

Fostering Sustainability Awareness among Residential College Students Through Earth Mini Carnival
(*Memupuk Kesedaran Kelestarian dalam Kalangan Penghuni Kolej Kediaman Melalui Earth Mini Carnival*)

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ABSTRACT

This case study explores the inspiring initiative of the Earth Mini Carnival (EMC), a creative effort by the Third Eco Optimist (TEO) Club to cultivate a culture of sustainability among residents of Tuanku Kurshiah Residential College. The project served as a lively and engaging platform to raise environmental awareness and promote sustainable living through the 3R principle, which is to reduce, reuse, and recycle. Featuring vibrant booths, creative DIY decorations made from recycled materials, and interactive activities, EMC made sustainability a fun and meaningful experience. To assess the program's efficacy, data were gathered via participant surveys administered at the conclusion of the event, supplemented by on-site observations and committee evaluations. The survey results revealed that most participants gained a stronger understanding of sustainability and showed greater motivation to adopt eco-friendly habits in their daily lives. Although the project faced challenges such as limited time and a small team of volunteers, it remained a valuable and successful initiative. Overall, EMC not only enhanced environmental awareness but also inspired a sense of shared responsibility, serving as a positive model for future sustainability projects in residential colleges.

Keywords: Sustainability, Environmental Awareness, 3R Practices, Program Evaluation, Residential College

ABSTRAK

Kajian kes ini meneroka penganjuran Earth Mini Carnival (EMC), sebuah inisiatif kreatif anjuran Kelab Third Eco Optimist (TEO) untuk memupuk budaya kelestarian dalam kalangan penghuni Kolej Kediaman Tuanku Kurshiah. Projek ini menjadi platform yang menyeronokkan bagi meningkatkan dan menggalakkan kesedaran persekitaran yang lestari melalui amalan 3R, iaitu mengurangkan (*reduce*), menggunakan semula (*reuse*) dan kitar semula (*recycle*). Mempamerkan reruai yang pameran yang menarik, penggunaan dekorasi buatan sendiri berasaskan bahan kitar semula, serta aktiviti interaktif, EMC telah EMC menjadikan konsep kelestarian lebih menyeronokkan dan memberi pengalaman bermakna. Untuk menilai sejauh mana projek ini berjaya, data dikumpul melalui soal selidik yang diberikan kepada peserta selepas projek dan pemerhatian di lokasi. Keputusan soal selidik menunjukkan bahawa kebanyakan peserta memahami kelestarian dengan lebih baik dan lebih bersemangat untuk hidup dengan cara yang mesra alam. Meskipun berdepan kekangan masa dan jumlah sukarelawan yang terhad, EMC tetap berjaya mencapai objektifnya dan memberikan impak positif kepada komuniti kolej. Secara keseluruhan, EMC membuktikan bahawa program pelajar yang kreatif dan berasaskan pengalaman bukan hanya mampu meningkatkan kesedaran kepada persekitaran tetapi juga memberi inspirasi mengenai kebertanggungjawaban bersama yang menjadi model positif untuk projek kelestarian di kolej-kolej kediaman pada masa hadapan.

Kata Kunci: Kelestarian, Kesedaran Alam Sekitar, Amalan 3R, Penilaian Program, Kolej Kediaman

INTRODUCTION

Environmental sustainability has become a critical concern in higher education. Residential colleges, where students spend a significant portion of their time, provide an ideal setting to cultivate environmental values through community-based programmes and experiential learning activities. Recognising this potential, the Third Eco Optimist (TEO) Club of Tuanku Kurshiah Residential College organised the Earth Mini Carnival (EMC) as a student-led initiative aimed at nurturing a culture of sustainability among residents.

The EMC was designed not only to raise awareness of sustainable living but also to encourage active participation in environmental conservation through practical and creative approaches. The 3R principles, reduce, reuse, and recycle, were integrated into interactive booths, workshops, and hands-on activities that demonstrated sustainable practices in tangible ways. Decorations and materials used throughout the event were predominantly made from reused and recycled items, illustrating how small, thoughtful actions can contribute to environmental protection.

