Implementation model characters strengthening based on 5s to support the halal industry in Universitas Negeri Yogyakarta and International Islamic University Malaysia

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Abstract

This research aims to: (1) Know the process of implementing the 5S character strengthening model; (2) Know the behavior of students in applying the 5S character strengthening model; (3) Know how many students apply the 5S attitude. The method used is quantitative descriptive. Experts validate the instruments that have been developed. The results showed: (1) The process of implementing the 5S-based character strengthening model to support the halal Industry for UNY and IIUM students was carried out for four weeks; (2) More and more UNY and IIUM students are applying 5S-based character behavior; (3) The results of quantitative data show the implementation of strengthening the short character at UNY 66.3% and IIUM 68%, set in Order at UNY 68.8%

and IIUM 73.3%, shine at UNY 71% and IIUM 68%, standardize at UNY 70.5% and IIUM 67.1%, sustain at UNY 67.7% and IIUM 68.3%.

Keywords: Implementation, Characters 5S, Halal Industry.

INTRODUCTION

The Muslim population is growing to 1.9 billion (World Population Review, 2022). The growth of the Muslim population will certainly positively impact the development of the Islamic economy. Indonesia has the world's largest Muslim population, with a Muslim population of 229 million (World Population Review, 2022). With a large Muslim population, the halal Industry is an industry that has a substantial market share. Consumption of halal products is essential for Muslims. Therefore halal certification is a general consideration in choosing the products or services to be used.

Currently, Indonesia is ranked 5th in the global halal industry ecosystem (Yuli & Wojtyla, 2020). The demand for halal products continues to grow, and the market related to halal products will continue to grow. The global market's growth of Halal food and lifestyle products is expected to reach USD 2.6 trillion by 2020 (M. I. Khan et al., 2022). The halalness of a product is produced from the Halal Product Process. The halal production system guarantees product integrity by considering safety and hygiene (M. I. Khan et al., 2018). The process of halal products includes the provision of materials, processing, storage, packaging, distribution, and sales to product presentation (S. Khan et al., 2022).

Halal products can be interpreted as products free from najis or contamination to fulfill Halalan thoyiban products (Wilson, 2012). Halal products must meet Islamic law, namely those that are halal in terms of the production process's cleanliness, quality, and safety (Arif & Sidek, 2015). Cleanliness is essential in halal studies, including personnel, equipment, and work areas. Halal products aim to ensure that the products produced are safe, hygienic, and do not endanger health.

Human resources trained in halal matters are one of the determining factors in creating a halal product supply chain, environmental friendliness, material handling, physical segregation, and safety (W. M. W. Omar & Rahman, 2015). The halal Industry development can be an opportunity for employment, where the problem of unemployment is an issue that needs to be solved in Indonesia and Malaysia. According to data from the International Monetary Fund, in 2022, the unemployment rate in Indonesia is 6%, while in Malaysia, it is 4.5% (Internasional Monetary Fund, 2022).

Employers today tend to want workers who have knowledge, hard skills, and soft skills (Munir, 2021; Saari et al., 2021). With increasingly competitive job competition, human resource development needs to be carried out comprehensively. Higher education is one of the institutions responsible for preparing Human Resources; therefore, the development of human resources not only focuses on knowledge and hard skills but also needs to pay attention to character education. However, character education in higher education is still considered neglected. Universities need to implement the idea of character education through various strategies to form human resources with character. One of them is through planting 5S characters (Sort, Set in Order, Shine, Standardize, Sustain). The 5S character strengthening aims to develop students' values of Sort, Set in Order, Shine, Standardize, and Sustain. Cleanliness is essential in halal studies; therefore, strengthening the 5S character is suitable to be applied to create graduates who are ready to work in the manufacturing industry, especially the halal Industry (Widodo et al., 2021)Rapi, Resik, Rawat, Rajin.

The 5S work attitude is one way to create a comfortable working atmosphere and support the creation of a halal product supply chain that emphasizes the production process's cleanliness, quality, and safety (E. N. Omar & Jaafar, 2011; Rizkya et al., 2019). 5S is the five steps of workplace maintenance in Japanese: Seiri, Seiton, Seiso, Seiketsu, and Shitsuke (Chandrayan et al., 2019). Applying the 5S work attitude into one unit with Kaizen (change for the better) (Susanto et al., 2020). The Kaizen principle has two essential things: Kaizen 5S (cleaning the environment and workplace) and the kaizen process (Widodo et al., 2021)Rapi, Resik, Rawat, Rajin. If kaizen

5S emphasizes workplace maintenance, then the kaizen process emphasizes the efficiency of a production process. Applying the 5S kaizen principle aims to change employees' behavior, attitudes, and performance for the better.

Applying the 5S principle in learning is one of the ways that Universitas Negeri Yogyakarta (UNY) and International Islamic University Malaysia (IIUM) prepare graduates with the knowledge, hard skills, and soft skills according to the needs of the world of work. The application of strengthening the 5S character is one of the steps taken in preparing graduates for the manufacturing industry, especially the halal Industry, where halal products are the concern of consumers in Muslim-majority countries. Therefore, applying the 5S character to UNY and IIUM students needs to be done to prepare graduates who understand the Halal Product Process because Indonesia and Malaysia have great potential in developing the halal product industry.

