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The Effectiveness of Integrated Chemistry Teaching Materials Islamic Values and Local Wisdom Sasak Towards Science Process Skills and Social Concern on the Chemical Bonding Material

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Abstract—This research aims to: (1) know the effectiveness of integrated chemical teaching materials of Islamic values and Sasak local wisdom on science process skills and social concern in chemical bonding materials; and (2) understand the differences in science process skills and students' social care through the application of integrated chemistry teaching materials Islamic values and Sasak local wisdom to chemical bond materials. The research method used is experimental research with a quantitative approach. The experimental class was given treatment with integrated chemistry teaching materials of Islamic values and Sasak local wisdom, and the control class was given treatment with conventional chemistry teaching materials. Data analysis techniques using Hotelling's T2 hypothesis test through the Manova test. Based on data analysis using the Manova test, obtaining integrated chemistry teaching materials for Islamic values and local wisdom Sasak is effective on science process skills and social care with a significance value of 0.000 < 0.05 based on the results of the Manova test Test of Between-Subject Effect and Hotteling's T2 test. In addition, it refers to the Partial Eta Squared value where the score for science process skills is 0.414 and social care is 0.688. It can be seen that the value of Partial Eta Squared for social care is greater than that of science process skills, so the bound variable that is most influenced by the integrated chemical teaching materials of Sasak Islamic values and local wisdom is the variable of social concern.

Keywords: Chemical teaching materials, Islamic values, Local wisdom Sasak, Science process skills, Social care

1. INTRODUCTION

Efforts can be made to improve the quality of education in Indonesia through improving the quality of the teaching and learning process. The teaching and learning process is a system that combines or connects various components such as learning objectives, learning materials, learning media, learning strategies, and evaluation (Ballantyne & Packer, 2020; Wahyudiati, 2022b). If these components can be connected properly, then the expected learning process can be achieved, especially chemistry learning. But in reality many schools still do not do well in absorbing these components so that the goal is not achieved, especially in chemistry learning (Khurriyati, Setiawan, & Mirnawati, 2021).

Chemistry subjects are subjects that must be studied at the SMA / MA / SMK level. Chemistry lessons include 3 kinds that are often referred to as chemical triangles, including: (1) macro or real; (2) abstract sub-microelements such as atomic matter, ions, molecules, and chemical structures; and (3) symbolic, i.e. chemical formulas, chemical equations, and graphics (Januar, 2016). The three components above indicate that

chemistry is a complex material that must be mastered or understood by students so that the teacher or teacher must pay attention to the three types of components are good in the delivery of the material, so that the material presented is continuous and systematic. However, in reality the concept of chemical triangles has not been implemented optimally during learning activities so that the learning objectives of chemistry have not been achieved as expected (Wahyudiati & Qurniati, 2023; Aldian & Wahyudiati, 2023; Sutrisno et al., 2020).

The main objective in chemistry learning is the understanding of concepts from students which can then be applied in everyday life so as to make chemistry learning more interesting. However, in reality many students still find it difficult to understand the concept of chemical matter, thus making them not enthusiastic in learning chemistry. Therefore the subject of chemistry becomes a difficult subject, both at the high school level and in college. In addition, chemistry learning is still delivered with conventional methods (Ajayi & Tanko, 2023), which is a learning method that prioritizes memorization and repetition of material, so that it causes low students' understanding of the concept of material (Xu et al., 2013). Thus, one of the efforts made to facilitate the understanding of the material, the development of science process skills, and social care is through the availability of adequate and quality chemistry teaching materials.

Chemistry teaching materials are a collection of chemical materials based on the curriculum that applies in an educational institution as a means to achieve basic competencies and competencies that have been determined. One of the functions of chemistry teaching materials is to make learning more effective, interactive, and directed, as well as as a tool to evaluate learning (Alvianto, 2020). There are various types of chemical teaching materials such as printed teaching materials, technology-based teaching materials, and others. Each of these teaching materials has different characteristics and approaches with the same goal, namely understanding the concept and application of the material in life. For example, chemical teaching materials are integrated Islamic values and local wisdom Sasak (Alvianto, 2020; Rahmawati, 2018).

