



## ENHANCEMENT OF AWARENESS LEVEL ON SDGS THROUGH AN INTERNATIONAL STUDENT EXCHANGE PROGRAM

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### Abstract

The 2030 Agenda emphasizes the significance of contribution by all actors including university students, as agent of changes in undertaking urgent actions. However, awareness on the concept of SDGs among university students is considerably at an average level. An alternative way to tackle this is by embedding the goals into a 2-week student exchange program, i.e., UTeM Winter School 2024 (UWINS 2024), which outlines various activities mapped to five different SDGs. SDG 2 and SDG 4 were mapped to an educational farm tour and an educational CSR program with under-enrolled primary school students, respectively. Meanwhile, both SDG 13 and SDG 14 were mapped to a beach clean-up program that also featured a demonstration of water quality monitoring robot. Finally, participation among 17 international and 5 local students directly reflects SDG 17. The level of awareness on these SDGs with respect to their corresponding activities was assessed through a set of five-point Likert scale questionnaire among all participants. 81.8% of the respondents agree that the farm tour has improved their awareness level on the importance of food security (SDG 2). 95.4% of the respondents agree that the school-based CSR program has raised their awareness level on the importance of ensuring quality education (SDG 4). 91% of the respondents agree that the beach clean-up program, together with water monitoring robot demonstration, has levelled up their awareness on the urgency of combating climate change (SDG 13). Through the same program, all respondents totally agree that their awareness level on the importance of conserving marine life (SDG 14) has been enhanced too. Finally, all respondents also totally agree that UWINS 2024 has improved their awareness level on the importance of having international partnership / networks (SDG 17).

*Keywords:* SDGs; awareness level; student exchange; winter school; CSR;

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Received: 5 April 2024

Accepted: 12 December 2024

Revised: 14 December 2024

Published: 30 December 2024

DOI: 10.51200/bejstd.v13i1.5822

## 1. Background Study

The Sustainable Development Goals (SDGs) of the United Nations comprises 17 goals, which are (1) no poverty; (2) zero hunger; (3) good health and well-being; (4) quality education; (5) gender equality; (6) clean water and sanitation; (7) affordable and clean energy; (8) decent work and economic growth; (9) industry, innovation and infrastructure; (10) reduced inequalities; (11) sustainable cities and communities; (12) responsible consumption and production; (13) climate action; (14) life below water; (15) life on land; (16) peace, justice and strong institutions; (17) partnership for the goals (Transforming our world: the 2030 Agenda for Sustainable Development 2023). These universal actions have been outlined to safeguard peace and prosperity by 2030, which requires all stakeholders to play their roles, including university students (Novieastari et al. 2022). Not only at the global level, actions should occur at every participating country and local levels, including at the university level (Biggeri 2021). In fact, the role in realizing SDGs should be played by universities as the ultimate drivers of global, national, and local innovation, economic development, and societal wellbeing (Kestin et al. 2017).

For university students who are indeed the agent of changes, awareness level among them on SDGs are expected to be higher than just average (Jati et al. 2019). The development of students' awareness and competencies to SDGs has become a raising issue among the universities (Zamora-Polo et al. 2019). Based on an online survey conducted among students of Universitas Indonesia, 42.0% were not aware of SDGs (Novieastari et al. 2022). Meanwhile, only 43% of the respondents among the students of Osun State University were aware of SDGs (Omisore et al. 2017). Besides, from a survey conducted among students of Universitat Politècnica de València, only 15.9% of the total respondents were well aware about SDGs (Leiva-Brondo et al. 2022). Students from Am-Najah National University were also found to have low level of awareness on climate change (Demaidi and Al-Sahili 2021), which is one of the SDGs going to be focused on this paper. From a study conducted among students of one of private universities in Malaysia, only 58% of the respondents have heard of the term sustainable development (Ang 2021).

Universiti Teknikal Malaysia Melaka (UTeM) as one of the agencies under the education sector should play essential role in equipping their students with understanding and awareness towards achieving all the goals (Mori Junior, Fien, and Horne 2019). Through Pusat Pengurusan Strategik, Kualiti dan Risiko (PPSKR), UTeM has recently enforced all program organizers at the university level to incorporate any related SDGs to their programs, which also include the enforcement on putting the respective SDG logo in posters, buntings and banners of the programs. However, hands down, embedding SDGs directly in the curriculum structure is not an easy and straightforward task (Leal Filho et al. 2021), especially when assessment that is based on the program outcome (PO) and Learning Outcome (LO) comes to play (Kioupi and Voulvoulis 2020). Therefore, incorporating SDGs into programs outside the classroom should be the best option in enhancing the awareness level among university students (Suklun 2024), for example, the UTeM Winter School 2024 (UWINS 2024).