METHODS

This research is a continuation of developing a 5S character-strengthening model in 2021. In 2021 research on developing a 5S-based character-strengthening model for the halal Industry uses the Borg & Gall development method (Borg & Gall, 1983). In this study in 2022, quantitative descriptive methods were used. According to Sugiyono (2015), descriptive research is research directed to systematically and accurately provide symptoms, facts, and events regarding the characteristics of a particular population or area. This study aims to provide an overview of the implementation of 5S character-strengthening values at UNY and IIUM. Meanwhile, according to the data type and how it is processed, the observation sheet will be analyzed using statistical tests to classify it as quantitative research.

The stages of this research aims to implement a 5S-based character-strengthening model to support the halal Industry. This research begins with making research instruments in the form of interview guidelines and questionnaires. Furthermore, more in-depth research will be conducted on implementing the 5S-based character-strengthening model to support the halal Industry. The implementation of 5S character values includes Sort, Set in Order, Shine, Standardize, and Sustain, adapted to the halal Industry.

The research data collection that has been stated above uses research instruments. According to Sugiyono (2015: 148), A research instrument is a tool used to measure the observed natural and social phenomena. Specifically, all of these phenomena are called research variables. The research instrument was in the form of an observation sheet. The research variable measured in this study was the student's 5S character.

The validity used in this study is to use the types of logical validity and empirical validity. Logical validity, in principle, includes content and construct validity. Content validity is carried out to test the scope of the instrument items on the object to be measured. Construct validity ensures that the instrument's results match the theory developed (Sekaran, 2003: 207).

The logical validity of this research was carried out using expert judgment, namely consulting the instrument to experts. Expert judgment is carried out to obtain suggestions and corrections so that each instrument item is considered appropriate to measure the data sought. Empirical validity is done by testing the instrument directly on the respondent.

After data collection is complete, the next stage is data management and analysis so that it has meaning to solve research problems. In this study, data analysis techniques are divided into two, namely quantitative data analysis techniques and qualitative data analysis techniques. In this study, quantitative data is obtained from the questionnaire, which aims to describe the level of application of 5S in learning CNC practice.

FINDINGS AND DISCUSSION

The study's results will show the results obtained by researchers, including strengthening the 5S character by lecturers and its application by UNY and IIUM students. The results of research on the application of 5S characters to support the halal Industry in learning are as follows:

1. Short

Short means arranging everything and sorting according to specific rules or principles. Please get rid of items that are not needed at work and throw them away. The value of the short character in this study was applied by UNY and IIUM students through 5 behaviors. The short character is shown through the behavior of classifying stuff based on job requirements, arranging workpieces and work equipment, separating clean materials and equipment from those contaminated with dirt, throwing away unnecessary items, and conditioning the table/production area. The application of short characters by UNY and IIUM students during learning can be presented in the following diagram:
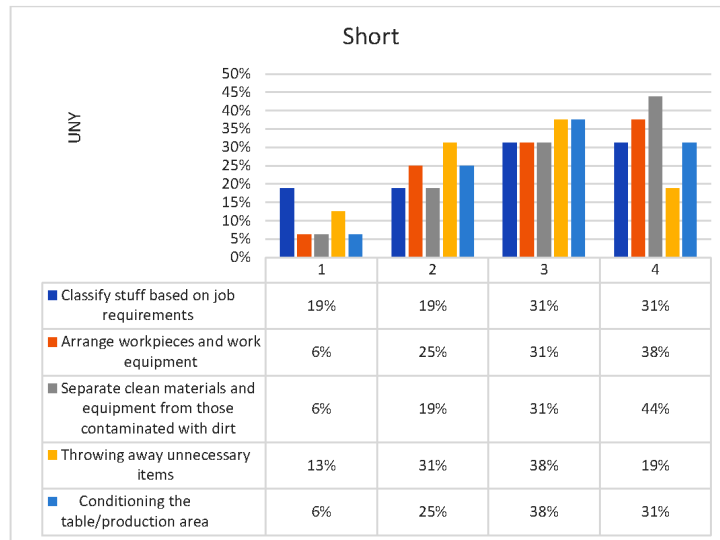

Short

	1	2	3	4
■ Classify stuff based on job requirements	19%	19%	31%	31%
■ Arrange workpieces and work equipment	6%	25%	31%	38%
■ Separate clean materials and equipment from those contaminated with dirt	6%	19%	31%	44%
■ Throwing away unnecessary items	13%	31%	38%	19%
■ Conditioning the table/production area	6%	25%	38%	31%

Figure 1. Short character in UNY students.