The term integrated chemistry teaching material appears to answer a new problem that distinguishes science from one another, namely the combination of various fields of science. One example is by integrating or combining chemical materials with Islamic values and local Sasak wisdom. This effort aims to make it easier for students to understand chemistry with basic aspects that are easy for them to understand and become one of the solutions to improve students' ability to understand chemistry concepts (Rahayu, Ayu & Sari, 2023). However, integrated chemistry teaching materials for Islamic values and Sasak local wisdom have not been developed in schools, so the expected goals in chemistry learning have not been achieved (Rahayu, Ayu & Sari, 2023). This is influenced by educators' lack of understanding of the importance of integrated chemistry teaching materials on Islamic values and Sasak local wisdom (Sumardi & Wahyudiati, 2022; Wahyudiati, 2022a).

Integrated chemistry teaching materials Islamic values are important for the complete understanding of students, not only in the field of chemistry but also in the field of religious science. According to Wahyudiati (2022b) there are two important reasons for the integration of chemistry teaching materials with Islamic values, the first is that Islam provides a way and strengthens the importance of studying science (chemistry), while science (chemistry) is a means to a deeper understanding of religion. The second is dialogue, namely Islam and science (chemistry) can be in line in one aspect or part, but can also limit science (chemistry) in other aspects. In addition, the integration of chemistry teaching materials with Islamic values will be closely related to the

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characteristics of students in increasing social awareness. Social concern is an attitude related to human interaction that shows empathy for members of the human community (Radhana, 2019).

Social care is an expected goal in the integrated chemistry learning of Islamic values. Integrated chemistry teaching materials Islamic values are closely related to social care. This is because there are many components of Islamic values that are human relations in nature, closely related to chemical materials such as help, manners, tolerance, social action, and noble character, so that it can improve students' ability to chemistry and increase social understanding (Suprianti & Dwianty, 2019). This understanding will then be applied in everyday life as a result of learning so that the realization of social care as a variable of this research. However, based on previous research, there are very few or even no educators who apply integrated chemistry teaching materials for Islamic values, this is due to the teacher's lack of understanding of the integration stem and Islamic values so that students do not understand the material and cannot develop social care variable(Suprianti & Dwianty, 2019). Therefore, social awareness is very low and the above problems show the importance of conducting research that integrates integrated chemical teaching materials Islamic values to increase social awareness. In addition to being integrated with Islamic values, chemistry teaching materials are also integrated with Sasak local wisdom.

The integration of chemistry teaching materials with Sasak local wisdom is a process to combine the concept of chemical teaching materials with local wisdom in the Sasak area (Lombok). This shows that in addition to Islamic values, Sasak local wisdom also has a very close integration with the concept of chemical teaching materials. The integration of chemistry teaching materials with local wisdom of Sasak is very important because it can develop students' understanding of chemistry materials, and can also add insight related to the culture or traditions of the Lombok (Sasak) region (Sumardi & Wahyudiati, 2022; Syakur, 2002; Wahyudiati, 2022a). Many times people perceive that culture is a habit that cannot be eliminated and combined with anything. But the reality is that many students do not know their own culture, even know other cultures better, this is due to the lack of cultural education to students (Sukardjo, 2018). Therefore, it is very important to integrate chemistry teaching materials with Sasak local wisdom.

The integration of chemistry teaching materials with Sasak local wisdom is very important to increase observation and exploration of phenomena around, one of which is the phenomenon of Sasak local wisdom, this will broaden the horizons of students in all aspects they observe (Sutrisno et al., 2020; Wahyudiati, 2021b). In addition, this integration is very important considering that there are so few sources of reading about the local culture of Sasak that students' knowledge of the culture is limited. The integration of chemistry teaching materials with local wisdom of sasak is expected to develop students' understanding of both chemistry concepts and sasak culture, and the most important thing is to develop students' science process skills.

Science process skills become a skill in learning that can train students to think and find answers to given problems. Through the science process skills, learners will be actively involved in learning. Basic science process skills have components including observing, classifying, predicting, and inferring. These components can be used to understand what phenomena occurs, both in abstract and concrete form (Sanabria & Arámburo-Lizárraga, 2017). Science process skills can foster experience and skills in learning, especially in understanding the phenomena that occur and can relate them with chemistry. However, in reality, the phenomena that occur around are difficult to use as a basis for understanding chemical materials so that students find it difficult to develop

the concept of material because of the lack of science process skills (Prayitno et al., 2017; Sanabria & Arámburo-Lizárraga, 2017; Wahyudiati, 2021a). This is because most educators only limit learning to the chemistry taught without trying to associate it with Sasak local wisdom. It is because of this that learners are less skilled in the process of science and knowledge of one's own culture. Therefore, for the above reasons it is very important to integrate chemistry teaching materials with Sasak local wisdom to develop science process skills.