Beyond raising awareness, EMC encouraged students to engage in meaningful discussions, reflect on personal habits, and develop a sense of responsibility toward the environment. This case study evaluates the extent to which EMC influenced participants' understanding of sustainability, fostered eco-friendly behavioural intentions, and achieved its intended objectives. Through the analysis of survey data, participant reflections, and observational findings, the study highlights how student-led initiatives can create impactful learning experiences and promote long-term environmental consciousness within residential college communities.

BACKGROUND OF STUDY

Environmental sustainability has emerged as one of the most pressing global challenges in recent decades. Communities around the world face issues such as climate change, resource depletion, and pollution. Not only is it important for the environment to adopt sustainable practices in everyday life, but it is also important for social responsibility and long-term health. Educational institutions, especially residential colleges, are uniquely positioned to foster sustainability among students, who represent future leaders and decision-makers. By integrating sustainability into campus life, students can develop practical skills, awareness, and habits that

extend beyond the classroom. The Third Eco Optimist (TEO) Club at Tuanku Kurshiah Residential College recognised the importance of creating opportunities for students to engage with sustainability in an interactive and meaningful way. To address this, the club organised the Earth Mini Carnival (EMC), a project designed to educate and engage residents through activities that are both enjoyable and informative. The EMC incorporated the 3R principles, reduce, reuse, and recycle, as the key components of its project. DIY decorations crafted from recycled materials, sustainability-themed booths, and interactive games were used to illustrate practical approaches to environmental conservation, making the concept of sustainability accessible and engaging for participants.

The initiative also aimed to measure its effectiveness in achieving intended outcomes. Surveys distributed at the end of the event, alongside on-site observations and committee evaluations, revealed the participants' learning experiences and their willingness to adopt sustainable habits. By examining feedback and behavioral indicators, this study seeks to understand how experiential learning projects like EMC can enhance environmental awareness, encourage eco-friendly practices, and foster a sense of shared responsibility within residential college communities. The study contributes to the broader discussion about the role of student-led initiatives in promoting sustainability in higher education institutions.

ISSUES

One of the main issues addressed by the Earth Mini Carnival (EMC) was the low level of environmental awareness among students in Tuanku Kurshiah Residential College. Despite increasing global attention to sustainability, many students had a limited understanding of practical ways to incorporate eco-friendly habits into their daily routines. Observations prior to the event showed that recyclable materials were often discarded improperly, energy and water conservation practices were minimal, and students rarely participated in sustainability-related projects. This highlighted the need for an engaging and educational platform to instil a sense of responsibility toward the environment.

The lack of awareness also translated into limited behavioural change. Many students understood sustainability in theory but struggled to apply it in practice, such as by reducing single-use plastics or creatively reusing materials. The EMC was designed to address this gap by offering interactive activities,

DIY workshops, and sustainability-themed booths, which allowed students to experience sustainability in a practical, hands-on way. By engaging students directly, the project aimed to make sustainable practices more tangible and easier to implement in daily life.

Participation in EMC offered straightforward observations about the impact of the project on the students' knowledge of environmental issues. Surveys conducted after the event revealed that participants gained a stronger understanding of the 3R principles: reduce, reuse and recycle. Observations and reflections also indicated higher motivation to adopt eco-friendly habits and more active involvement in sustainability initiatives within the college. Overall, EMC identified not only a gap in knowledge but also the challenge of transforming awareness into actionable behavior. The project successfully created opportunities for students to learn, practice, and internalise sustainable living principles.