Based on the data presented in Figure 1, it can be seen that UNY students have applied the short character. The data obtained from the observation instrument shows that the application of classifying stuff based on job requirements is 62%; arranging workpieces and work equipment by 69%; separating clean materials and equipment from those contaminated with dirt by 75%; throwing away unnecessary items by 57%; conditioning the table/production area by 69%.
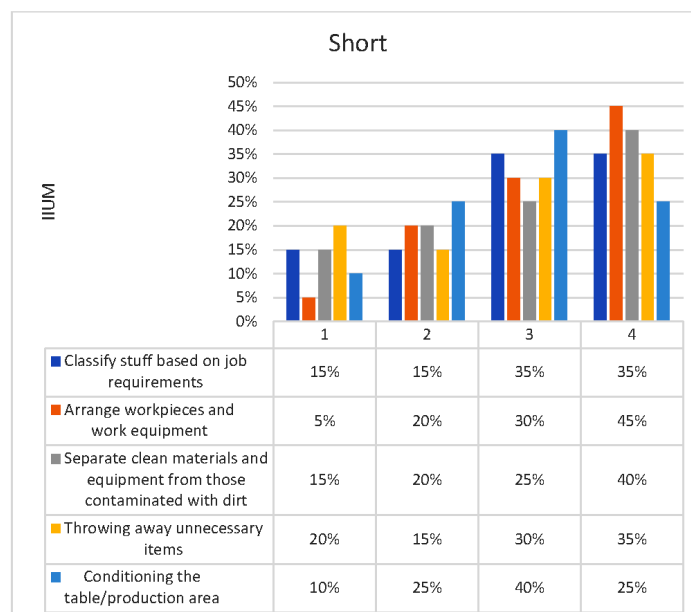

Short

	1	2	3	4
■ Classify stuff based on job requirements	15%	15%	35%	35%
■ Arrange workpieces and work equipment	5%	20%	30%	45%
■ Separate clean materials and equipment from those contaminated with dirt	15%	20%	25%	40%
■ Throwing away unnecessary items	20%	15%	30%	35%
■ Conditioning the table/production area	10%	25%	40%	25%

Figure 2. Short character in IIUM students.

Based on the data presented in Figure 2, it can be seen that IIUM students have applied the short character. The data obtained from the observation instrument shows that the implementation of classifying stuff based on job requirements is 70%; arranging workpieces and work equipment by 75%; separating clean materials and equipment from those contaminated with dirt by 65%; throwing away unnecessary items by 65%; conditioning the table/production area by 65%.

The average student application results are calculated based on four-week short character observations for four weeks. The calculation of the average short characters obtained by UNY is 66.3%, and IIUM is 68%. The calculation shows that UNY and IIUM students have applied the short character.

2. Set in Order

Set in order means storing goods in the right place or layout so they can be used in an emergency. It is a way to eliminate the search process. The set-in-order character value in this study was applied by UNY and IIUM students through 3 behaviors. The set-in-order character is shown through the behavior of organizing tools and workpieces so that they are easy and quick to pick up and return, arranging goods according to use and order, and putting clean and contaminated work objects and equipment in their respective places. The application of set-in-order characters by UNY and IIUM students during learning can be presented in the following diagram:
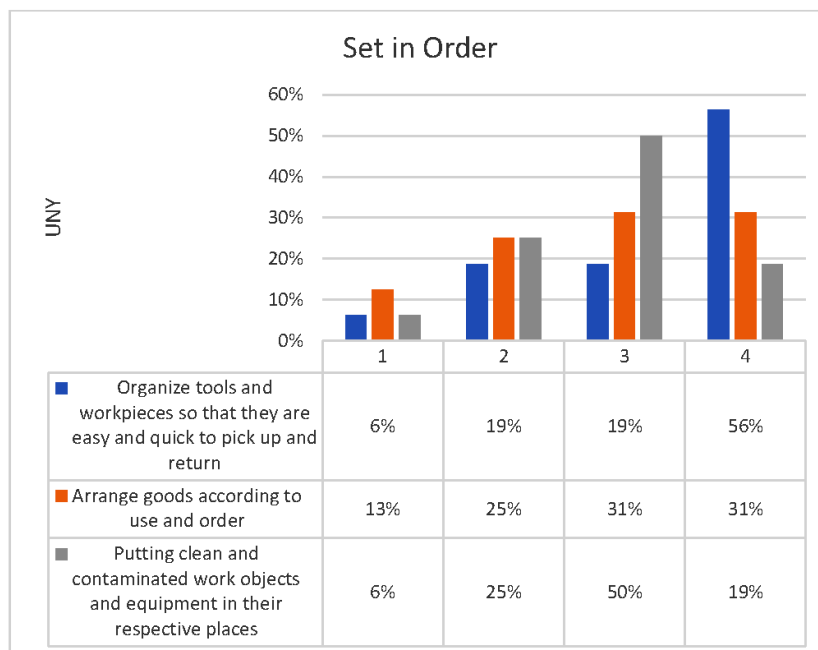

	1	2	3	4
■ Organize tools and workpieces so that they are easy and quick to pick up and return	6%	19%	19%	56%
■ Arrange goods according to use and order	13%	25%	31%	31%
■ Putting clean and contaminated work objects and equipment in their respective places	6%	25%	50%	19%

Figure 3. Set in order character in UNY students.

Based on the data presented in Figure 3, it can be seen that UNY students have applied the character set in order. The data obtained from the observation instrument show that the implementation of the behavior of organizing tools and workpieces so that they are easy and quick to pick up and return is 65%; arranging goods according to use and order by 62%; putting clean and contaminated work objects and equipment in their respective places by 69%.