Based on the results of preliminary research conducted at the Darul Ulum Beraim Islamic boarding school on October 2, 2021, it shows that chemistry learning is a learning that is considered difficult, this is because the learning method is still conventional, namely the memorization method and a little understanding of concepts. In addition, the teaching materials used have not been integrated with other fields of science, such as Islamic values and Sasak local wisdom, so that science process skills and social care are still low and have not even been developed in research in this madrasa. The role of educators here is very important to develop teaching materials, find the right methods, and teaching resources to provide an approach to students. One way that can be done is to develop chemistry teaching materials more interesting and foster students' interest in learning them, among the ways is the integration of chemistry teaching materials with Islamic values and Sasak local wisdom.

The process of integrating chemistry teaching materials with Islamic values and Sasak local wisdom is expected to improve the science process skills and social care of students in the school. The material that becomes teaching material that will be integrated with Islamic values and local wisdom of sasak is chemical bonding material to improve the skills of the scientific process and social care of students at the Darul Ulum Beraim Islamic boarding school. Darul Ulum Beraim Islamic boarding school is an educational institution that emphasizes Islamic religious education and science. In addition, the school is located in a village that still holds strong Sasak traditions such as *nerarik, nyongkolan, sorong serah, begawe*, and others. However, the understanding of religious values and local traditions cannot be correlated with the concept of science so that students cannot develop broader scientific insights.

The concept of integration developed in this study is to combine chemical bonding materials with Islamic values and Sasak local wisdom that are appropriate in improving science process skills and social concern for chemical bonding materials. For example, in Islam, the concept of zakat or sadakah. In the concept of *zakat* or *sadakah* there are the terms *Muzakki* (zakat giver) and *Mustahik* (zakat recipient), where Muzakki will give his zakat to Mustahiq (Yanuar, 2019). This process is a form of social care taught in Islam. This is related to the chemical bond material, namely ionic bonds, where in ionic bonds there are those that act as electron givers or charges and some that act as electron receivers or charges, where the elements that act as an electron giver, it willassign its electrons to an element that acts as an electron receiver. This shows the integration of the concept between chemical bond material and the concept of zakat in Islam, this is expected so that students can understand the concept of chemical bonding with the concept of zakat. By knowing the integration of chemical materials with Islamic values, it will give rise to an attitude of care for others such as zakat obligations, sadaqah, and others, so that through this teaching material is able to develop social care.

In addition, in the local wisdom of sasak, a very important tradition is known, namely when a person is about to get married there is the term "*sorong serah*" where the female *penganten* family will hand over her daughter to the male *penganten* family. This has a similar concept with chemical bonds, namely ionic bonds, where ionic bonds occur

because there are atoms that give up electrons and receive electrons, so that a compound is formed. Through the integration of chemical materials with Sasak local wisdom, it is hoped that students will be able to improve the quality of the learning process that is contextual and can develop student mindsets so that they are not only able to develop science process skills, but also students' social concerns. Based on theoretical and empirical studies that have been submitted that the development of this teaching material is expected to be able to influence science process skills and social care. Therefore, in this study researchers will explore the effectiveness of integrated chemical teaching materials of Islamic values and Sasak local wisdom on science process skills and social concern on chemical bonding matter.

2. METHODS

This research uses a quantitative approach with an experimental type of research. The free variables of this study are integrated teaching materials for Islamic values and local wisdom, while the bound variables are science pros skills and social care. Sample determination techniques are saturated sampling and Quasi-experimental pretest posttest and Non Equivalent Control Group Design design. Research design on operational product trials as shown in Table 1 (Sanjaya, 2019).

