solid substance, and presents an evaluation in the form of problem training.
2. Methods

This type of Research & Development (R & D) uses research methods that have referred to the Dick and Carey Development Model. The Dick & Carey Development Model in this study was simplified into eight steps from ten development steps, namely (1) book analysis, (2) syllabus identification, (3) material analysis, (4) book compilation, (5) expert validation, (6) product revisions, (7) field trials, and (8) final revision of book products[5]. The type of data in this study is qualitative data and quantitative data. Qualitative data were obtained from the results of expert validation (material, language, learning design, design, and integration of Islam and science), teachers, and students in the form of suggestions and comments. Quantitative data was obtained through questionnaire responses from experts, teachers, and students. The instruments used to collect data in this study are questionnaires, interview guidelines, and documents.

Data analysis in this study used descriptive qualitative and descriptive statistics. Qualitative descriptive analysis is used to process data from expert reviews (material, language, design, and learning design) and field trials. Descriptive statistical analysis uses the percentage formula (%) as follows[6].

\[
\text{Percentage} \% = \frac{\sum (\text{total of questionnaire answer score})}{N \times n \times \text{the highest score}} \times 100\%
\]

Information:
- \(N\) = count of respondents
- \(n\) = count of all questionnaire items

To be able to provide meaning and decision making, the following conditions are used.

| Achievement Rate (%) | Qualification     | Information   |
|-----------------------|-------------------|---------------|
| 86 – 100              | Very Effective    | No Revision   |
| 71 – 85               | Effective         | No Revision   |
| 56 – 70               | Quite Effective   | Revision      |
| 41 – 55               | Not Effective     | Revision      |
| 0 – 40                | Very Ineffective  | Revision      |

Source: BSNP [7]

3. Results and Discussion

3.1. Research Result Analysis Based on Material Experts
The number of question items for material experts about the responses of geography, economics, and Islamic books is 17 items each. Thus the highest score for material experts is 85, and the lowest score is 17.

The total score of the answers obtained from the results of the geography material expert trial, which is 65. So based on data collected from material experts, the average of 65 lies between the categories that are quite effective and effective, but closer to effective. It was concluded that the Geographical material on products that were developed in broad outline had met decent standards and was ineffective qualifications and did not need to be revised.

The total score of the answers obtained from the results of the economic material expert trial, namely 64. The criteria can be described as follows. So based on data collected from material experts, the average of 64 lies between the categories that are quite effective and effective, but closer to effective. It was concluded that the economic material on products that were developed in broad outline had met decent standards and was ineffective qualifications and did not need to be revised.

The total score of the answers obtained from the results of the Islamic material expert trial, namely 58. The criteria can be described as follows. So, based on data collected from material experts, the average of 58 is located between the categories is quite effective and effective, but more closely quite effective. It was concluded that the material of Islamic Religion on products that were developed
in broad outline had met decent standards and was in a quite effective qualification and did not need to be revised.

3.2. Questionnaire Score Analysis Based on Responses from Linguists

The number of question items for linguists about the responses of geography, economics, and Islamic books as many as to 18 questions. Thus the highest score for linguists is 90, and the lowest score is 18.

The total score of the answers obtained from the results of the trial of language experts in the geography book, namely 74. The criteria can be described as follows. So, based on the data from linguists, the average of 74 is located between the effective and very effective categories, but more close to effective. It was concluded that the language of a product that was developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

The total score of the answers obtained from the results of the language expert trials on economic books, namely 74. The criteria can be described as follows. So based on the data obtained from linguists, the average of 74 lies between the effective and very effective categories, but more closely quite to effective. It was concluded that the language of a product that was developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

The total score of the answers obtained from the results of the language expert trials in the book Islamic Religion, namely 73. The criteria can be described as follows. So based on the data obtained from linguists, the average of 73 lies between the effective and very effective categories, but is more close to effective. It was concluded that the language of a product that was developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

3.3. Questionnaire Score Analysis Based on Expert Learning Design Responses

The number of questions for expert learning design about the responses of geography, economics, and Islamic books is 17 questions each. Thus the highest score for expert learning design is 85, and the lowest score is 17.