## 2. Methodology

UWINS 2024 that was held in February 2024, has outlined several sub-programs within a two-week time. Each sub-program was properly mapped with at least one SDG, with intention to enhance the level of awareness among the participants. There are in total five SDGs involved:

- SDG 2 : *End hunger, achieve food security and improved nutrition and promote sustainable agriculture*
- SDG 4 : *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*
- SDG 13 : *Take urgent action to combat climate change and its impacts*
- SDG 14 : *Conserve and sustainably use oceans, seas and marine resources for sustainable development*
- SDG 17 : *Strengthen the means of implementation and revitalize the global partnership for sustainable development*

SDG 2 was mapped to a guided farm tour at an agro farm in Johor that offers a stable ecosystem between the crops and livestock. Participants were brought around the farm area that showcases wide plantations of different types of fruits and vegetables, as well as animal barns. Meanwhile, SDG 4 was mapped to CSR cum Knowledge Transfer Program by the UWINS’s participants to a group of primary school students, whom school is categorized under the under-enrolled school. Through this program, school students were facilitated by the UWINS’s participants in fun games and activities in order to improve their communicating skill in English. In addition, a separate program that includes beach cleaning and water quality monitoring robot demonstration was also organized at Taman Laut Melaka, which incorporated SDG 13 and SDG 14. Participants were nurtured with the importance of technology in keeping a safe ecosystem while working hand in hand to clean up the beach area of Pulau Nangka, Pulau Undan and Pulau Dodol. Finally, the overall involvement of students from multiple countries as participants in UWINS 2024 directly reflects to SDG 17.

There were a total of 22 participants from Malaysia, Brunei, Indonesia and Yemen who have attended UWINS 2024 and participated in this survey study, as summarized in Table 1. A set of five-point Likert scale questionnaires was given to the participants during the reflection session on the last day of the event. Each scale is numerically represented by a score as depicted in Table 2. The questionnaires were set up using Google Form, of which each question was properly crafted in the direction of accomplishing the aim of this paper, which is to evaluate the enhancement of awareness level on the abovementioned SDGs among the respondents.

Table 1: Summary of data

| Respondents      | University                          | Country of Origin |
|------------------|-------------------------------------|-------------------|
| Respondent 1-14  | Institut Teknologi Sepuluh Nopember | Indonesia         |
| Respondent 15-16 | Universiti Teknologi Brunei         | Brunei            |
| Respondent 17    | Universiti Teknikal Malaysia Melaka | Yemen             |
| Respondent 18-22 | Universiti Teknikal Malaysia Melaka | Malaysia          |

Table 2: Score for each scale

| Scale             | Score |
|-------------------|-------|
| Strongly agree    | 5     |
| Agree             | 4     |
| Neutral           | 3     |
| Disagree          | 2     |
| Strongly disagree | 1     |

### 3. Findings

In order to assess participants' awareness level on the specified SDGs, four questions were included in the program feedback form as below:

- Q1: *The agro tour around the farm has improved my awareness on the importance of food security, which is part of SDG 2 (Zero hunger)*
- Q2: *The Hello Talk! program raise my awareness on the importance of ensuring quality education (SDG 4)*
- Q3: *The beach clean-up program, together with water monitoring robot demo, raise my awareness on the importance of combating climate change (SDG 13).*
- Q4: *The beach clean-up program, together with water monitoring robot demo, raise my awareness on the importance of conserving marine life (SDG 14).*
- Q5: *UWINS 2024 raises my awareness on the importance of having international partnership / networks (SDG17)*

For Q1, 81.8% of the respondents agree that the guided farm tour has improved their awareness level on SDG 2, that highlights the importance of food security, as shown in Figure 1. Meanwhile for Q2, 95.4% of the respondents agree that their involvement as facilitators during *Hello Talk!* program has raised their awareness level on SDG 4, which uphold the importance of ensuring quality education, as depicted in Figure 2. Based on Figure 3 of Q4, all respondents agree that the beach clean-up program, which also embedded the demonstration of water monitoring robot, has enhanced their awareness level on SDG 14 that emphasizes on the importance of conserving marine life. The same event has also resulted in 91% of the respondents to agree that their awareness level on SDG 13, that is related to the urgency of combating climate change has been levelled up, as illustrated in Figure 4. Finally, all respondents also totally agree that UWINS 2024 has improved their awareness level on SDG 17 that underlines the importance of having international partnership and networking.