Tabel 1. Quasi-Experiments Pretest Posttest and Non Equivalent Control Grup

Group	Pre Treatment	Treatment	Post Treatment
Experiment	KS	X, k_p	KS
Control	KS	Y, k_p	KS

Information:
KS : Student social care
X : Integrated Chemical Teaching Materials Islamic Values and Local Wisdom Sasak
Y : Conventional Chemical Teaching Materials
k_p : Student Science Process Skills

The research will be conducted in 2 classes, of which class X A IPA will be the experimental class and class X B IPA will be the control class. The experimental class was given treatment with integrated chemistry teaching materials of Islamic values and Sasak local wisdom, and the control class was given treatment with conventional chemistry teaching materials. Data to be collected on science process skills and social care with data collection instruments using assessment sheets and questionnaires. Data analysis techniques using Hotelling's T2 hypothesis test through the Manova test (Sugiono, 2015).

Hotelling's T2 test is one of the statistical tests used to see comparisons between two or more variables analyzed simultaneously on the same sample (Williams et al., 2002). The purpose of this Hotelling's T2 test is to look at the effect of free variables on bound variables before and after learning or on 2 simultaneously bound variables (Williams et al., 2002). Further tests to determine the contribution (effectiveness) of integrated chemical teaching materials Islamic values and local wisdom Sasak before and after treatment are carried out through the Test of Between-Subject Effecttest which intends to find out how much influence the material has teach Sasak's Islamic values and local wisdom to the skills of the science process and social care of students. Through this further test, it will be known which variables are most influenced by integrated

chemical teaching materials Islamic values and local wisdom Sasak using partial eta squared values (Srivastava, & Mudholkar, 2000)

In this study, the researcher wanted to see the difference in the results of the experimental class with the control class, where in the experimental class , the researcher applied the indigo-value integrated chemistry teaching materials Islamic and local wisdom Sasak, while for the control class using conventional teaching materials. Conventional teaching materials are teaching materials that in general are still emphasized on memorization methods and a little understanding of concepts (Koestoro, 2006). With the application of different teaching materials in the two classes, it is hoped that it can provide an explanation of the influence of integrated chemical teaching materials on Islamic values and local wisdom of Sasak So that it can be applied in learning in schools.

3. RESULTS

The effectiveness of chemical teaching materials integrated Islamic values and local wisdom Sasak is carried out to find out the skills of the scientific process and social concern on chemical bonding materials. Effectiveness is carried out on Monday 17 October 2022–17 November 2022 in class X science. The researcher applied two classes to his research, namely the experimental class and the control class. The experimental class is a class that gets the treatment of integrated chemistry teaching materials of Islamic values and local wisdom of Sasak, while the control class does not get treatment. Researchers want to see a clash between the two classes by both being given a PBL learning model to see the science process skills and social care generated after the learning takes place. Effectiveness is carried out by implementing a pretest and posttest system by providing a social care questionnaire at the beginning as a pretest and at the end as a posttest. Meanwhile, the science process skills assessment sheet is given at the time of learning. To find out the results of the study, the researcher has 3 hypotheses that will be proven to be conformity using a hypothesis test. The data obtained will be tested using Hotelling's T2 hypothesis test through the Manova test. This test is used to see the relationship between free variables and bound variables so that it will answer the 3 hypotheses that have been made.

The data on the research results obtained after the Manova test can be seen in Table 2.

Table 2. Descriptive Statistics

	Chemistry Teaching Materials	Mean	Std. Deviation	N
Science Process Skills (SPS)	Integrated chemistry teaching materials	79.85	7.706	25
	Conventional teaching materials	67.80	6.915	25
	Total	73.82	9.462	50
Social Concerns (SC)	Integrated chemistry teaching materials	90.08	4.618	25
	Conventional teaching materials	76.06	5.001	25
	Total	83.07	8.534	50

Based on Table 2, it is seen that the average value for teaching materials chemistry integrated Islamic values and local Sasak wisdom on science process skills is 79.85 higher than the use of conventional teaching materials in science process skills which is 67.80. As for integrated chemistry teaching materials, Sasak's Islamic values and local wisdom on social care, the average value is 90.08 and conventional chemistry teaching materials on social care are 76.06.

To prove homogeneity between the two groups, the researcher refers to Table 3.

Table 3. Box's Test of Equality of Covariance Matrices

Box's Test of Equality of Covariance Matrices[a]	
Box's M	2.689
F	.856
df1	3
df2	414720.000
Itself.	.463

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Chemistry teaching materials

Box's test is used in testing the homogeneity of covariance between groups. The significance obtained by 0.463 > 0.05 means that there is no difference in the covariance/matrix of variance between groups, so the sample is homogeneous. This suggests that the Manova test with homogeny data can be performed. Next the researcher wants to see the truth of the previously created hypothesis. So the researcher also refers to the Multivariate Tests data, as shown in Table 4.

