Analysis of Junior High School Science Student Book on Curriculum 2013

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ABSTRACT

Science subjects in junior high school/madrasah tsanawiyah aim to make students have various abilities. Science learning plays a vital role in the educational process and technological developments. This research is a descriptive type of research, using a qualitative approach, namely by analyzing the student's science books for the curriculum 2013 of VIII class at junior high school/Madrasah Tsanawiyah. The analysis results obtained from the eighth-grade student book consisted of five aspects. The first is the suitability of the content of the book with the scope of basic competence (i.e., KD), the second aspect is the breadth, depth, currentness, and accuracy of the learning material in each chapter, the third aspect show examples of learning material (factual, conceptual, and procedural knowledge) in each chapter of the student book, the fourth aspect is the feasibility of the activity learning in each student book chapter, and the last element of the feasibility of assessing each chapter of the student book.

INTRODUCTION

Education is an inherent part of life. This kind of understanding may seem forced, but if you try to trace the flow and process of human life, it cannot be denied that education has developed a long path of human life from beginning to end. Education is a faithful guardian and a human need. Education is a proper guardian and an essentially human condition. It means that talking about humans will always coincide with education and vice versa. The debate about education, in the opinion of the author, lies not in whether or not education is necessary for humans, but rather on how education is carried out, what must be achieved (objective), and how the work procedures of the implementers or educator (Yusuf, 2018). The low quality of education significantly affects the quality of human resources. One of the influencing factors is the number of concepts developed in the curriculum that are not directly related to the student's environment. The constitution, as stated in no. 20 of 3003 on the National Education System states that the nation of education is a conscious and planned effort to create a learning atmosphere and learning process so that students can actively develop their mindset to have the power of religious values. Self-control, identity, ethics, and skills are needed by themselves, society, nation, and state.

Natural Sciences is a science that studies natural phenomena in the form of facts, concepts, and laws that have been verified through a series of studies (Fitriyati, 2017). Natural science lessons can be called science lessons, where science learning can help students understand natural phenomena. Science learning can be found in everyday life. For example, when we see fruit falling from the tree, this is due to the force of gravity. Science learning plays a vital role in the educational process and also in the
development of technology. School science learning can apply the scientific method by familiarizing students with scientific work. The teacher will give a problem to solve the problem presented by the teacher. According to Arviansyah (2016), Natural Science (i.e., IPA) is the knowledge that studies natural phenomena, both living and non-living, which includes three fundamental fields of science, namely Biology, Physics, and Chemistry.

Science subjects in junior high school/madrasah tsanawiyah aim to make students have various abilities, including gaining confidence in the orderliness of God's creation, developing curiosity, and a positive attitude about interplaying relationships, such as the environment, technology, and society and according to Rizkianto & Santoso (2017), stating that the student book describes the efforts that students must make to achieve the expected competencies. Students are encouraged to obtain information from various learning resources around them in the learning process. The teacher's role is vital in improving and adjusting student absorption with the availability of activities in the book. Learning resources used in schools are in the form of textbooks. The textbook itself is one of the most crucial learning media in the teaching and learning process (Melissa, 2015). Science student textbooks must be used as the primary reference in carrying out the learning process. Based on the description above, the purpose of this study is to examine student books natural science class VIII so that this research is the analysis of science student textbooks curriculum 2013 class viii junior high school/madrasah tsanawiyah.

Teaching materials are one of the critical components in the learning process, where teaching materials are all materials (both information, tools, and texts) compiled systematically. Textbooks are the most widely used teaching materials among all other teaching materials. as the essential teaching material used in the learning process. Following the use of the 2013 curriculum, it is designed to strengthen all student competencies in terms of knowledge, skills, and attitudes (Juwita, 2017). It displays a complete figure of competence that will be mastered by students and used in the learning process to plan and review the implementation of learning.

Textbooks are a source of information in the learning process used in schools' teaching and learning processes. Textbooks have an essential role so that they are expected to have good quality and meet specific standard criteria. A good textbook is a textbook that pays attention to several things, including containing appropriate stimuli both visually and audio, accommodating student responses appropriately, providing feedback between students and educators, and selecting the suitable media to present information or incentives to exercises and tests. The function of the textbook is as a learning material which in its preparation, must be following the applicable curriculum so that it can be used in learning. So textbooks are one of the learning resources that provide various information for students in the learning process and following the applicable curriculum (Risma, 2019). Toxic books used by teachers and students at the same grade level or in one class are the same textbook. Textbooks used by teachers and students at the same grade level should have the same standards. The use of textbooks cannot be separated in learning activities. Textbooks are a source of information that has an essential role so that it is expected to have good quality and meet specific standard criteria (Nugroho, 2017).