The total score of the answers obtained from the results of the pilot study design experts in the geography book, namely 66. The criteria can be described as follows. So based on the data obtained from expert learning design, the average of 66 lies between the categories that are quite effective and effective, but closer to effective. It was concluded that the learning design of the product that had been developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

The total score of the answers obtained from the results of the pilot study design experts in the economic book, namely 69. The criteria can be described as follows. So based on data obtained from expert learning design, the average of 69 is located between the effective and very effective categories, but more close to effective. It was concluded that the learning design of the product that had been developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

The total score of the answers obtained from the results of the pilot study design experts in the book Islamic Religion, namely 64. The criteria can be described as follows. So based on data obtained from expert learning design, the average of 64 is located between categories that are quite effective and effective, but more close to effective. It was concluded that the learning design of the product that had been developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

3.4. Questionnaire Score Analysis Based on the Design Expert's Feedback

The number of question items for learning design experts about the responses of geography, economics, and Islamic books each numbered 35 question items. Thus the highest score for design experts is 175, and the lowest score is 35.

The total score of the answers obtained from the results of the design expert trial on the geography book, namely 133. The criteria can be described as follows. So based on data collected from design experts, the average 133 is located between the categories that are quite effective and effective, but closer to effective. It was concluded that the product design that was developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.
The total score of the answers obtained from the results of the design expert trial on the economic book, namely 135. In the criteria can be described as follows. So based on data obtained from design experts, the average of 135 is located between the categories that are quite effective and effective, but closer to effective. It was concluded that the product design that was developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

The total score of the answers obtained from the results of the design expert trials in the book Islamic Religion, namely 124. The criteria can be described as follows. So based on the data obtained from the design experts, the average 124 is located between the categories that are quite effective and effective, but closer to effective. It was concluded that the product design that was developed in broad outline had met decent standards and was the ineffective qualification and did not need to be revised.

3.5. Questionnaire Score Analysis Based on Responses from Religion and Science Integration Experts

The number of question items for the Integration of Religion and Science experts about the responses of geography and economic books each numbered 19 question items. Thus, the highest score for experts in Integration of Religion and Science is 95, and the lowest score is 19.

The total score of the answers obtained from the results of trials of experts on the Integration of Religion and Science in the geography book, namely 65. The criteria can be described as follows. So based on the data obtained from the experts in the Integration of Religion and Science, the average of 65 is located between the categories is quite effective and effective, but more closely enough. It was concluded that the integration of Islam and science in products that were developed in broad outline had met decent standards and were in a quite effective qualification and did not need to be revised.

The total score of the answers obtained from the results of trials of experts on the Integration of Religion and Science in economic books, namely 68. The criteria can be described as follows. So based on the data obtained from the Integration of Religion and Science experts, the average of 68 lies between the categories that are quite effective and effective, but closer to effective. It was concluded that the integration of Islam and science is broadly developed products had met decent standards and were ineffective qualifications and did not need to be revised.

3.6. Questionnaire Score Analysis Based on Student Responses

The following are presented the results of field trials analysis of students of MAN InsanCendekia, Tanah Laut, and South Kalimantan with the number of respondent’s three people for Geography books, three people for Economy books, and six people for Islamic books with 12 question items. Thus the highest score for the results of the student questionnaire on the geography and economic books was 180, and the lowest number of ratings was 36. The highest score for the results of the student questionnaire in the book Islamic Religion was 360, and the lowest score was 72.

The number of answer scores obtained from the results of geography book trials in the field to students is 143. The criteria can be described as follows. So based on the data collected from students, the average of 143 lies between the categories is quite effective and effective, but more close to very effective. It was concluded that field trials on students on products that were developed in broad outline had met decent standards and were ineffective qualifications and did not need to be revised.

The total score of the answers obtained from the results of economic book trials in the field to students is 138. The criteria can be described as follows. So based on data collected from students, the average 138 is located between the categories quite effective and effective, but more close to effective. It was concluded that field trials on students on products that were developed in broad outline had met decent standards and were ineffective qualifications and did not need to be revised.