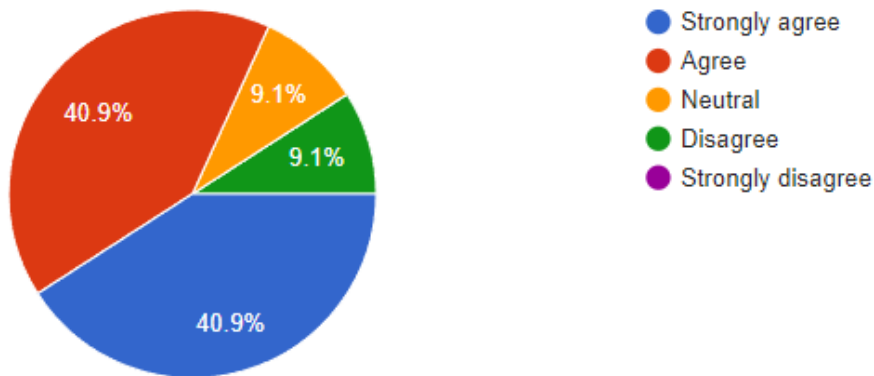


Figure 1: Awareness level on SDG 2



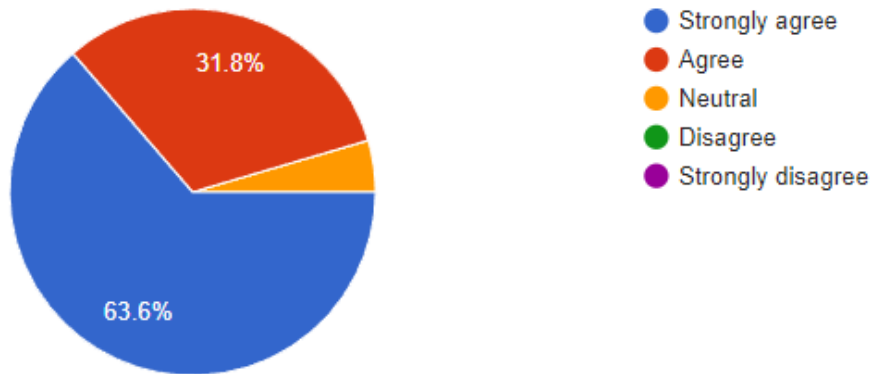


Figure 2: Awareness level on SDG 4

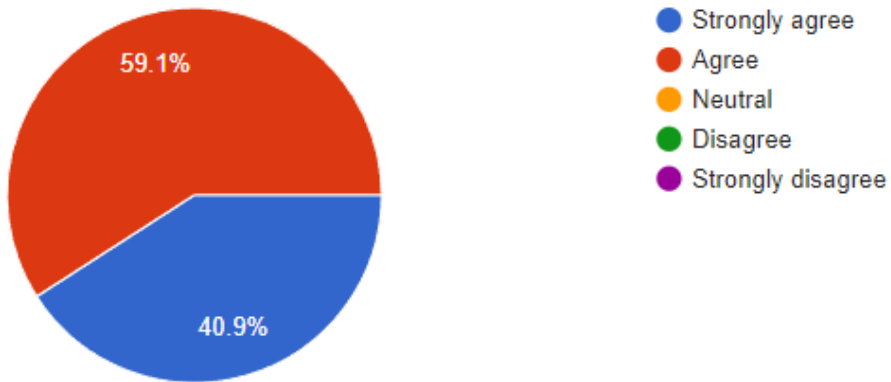


Figure 3: Awareness level on SDG 1

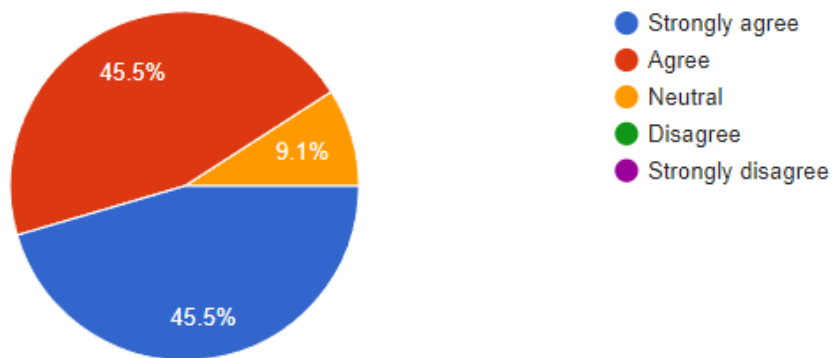


Figure 4: Awareness level on SDG 13

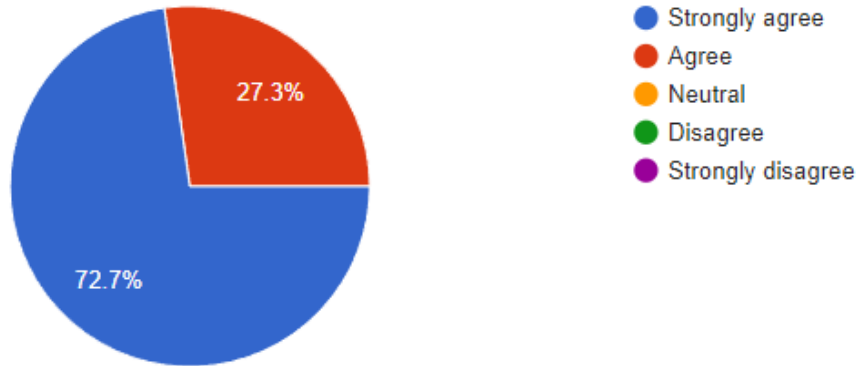


Figure 5: Awareness level on SDG 17

Table 3: Ranking of awareness level among SDGs

| SDG    | Average Score | Rank |
|--------|---------------|------|
| SDG 17 | 4.7           | 1    |
| SDG 4  | 4.55          | 2    |
| SDG 14 | 4.4           | 3    |
| SDG 13 | 4.35          | 4    |
| SDG 2  | 4.05          | 5    |

Ranking of the enhancement of awareness level on each SDG is tabulated in Table 3. As expected, SDG 17 tops the chart by gaining the highest average score of 4.7 since it was holistically embedded into all activities throughout UWINS 2024, which was reflected by the social bonding among the local and international participants. SDG 4 also earns a high score due to intimate and thorough involvement of the participants as facilitators during the *Hello Talk!* program. In fact, they were assigned to different small group of primary school students in moderating all modules (games) in facilitating the school students, who are mostly coming from the rural area, to learn and improve their communicating skill in English. Both SDG 13 and SDG 14 gain almost similar average score since the awareness level was assessed through the same