JPPIPA, Vol. 6 No. 2 2021

Jurnal Penelitian Pendidikan IPA

http://journal.unesa.ac.id/index.php/jppipa

READABILITY AND COMPATIBILITY OF CLASS VIII SUBSTANCE PRESSURE MATERIALS WITH SCIENCE PROCESS SKILLS CATEGORIES

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Abstract

This study aims to determine the readability and suitability of material pressure class VIII with the category of science process skills. The research method used is descriptive research with a qualitative approach. The results of this study indicate that the suitability of the books for science class VIII students with science process skills is 60% in the appropriate category. Aspects of science process skills contained in the book include skills of observation, classification, interpretation, using tools or materials, applying concepts, and communicating. Meanwhile, the results of the readability of the VIII grade students' science book on substance pressure, the average value was 3 in the good category. From the research that has been carried out, it can be concluded that the science student's book on substance pressure material is in accordance with the SPS aspect. Suggestions from researchers, the books used by students should contain all aspects of science process skills. By adding SPS aspects that have not been presented in the book, which include predicting skills, asking questions, hypothesizing skills, and planning an experiment.

Keywords: Book Readability, Science Process Skills, Substance Pressure.

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p-ISSN: 2527-7537
e-ISSN: 2549-2209

INTRODUCTION

Natural Sciences is closely related to activities to find out a fact, principle, law, scientific process, and theory. Science learning connects the material with the surrounding environment directly. According to the 2013 Curriculum, science learning prioritizes student involvement in the discovery process. The discovery can be in the form of principles, concepts, or problem solving.

Learning activities are communication activities between students and other students, teachers, and books or other learning resources. This interaction can build students' knowledge actively. Learning activities must be encouraging, innovative so that students do not get bored, inspire, can make the class more active, and can attract students' interest in participating in learning activities. (Harianto, 2011).

In the learning process, a textbook is needed as a source of knowledge and a guide for students. Textbooks are suggestions to support a learning activity, as a source of knowledge for students (Depdiknas, 2003). Textbooks are books made by experts or experts in their fields to be used as the function of the textbook (Akbar, 2013). Textbooks function as a medium for teachers in the teaching process and for students to function as teaching media that support the learning process. The function of textbooks is to present learning resources in an orderly and gradual manner, to present evaluation materials, to present the subject matter, methods, and teaching tools, and to reflect certain points of view (A et al., 2017). Regulation of the Minister of National Education No.2 (2008), states that textbooks are reference books that must be used by students or teachers in learning at school.

The teaching and learning process needs to use a learning approach. The appropriate learning approach for science lessons is SPS, which is a systematic and rational thinking skill that is often used in science (Cansiz et al., 2016). Science process skills, increase active student involvement, make it easier for students to understand the rules that are carried out permanently in learning (Karamustafaoğlu, 2011).

Science process skills (SPS) aim to build students' existing knowledge with activities that link cognitive knowledge, psychomotor knowledge, and students' affective knowledge (Siswono, 2017). SPS familiarizes students to think scientifically and get used to communicating, thinking critically, and creatively through solving various kinds of problems presented by educators in learning (Priyani & Nawawi, 2020). Science process skills are considered to provide students with a meaningful learning experience, because SPS helps students to achieve higher-order thinking (Tilakaratnea, CTK & Ekanayake, 2017).

Physics is one of the branches of science that requires research, scientific work to get concepts, principles, theories, and laws (Darmaji et al., 2019). The selection of class VIII pressure material, which is analyzed by researchers, because this material discusses a lot of certain principles, theories, and concepts. In addition, this material presents more material related to physics. This makes this material suitable to be applied with science process skills, which involve students directly in concept discovery.

Based on the explanation of the science process skills, the textbooks used by students must include aspects of science process skills. The aspects of the SPS include: (a) aspects of observation skills, (b) aspects of classification skills, (c) aspects of interpretation skills, (d) aspects of predicting skills, (e) aspects of asking questions, (f) aspects of hypothetical skills, (g) skills aspects of planning experiments, (h) aspects of skills in using tools and materials, (i) aspects of skills in applying a concept, (j) aspects of communicating skills (Rustaman, 2005).

The results of a survey conducted by researchers, from 6 schools located in Surabaya, both public and private, the books that are often used in the learning process are science books for SMP/MTs students, which were published by the Ministry of Education and Culture (Kemendikbud) in 2017. The survey was conducted through google form link which is intended for 3 teachers and 3 students in Surabaya. The student books used were designed by the government to implement the 2013 Curriculum.