Based on the data presented in Figure 4, it can be seen that IIUM students apply the characters set in order. The data obtained from observation instruments show that the application of behavior in arranging tools and workpieces so that they are easy and fast to be retrieved and return is 80%; arranging goods according to usage and orders by 70%; Putting clean and contaminated work objects and equipment in their respective places by 70%.
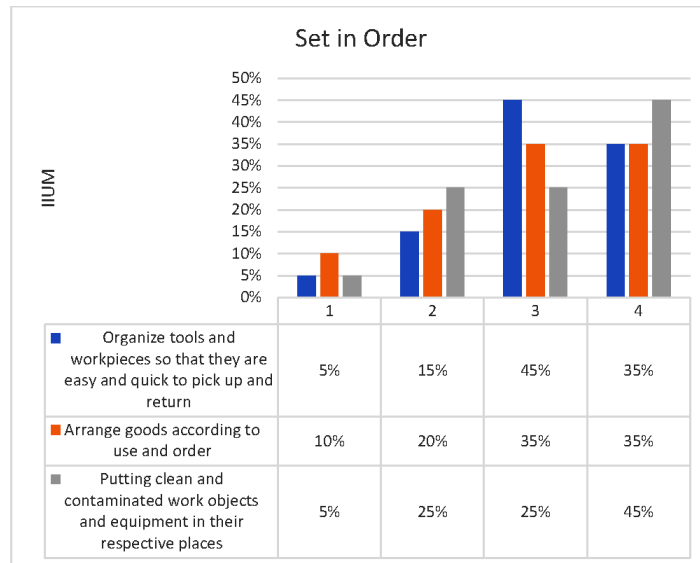
Figure 4. Set in order character in IIUM students.

The average student application results are calculated based on observations of the character set in order for four weeks. The calculation of the average character set in order obtained by UNY is 68.8%, and IIUM is 73.3%. The calculation shows that UNY and IIUM students have applied the set in order character.

3. Shine

Shine means to clean things so that they become clean. In this case it means removing garbage, dirt and foreign matter and cleaning everything. Prioritized as a check on cleanliness and create a workplace that does not have defects and blemishes. The value of the shine character in this study was applied by UNY and IIUM students through 5 behaviors. Shine character is shown through the behavior of wash hands before and after work; wearing clean clothes when working; cleaning the work/production room so that it is free from impure; cleaning the workpiece and work equipment from smoke, dust, dirt, and other contamination; separate production waste according to type and dispose of properly. The application of the shine character by UNY and IIUM students during learning can be presented in the following diagram.
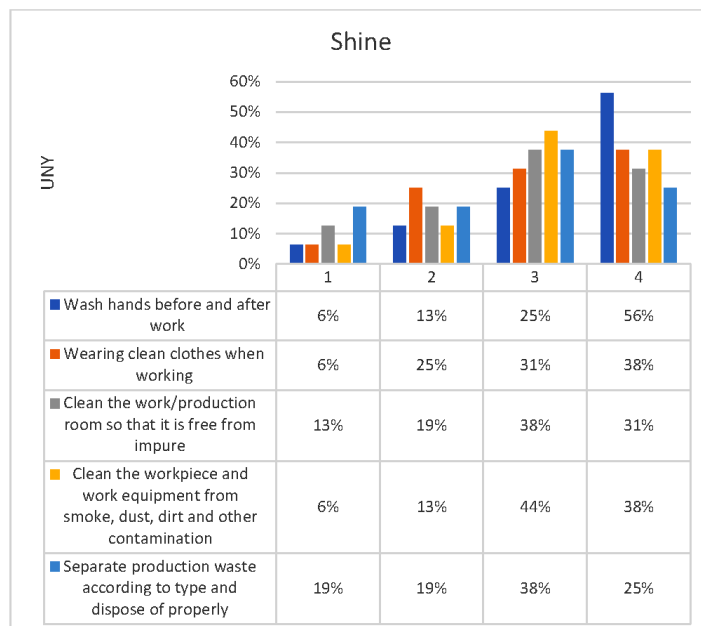

Figure 5. Shine character in UNY students.

