

Research Article

Exploring the Role of Halal Literacy Against Interest in Buying Halal Products: Case Study of Change Materials Colloid Concepts on Science Classrooms

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ABSTRACT

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The research aims to explore the role of halal literacy in increasing interest in purchasing halal products, with a focus on understanding changes in material properties and the concept of colloids in science class. The research issue is how integrating halal literacy into science learning can affect students' interest in buying halal products. This research uses a quantitative design with survey methods. The data was collected through a questionnaire given to 125 X-grade students at one of the top preventive schools in the city of Bandung, Indonesia. The students have studied the changes in state of matter and the concept of colloids. Data analysis is carried out using descriptive and inferential statistical techniques to determine the relationship between halal literacy and interest in buying halal products. The research also uses case studies to understand the specific context of teaching in the science classroom. The results of the analysis show that there is a significant positive correlation between halal literacy and interest in purchasing halal products. Students with a higher level of halal literacy tend to show greater interest in purchasing halal products. In addition, an understanding of the concept of colloids and substance changes in science classes also contributed to the improvement of students' literacy. The findings underline the importance of a holistic approach to education, combining science and literacy, to shape consumer awareness and preferences for halal products.

1. INTRODUCTION

Humans need food to carry out all activities and maintain life. Everyone needs to choose good and nutritious food. The food consumed must be healthy, not harmful to the body, and free of prohibited ingredients. Food is very closely related to the concept of colloidal matter, changing substances. Many food and beverage products, both in their raw materials and production processes, use the colloid concept, such as milk, water purification, ice cream softeners, and emulsifiers. Apart from the health sector, food consumption is regulated in Islam based on qot'i (specific) arguments, both from the Qur'an and Al-Hadith. That humans must consume halal and good food, as stated in the Al-Qur'an Surah Al-Baqarah [2]: verse 168:

يَا أَيُّهَا النَّاسُ كُلُوا مِمَّا فِي الْأَرْضِ حَلَالًا طَيِّبًا وَلَا تَتَّبِعُوا خُطُوَاتِ الشَّيْطَانِ إِنَّهُ لَكُمْ عَدُوٌّ مُبِينٌ (البقرة: ١٦٨)

It means: "O people! Eat of the halal and good food found on earth and do not follow the steps of Satan. Indeed, Satan is a real enemy for you" (Al-Baqarah: 168)

Al-Qur'an Surah Al-Baqarah, verse 168, is a command to consume halal and good food, which is general for all humanity. According to Muhammad Ali Al-Shabuni, "this verse is a call addressed to all humans, both believers and unbelievers, in the Al-Ibriz commentary book written by KH. Bisri Musthofa's background to the revelation of verse

168 of Surah Al-Baqarah was that during the Jahiliyah era, some groups forbade or were unwilling to consume camel meat, which had halal status. The word "halalan" means everything that is permitted according to Sharia law. The word "halalan" is followed by "thayyiban"; this means that "halalan" is characterized by what follows it, namely "thayyiban". This means that food halal by Allah SWT is food that is beneficial for the body, does not cause harm, is not disgusting, and does not conflict with the commands of Allah SWT. This aligns with the opinion expressed by Ibnu Katsir in his interpretation of the Al-Qur'an al-Adzim, which states that halalan thayyiban refers to what has been made halal by Allah SWT. Meanwhile, thayyiban is something halal that suits a person and does not harm their body and mind (Lestari, 2020).

As time goes by, the food sold is very numerous and varied. The diversity of food and drinks in circulation makes contamination with prohibited and unclean ingredients, such as pork and its derivatives, highly possible.

This should be an essential concern for consumers to choose halal thayyiban food. When buying halal products, you don't just have to look at the halal logo; other aspects guarantee the product is halal. Thayyiban is not only halal but also good for health and does not contain haram ingredients (Rahmat et al., 2022; Rojabiah et al., 2023; Syafitri Wirabuana et al., 2022). Halal literacy involves ensuring that halal food does not contain haram ingredients and that unclean contamination is avoided when choosing halal products. This means that consumers must be able to apply their knowledge and understanding through behavior to decide to consume halal products that are guaranteed to be halal and beneficial to health.