This research was carried out because most of the science books used in schools did not present SPS aspects. Which, it has an impact on students' ability to respond to a problem. In learning, many students understand the theory or law being taught, but cannot practice it or apply it directly. So this research needs to be carried out in order to determine the suitability of science books with aspects of science process skills. In addition, knowing the legibility of science books on substance pressure materials used in the learning process at school. This research is expected to provide information related to the aspects of SPS that are presented in the science book on pressure material, so that the school is more selective in choosing books to support learning activities in improving students' SPS.

METHOD

The type of research used is descriptive research, with a qualitative approach. In descriptive research, systematically presenting and analyzing

facts related to science process skills in students' books.

The objects used to determine the readability of the book include 3 science teachers of class VIII and 3 students of class VIII who are in SMPN 17 Surabaya, SMPN 60 Surabaya, and SMPN 62 Surabaya. The object of research is obtained by non- *probability sampling* with a technique through a certain reason. In this study, the research subject was a science book for SMP class VIII Semester 2, published by the Ministry of Education and Culture 2017, with a material section on substance pressure and its application in everyday life.

This study uses observation sheets, book readability instruments, and questionnaires as research instruments. Data collection techniques in this study used documents in the form of class VIII science books, book readability questionnaires, and interviews. Data collection techniques using documents require instruments as a guiding tool in collecting data from books (Mukhtar, 2013).

This research uses data analysis technique *content analysis*. *Content analysis* is a method by making contextual or real conclusions from books or other documents, so that communication messages are easily understood in their entirety (Prastowo, 2016).

Stages of analysis in data processing

1. Adding the frequency of the SPS aspect to the book being analyzed.
2. Calculating the aspects of SPS with the formula 1:

$$\frac{\Sigma SPS\ aspects\ that\ appear\ in\ book}{\Sigma the\ SPS\ aspect} \times 100\% \quad (1)$$

3. Determine the criteria for the suitability of the presentation of the book with the science process skills, based on the Table 1:

Table 1. Criteria for the Suitability of the Presentation of Textbooks

Percentage	Category
<40%	Not Appropriate
40% - 75%	Appropriate
> 75%	Very Appropriate

(Wilkinson, 1999)

4. Describe the results of the SPS analysis.
5. Draw conclusions based on the results of the analysis of science process skills.
6. Determining Reliability. Reliability in this research needs to be done because the research is descriptive. The purpose of determining the reliability of this study is to avoid the element of observer subjectivity and to measure the relationship between observers and other observers. The research data obtained was filled in by the researcher, where the researcher as observer I was handed over to observer II. Observer II is the supervising lecturer who will check the data obtained by the researcher as observer I. The data are in the form of statements which include the explanation section, student activities, and practice questions.

RESULTS AND DISCUSSION

The results were analyzed in the explanation section, the student activity section, and practice questions on the science textbooks, which were most widely used in SMP/MTs, both public and private, in the city of Surabaya. Based on the results of a survey on the use of science books in public or private schools in the city of Surabaya, many use science books published by the Ministry of Education and Culture.

Table 2 shows the readability of students' science books published by the Ministry of Education and Culture on pressure materials.

Table 2. Data on the Readability of Science Book

Name	Average Score
1G	2,88
2G	3,32
3G	3,16
4S	3,16
5S	2,36
6S	3,12
Total	18
Average	3

Note: G = Teacher; and S = Students

Based on Table 2. Readability can be seen when books by 1G have an average score of 2.88; 2G by 3.32; 3G by 3.16; 4S with a score of 3.16; 5S of 2.36; and the 5S has an average of 3.12. With a total of 18 and an average readability of 3 science books, it is in the good category. Figure 1 shows the appearance of SPS in the explanation section, the student activity section, and the practice section of the substance pressure chapter.

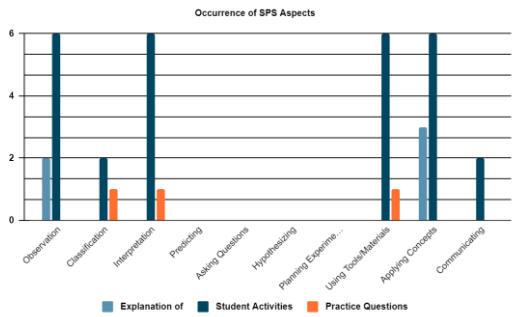


Figure 1. Aspect Diagram of Science Process Skills

Based on the SPS aspect diagram, which is contained in the explanation section it is in the form of observation skills and skills to apply concepts. The number of occurrences of each aspect of SPS from the VIII grade science book published by the Ministry of Education and Culture in the explanation section is that observation skills are developed in 2 statements and skills apply concepts in 3 statements.