Based on the data presented in Figure 5, it can be seen that UNY students have applied the shine character. The data obtained from the observation instrument showed that the application of wash hands before and after work was 81%; wearing clean clothes when working by 69%; cleaning the work/production room so that it is free from impure by 69%; clean the workpiece and work equipment from smoke, dust, dirt and other contamination by 82%; separate production waste according to type and dispose of properly by 63%.
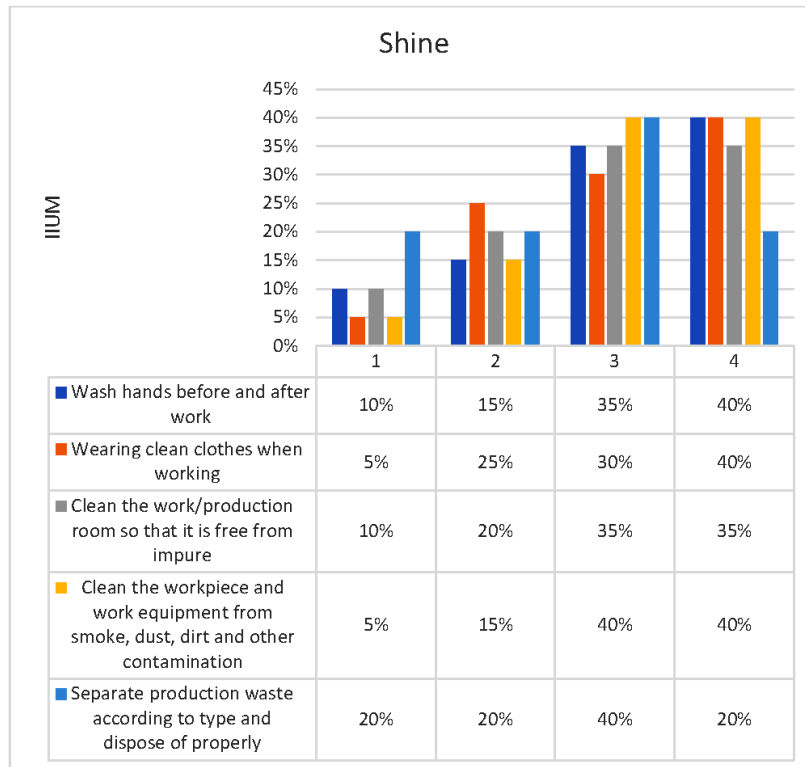

	1	2	3	4
■ Wash hands before and after work	10%	15%	35%	40%
■ Wearing clean clothes when working	5%	25%	30%	40%
■ Clean the work/production room so that it is free from impure	10%	20%	35%	35%
■ Clean the workpiece and work equipment from smoke, dust, dirt and other contamination	5%	15%	40%	40%
■ Separate production waste according to type and dispose of properly	20%	20%	40%	20%

Figure 6. Shine character in IIUM students.

Based on the data presented in Figure 6, it can be seen that IIUM students have applied the shine character. The data obtained from the observation instrument showed that the application of wash hands before and after work was 75%; wearing clean clothes when working by 70%; cleaning the work/production room so that it is free from impure by 70%; clean the workpiece and work equipment from smoke, dust, dirt and other contamination by 80%; separate production waste according to type and dispose of properly by 60%.

Based on observations of the shine character for four weeks, the calculation of the average student application was obtained. The calculation of the average shine character obtained by UNY is 72.5%, and IIUM is 71%. The calculation shows that UNY and IIUM students have applied the shine character.

4. Standardize

Standardizing means constantly and repeatedly keeping it concise, neat, and tidy. Thus care includes personal and environmental hygiene. The standardized character values in this study were applied by UNY and IIUM students through 7 behaviors. Standardize character is shown through the behavior of; 1) classifying the use of stuff based on job requirements; 2) placement of work equipment; 3) organizing tools and workpieces according to standards so that they are easy and fast to pick up and return; 4) the neatness of tools after use; 5) clean the work/production room before and after work from smoke, odors, dust, and other contaminants; 6) checking the cleanliness of materials/workpieces for the production process; 7) consistency in carrying out the habit of organizing, tidying, and cleaning the work environment. The application of standardized characters by UNY and IIUM students during learning can be presented in the following diagram.
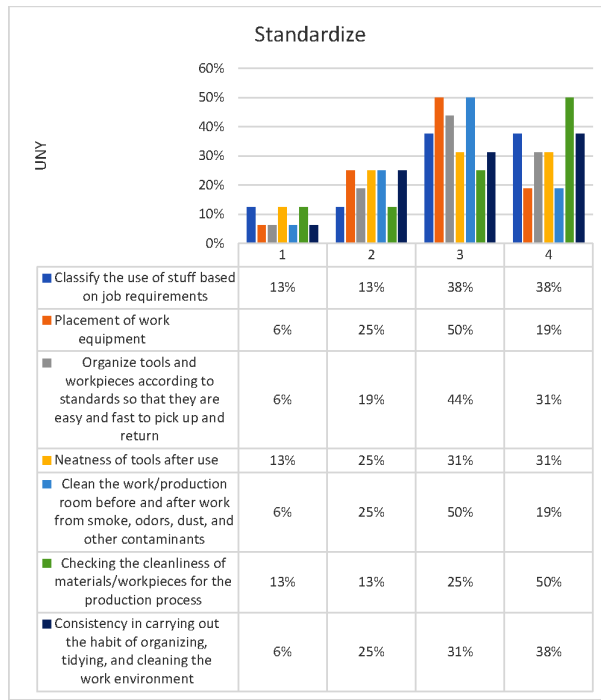
Figure 7. Standardize character in UNY students.