The education curriculum in Indonesia has undergone several improvements. The provision of textbooks in the 2013 curriculum has been implemented by the government and has been disseminated and used by some schools, both in student
textbooks and teacher tax books. However, there is a lot of news that contains the inappropriateness of student textbooks for students used in the teaching and learning process in schools. It includes content that is not in sync with the state of the student's environment, inaccuracies in the material, and even overlaying and material that does not develop. The curriculum's improvement is carried out to adapt education to the development of science as the world continues to evolve. The function of the curriculum itself as a guide for teaching has flexible characteristics within a certain period so that it has innovative and communicative values. The 2013 curriculum is designed to prepare Indonesia's young generation to have the ability to live as individuals and citizens who are faithful, active, productive, creative, and innovative. In addition, it aims to enable the younger generation to contribute to the life of society, nation, and state in the world civilization. With this curriculum, as a form implementation to face globalization and the future of the demand of Indonesian society (Hidayah, 2016).

In previous studies, no researchers analyzed the science textbooks published by the 2017 revised edition of the Ministry of Education and Culture and the integrated science books published by Erlangga Sort. There was no panel to analyze the suitability of science material with five aspects, including the usefulness of the book's content and the scope of the study. Basic Competence (i.e., KD); the breadth, depth, current and accuracy of the learning materials for each chapter: the feasibility of learning activities in each chapter of the Student Book; show examples of learning materials (factual knowledge, conceptual, and procedural) in each chapter of the Student Book: and the feasibility of assessment in each chapter of the Student Book. In addition, the researchers researched fulfilling the coursework basic of science. Based on these problems, it encouraged researchers to conduct conformity analysis research with five aspects of the material (Science in the science textbooks for junior high school/madrasah tsawiyah class VIII semesters 1 and 2 used) at school to find out if the book contains these five aspects. The research aims to analyze the textbooks of students in science subject curriculum 2013 class VII junior high school/madrasah tsawiyah in order to find out the contents of each material, as well as to help find advantages or disadvantages so that the book can be repaired into a book suitable for use and used effectively.

RESEARCH METHOD
This research is included in the type of descriptive approach, namely by analyzing the results of lash books for grade VIII SMP students. Descriptive analysis is a research method that describes an object subjectively. The purpose of descriptive research is carried out with two main objectives, namely to systematically describe the facts and characteristics of objects to be studied appropriately (Asrizal, 2017). Descriptive research is research that aims to collect detailed and detailed information about what will be studied.

Participants
The subjects in this study were the books of junior high school students in class VIII curriculum 2013, using data collection techniques, namely by means of analysis. The method of analysis is by listening to the contents in the textbook, including reading, observing, and understanding the elements in the book, furthermore, from the result of the data analysis.
Instrument and Procedures
The instrument in this study was developed on the basis of an overview of the aspects to be studied. This description is as that will be analyzed, including the suitability of the contents of the book with the scope of basic competence breadth, depth. Up-to-date and accurate learning materials for each chapter; the feasibility of learning activities in each chapter of the Student Book shows examples of learning materials (factual, conceptual, and procedural knowledge) in each chapter of the Student Book and the feasibility of assessment in each chapter of the Student Book.

RESULTS AND DISCUSSION
Based on the analysis of the Student Book of the subject matter natural science published by the Center for Curriculum and Book, Balitbang. Kemendikbud, the results obtained are:

1. Conformity of book content with basic competence (i.e., KD) coverage. In this context, there are three important points that must be considered, namely in Table 1.

Table 1. Conformity of book content with KD coverage.

<table>
<thead>
<tr>
<th>Conformity of Book Content with KD Coverage</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conformity with KD Coverage of KI-1 and KI-2</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
</tr>
<tr>
<td>Compliance with KD Coverage from KI-3.</td>
<td>√ √ √ √ √ √ √ √ √</td>
</tr>
<tr>
<td>Compliance with KD Coverage from KI-4.</td>
<td>√ √ √ √ √ √ √ √ √</td>
</tr>
</tbody>
</table>

a. Conformity with Basic Competence (i.e., KD) Coverage of Core Competence (i.e., KI), KI-1 and KI-2
In semester 1 of chapters 1-6 and semester 2 of chapters 7-11, it has been described in accordance with the KD coverage of KI-1 and KI-2. This can be proven by the suitability of the contents of the book with the KD coverage KI-1 and KI-2, which have been explained in each chapter. Each chapter contains questions that indicate students must think, which can make students increase their curiosity, and in each chapter, it is also associated with the word "Allah" (related to religion). This can appreciate as associated with religious teaching. Besides, Therefore, students must have good behavior, have self-confidence, think critically, and can respect the opinions of friends.