Aspects of science process skills, which are contained in the science book chapter pressure, in the student activities section in the form of observation skills, classification skills, interpretation skills, skills in using tools or materials, skills in applying concepts, and communicating skills. The number of occurrences of each aspect of SPS from the VIII grade science book published by the Ministry of Education and Culture in the student activities section is observation skills 6 statements, classification skills 2 statements, interpretation skills 6 statements, skills using tools or materials 6 statements, skills applying concepts 6 statements, and skills communicates 2 statements.

Aspects of science process skills, which are included in the practice section, are in the form of classification, interpretation, and concept application skills. The number of occurrences of each SPS aspect from the VIII grade science book published by the Ministry of Education and Culture in the practice section is the skill of classification 1 statement, interpreting 1 statement, and applying the concept of 1 statement. Figure 2 shows a recapitulation of the appearance of SPS in the explanation section, student activities section, and practice questions section.

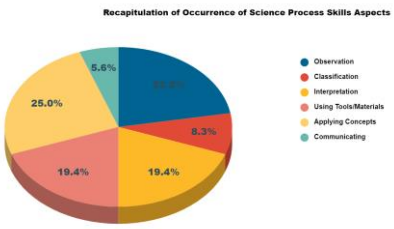


Figure 2. Recapitulation Diagram of the Emergence of SPS Aspects

Based on the diagram above, it is known that the SPS contained in the science book consists of observation skills, classification skills, interpretation skills, use of tools or materials, skills in applying a concept, and communication skills. So that in class VIII science books, not all aspects of SPS are included in it. The frequency of occurrence of each aspect of SPS shows a number that differs from one another.

The emergence of each aspect of SPS from the VIII grade science book published by the Ministry of Education and Culture is observation skills 8.22%, classification skills 3.8%, interpretation skills 7.19%, skills using tools or materials 6.17%, skills applying concepts 10, 28%, and communication skills 2.6%. The percentage of conformity of science books with SPS in the explanation section, student activities, and practice questions obtained based on table 4. obtained the suitability of books with science process skills by 60%. After being matched with the suitability category for the SPS, the level of conformity with the appropriate category is obtained.

The results of the analysis of science skills in science students' books, show that there are six aspects of science process skills. The six aspects of science process skills include observation, classification, interpretation, use of tools or materials, applying a concept and communicating skills. The results of the analysis of observation skills on the analyzed pressure material, there are 8 statements on pressure material that contains observation skills. Figure 3 contains 8 statements of observation skills in science students' books, found in the explanations and student activities section.

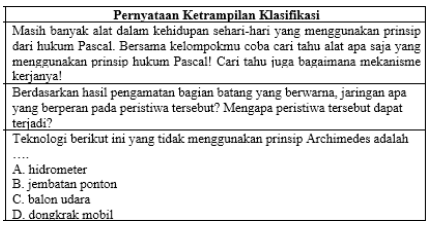
Pernyataan Ketrampilan Observasi
Jika kamu hendak melewati jalanan yang berlumpur. Sepatu manakah yang akan kamu gunakan, sepatu boot atau sepatu hak tinggi?
Coba perhatikan tempat hidup angsa! Angsa dapat dengan mudah mencari makan di tempat yang berlumpur, misalnya sawah, sedangkan ayam kesulitan untuk mencari makan di tempat tersebut. Menzapa angksa dapat memiliki kemampuan seperti itu?
Ambil kedua uang logam tersebut dari plastisin, kemudian amati kedalaman bekas uang logam itu!
Ambil kedua uang logam tersebut dari plastisin, kemudian amati kedalaman bekas uang logam itu!
Kaitkan beban dengan neraca pegas, catatlah berat beban ketika di udara (wbu) dengan membaca skala yang ditunjukkan pada neraca pegas!
Amati pula aliran air berpewarna makanan yang ada dalam selang!
Panaskan erlenmeyer di atas pembakar spiritus sampai mendidih. Amati apa yang terjadi pada balon karet. Panaskan erlenmeyer di atas pembakar spiritus sampai mendidih. Amati apa yang terjadi pada balon karet.
Amati perubahan pada daun pacar air setelah tumbuhan dibiarkan selama 2 jam dalam gelas air mineral tersebut! Apakah daun menjadi segar atau tetap dalam keadaan layu? Amati warna pertulangan daun pada bagian bawah daun tumbuhan pacar air yang diletakkan dalam gelas air mineral berisi air berwarna! Apakah pertulangan daun berwarna merah atau biru? Amati perubahan pada daun pacar air setelah tumbuhan dibiarkan selama 2 jam dalam gelas air mineral tersebut! Apakah daun menjadi segar atau tetap dalam keadaan layu? Amati warna pertulangan daun pada bagian bawah daun tumbuhan pacar air yang diletakkan dalam gelas air mineral berisi air berwarna! Apakah pertulangan daun berwarna merah atau biru?