Based on the data presented in Figure 7, it can be seen that the standardize UNY students have applied character. The data obtained from the observation instrument shows that the application of behavior to; 1) classify the use of stuff based on job requirements is 76%; 2) place of work equipment by 69%; 3) organize tools and workpieces according to standards so that they are easy and fast to pick up and return 75%; 4) neatness of tools after use by 62%; 5) clean the work/production room before and after work from smoke, odors, dust, and other contaminants by 69%; 6) checking the cleanliness of materials/workpieces for the production process by 75%; 7) consistency in carrying out the habit of organizing, tidying, and cleaning the work environment by 69%.
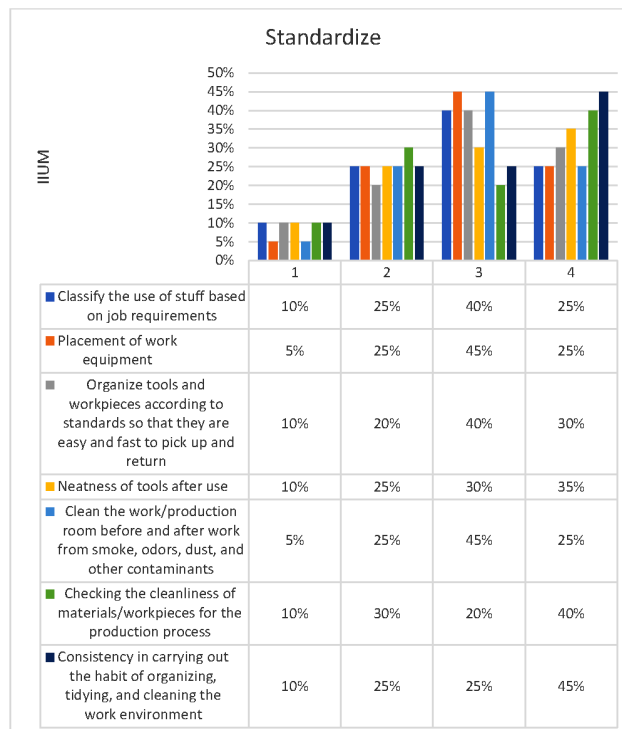

Figure 8. Standardize character in IIUM students.

Based on the data presented in Figure 8, it can be seen that UNY and IIUM students have applied the standardize character. The data obtained from the observation instrument shows that the implementation of the behavior of classifying the use of stuff based on job requirements is 65%; placement of work equipment by 80%; organize tools and workpieces according to standards so that they are easy and fast to pick up and return 70%; neatness of tools after use by 65%; clean the work/production room before and after work from smoke, odors, dust, and other contaminants by 80%; checking the cleanliness of materials/workpieces for the production process by 60%; consistency in carrying out the habit of organizing, tidying, and cleaning the work environment by 70%.

Based on observations of standardized character observations for four weeks, the results of the calculation of the average student application were obtained. The average standardize character obtained by UNY is 70.5%, and IIUM is 67.1%. The calculation shows that UNY and IIUM students have applied the standardize character.

5. Sustain

Sustain means making it concise, neat, tidy, and caring as a discipline that must be maintained at every work. The value of sustain character in this study was applied by UNY and IIUM students through 6 behaviors. Sustain character is shown through sincerity in carrying out work; seriousness in carrying out 5S habits at work; creating product control visuals; SOP implementation; consistency in carrying out the habit of organizing, tidying, cleaning, and caring (5S) in the work environment; punishment for breaking the rules. The application of sustained character by UNY and IIUM students during learning can be presented in the following diagram:
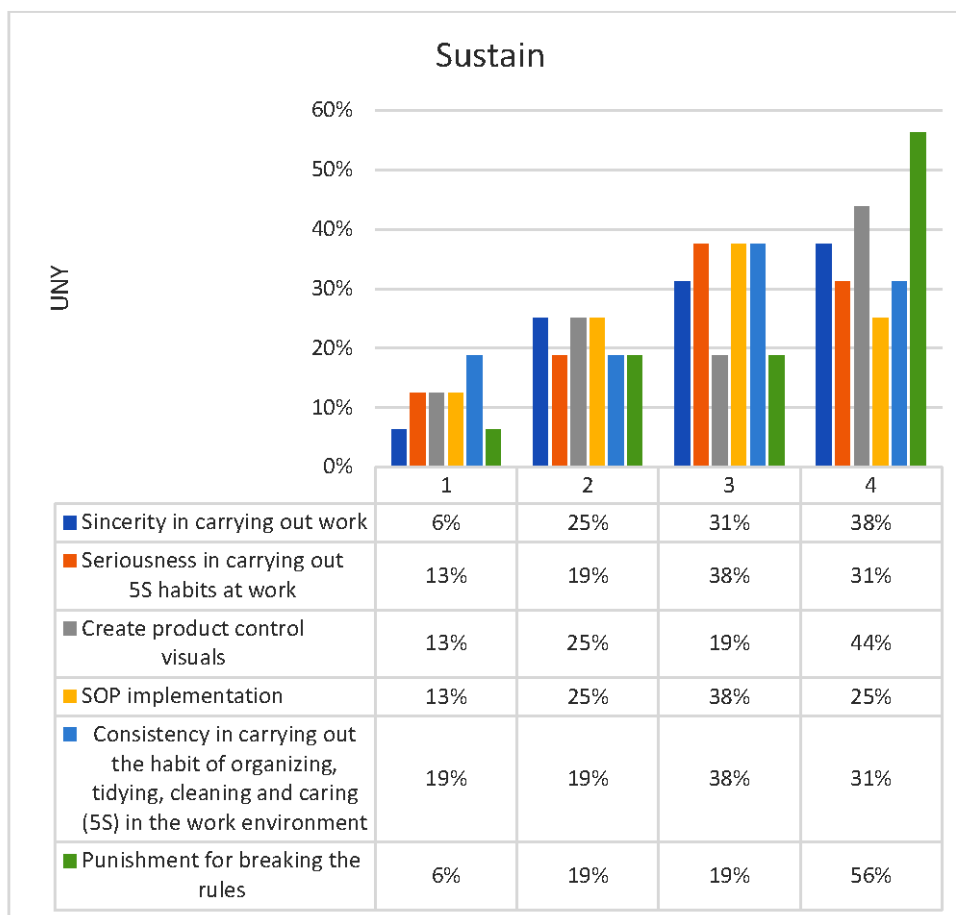