b. Conformity with KD Coverage of KI-3
In the semester from chapters 1-6, it has described conformity with the coverage KD 3.1 to 3.7 of KI-3. Likewise, in semester 2 of chapters 7-11, it has described conformity with the scope of KD 3.8 to 3.12 of KI-3. Understanding and applying knowledge (factual, conceptual, and procedural) based on his curiosity about science, technology, cultural arts related to phenomena and events that appear in.

c. Conformity with KD Coverage of KI-4
Semester 1 of chapters 1-6 already described conformity with the coverage KD 4.1 to 4.7 of KI-4. Likewise, in semester 2 of chapters 7-11, it has shown conformity with the coverage of KD 4.8 to 4.12 of KI-4. Because
In the semester from chapters 1-6, we have described the scope of KD development from KI-1 and KI-2, where students cannot apply it through activities. Let's do it, let's discuss, let's find out, let's do the project. These activities can foster an attitude of respect for each other. That matter can appreciate and be associated with religious teachings. In addition, students must have good behavior, have self-confidence, think critically, and can respect opinions between parks. However, there needs to be an improvement in learning achievement, for example giving group assignments to build students' social attitudes.

e. Scope of KD Achievement Indicators from KI-3

In the first semester of chapters 11-6, we have described the scope of achievement indicators in KD 3.1 to 3.7 of KI-3, namely understanding and applying knowledge (factual, conceptual, and procedural) based on curiosity about science, technology, science, culture related to phenomena and visible events. Likewise in semester 2 of chapters 7-11, it has also described the coverage of KD indicators 3.8 to 3.12 from KI-3. However, in chapters seven, there are indicators that are lacking in detail in the student book, such as linking the pressure of a liquid in an enclosed space with human blood pressure, linking the pressure of a liquid in an enclosed space with osmosis, and linking the pressure of a liquid in an enclosed space with capillary events, where this indicator are not clarified in the book so that it can make it difficult for students and teachers to achieve these indicators.

f. Conformity with the Scope of KD Achievement Indicators from KI-4

In the first semester of chapters 1-6, it has described the coverage of achievement indicators in KD 4.1 to 4.7 of KI-4, namely processing presentation and reasoning in the concrete realm (use, parse, assemble, modify, and make) and abstract realm (writing, reading, counting, drawing, and composing) according to what is learned in school and other sources that are the same in point of view or theory. Likewise, in semester 2 of chapters 7-11, it has also described the coverage of KD indicators 4.8 to 4.12 from KI-4. However, in chapter 4, there are indicators that are not included in the student book, such as the indicator of collecting data through investigations on mechanical and chemical digestion. In the Student Book, there is only an experimental explanation regarding the investigation of chemical digestion. There should also be an experimental description of the investigation into mechanical digestion in the Student's Book to make it easier for students to distinguish between the two.

2. The breadth, depth, current, and accuracy of the learning materials in each chapter.

In terms of content compatibility, there are three important points that must be considered, namely in Table 2.

<table>
<thead>
<tr>
<th>The breadth, depth, and accuracy of the learning materials in each lesson</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility of breadth and depth of matter with KD coverage from KI-1, KI-2, KI-3., and KI-4.</td>
<td>√</td>
<td>√</td>
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<td>√</td>
</tr>
<tr>
<td>Conformity of material with current</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
The breadth, depth, and accuracy of the learning materials in each lesson

<table>
<thead>
<tr>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>Concept accuracy.</td>
</tr>
</tbody>
</table>

a. Conformity of the breadth and depth of the material with the coverage of the basic competencies from KI-1, KI-2, KI-3, and KI-4.