Figure 3. Statement of Observation Skills Observation

Skills contained in books invite students to see phenomena in the form of pictures on books, imagine a phenomenon or students are encouraged to see them directly. Observation skills are basic skills that students must have to start an investigation that plays an important role in scientific knowledge (Iswatun et al., 2017). In making observations, students maximize the use of the senses of sight, hearing, taste, touch, and smell which are science learning activities to observe a phenomenon. Observation skills are complex skills when applied to explain something more in-depth and can build theories related to the observed

phenomena (Ahtee et al., 2012). If students have the ability to observe skills, it will make it easier for them to obtain information, and find problems to be solved (Darmaji et al., 2019).

Classification skills on pressure material, there are 3 statements. Figure 4 contains 3 statements of classification skills in the science student book, the student activities section and practice questions.

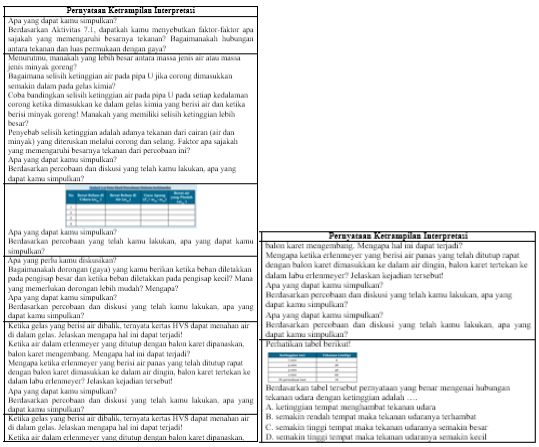


Pernyataan Ketrampilan Klasifikasi
Masih banyak alat dalam kehidupan sehari-hari yang menggunakan prinsip dari hukum Pascal. Bersama kelompokmu coba cari tahu alat apa saja yang menggunakan prinsip hukum Pascal! Cari tahu juga bagaimana mekanisme kerjanya!
Berdasarkan hasil pengamatan bagian batang yang berwarna, jaringan apa yang berperan pada peristiwa tersebut? Mengapa peristiwa tersebut dapat terjadi?
Teknologi berikut ini yang tidak menggunakan prinsip Archimedes adalah .... A. hidrometer B. jembatan ponton C. balon udara D. dongkrak mobil

Figure 4. Statement of Classification Skills Classification

Skills include recording each observation, equating, finding the basis for grouping, contracting characteristics, and looking for the relationship between observations. In this science book, students are asked to relate the results of observations to the theory of pressure, record the results of observations in the student activity section, and classify certain statements. Classification skills in classifying events can be seen after students complete the practicum, or it can be done by comparing what has been illustrated and explained (Ramadhani et al., 2019). According to Rezba in (Darmaji et al., 2019) classification skills are important in the process of obtaining data, and then processing it, which will be used to obtain a concept.

Interpretation skills include 7 statements in the book. Figure 5 contains 7 statements of interpretation skills in science student books, student activities section and practice questions.