	1	2	3	4
■ Sincerity in carrying out work	6%	25%	31%	38%
■ Seriousness in carrying out 5S habits at work	13%	19%	38%	31%
■ Create product control visuals	13%	25%	19%	44%
■ SOP implementation	13%	25%	38%	25%
■ Consistency in carrying out the habit of organizing, tidying, cleaning and caring (5S) in the work environment	19%	19%	38%	31%
■ Punishment for breaking the rules	6%	19%	19%	56%

Figure 9. Sustain character in UNY students.

Based on the data presented in Figure 9, it can be seen that the sustainable character has been implemented by UNY students. The data obtained from the observation instrument shows that the implementation of sincerity in carrying out work behavior is 69%; seriousness in carrying out 5S habits at work by 69%; create product

control visuals by 63%; SOP implementation was 63%; consistency in carrying out the habit of organizing, tidying, cleaning and caring (5S) in the work environment was 69%; punishment for breaking the rules is 75%.
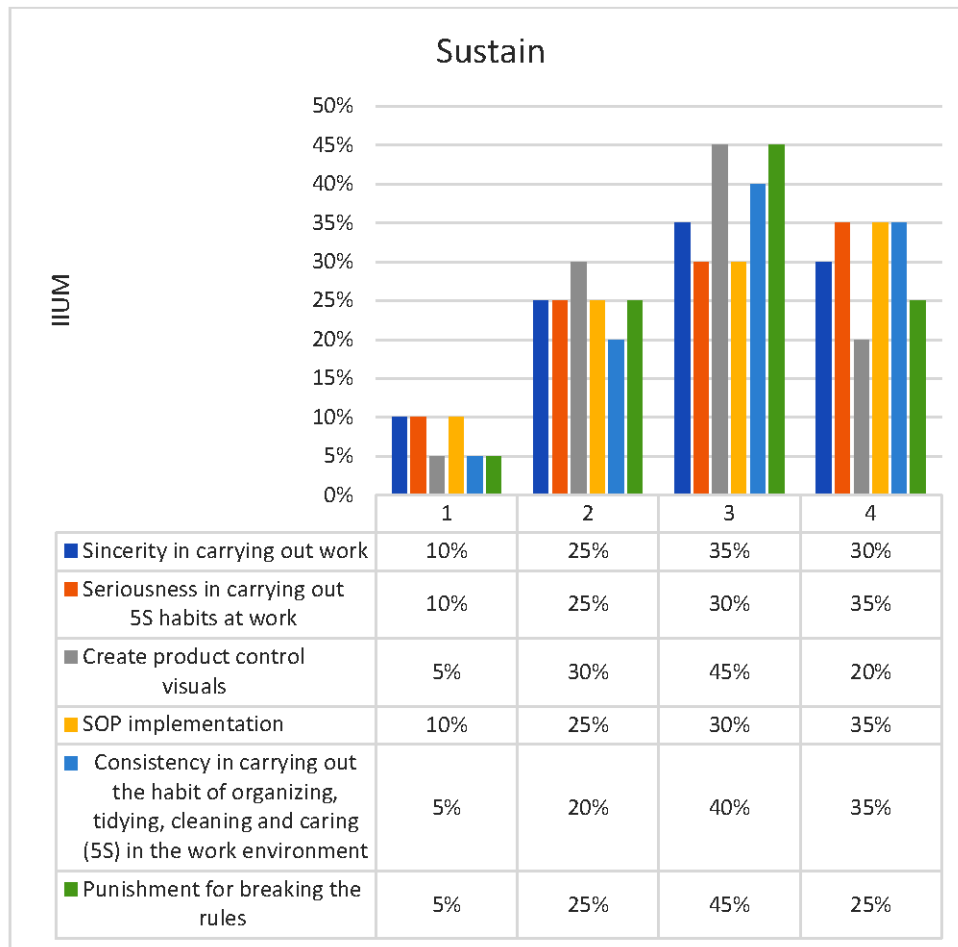

Figure 10. Sustain character in IIUM students.

Based on the data presented in Figure 10, it can be seen that UNY students have applied the character of sustain. Observational instrument data shows that the application of sincerity behavior in carrying out work is 69%; seriousness in implementing 5S habits in the workplace by 69%; creating product control visuals by 63%; SOP implementation by 63%; consistency in carrying out organizational habits, tidying, cleaning and caring (5S) in the work environment by 69%; 75% penalty for breaking the rules.