The first semester of chapters 1-6 has described the breadth and depth of the material with the KD coverage of KI-1, KI-2, KI-3, and KI-4. For semester one from chapters 7-11 have described the breadth and depth of material with KD coverage of KI-1, KI-2, KI-3, and KI-4. The material included in it contains KI-1, namely respecting and living the teachings of the religion he adheres to, KI-2, namely respecting and living honest, disciplined, polite, trusting behavior self, caring, and responsible in interacting effectively in accordance with the child's development in the environment, family, school, community and the surrounding natural environment, nation, state, and regional area, KI-3 is understanding and apply factual, conceptual knowledge, procedural, and cognitive eyes a simple technical and specific level based on his curiosity about science, technology, art, culture with human insight. Nationality and statehood are related to phenomena and visible events. KI-4, which shows reasoning skills, manipulates, and presents creatively, productively, critically, independently, collaborative, and communicative, in the realm of concrete and the abstract realm in accordance with what is learned in school and other sources that are similar from a theoretical point of view. This matter is seen through the arrangement in the student book, which begins with linking to god and so on. The material or concepts contained in the book are appropriate, and form groups, and produce structured skills.

b. Suitability of the material with the current context

In the student's book, both semester one and semester two from chapter 1 - chapter II. The suitability of the teacher with the current context in the 1st and 2nd-semester student books is appropriate; it can be seen in the book that the material provided is in the present era and will always develop.

c. Concept accuracy or truth

In the student's books, both semester one and semester 2, from chapter 1 - chapter II, the co-accuracy or truth of the concepts contained in the student book can be seen through the material where the book includes pre-determined laws including laws I newton and those who have been put forward by several experts in their fields and before being printed the book has been examined by several experts in their fields and before being printed the book has been examined by experts.

3. Show examples of learning materials (factual, conceptual, and procedural knowledge) in each chapter of the student book.

In this case, the suitability of the contents, there are four important points that must be considered, namely as Table 3:

<table>
<thead>
<tr>
<th>Table 3. Examples of learning materials (factual, conceptual, and procedural) in each chapter of the student book.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show examples of learning materials</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
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</tbody>
</table>

Analysis of Junior High School Science Student Book on Curriculum 2013

<table>
<thead>
<tr>
<th>(Factual, conceptual, and procedural) in each chapter of the student book</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example of factual knowledge materials.</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Examples of conceptual knowledge material.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td></td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td>Example of procedural knowledge material.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>✓</td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>Example of exposure to the sun of knowledge cognitive.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
</tr>
</tbody>
</table>

a. Example of factual knowledge materials

Factual knowledge is the knowledge that must be possessed by students if they are to be introduced to a scientific discipline or to solve any problems related to true statements because they are in accordance with actual reality. Factual knowledge is the knowledge that has characteristics that appear more real and operational and is brief in nature or is of a material nature that describes it more easily (Rusianti, 2019). In semester one from chapters 1-6 already describe the material knowledge that is factual. This is evidenced by the fact that each chapter has drawn material about existing facts and about the meaning and real examples of each material in each chapter, for example, on motion material. Simple planes and all the material in chapters 1-6. Likewise, semester 2 of chapters 7-11 have described factual knowledge material, as evidenced by each chapter explaining the facts. There are, and regarding understanding, there are also concrete examples in the material in each chapter of then nerve, for example, in the matter of substance pressure, structure and function of the human accretion system and all of the materials listed in chapters 7-11.

b. Examples of conceptual knowledge material

Conceptual knowledge is called conceptual understanding, which can be interpreted as a thorough understanding of basic concepts. Conceptual knowledge is reflected through the individual's ability to make what can be considered examples and which cannot be considered examples (Khamidah, 2017). Menurut Munawaroh (2017) states that in addition to developing experimental skills, science learning aims to acquire conceptual knowledge, basic concepts are given. Concepts are categories given to stimuli in the environment. Concept learning is the main result of education, so that concepts are the building blocks of thinking. Concepts are the basis for a higher mental process for formulating principles and generalizations. Conceptual knowledge is obtained by students through planting concepts, strengthening one concept with another, such as capital (pictures or props are a means to instill concepts in students). In semester 1 of chapters 1-6 has described the material knowledge that is conceptual. This is evidenced by the fact that each chapter has described mastery of concepts regarding each material in each chapter, for example, on nutrition, movement systems, and all the suns in chapters 1-6 of the 8th-grade student book. In semester 2 of chapters 7-11 have described conceptual knowledge material as evidenced by each chapter describing the mastery of the knowledge concepts of each material in each chapter. For example, the material
for a light and optical devices, as well as all the material contained in chapters 7-11 of the 8th-grade student book.

c. Sample material procedural knowledge

Procedural knowledge is knowledge of how someone does something, knowledge of how students perform in carrying out the steps in a process (Bintang, 2020). In the semester from chapters 1-6, it has described procedural knowledge material as evidenced by each material in the chapter there are procedures and processes in mastering the existing material, for example on the immaterial of business and motion systems and all the material contained in chapters 1-6 8th grader’s book. Likewise, chapters 7-11 have described procedural knowledge material as evidenced by each subject in the chapter. There are procedures and processes in mastering the existing material in chapters 7-11 of the 8th-grade student book.