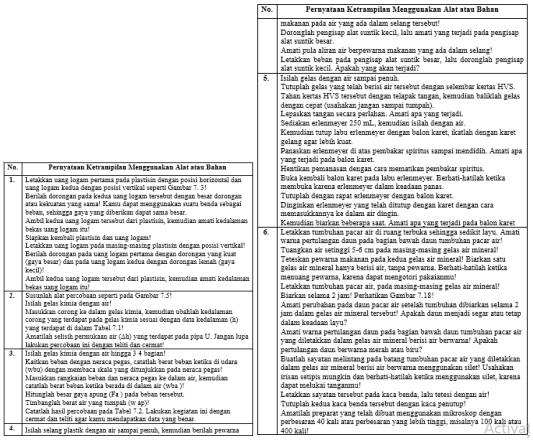
Pernyataan Ketrampilan Interpretasi
Apa yang dapat kamu simpulkan? Berdasarkan Aktivitas 7.1, dapatkah kamu menyebutkan faktor-faktor apa sajakah yang memengaruhi besarnya tekanan? Bagaimanakah hubungan antara tekanan dan luas permukaan dengan gaya?
Menurutmu, manakah yang lebih besar antara massa jenis air atau massa jenis minyak goreng? Bagaimana selisih ketinggian air pada pipa U jika corong dimasukkan semakin dalam pada gelas kimia? Coba bandingkan selisih ketinggian air pada pipa U pada setiap kedalaman corong ketika dimasukkan ke dalam gelas kimia yang berisi air dan ketika berisi minyak goreng! Manakah yang memiliki selisih ketinggian lebih besar? Penyebab selisih ketinggian adalah adanya tekanan dari cairan (air dan minyak) yang ditekukan melalui corong dan selang. Faktor apa sajakah yang memengaruhi besarnya tekanan dari percobaan ini? Apa yang dapat kamu simpulkan? Berdasarkan percobaan dan diskusi yang telah kamu lakukan, apa yang dapat kamu simpulkan?
Apa yang dapat kamu simpulkan? Berdasarkan percobaan yang telah kamu lakukan, apa yang dapat kamu simpulkan?
Apa yang perlu kamu diskusikan? Bagaimanakah dorongan (gaya) yang kamu berikan ketika beban diletakkan pada penjepit besar dan ketika beban diletakkan pada penjepit kecil? Mana yang memerlukan dorongan lebih mudah? Mengapa? Apa yang dapat kamu simpulkan? Berdasarkan percobaan dan diskusi yang telah kamu lakukan, apa yang dapat kamu simpulkan?
Ketika gelas yang berisi air dibalik, ternyata kertas HVS dapat menahan air di dalam gelas. Jelaskan mengapa hal ini dapat terjadi! Ketika air dalam erlenmeyer yang ditutup dengan balon karet dipanaskan, balon karet mengembang. Mengapa hal ini dapat terjadi? Mengapa ketika erlenmeyer yang berisi air panas yang telah ditutup rapat dengan balon karet dimasukkan ke dalam air dingin, balon karet tertekan ke dalam labu erlenmeyer? Jelaskan kejadian tersebut! Apa yang dapat kamu simpulkan? Berdasarkan percobaan dan diskusi yang telah kamu lakukan, apa yang dapat kamu simpulkan?
Ketika gelas yang berisi air dibalik, ternyata kertas HVS dapat menahan air di dalam gelas. Jelaskan mengapa hal ini dapat terjadi! Ketika air dalam erlenmeyer yang ditutup dengan balon karet dipanaskan,

Pernyataan Ketrampilan Interpretasi
balon karet mengembang. Mengapa hal ini dapat terjadi? Mengapa ketika erlenmeyer yang berisi air panas yang telah ditutup rapat dengan balon karet dimasukkan ke dalam air dingin, balon karet tertekan ke dalam labu erlenmeyer? Jelaskan kejadian tersebut! Apa yang dapat kamu simpulkan? Berdasarkan percobaan dan diskusi yang telah kamu lakukan, apa yang dapat kamu simpulkan? Apa yang dapat kamu simpulkan? Berdasarkan percobaan dan diskusi yang telah kamu lakukan, apa yang dapat kamu simpulkan?
Perhatikan tabel berikut! Berdasarkan tabel tersebut pernyataan yang benar mengenai hubungan tekanan udara dengan ketinggian adalah .... A. ketinggian tempat mengihambat tekanan udara B. semakin rendah tempat maka tekanan udaranya terhambat C. semakin tinggi tempat maka tekanan udaranya semakin besar D. semakin tinggi tempat maka tekanan udaranya semakin kecil

Figure 5. Statement of Interpretation Skills

In the student science book published by the Ministry of Education and Culture, there are many presentations contained in student activities, to conclude information from the results of the practicum. While in practice questions, interpretation skills are used to conclude information from a table of research results. Interpretation skills include noting and relating observations, finding relationships from a series of observations, and drawing conclusions from what has been observed (Puspita et al., 2017).

Skills in using tools or materials presented in students' science books, consisting of 6 statements. Figure 6 contains 6 statements of skills using tools or materials in the student book, in the student activities section.