2. RESEARCH METHODS

The method used in this research is a quantitative and qualitative *explanatory survey method*. This research method focuses on finding and developing a theory with an outcome or product research can explain why or why (Variable any antecedent that influences) the occurrence of a symptom or an inevitable social reality is the influence of halal literacy on the concept of interest in buying halal products. Primary data was obtained directly from the results of questionnaires filled in by respondents. Respondents came from a population of 125 SMA/MA/SMK students. The sample selection technique is proportional *random sampling*. Data analysis was first conducted to test validity, reliability, and classic assumptions using the SPSS version 26 application, followed by determining the hypothesis with the SmartPLS 4 application. Variable measurement uses a Likert scale with the terms Strongly Agree, Agree, Disagree, and Strongly Disagree. The research procedure involved determining the problem formulation and research objectives, designing the research, and conducting and processing data using SPSS version 26. This research was carried out in December 2023 at UIN Sunan Gunung Djati Bandung.

3. RESULTS AND DISCUSSIONS

3.1. Variable description

Preliminary research was conducted in December 2023 with a total of 125 respondents. Sampling was carried out randomly without paying attention to the strata in the population. The following is a description of each variable in the questionnaire

Description of halal literacy variables

Halal literacy is the level of understanding in knowing issues related to halal concepts. The following are respondents' responses to the halal literacy variable in Table 1 of the results of respondents' reactions to halal literacy

Table 1. Results of respondents' responses to halal literacy

No	Indicator	N	Score	Mean
1	Item 1	125	414	3.763
2	Item 2	125	421	3.827
3	Item 3	125	404	3.672
4	Item 4	125	437	3.972
5	Item 5	125	431	3.918
6	Item 6	125	416	3.781

source: Research questionnaire data

The following Table 2 is an indicator for each question contained in the questionnaire.

Table 2. Indicators of halal literacy questions

Variable	Definition Operational	Question Indicator
Literacy Halal	Level understanding of people's Islam in know issues, which are related to draft halal (Wicaksono & Astutik, 2020)	1. Every time I consume a product, I always make sure that the product is halal 2. Every time I consume a product, I always make sure that the ingredients used to make the product are halal 3. I have sufficient halal knowledge to make the right decision when I want to consume the product 4. The halal logo is a consideration for me when buying food products 5. I realize there is a need to use products that are labeled halal 6. Consuming halal food is essential to me

Variable description of colloidal matter

The knowledge test about colloids was conducted using several examples of everyday products. The following are respondents' responses to the colloid knowledge test variable in everyday products

In Table 3, the results of respondents' responses to the knowledge test about colloids

Table 3. Results of respondents' responses to the colloid concept knowledge test

No	Indicator	N	Score	Mean
1	Item 1	110	372	3.381
2	Item 2	110	337	3.063
3	Item 3	110	410	3.727
4	Item 4	110	395	3.590
5	Item 5	110	335	3.045
6	Item 6	110	337	3.063

source: Research questionnaire data

The following Table 4 is an indicator for each question contained in the questionnaire.

Table 4. Indicators for colloid concept questions

Variable	Definition Operational	Indicator
Colloidal matter	A colloid is a heterogeneous mixture of two or more substances in which the colloid-sized particles of the substance are evenly distributed in another substance. Colloid sizes range from 1-100 nm (10^{-7} – 10^{-5} cm). Types of Colloids 1. Sol, for example, gold sol, ink, and paint. 2. Solid sol. For example, colored glass and black diamonds. 3. Emulsion. For example: milk, coconut milk, and fish oil. 4. Solid emulsion. Examples: jelly, pearls, and cheese. 5. Solid aerosol. For example: smoke and dust. 6. Liquid aerosol Examples: fog, clouds, and hairspray 7. Froth Examples: soap foam and whipped cream. 8. Dense foam Examples: foam rubber and pumice stone.	1. I know that most foods that use animal gelatin come from pigs 2. I know that the water filtration process uses activated charcoal, which comes from pork bones 3. I know the positive characteristics of foods that contain emulsifiers that come from pork 4. I know that toothpaste products use calcium, which usually comes from pork bones 5. I know lard oil is often used as an additive in foods like biscuits, sausages, bread, as a food flavoring, and as an ingredient in soap-making. 6. I know that soymilk is often used in making packaged milk by reading the ingredients of packaged milk

Description of the variable interest in buying halal products

Consumption of halal products is defined as the act of buying or consuming them. Table 5: Results of respondents' responses regarding interest in buying halal products.