d. Exposure materials for cognitive knowledge

The cognitive eye is thinking about thinking, knowledge about knowledge, or reflection about actions. At the same time, cognitive knowledge is knowledge about cognition in general, such as self-awareness and knowledge about self-cognition. Cognitive eye knowledge refers to ways to increase awareness of the prevailing thinking and learning processes by designing, monitoring, and assessing what is being learned (Iskandar, 2014). In the first semester of chapters 1-6 and also semester 2 of chapters 7-12, the explanation was given. This is due to the existence of sentences in the book, namely describing in their own words and conclusions and recalling task or short answers made in general in the individual memory system compared to multiple-choice questions.

4. Feasibility of learning activities in each chapter of the student book. In this case, the suitability of the content, there are four.

Important points that must be considered, namely in Table 4.

<table>
<thead>
<tr>
<th>Steps to achieve KD from KI-3 and KI-4</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>√ 1</td>
<td>2</td>
</tr>
<tr>
<td>The activity steps of using one of the learning models are discovery learning project-based learning, problem-based learning, inquiry learning genre-based learning.</td>
<td>√ 1</td>
</tr>
</tbody>
</table>

a. Steps to achieve KD from KI-3 and KI-4

KD achievement from KI-3 and KI-4 is appropriate, KD from KI-3 from 3.1 to 3.12 (chapter I to chapter II), both semester one and semester 2, shows that students are able to analyze and explain the sun relationship. KD from KI-4 from 4.1 to 4.12 (chapter I to chapter II), both in semester one and semester 2, shows that students are able to present and create works or results related to the material. This is evidenced by the come on. Let's discuss. Come on, let's think, let's do it.
b. The activity steps of using one of the learning models are discovery learning, project-based learning, problem-based learning, inquiry learning genre-based learning.

In semester one and semester two students' books, they have described the steps for using one of the learning modalities Discovery learning, project-based learning, problem-based learning, inquiry learning, and genre-based learning. It is evidenced by the activity, and we do projects, come on, let's discuss, come on we'll do the students are able to solve the problems given by the teacher (solve the problem).

5. Eligibility assessment in each chapter of the student's book, in the suitability of the content, there are four important points that must note, areas Table 5.

<table>
<thead>
<tr>
<th>Table 5. Eligibility assessment in each chapter of student books.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligibility assessment in each chapter of student books</td>
</tr>
<tr>
<td>Attitude development.</td>
</tr>
<tr>
<td>Knowledge aspect assessment.</td>
</tr>
<tr>
<td>Skill aspect development.</td>
</tr>
</tbody>
</table>

a. Attitude development

The development of the attitude aspect in the contents of each student's book in semester one and semester 2 is appropriate, as evidenced by the KD, including indicators on analyzing, explaining, and understanding. This happens in all chapters, consisting of chapters 1 to 2.

b. Knowledge aspect assessment

This skill aspect is in accordance with the KD coverage of KI-3. This includes all chapters, chapters 1 to chapters 2, both in semester one and semester 2. This is also evidenced by activity. We discuss, let us think, let's do it.

c. Skill aspect development

This skill aspect is in accordance with the KD coverage of KI-3. This covers includes all chapters, chapter 1 until chapter 2, both in semester one and semester 2. This is also evidenced by the come, let's discuss activities come on, let's think, come on, we'll do.

CONCLUSION

The results of the analysis obtained from the eighth-grade student book consisted of five aspects. The first is the suitability of the content of the book with the scope of basic competence (i.e., KD), the second aspect is the breadth, depth, currentness, and accuracy of the learning material in each chapter, the third aspect show examples of learning material (factual, conceptual, and procedural knowledge) in each chapter of the student book, the fourth aspect is the feasibility of the activity learning in each student book chapter, and the last aspect of the feasibility of assessing each chapter of the student book. The Conformity of the Content of the Book with the Scope of KD, Kelussan, Kadalaman, Current, and Accuracy. of Learning Materials in Each Chapter, Shows Examples of Learning Materials (factual knowledge, conceptual, and procedural) in Each Chapter of the Student Book. Feasibility of Learning Activities in Each Chapter of the Student Book. Eligibility Assessment in Each Chapter of the Student Book where each of the five aspects has a different point. Covers KD suitability from KI-1 to KI-4.
REFERENCES


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