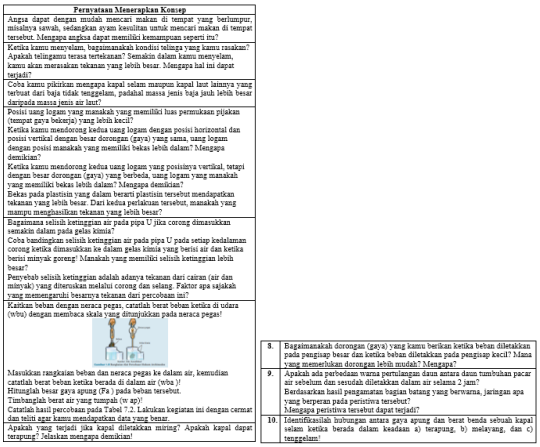


No.	Pernyataan Ketrampilan Menggunakan Alat atau Bahan
1.	Letakkan uang logam pertama pada plastisin dengan posisi horizontal dan uang logam kedua dengan posisi vertikal seperti Gambar 7.5! Berilah dorongan pada kedua uang logam tersebut dengan besar dorongan atau kekuatan yang sama! Kamu dapat menggunakan suatu benda sebagai beban, sehingga gaya yang diberikan dapat sama besar. Amati kedua uang logam tersebut dari plastisin, kemudian amati kedalaman belas uang logam itu! Siapkan kembali plastisin dan uang logam! Letakkan uang logam pada masing-masing plastisin dengan posisi vertikal! Berilah dorongan pada uang logam pertama dengan dorongan yang kuat (gaya besar) dan pada uang logam kedua dengan dorongan lemah (gaya kecil)! Amati kedua uang logam tersebut dari plastisin, kemudian amati kedalaman belas uang logam itu!
2.	Sumalah alat percobaan seperti pada Gambar 7.5! Isilah gelas kimia dengan air! Masukkan corong ke dalam gelas kimia, kemudian ubahlah kedalaman corong yang terdapat pada gelas kimia sesuai dengan data kedalaman (h) yang terdapat di dalam Tabel 7.1! Amatilah selisih permukaan air (Δh) yang terdapat pada pipa U. Jangan lupa lakukan percobaan ini dengan teliti dan cermat!
3.	Isilah gelas kimia dengan air hingga 2/ 4 bagian! Kaitkan beban dengan neraca pegas, catatlah berat beban ketika di udara (wbu) dengan membaca skala yang ditunjukkan pada neraca pegas! Masukkan rangkaian beban dan neraca pegas ke dalam air, kemudian catatlah berat beban ketika berada di dalam air (wba)! Hitunglah besar gaya apung (Fa) pada beban tersebut. Tunbanglah berat air yang tumpah (w ag)! Catatlah hasil percobaan pada Tabel 7.2. Lakukan kegiatan ini dengan cermat dan teliti agar kamu mendapatkan data yang benar.
4.	Isilah selang plastik dengan air sampai penuh, kemudian berilah pewarna makanan pada air yang ada dalam selang tersebut! Doronglah pengisap alat suntik kecil, lalu amati yang terjadi pada pengisap alat suntik besar. Amati pula aliran air berpewarna makanan yang ada dalam selang! Letakkan beban pada pengisap alat suntik besar, lalu doronglah pengisap alat suntik kecil. Apakah yang akan terjadi?
5.	Isilah gelas dengan air sampai penuh. Tutuplah gelas yang telah berisi air tersebut dengan selembar kertas HVS. Tahan kertas HVS tersebut dengan telapak tangan, kemudian balikkah gelas dengan cepat (usahakan jangan sampai tumpah). Lepaskan tangan secara perlahan. Amati apa yang terjadi. Sediakan erlenmeyer 250 mL, kemudian isilah dengan air. Kemudian tutup labu erlenmeyer dengan balon karet, ikatlah dengan karet gelang agar lebih kuat. Panaskan erlenmeyer di atas pembakar spiritus sampai mendidih. Amati apa yang terjadi pada balon karet. Hentikan pemanasan dengan cara mematikan pembakar spiritus. Eluka kembali balon karet pada labu erlenmeyer. Berhati-hatilah ketika membuka karena erlenmeyer dalam keadaan panas. Tutuplah dengan rapat erlenmeyer dengan balon karet. Dinginkan erlenmeyer yang telah ditutup dengan karet dengan cara memasukkannya ke dalam air dingin. Kemudian biarkan beberapa saat. Amati apa yang terjadi pada balon karet
6.	Letakkan tumbuhan pacar air di ruang terbuka sehingga sedikit layu. Amati warna pertulangan daun pada bagian bawah daun tumbuhan pacar air! Tuangkan air setinggi 5-6 cm pada masing-masing gelas air mineral! Teteskan pewarna makanan pada kedua gelas air mineral! Biarkan satu gelas air mineral hanya berisi air, tanpa pewarna. Berhati-hatilah ketika memsang pewarna, karena dapat mengotori pakaianmu! Letakkan tumbuhan pacar air, pada masing-masing gelas air mineral! Biarkan selama 2 jam! Perhatikan Gambar 7.18! Amati perubahan pada daun pacar air setelah tumbuhan dibiarkan selama 2 jam dalam gelas air mineral tersebut! Apakah daun menjadi segar atau tetap dalam keadaan layu? Amati warna pertulangan daun pada bagian bawah daun tumbuhan pacar air yang diletakkan dalam gelas air mineral berisi air berwarna! Apakah pertulangan daun berwarna merah atau biru? Iisatlah sayatan melintang pada batang tumbuhan pacar air yang diletakkan dalam gelas air mineral berisi air berwarna menggunakan silet! Usahakan irisan setipis mungkin dan berhati-hatilah ketika menggunakan silet, karena dapat melukai tanganmu! Letakkan sayatan tersebut pada kaca benda, lalu tetesi dengan air! Tutuplah kedua kaca benda tersebut dengan kaca penutup! Amatilah preparat yang telah dibuat menggunakan mikroskop dengan perbesaran 40 kali atau perbesaran yang lebih tinggi, misalnya 100 kali atau 400 kali!