activity, which is the beach clean up. The lowest rank goes to SDG 2, which might be due to ineffectiveness of the hired guide in demonstrating the essence of food security to the participants during the tour. The average score is however still considerably high, which is 4.05.

#### 4. Conclusions

This paper concludes that the awareness level on SDG among the university students can also be enhanced through program outside the curriculum structure like UWINS 2024. The enhancement of awareness level, which is equivalent to the average score listed in Table 3, for all the five SDGs are above 4.0. It shows that, at least 80% of the respondents agree that the student exchange program has enhanced their awareness on all the five SDGs. If this program is to be organized again in the future, SDG 11 can be included that can be mapped to any kind of cultural-based activities.

## Acknowledgments

Authors would like to express gratitude to Pusat Pengurusan Kolaborasi RICE UTeM-Melaka, Centre for Language Learning UTeM, PUSPANITA Ministry of Natural Resources, Environment and Climate Change (NRES), Pejabat Perikanan Negeri Melaka, Pejabat Pendidikan Daerah Muar, Sekolah Kebangsaan Tanjong Tohor dan IngeniousCity Engineering Solutions Sdn Bhd. for their collaborations in Hello Talk! and beach clean-up programs. Special thanks also to Institut Teknologi Sepuluh Nopember and Universiti Teknologi Brunei for allowing their students to come and participate in UWINS 2024.

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