The total score of the answers obtained from the results of field trials to students is 265. The criteria can be described as follows. So based on data collected from students, the average of 265 is located between the categories that are quite effective and effective, but more close to effective. It was concluded that field trials on students on products that were developed in broad outline had met decent standards and were ineffective qualifications and did not need to be revised.

3.7. Questionnaire Score Analysis Based on Teacher Guidance Responses

The following is the result of the analysis of the field testing of teacher geography, economics, and Islamic religion with the number of respondents each of 1 person and question items number 13. Thus
the highest score for the results of the teacher questionnaire in each book is 65, and the lowest score is 13.

The total score of the answers obtained from the results of field trials to the geography teacher, namely 53. The criteria can be described as follows. So based on data collected from geography teachers, the average of 53 lies between the effective and very effective categories, but it is closer to effective. It was concluded that field trials on geography teachers on products that were developed in broad outline had met decent standards and were ineffective qualifications and did not need to be revised.

The total score of the answers obtained from the results of field trials to economic teachers, namely 56. The criteria can be described as follows. So based on data collected from economic teachers, the average of 56 is located between the effective and very effective categories, but more close to effective. It was concluded that field trials on geography teachers on products that were developed in broad outline had met decent standards and were ineffective qualifications and did not need to be revised.

The total score of the answers obtained from the results of field trials to Islamic teachers, namely 52. The criteria can be described as follows. So based on data collected from Islamic teachers, the average 154 is located in the effective category. It was concluded that field trials on geography teachers on products that were developed in broad outline had met decent standards and were ineffective qualifications and did not need to be revised.

If it is analyzed by all respondents who gave comments and responses to a table, it can be considered in the following table.

### Table 2. Recapitulation of Results of Assessment of All Respondents on the Geography Book

| No | Correspondent | Percentage (%) | Category | Conclusion |
|----|---------------|----------------|----------|------------|
| 1  | ME¹           | 76.47          | VE*      | No Revision|
| 2  | LE²           | 82.22          | E**      | No Revision|
| 3  | LDE³          | 77.65          | En***    | No Revision|
| 4  | DE⁴           | 76.00          | NE****   | No Revision|
| 5  | IISE⁵         | 68.42          | VNE*****| No Revision|
| 6  | STT⁶          | 79.44          | -        | No Revision|
| 7  | TTT⁷          | 81.54          | -        | No Revision|

### Table 3. Recapitulation of the Results of All Respondents' Evaluation on the Economy Book

| No | Correspondent | Percentage (%) | Category | Conclusion |
|----|---------------|----------------|----------|------------|
| 1  | ME¹           | 75.29          | VE*      | No Revision|
| 2  | LE²           | 82.22          | E**      | No Revision|
| 3  | LDE³          | 81.18          | En***    | No Revision|
| 4  | DE⁴           | 77.14          | NE****   | No Revision|
| 5  | IISE⁵         | 71.58          | VNE*****| No Revision|
| 6  | STT⁶          | 76.67          | -        | No Revision|
| 7  | TTT⁷          | 86.15          | -        | No Revision|

### Table 4. Recapitulation of Results of Assessment of All Respondents in Islamic Religion Books

| No | Correspondent | Percentage (%) | Category | Conclusion |
|----|---------------|----------------|----------|------------|
| 1  | ME¹           | 68.24          | VE*      | No Revision|
| 2  | LE²           | 81.18          | E**      | No Revision|
| 3  | LDE³          | 75.29          | En***    | No Revision|
| 4  | DE⁴           | 70.86          | NE****   | No Revision|
| 5  | STT⁶          | 73.61          | VNE*****| No Revision|
| 6  | TTT⁷          | 80.00          | -        | No Revision|
Based on the results of all recapitulation, it can be concluded that the books of the Social Sciences (Geography and Economics) cluster integrated Islamic Religion and Science have met decent standards. This is evidenced by the results of expert validation and field trials which show that the book material is in an intermediate qualification quite effective and effective.