Based on observations of sustain character for four weeks, the average student application results are calculated. The average sustain character obtained by UNY is 67.7%, and IIUM is 68.3%. The calculation shows that UNY and IIUM students have applied the sustain character.

Discussion

This study aims to describe the application of 5S following the halal Industry in learning at UNY and IIUM. The implementation of 5S values was carried out on 16 UNY students and 20 IIUM students. The discussion on the application of 5S values following the halal Industry in learning is as follows:

1. Short

Short is an activity to eliminate items that are not needed so that all items at the work site are only items that are needed in work activities. Within the scope of the halal production process, short is also an activity to

separate halal tools and materials from haram-contaminated tools and materials. The application of the short value is carried out through activities 1) classifying goods based on work needs, 2) arranging work objects and equipment, 3) Separating clean materials and equipment from those contaminated with dirt, 4) Disposing of unnecessary items, 5) Conditioning the table/production area so that neat. This activity is repeated until it becomes a student habit.

The application of the short value in learning is going well. Students are getting used to separating tools and materials according to the needs of the job. Students are also accustomed to separating clean tools and materials from dirty tools and materials. Observational data showed that the application of the short character in UNY students reached 66.3%, while for IIUM students, it was 68%. The results of this observation show that the short value has been very applied in learning.

2. Set in Order

Set in order is an activity of placing materials and equipment in a predetermined place so that they are ready to be used when needed. In the scope of the Halal Industry, set-in-order activities include placing special tools and materials for halal as well as tools and materials contaminated with haram. The application of the set-in-order value is carried out through activities 1) Organizing equipment and workpieces so that they are easy and quick to pick up and return; 2) Arrange goods according to to use and order; 3) Placing clean and contaminated work objects and equipment in their respective places.

The application of set-in-order values in learning has been going well. Students are used to tidying up equipment and workpieces in a predetermined place. Observational data showed that the implementation of set in order for UNY students reached 68.8%, while for IIUM students, it was 73.3%. The results of this observation show that the short value has been applied very well in learning.

3. Shine

Shine is an activity to clean things, so they are clean from dirt. Halal hygiene is essential because cleanliness is part of the halal production process. The application of the shine value is carried out through activities; 1) washing hands before and after work; 2) wearing clean clothes when working; 3) cleaning the work/production room so that it is free from impure; 4) clean the workpiece and work equipment from smoke, dust, dirt, and other contamination; 5) separate production waste according to type and dispose of properly.

The application of the shine value in learning has been going very well. Students are accustomed to maintaining the cleanliness of the body, tools and materials, and the workspace. Observational data showed that the application of shine to UNY students reached 72.5%, while for IIUM students, it was 71%. The results of this observation show that the shine value has been applied very well in learning.

4. Standardize

Standardizing is an activity to maintain short, set in order, and shine continuously. Standardize includes personal hygiene and environmental cleanliness. The application of standardized values in learning is made through behavior; 1) classify the use of stuff based on job requirements; 2) placement of work equipment; 3) organize tools and workpieces according to standards so that they are easy and fast to pick up and return; 4) neatness of tools after use; 5) clean the work/production room before and after work from smoke, odors, dust, and other contaminants; 6) checking the cleanliness of materials/workpieces for the production process; 7) consistency in carrying out the habit of organizing, tidying, and cleaning the work environment.

The application of standardized values in learning has been going well. Students have gotten used to implementing 5S in every learning activity. Observational data showed that the implementation of standardization for UNY students reached 70.5%, while for IIUM students, it was 67.1%. The results of this observation show that the standardized value has been applied well in learning.

5. Sustain

Sustain is a discipline in applying short, set in order, shine and Standardize in every job. The application of sustainable values in learning is made through behavior; 1) sincerity in carrying out work; 2) seriousness in carrying out 5S habits at work; 3) creating product control visuals; 4) SOP implementation; 5) consistency in carrying out the habit of organizing, tidying, cleaning and caring (5S) in the work environment; 6) punishment for breaking the rules.

The application of the value of sustainability in learning has been going well. Students have been disciplined in applying short, set in order, shine and Standardize in every job. Observational data showed that the application of sustain to UNY students reached 67.7%, while for IIUM students, it was 68.3%. The results of this observation show that the value of sustain has been applied well in learning.

CONCLUSION

Based on the analysis and research results obtained by researchers, the following conclusions are obtained:

1. The process of implementing the 5S-based character-strengthening model to support the halal Industry for UNY and IIUM students was carried out for four weeks.

2. More and more UNY and IIUM students are applying 5S-based character behavior.

3. The results of quantitative data show the implementation of strengthening the short character at UNY 66.3% and IIUM 68%, set in Order at UNY 68.8% and IIUM 73.3%, shine at UNY 71% and IIUM 68%, standardize at UNY 70.5% and IIUM 67.1%, sustain at UNY 67.7% and IIUM 68.3%.

SUGGESTION

The implementation of the character strengthening model was carried out for 4 weeks. In order to be more optimal, it is necessary to add a longer time. This affects UNY and IIUM students to instill 5S characters. The longer it takes, the greater the students' awareness about the 5S character.

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