Table 5. Results of respondents' reactions to interest in purchasing halal products

No	Indicator	N	Score	Mean
1	Item 1	110	413	3.754
2	Item 2	110	437	3.972
3	Item 3	110	426	3.872
4	Item 4	110	415	3.772
5	Item 5	110	420	3.818
6	Item 6	110	430	3.909
7	Item 4	110	414	3.763

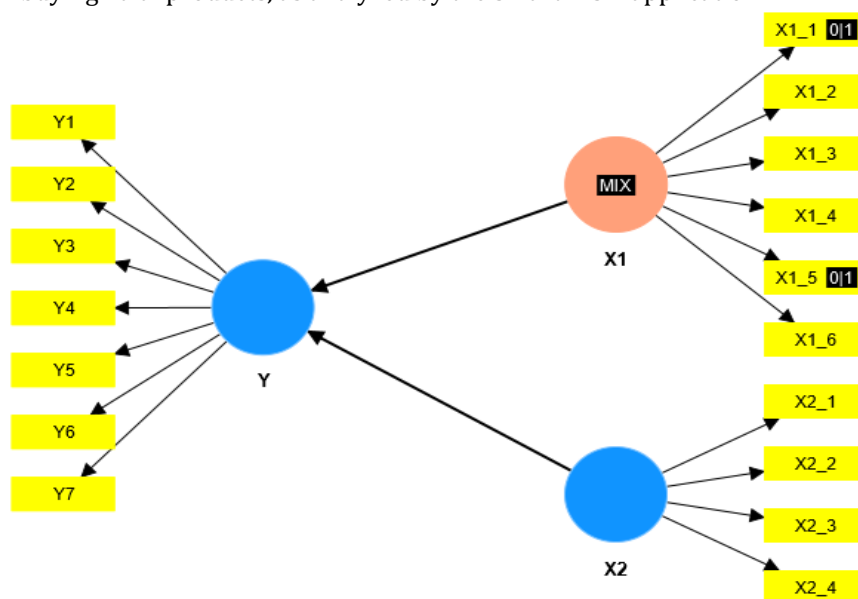
source: Research questionnaire data

The following Table 6 is an indicator for each question contained in the questionnaire.

Table 6 Question indicators for interest in purchasing Halal products

Variable	Definition Operational	Indicator
Implementation of interest in buying halal products	A consumer choice where there is an integration process that is combined to evaluate and choose two or more alternative behavioral actions (Vristiyana, 2019). Consumption of halal products is defined as the decision to buy or consume them.	1. I get information about halal products from friends, family, advertisements, and mass media 2. I try to fulfill my needs with halal products 3. I decided to buy a product that meets halal requirements according to Islamic law 4. I have the desire to buy halal products again 5. I buy halal products because they give me a sense of security 6. I buy products labeled halal because I am a Muslim 7. I buy halal products because I know about halal and haram laws

The level of interest in buying halal products depends on the halal literacy variable and testing for borax content in food using the curcumin indicator. Figure 1 illustrates the influence of halal literacy and testing for borax content in food on interest in buying halal products, as analyzed by the SmartPLS 4 application.

**Figure 1.** Research Model (Source: SmartPLS 4)

3.2. Validity Test

Validity test is an analysis of measurements that shows the level of accuracy and precision of a research instrument. In this research, the instrument used was a questionnaire. In determining whether or not an item is appropriate to use, a valid significance test is usually used if it correlates significantly with the total score. The SPSS testing technique often used to test validity is using the Bivariate Pearson correlation (Pearson Moment Product) and Corrected Item-Total Correlation. The calculated *r* value matches the product-moment *r* table at a significance level of 5%. If the computed *r* is greater than *r*table 5%, the basis for decision making is declared valid. Table 7 shows the results of the questionnaire validity test using the SPSS version 26 application.

Table 7. Questionnaire validity test results

Variable	Items	r_count	r_table	Interpretation
Halal Literacy	1	0.547 >	0.16	Valid
	2	0.521 >	0.16	Valid
	3	0.430 >	0.16	Valid
	4	0.456 >	0.16	Valid
	5	0.501 >	0.16	Valid
	6	0.431 >	0.16	Valid
Colloid Concept	7	0.655 >	0.16	Valid
	8	0.527 >	0.16	Valid
	9	0.578 >	0.16	Valid
	10	0.523 >	0.16	Valid
	11	0.063 >	0.16	valid
	12	0.531 >	0.16	Valid
Implementation of purchase interest in halal products	13	0.574 >	0.16	Valid
	14	0.774 >	0.16	Valid
	15	0.773 >	0.16	Valid
	16	0.767 >	0.16	Valid
	17	0.688 >	0.16	Valid
	18	0.750 >	0.16	Valid
	19	0.781 >	0.16	Valid

Source: SPSS version 26 output

The analysis results from SPSS version 26 yielded variable item score values, specifically for halal literacy, material on changes in colloidal concept substances, and interest in purchasing halal products. It shows that the values of all items in the research questionnaire were declared valid by comparing the *r_table* and *r_calculated* values. The *r_table* is searched using a 2-sided test with significance and $n = 110$, so we get an *r_table* of 0.16. The results of the data analysis in Table 7 indicate that the calculated *r_value* (*r* value from the analysis) is greater than ($>$) the *r_table*, leading to the conclusion that these items are significantly correlated and declared valid.