Figure 6. Statement of Skills in Using Tools or Materials

This science student book published by the Ministry of Education and Culture provides a presentation to find out the reasons for using tools or materials. The presentations displayed in the book must make it easier for students to find out the steps for using tools and materials in the learning process (Ramadhani et al., 2019). In order for students to acquire skills in using tools or materials, students should practice using these tools and materials directly by involving themselves during the learning process, in order to increase the accuracy of the research conducted.

The skills that are presented in the science student's book on pressure material are the skills to apply concepts. Skills in applying concepts, there are 10 statements. Figure 7 contains 10 statements of skills to apply the concepts contained in the science student book, in the explanation section, student activities, and practice questions.



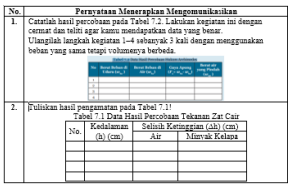
Pernyataan Menerapkan Konsep
Angsa dapat dengan mudah mencari makan di tempat yang berlumpur, misalnya sawah, sedangkan ayam kesulitan untuk mencari makan di tempat tersebut. Mengapa angkisa dapat memiliki kemampuan seperti itu?
Ketika kamu menyelam, bagaimanakah kondisi telinga yang kamu rasakan? Apakah telingamu terasa tertekan? Semakin dalam kamu menyelam, kamu akan merasakan tekanan yang lebih besar. Mengapa hal ini dapat terjadi?
Coba kamu pikirkan mengapa kapal selam maupun kapal laut lainnya yang terbuat dari baja tidak tenggelam, padahal massa jenis baja jauh lebih besar daripada massa jenis air laut?
Posisi uang logam yang manakah yang memiliki luas permukaan pijakan (tempat gaya bekerja) yang lebih kecil?
Ketika kamu mendorong kedua uang logam dengan posisi horizontal dan posisi vertikal dengan besar dorongan (gaya) yang sama, uang logam dengan posisi manakah yang memiliki bekas lebih dalam? Mengapa demikian?
Ketika kamu mendorong kedua uang logam yang posisinya vertikal, tetapi dengan besar dorongan (gaya) yang berbeda, uang logam yang manakah yang memiliki bekas lebih dalam? Mengapa demikian?
Bekan pada plastisin yang dalam berarti plastisin tersebut mendapatkan tekanan yang lebih besar. Dari kedua perlakuan tersebut, manakah yang mampu menghasilkan tekanan yang lebih besar?
Bagaimana selisih ketinggian air pada pipa U jika corong dimasukkan semakin dalam pada gelas kimia?
Coba bandingkan selisih ketinggian air pada pipa U pada setiap kedalaman corong ketika dimasukkan ke dalam gelas kimia yang berisi air dan ketika berisi minyak goreng! Manakah yang memiliki selisih ketinggian lebih besar?
Penyebab selisih ketinggian adalah adanya tekanan dari cairan (air dan minyak) yang diteruskan melalui corong dan selang. Faktor apa sajakah yang memengaruhi besarnya tekanan dari percobaan ini?
Ketikan beban dengan neraca pegas, catatlah berat beban ketika di udara (wbu) dengan membaca skala yang ditunjukkan pada neraca pegas!
Masukkan rangkaian beban dan neraca pegas ke dalam air, kemudian catatlah berat beban ketika berada di dalam air (wba)!
Hitunglah besar gaya apung (Fa) pada beban tersebut.
Timbanglah berat air yang tumpah (w ap)!
Catatlah hasil percobaan pada Tabel 7.2. Lakukan kegiatan ini dengan cermat dan teliti agar kamu mendapatkan data yang benar.
Apakah yang terjadi jika kapal diletakkan miring? Apakah kapal dapat terapung? Jelaskan mengapa demikian!