Table 4. Multivariate Tests

Effect	Value	F	Hypothesis df	Error df	Itself.	Partial Eta Squared
Intercept	Pillai's Trace	.997	8982.920[b]	2.000	47.000	.000
	Wilks' Lambda	.003	8982.920[b]	2.000	47.000	.000
	Hotelling's Trace	382.252	8982.920[b]	2.000	47.000	.000
	Roy's Largest Root	382.252	8982.920[b]	2.000	47.000	.000
Chemistry teaching materials	Pillai's Trace	.737	65.831[b]	2.000	47.000	.000
	Wilks' Lambda	.263	65.831[b]	2.000	47.000	.000
	Hotelling's Trace	2.801	65.831[b]	2.000	47.000	.000
	Roy's Largest Root	2.801	65.831[b]	2.000	47.000	.000

In Table 4, the researcher refers to the Wilks' Lamda section. Wilks' Lamda is often used in multivariate assays. A value of F = 65.831 with a significance value of 0.000 < 0.05 means that H0 is rejected and Ha is accepted. so there is a difference between SPS and SC between students who study with integrated teaching materials and with conventional teaching materials. The researcher also referred to theHotelling' Trace section with a value of F = 65,831 and a significant 0.000 < 0.05 meaning that there is a relationship between bound variables, namely science process skills and social care in research with free variables used , namely integrated chemical teaching materials Islamic values and Sasak local wisdom, so that it is clear the comparison between experimental

classes with control classes. When viewed from the value obtained in the Hotelling' Trace section, it turns out to be greater than the Pillai's Trace, which is 2.801 > 0.737, this shows the influence on the material teach chemistry bigger. This means that teaching materials affect the improvement of science process skills and social care of students.

Furthermore, the researchers also conducted further tests to determine the contribution (effectiveness) of integrated chemical teaching materials of Islamic values and Sasak local wisdom before and after application. The test data can be seen in the Table 5.

Table 5. Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Partial Eta Squared
Corrected Model	SPS-SC	1814.429[a]	1	1814.429	33.854	.414
		2457.005[b]	1	2457.005	106.058	.688
Intercept	SPS-SC	272499.149	1	272499.149	5084.409	.991
		345031.245	1	345031.245	14893.435	.997
Chemistry teaching materials	SPS_SC	1814.429	1	1814.429	33.854	.414
		2457.005	1	2457.005	106.058	.000

Based on Table 5, the researcher refers to the section of chemistry teaching materials applied in two classes, where the experimental class applies integrated chemistry teaching materials Islamic values and Sasak local wisdom, while the control class applies conventional teaching materials. Researchers gain significance for science process skills is 0.000 < 0.05, this means that there is a difference in the science process skills of learners who learn with chemistry teaching materials integrated Islamic values and local wisdom of Sasak with conventional chemical teaching materials. As for the significance of social care is 0.000 < 0.05, this means that there is a difference in the social care of students who learn with integrated chemistry teaching materials values Islamic and local wisdom of Sasak with conventional chemical teaching materials. So that learning with integrated chemistry teaching materials Islamic values and local wisdom Sasak is more effective than conventional chemistry teaching materials based on hypothesis tests carried out and there are differences before and after the application of integrated chemical teaching materials Islamic values and Sasak local wisdom to science process skills and social care students.

In addition, the researcher also referred to the Partial Eta Squared value to see the variables most affected by the integrated chemistry teaching materials of Sasak Islamic values and local wisdom, where the value for science process skills was 0.414 and social care was 0.688. it can be seen that the value of Partial Eta Squared for social care is greater than the skills of the science process, then the bound variable that is most influenced by the integrated chemistry teaching materials of Islamic values and local wisdom Sasak is the variable of social care.

4. DISCUSSION

This study aims to see the effectiveness of integrated chemistry teaching materials Islamic values and Sasak local wisdom by looking at the differences in science process skills and students' social care through the application of integrated chemistry teaching

materials. To see the achievement of these goals, researchers tested the effectiveness of the product (Maghfira, 2023). The test of the effectiveness of the product is carried out by hypothesis testing. To find out the results of the study, the researcher has 3 hypotheses that will be proven to be conformity using hypothesis test. The data obtained will be tested using Hotelling's T2 hypothesis test through the Manova test. This test is used to see the relationship between free variables and bound variables so that it will answer the formulation of the problem that has been made (Santosa, 2020).