3.3. Reliability Test

A reliability test measures the stability and consistency of respondents' answers to questions related to the constructs of a variable, which are dimensions of a variable arranged in a questionnaire. If the Alpha value is > 0.60 , then it is reliable (Sujarweni 2015). Table 8 shows the results of the questionnaire reliability test using the SPSS version 26 application.

Table 8. Questionnaire reliability test results

N of Items	Cronbach's Alpha	Information
19	0.748	Reliable

Source: SPSS version 26 output

The analysis results from SPSS version 26 output table 3.3.1 show a *Cronbach's Alpha* value of 0.74, 8 more than ($>$) 0.6. So, based on the results of the reliability test, it is declared reliable.

3.4 Hypothesis Testing

The relationship between variables can provide information in determining a hypothesis. The basis for hypothesis testing is the output value for inner weight. Statistical hypothesis testing in the SmartPLS 4 application uses the bootstrapping method on samples. The first step taken is to determine H1 and H0 for each variable.

Testing hypothesis 1, namely $X1 \rightarrow Y$

H1: Halal literacy has a positive and significant influence on the implementation of interest in purchasing halal products

H0: Halal literacy does not have a positive and significant influence on the implementation of interest in purchasing halal products

Testing hypothesis 2, namely $X2 \rightarrow Y$

H1: The knowledge test about colloids has a positive and significant influence on the implementation of interest in purchasing halal products

H0: The knowledge test about colloids does not have a positive and significant influence on the implementation of interest in buying halal products

Table 9 shows the results of the questionnaire hypothesis test using the SmartPLS 4 application.

Table 9. Hypothesis test results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P value (P values)
X1 -> Y	0.323	0.363	0.127	2,549	0.011
X2 -> Y	0.490	0.452	0.150	3,265	0.001

Source: Smart PLS 4 Output

Testing hypothesis 1, namely $X1 \rightarrow Y$, halal literacy has a positive and significant influence on the implementation of interest in purchasing halal products. Based on the results of hypothesis testing using SmartPLS 4 in Table 3.4.1, the relationship between the halal literacy variable and the implementation of interest in buying halal products is demonstrated. The original sample value is 0.323 with a t value of 2.549. This shows that halal literacy has a positive and significant influence on the implementation of interest in purchasing halal products. So in testing hypothesis 1, namely $X1 \rightarrow Y$, H1 is accepted and H0 is rejected; halal literacy has a positive and significant influence on the implementation of interest in buying halal products.

Testing hypothesis $\rightarrow 2$), based on the results of hypothesis testing using SmartPLS 4 in Table 3.4.1, shows the relationship between knowledge of *colloids* and the interest in buying halal products. The original sample value is 0.490 with a t value of 3.265. This indicates that the knowledge test *about colloids* has a positive and significant influence on the implementation of interest in purchasing halal products. So in testing hypothesis $\rightarrow 2$, namely

Literacy has a positive and significant effect on the implementation of interest in purchasing halal labeled products, with a P value of 0.011. Literacy influences the interest in buying halal products, as the P value is below 0.05. The knowledge test about colloids has a positive and significant effect on the implementation of interest in purchasing halal products, with a P value of 0.001. The knowledge test about colloids has a positive and significant impact because the p-value is below 0.05. This means that together, the halal literacy variables and the test of knowledge about colloids have a positive and significant effect on the implementation of interest in purchasing halal products.

4. CONCLUSION

The research results indicate that the relationship between the halal literacy variable and the interest in purchasing halal products has an original sample value of 0.323 and a t value of 2.549. This shows that halal literacy has a positive and significant influence on the implementation of interest in purchasing halal products. H1 is accepted as halal literacy, which has a positive and considerable impact on the interest in purchasing halal products. The relationship between knowledge about colloids and interest in buying halal products shows an original sample value of 0.490 with a t-value of 3.265. This indicates that the knowledge test about colloids has a positive and significant influence on the implementation of interest in purchasing halal products. H1 is accepted, and so the knowledge test *about colloids* has a positive and considerable influence on the implementation of interest in buying halal products. With a p-value of 0.001, the knowledge test about colloids has a positive and significant effect because it is below 0.05. This means that together, the halal literacy variables and the knowledge test about colloids have a positive and significant impact on the implementation of interest in purchasing halal products.

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