3.8. Characteristics and Analysis of Books

The preparation of the MSC Social Sciences (Geography and Economics) Cluster integration of Islamic Religion for the Madrasah Aliyah (Senior High School) aims to provide literature to students, especially MSC participants so that the literacy skills of the Geography and Economic MSC are increased. In the preparation of this book, we pay attention to the rules and opinions of some experts, namely material experts, languages, learning design, design, and integration of Islam and science. The preparation of this book is equipped with practice questions along with the discussion and question bank, which refers to the issues of integration of Islam and science.

28. "And We placed within the earth firmly set mountains, lest it should shift with them..." (Surah Al Anbiyaa: 31). As stated in the verse that the function of the mountains to prevent shocks on the surface of the earth, in geography, this term is called...

a. isostation
b. cohesion
c. viscosity
d. convection
e. denudation

Figure 1. Examples of integrated Geography Questions in Islam
3.9. The Role and Quality of Books of the Social Sciences Groups of Social Sciences (Geography and Economics) Integration of Islamic Religion

The existence of books is very strategic to help students and teachers learn a field of science [7]. For teachers, textbooks are a source of information that can be used as teaching guidelines. For students, books are a learning resource that can improve their abilities, so that the desired goals can be achieved [8].

The textbook, as a learning resource has several vital roles, namely:

"(1) can be used by the teacher to plan learning in general, unique presentation, and as a basis for face-to-face activities in class, (2) contain a summary of relatively unchanged information that can be used whenever needed, (3) flexible so that students can learn it at home, (4) can be used as a reference source for other students, (5) help teachers to explore ideas, procedures, and sequences of presentation of learning materials, as well as classroom learning activities, (6) provide convenience for students, especially in understanding material through illustrations, such as images, graphics, maps, and other illustrations that support learning, and (7) providing reinforcement through training or sharpening questions " [9].

The seven components of the role of the textbook above have been fulfilled by the book products produced by this development. This has been described in the textbook content/material component. However, this book contains a summary of relatively changing information that can be used at any time when needed. This is because geographic and economic information always evolves according to the development of natural phenomena and social phenomena (their influence on human life) [10]. Therefore, data must be kept up to date through mass media or information media in the form of the internet and the like.

Ideally, a textbook developed and written must still be guided by the principle of active learning [11]. Active learning is characterized by mental activity and or physical activity that can optimize the achievement of learning outcomes — for example, mental exercise in active learning, namely thinking, choosing, imagining, responding, and so on. Furthermore, physical activities, such as writing or doing something [12]. In addition, good textbooks can be seen from the quality of their contents, ie, the contents are appropriate and appropriate, and the scope of the material is sufficient; the order of material is presented systematically; clear description and example; allowing interactivity to happen, for example, there is an order of duty and training; physical, layout, and illustrations are delightful; and the language used is communicative using simple sentences [13,14].

This development product has several advantages, which are equipped with (1) instructions for using books so that readers can use the product well. (2) Table of contents, so that readers can find out the contents of the book and easily search for the subject matter they want to learn. (3) Learning flow so that readers can know the flow of material. (4) Practice questions and discussion, so that readers can train the competence of the lesson material at the end of the chapter and find solutions to the problems in the problem. (5) The question bank (presented with an example of a form of integration), provides

Figure 2. Examples of integrated economic questions on Islam

5. Sharia banks are banks that in the operation of following Islamic sharia provisions, especially which consider prosperous Islamic procedures, their establishment in Indonesia is presidented by the ulama of Indonesia (MUI) with some basic principles. The principle of Islamic banks which states that the principle of buying and selling goods based on the principle of obtaining profits is...

a. ijarah
b. murabahah
c. musharakah
d. mudharabah
e. ijarahwaiqtina
questions for the reader to measure cognitive abilities in learning material in a book. (6) Bibliography, containing reading lists that are relevant to the material studied in each chapter. (7) Additional content on Islamic Religion, containing Islamic content contested in MSC/KSM, including History of Islamic Culture, Jurisprudence, AqidahAhlqaq, and Quran Hadith.

Figure 3. Examples of Islamic Material(AqidahAhlqaq)

4. Conclusions
Product development in the form of MSC/KSM Social Sciences (Geography and Economics) Clusters integrated book of Islamic Religion has gone through several stages. The things that have become the requirements for product development quality have been attempted, such as material validation, language, book design, learning design, and product trials in the field have been carried out. Based on the results of expert validation and field trials it can be concluded that the book of MSC/KSM Social Sciences (Geography and Economic) Cluster integrated Islamic Religion for the MA has met the appropriate standards for publication.