Based on the description of statistics which can be seen in Table 2 that the average value for integrated chemistry teaching materials of Islamic values and Sasak local wisdom in science process skills is 79.85 higher than the use of conventional teaching materials in science process skills, namely 67.80. As for integrated chemistry teaching materials, Sasak's Islamic values and local wisdom on social care, the average value is 90.08 and conventional chemistry teaching materials on social care are 76.06. The average value of science process skills and social care using integrated teaching materials for Sasak Islamic values and local wisdom is higher than the use of conventional teaching materials. This is because chemical teaching materials are integrated Islamic values and local wisdom Sasak has an approach to the surrounding environment both in its Islamic values and Sasak local wisdom and can help improve the skills of the scientific process through surrounding phenomena and social care through Islamic values. Science process skills are used as a source for other skills that are the basic source of students' abilities, so to develop this requires a teaching material that can train students in their science process skills. Meanwhile, social care is an attitude related to empathy for others. This attitude will not be born if it does not have a strong foundation in terms of religion, so the cultivation of Islamic values becomes a solution for the development of students' social care (Fitriyani, 2021). Apart from that, chemistry teaching materials integrated with Islamic values and local Sasak wisdom provide a better thinking approach than conventional teaching materials. This is supported by research results from Santoso (2020) which explains the effectiveness of environmental learning on mathematical reasoning abilities. In his research, the researcher explained that learning packaged in the surrounding environment would be more interesting than conventional. However, to be more accurate, a homogeneity test was also carried out. Based on statistical description data, the average value of science process skills and social care in the experimental class was higher than that of the control class. This shows that chemical teaching materials integrated with Islamic values and Sasak local wisdom are better than conventional chemical teaching materials. However, to clarify the results of the hypothesis test, the researchers also included a homogeneity test whose results can be seen in the table with Box's test data. Box's test is used to test the homogeneity of covariance between groups (Dodge, 2022). The significance obtained by $0.463 > 0.05$ means that there is no difference in the covariance/matrix of variance between groups, so the sample is homogeneous. This suggests that the Manova test with homogeny data can be performed. Next the researcher wants to see the truth of the previously created hypothesis. So the researcher also refers to the Multivariate Tests data contained in Table 4.

Multivariate tests are test result data that displays all elements on the content or research variables by connecting them together (Dodge, 2022). The purpose of this data is to see variations in the test result data and to ensure the hypothesis is rejected or accepted. In Table 4 Researchers refer to the Wilks' Lamda section. Wilks' Lamda is often used in multivariate assays. The value of $F = 65.831$ with a significance value of $0.000 < 0.05$ means that H0 is rejected and Ha is accepted. so there is a difference

between PPP and KS between students who study and integrated teaching materials with conventional teaching materials. This data shows that of the 3 hypotheses made by Ha are accepted with explanations where in hypothesis 1, Ha states that there are significant differences in science process skills and social care of students before and after the application of integrated chemistry teaching materials Islamic values and Sasak local wisdom. hypothesis 2, Ha states that there is a significant model contribution to science process skills before and after the application of integrated chemical teaching materials Islamic values and Sasak local wisdom. And hypothesis 3, Ha states that there is a significant model contribution to social care before and after the application of integrated chemical teaching materials islamic values and Sasak local wisdom.