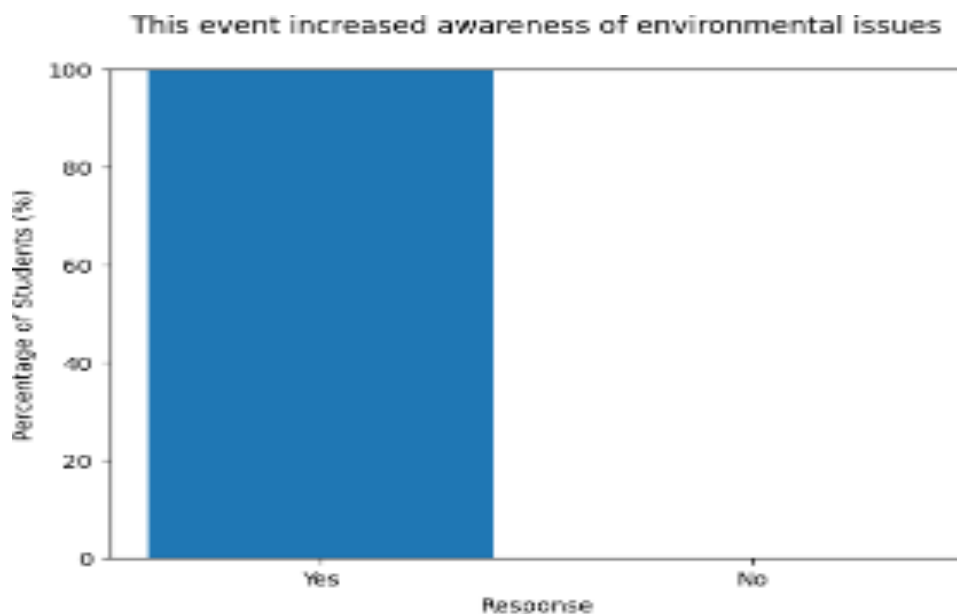
THEORY OF ANALYSIS

The analysis of the impact of the Earth Mini Carnival (EMC) was conducted using a fully quantitative

research approach, focusing on measurable feedback gathered through structured surveys. This method was chosen to objectively determine whether the project successfully increased sustainability awareness among students of Tuanku Kurshiah Residential College.

The technical process began with the development of a standardized feedback form that included key evaluation questions measuring four main indicators: the usefulness of the program, the improvement of environmental awareness, students' willingness to recommend the program, and their desire to see the event held again in the future. These indicators were essential in understanding not only the immediate impact of EMC but also the long-term potential for student engagement in sustainability efforts.

During data collection, surveys were distributed at the end of the event to ensure responses reflected students' fresh experiences and perceptions. The survey questions were designed in the form of Likert-scale items, enabling researchers to convert feedback into numerical values suitable for statistical interpretation. This also allowed for the creation of bar graphs that visually represent the level of agreement among participants.



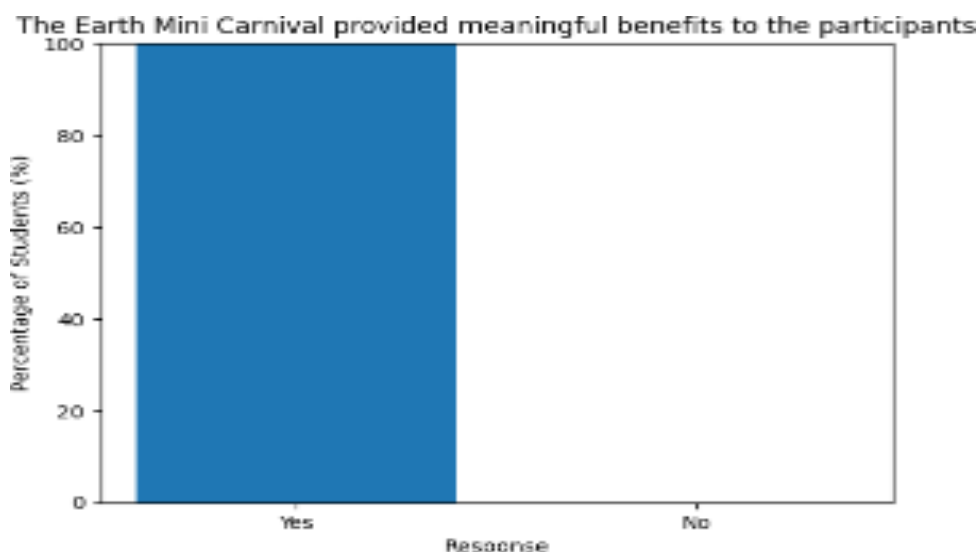
Source: Student Feedback Survey (2025)

GRAPH 1. This event increased awareness of environmental issues

Based on Graph 1, the survey results clearly show that 100% of the respondents indicated that the Earth Mini Carnival (EMC) increased their awareness of environmental issues, as reflected by the total frequency recorded for the “Yes” response. The vertical axis represents the number of student responses, while the horizontal axis indicates the respondent category, enabling clear interpretation of the data. This finding demonstrates that the programme successfully achieved its objective of enhancing environmental awareness among participants.