Based on the assessment of weaknesses in the book of MSC/KSM Social Sciences (Geography and Economics) integrated Islamic Religion, suggestions are for further development, namely, (1) the development of this book is still limited, therefore to produce MSC/KSM book products that are in line with the Ministry of Religion’s objectives, namely the form of questions is integrated with Islam. (2) In order to produce book products that are developed more quality, it needs multi-years of research and development. (3) To obtain better quality results in the event of this book, it is better to test the ability of students before and after reading this development book in the form of an experimental trial.

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References
[1] Direktur Pendidikan Agama Islam 2018 Petunjuk Teknis Pelaksanaan Kompetisi Sains Madrasah Tahun 2018 Jakarta Kementerian Agama RI
[2] Edy Purwanto 1996 Validasi Bahan Ajar IPS-Geografi SD Berdasarkan Kurikulum 1994 di Jawa Timur Malang Lemlit IKIP MALANG

[3] Darwati 2010 Pemanfaatan Buku Teks Oleh Guru Dalam Pembelajaran Sejarah (Studi Kasus Di SMA Negeri Kabupaten Semarang) Surakarta Universitas Negeri Sebelas Maret

[4] Ardiyanto Tanjung and Muhammad Fahmi 2016 Urgensi Pengembangan Bahan Ajar Geografi Berbasis Kearifan Lokal Jurnal Pendidikan Geografi 20 (1)

[5] W. Dick and L. Carey 2001 The Systematic Design of Instruction Illinois Scott Foresman and Company

[6] Suharsimi Arikunto 2002 Prosedur Suatu Penelitian: Pendekatan Praktis Jakarta Rineka Cipta

[7] Saiful Amin 2017 Pengembangan Bahan Ajar Geografi Terintegrasi Sains-Islam di Madrasah Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan 2(7) 934–945

[8] Maslakhatul Hidayah and Bambang Sigit Widodo 2018 Pengembangan Buku Ajar Berbasis Scientific Approach pada Mata Pelajaran Geografi Materi Keragaman Budaya Indonesia untuk Siswa Kelas XI SMA Negeri 1 Gedangan Sidoarjo Swara Bhumi 5 (7)

[9] A. C. Orstein 1990 Strategies for Effective Teaching New York Harper Collins Publisher

[10] Yulian Widya Saputra 2015 Pengembangan Bahan Ajar Geografi pada Kompetensi Dasar Memahami Atmosfer dan Dampaknya terhadap Kehidupan di Muka Bumi Kelas X SMA/MA Semester II dengan Menggunakan Pendekatan Keruangan Jurnal Pendidikan Geografi: Kajian, Teori, dan Praktek dalam Bidang Pendidikan dan Ilmu Geografi, 20(2) 53–60

[11] Direktur Pembinaan Sekolah Menengah Atas 2018 Panduan Pelaksanaan Olimpiade Sains Nasional Tahun 2018 Jakarta Kementerian Pendidikan dan Kebudayaan

[12] Winarti 2017 Pengembangan Perangkat Pembelajaran Fisika Bermuatan Integrasi Islam-Sains Untuk Menanamkan Nilai-Nilai Spiritual Siswa Madrasah Aliyah Jurnal Pendidikan Fisika dan Keilmuan (JPFK) 1 (2) 54–60

[13] Arjunita Eka Putri Misdalina and Maharani Oktavita 2018 Pengembangan Bahan Ajar Materi Lingkungan Hidup Kelas XI Menggunakan Model Pembelajaran CTL di SMA Negeri 2 Mesui JURNAL SWARNA BHUMI Jurnal Geografi dan Pembelajaran Geografi 3 (1) 1–8

[14] Marwiyah, M., Rusijono, R., & Arianto, F. 2019. The Development of CAI Based Android in Solar System and Universe Topic for Tenth-Grade. Geosfera Indonesia, 4(2), 63-77. doi:10.19184/geosi.v4i2.9824