The researcher also referred to theHotelling' Trace section with a value of F = 65,831 and a significant 0.000 < 0.05 meaning that there is a relationship between bound variables, namely sanis process skills and social care in the study with the free variables used, namely integrated chemical teaching materials Islamic values and Sasak local wisdom, so that it is clear the comparison between the experimental class and the control class. This is because between free variables and bound variables has a very strong relevance based on the equation of concepts in their application. Integrated chemistry teaching materials Islamic values and Sasak local wisdom provide a complete understanding, not only in the field of chemistry, but there is a relationship with Islamic values and Sasak local wisdom, so that students will learn with approaches that exist in the environment such as surrounding phenomena and Islamic values With it students will be trained to develop insights into intellectual, social, and physical skills as scientists think and work. Not only that, students will be familiar with the surrounding community and trained to behave in accordance with what is instilled in the basic teachings of the religion. In other words, students will not only gain intellectual intelligence, but they will also get social and spiritual intelligence that is applied in terms of social care (Warne, 2022). That is why the integrated chemistry teaching materials of Sasak Islamic values and local wisdom have a strong relationship with the science process skills and social care of students as shown in the Hotelling' Trace data above. In addition, when viewed from the value obtained in theHotelling' Trace section, it turns out to be greater than the Pillai's Trace, which is 2.801 > 0.737, this shows a greater influence on chemical teaching materials. This means that teaching materials affect the improvement of science process skills and social care of students. From the results above, the researcher concluded that integrated chemical teaching materials of Islamic values and local wisdom of Sasak and conventional chemistry teaching materials both have an influence on science process skills and social care based on value data obtained in theHotelling' Trace section which is larger than Pillai's Trace. However, there was a comparison between the experiment class and the control class based on the F and Significant grades of Hotelling' Trace, and the value of science process skills and social care based on statistical description data in the experimental class was higher compared to the control class. This shows that chemical teaching materials integrated Islamic values and Sasak local wisdom greatly influence science process skills and social care.

Based on the data above, it shows that integrated chemistry teaching materials of Islamic values and Sasak local wisdom greatly affect the skills of the science process and social education of students. This is because this integrated chemistry teaching material applies learning as a whole, both in Islamic aspects and local wisdom. As usual, teaching materials have functions and benefits as guidelines for students and teachers in learning to achieve the expected goals. A teaching material will be more useful for students or teachers if it is compiled with essential aspects of the student, for example teaching

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materials developed with an integration system that combines the teaching materials taught with other aspects that are related to each other (Andayani & Hadisaputra, 2020; Damayanti et al., 2023; Zaini & Subrata, 2023). Teaching materials like this will be very good at developing students' abilities. One of the skills that students must develop is science process skills and social care. The appearance of the science process trains students to understand existing phenomena into learning materials, while social care helps students to apply emotional intelligence in attitude (Andayani & Hadisaputra, 2020). So this is very related to the basic essence in learning using integrated chemical teaching materials Islamic values and Sasak local wisdom. Islamic values provide a basis for emotional development so that social care will emerge, and Sasak local wisdom directs understanding of local wisdom phenomena around, so that science process skills will emerge. With that, this integrated chemistry teaching material greatly affects the bound variables of science process skills and social care.

Furthermore, the researchers also conducted further tests to determine the contribution (effectiveness) of integrated chemical teaching materials of Islamic values and Sasak local wisdom through the Test of Between-Subject Effect. In the table, researchers refer to the section of chemistry teaching materials applied in two classes. Researchers obtained significance for science process skills is 0.000 < 0.05, this means that there are differences in the science process skills of students who learn with integrated chemistry teaching materials Islamic values and local wisdom Sasak with conventional chemical teaching materials. As for the significance of social care is 0.000 < 0.05, this means that there are differences in the social care of students who learn with integrated chemistry teaching materials Islamic values and Sasak local wisdom with conventional chemical teaching materials. This difference in the results of science process skills and social care can also be seen in the statistical description data which indicates the experimental class is higher than the control class. So that learning with integrated chemistry teaching materials Islamic values and local wisdom Sasak is more effective than conventional chemistry teaching materials based on hypothesis tests carried out.

Based on the data above, the contribution (effectiveness) of integrated chemistry teaching materials of Islamic values andSasak local wisdom to science process skills and social care is due to the characteristics and advantages of integrated chemistry teaching materials Islamic values andSasak local wisdom which are oriented towards problem solving through problem-based learning activities can help students to find important aspects in environment to practice students' science and emotional process skills in social care. The characteristics of chemical teaching materials integrated Islamic values and local wisdom Sasak make it an easy-to-understand teaching material and help students in understanding the material. Equipped with three types of science that are connected to each other so that there is an integration of chemistry teaching materials that are relevant to Islamic values and Sasak local wisdom. These chemistry teaching materials help students who have difficulty understanding chemistry materials can use Islamic approaches or local wisdom, or those who are lacking in terms of religion can add religious insight through these teaching materials. It is these characteristics that make chemistry teaching materials integrated Islamic values very well in terms of improving the skills of the scientific process and social care of students (Hernawa, 2019). Through an Islamic approach, it can foster good attitudes and emotions in learning so that students' social concern will arise. And through local wisdom, it can expand students' understanding of phenomena in the surrounding environment so that it will improve the skills of the science process. The advantage of integrated chemistry teaching