8.	Bagaimanakah dorongan (gaya) yang kamu berikan ketika beban diletakkan pada pengisap besar dan ketika beban diletakkan pada pengisap kecil? Mana yang memerlukan dorongan lebih mudah? Mengapa?
9.	Apakah ada perbedaan warna pertulangan daun antara daun tumbuhan pacar air sebelum dan sesudah diletakkan dalam air selama 2 jam? Berdasarkan hasil pengamatan bagian batang yang berwarna, jaringan apa yang berperan pada peristiwa tersebut? Mengapa peristiwa tersebut dapat terjadi?
10.	Identifikasilah hubungan antara gaya apung dan berat benda sebuah kapal selam ketika berada dalam keadaan a) terapung, b) melayang, dan c) tenggelam!

Figure 7. Statement of Skills for Applying Concepts

The presentation in this book contains solving problems in certain situations and explaining what actually happened, students connect with previously understood material or concepts. In applying the concept, events that occur in everyday life are presented, so that they are more in line with the environment around students. To apply concepts, students should understand and be able to explain new phenomena by linking old concepts that have been studied (Yunita, 2018). The skill of applying concepts is an activity that applies, from the application of previously acquired concepts (Virijai et al., 2020).

The communication skills presented in the VIII grade science book material pressure material published by the Ministry of Education and Culture, there are 2 statements contained in the student activities section. Figure 8 contains 10 statements of communicating skills in the science student book, the student activities section.



No.	Pernyataan Menerapkan Mengomunikasikan
1.	Catatlah hasil percobaan pada Tabel 7.2. Lakukan kegiatan ini dengan cermat dan teliti agar kamu mendapatkan data yang benar. Ulangilah langkah kegiatan 1–4 sebanyak 3 kali dengan menggunakan beban yang sama tetapi volumenya berbeda.
2.	Tulislah hasil pengamatan pada Tabel 7.1!

Tabel 7.1 Data Hasil Percobaan Tekanan Zat Cair

No.	Kedalaman (h) (cm)	Selisih Ketinggian (Δh) (cm)	
		Air	Minyak Kelapa

Figure 8. Statement of Communicating Skills

In this book students are given the presentation of communicating skills by changing the form of presentation of research results in the form of tables, explaining the results of experiments carried out, and submitting reports systematically. Communicating skill is one aspect of SPS that describes the results of observations, both oral and written based on a fact or concept that is concluded through the delivery of the results of scientific activities that have been carried out in the form of writing, posters, multimedia and so on (Sudibyo et al., 2018). The communicating aspect includes the skill of describing something either orally or in writing or through pictures (Elvanisi et al., 2018)**.**

Based on the results of the analysis of science students' books on the pressure chapter, the presentation of science process skills is the skill of applying concepts, followed by observation skills. The skills to apply concepts are spread out in explanation activities, student activities, and practice questions. While the observation skills are only found in the explanation and student activities. The suitability of the subject matter of substance pressure with science process skills by 60% indicates the appropriate category. With the results of the analysis of the readability of science students' books on the material pressure of substances in a good category. Based on the results of this research, in the preparation of science books, materials that discuss laws, theories or principles, in the future it is expected to present all aspects of SPS.

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the results of the analysis conducted by researchers, it can be concluded, the readability of the science book for class VIII students on substance pressure material is in the good category which shows an average of 3. The results of the suitability of the substance pressure material with the SPS aspect show a conformity of 60% with the appropriate category. Science process skills in science students' books cover 6 aspects of science process skills, namely observation skills, classification skills, interpretations, use of tools or materials, skills to apply a concept, and communication skills.

Suggestions

Suggestions from researchers, it is better if the books used by students contain all aspects of science process skills. By adding aspects of predictive skills, asking questions, hypothesizing, and planning experiments. As teaching staff, teachers must make students directly involved during the learning process, by teaching science process skills to students.

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