materials Islamic values and Sasak local wisdom is that the concept of integration that combines chemistry, Islamic, and local wisdom Sasak really helps students in expanding their scientific horizons (Hidayah, 2020), where by knowing the integration between chemical materials and Islamic values, it will give rise to an attitude of care for others such as zakat obligations, sadaqah, the importance of friendship, the concept of *muzaraah* and *mukhabarah*, the concept of *syirkah*, and others so that through these teaching materials can develop social concern. Meanwhile, through the integration of chemical materials with local wisdom, Sasak makes it easier for students to improve the quality of the learning process that is contextual and can develop students' mindsets, so that they are not only able to skill in the science process (Hidayah, 2020).

In addition, the researcher also referred to the Partial Eta Squared value to see the variables most influenced by integrated chemical teaching materials of Islamic values and local wisdom Sasak. The greater the Partial Eta Squared value (close to 1) obtained, the stronger the relationship between the free variable and the bound variable and the obtained value can know which bound variable is most affected by the free variable. Based on the test results, the score for science process skills was 0.414 and social care was 0.688. This means that the two bound variables have a strong relationship with the free variables or in other words, the integrated chemistry teaching materials of Islamic values and local wisdom Sasak greatly affect the science process skills and social care of students as explained in the contribution (effectiveness) section, and from both show that the value of Partial Eta Squared for social care is greater than the skills of the science process, then the bound variable that is most influenced by the integrated chemistry teaching materials of Islamic values and local wisdom Sasak is the variable of social care. The comparison of the magnitude of the influence between free variables and these two bound variables is due to the characteristics and orientation of learning. Integrated chemistry teaching material Islamic values and Sasak local wisdom both provide relevance between chemical bonds and Islamic values and Sasak local wisdom ¬ (Wahyudiati, 2022; Wahyudiati & Qurniati, 2023). However, the research environment is more dominated by religious teachings, so that the application of integrated chemical teaching materials for Islamic values is greater than Sasak local wisdom. Moreover, the school as a research location with religious nuances, namely Islamic boarding schools. So that the application of Islamic values is greater than Sasak local wisdom and this will affect the bound variables. Where chemistry teaching materials are integrated Islamic values and local wisdom Sasak has a greater influence on students' social care than students' science process skills. Based on the explanation above, integrated chemistry teaching materials of Sasak Islamic values and local wisdom are very effective to be applied in learning and can improve science process skills and social care, especially in chemical bonding materials by referring to the results of research obtained in research conducted at Madrasah Aliyah Darul Ulum Beraim. This research provides updates in the form of chemistry teaching materials that are integrated with Islamic values and local Sasak wisdom. Many previous studies have used an integration approach, but there are chemistry teaching materials that are integrated with Islamic values, chemistry teaching materials are integrated with Sasak local wisdom, while this teaching material directly integrates these two variables. This shows that chemistry learning can be taught using scientific, Islamic and local wisdom approaches. This discovery can be used as a reference for future researchers in integrating chemistry teaching materials with other approaches. Apart from that, the integration with Islam and local wisdom means that this chemistry teaching material can develop science process skills and social awareness as the dependent variables of this research.

5. CONCLUSION

Based on the results of the study, the effectiveness of integrated chemical teaching materials on Islamic values and Sasak local wisdom is effective on science process skills and social care with a significance value of 0.000 < 0.05 based on the results of the Manova Test of Between-Subject Effect. In addition, it refers to the Partial Eta Squared value where the score for science process skills is 0.414 and social care is 0.688. This shows that the value of Partial Eta Squared for social care is greater than that of science process skills, so the bound variable that is most influenced by the integrated chemistry teaching materials of Sasak Islamic values and local wisdom is the social care variable. However, the results of this research cannot be fully applied to different variables. Apart from that, not all material in chemistry can be thoroughly integrated with Islamic values and local wisdom. Not all students easily understand the concept of thinking from this open material. This is because this research only focuses on chemistry teaching materials that integrate Islamic values and local Sasak wisdom in chemical bonding material. So further research is needed which will perfect this research by integrating science using certain approaches which can be better and more effective in improving the science process skills and social awareness of students or can be aimed at improving critical thinking, creative thinking and innovative thinking with materials other than chemical bond.

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