Furthermore, the consistent positive response

shown in Graph 1 suggests that the interactive activities and hands-on experiences played a significant role in engaging students. Exposure to 3R practices and practical demonstrations helped participants understand how small individual actions can contribute to broader environmental outcomes. By clearly presenting frequencies in the graph and referencing the figure directly in the discussion, the data effectively support the conclusion that EMC was successful in fostering environmental consciousness and encouraging sustainable thinking among students.



Source: Student Feedback Survey (2025)

GRAPH 2. The Earth Mini Carnival provided meaningful benefits to the participants

Based on Figure 2, the findings indicate that 100% of the respondents agreed that the Earth Mini Carnival provided meaningful benefits, while no respondents disagreed. This reflects a highly positive response from participants regarding the program's impact. The feedback shows that the event was well organised and successfully achieved its objectives. Many students reported that the Earth Mini Carnival increased their environmental awareness while also providing an enjoyable and engaging experience. The combination of interactive booths, creative activities, and hands-on learning activities made the programme both educational and fun, allowing participants to actively engage while gaining new knowledge. Overall, the results demonstrate that the Earth Mini Carnival created a valuable and meaningful learning experience for the participants.

Above are some of the pictures taken during

the Earth Mini Carnival, showing the different booths, activities and creative setups from the event. Most of the props and decorations were made from recycled materials such as paper and cardboard, reflecting our effort to practice what we were promoting. Each booth was designed to be both fun and educational, giving participants the chance to learn about sustainability through hands-on activities and interactive displays. By using everyday items creatively, we wanted to show that taking care of the environment can be practical and enjoyable.

The carnival also aimed to help the residents of Tuanku Kurshiah Residential College become more aware of their daily habits and the impact these have on the environment. Students were encouraged to think about small but meaningful actions such as reducing waste, reusing materials and recycling properly. By combining learning with creativity and enjoyment, the



FIGURE 1. Earth Mini Carnival organising team



FIGURE 2. Planting activity with the college residents



FIGURE 3. Exhibition booth on sustainability

event created a space where sustainability was not just discussed but experienced. Many participants left with a better understanding of why caring for the environment is important and how they can contribute to protecting it in their daily lives.

RESEARCH IMPLICATIONS AND RECOMMENDATIONS

The Earth Mini Carnival (EMC) at Tuanku Kurshiah Residential College is a strong example of how students involved in sustainability initiatives can raise environmental awareness and encourage responsible behaviour. Its success can be better understood by considering existing research, which provides both theoretical and practical guidance for future programmes.

First, EMC's use of interactive and hands-on activities reflects Experiential Learning Theory, which emphasises learning through direct experience, reflection, and practical application. Ghazali et al. (2025) argue that experiential activities enable participants to internalise sustainability values more effectively than traditional lectures (Ghazali et al., 2025). EMC's DIY workshops, sustainability-themed booths, and interactive exercises allowed students to experience environmental practices firsthand, supporting the theory that engagement through action leads to deeper understanding and motivation to adopt eco-friendly habits.

Second, research on sustainable residential colleges highlights the importance of integrating environmental initiatives into the living environment. Buyung, Shafii, and Nurul Rezuana (2018) explain that sustainable residential colleges should combine physical infrastructure, student comfort, and community engagement to foster a culture of sustainability (Buyung, Shafii & Buyung, 2018). EMC complements this framework by providing activities within the college community that encourage residents to adopt sustainable behaviours, creating a learning environment where sustainability is integrated into daily life.

Third, student participation and engagement are crucial for long-term behavioural change. Noor, Mamat, and Mohamad (2024) found that actively involving students in sustainability programmes strengthens their competencies and fosters environmental leadership (Noor, Mamat & Mohamad, 2024). By involving students in planning, executing, and reflecting on EMC activities, the programme empowered participants to take ownership of sustainability practices, turning awareness into action.

RECOMMENDATION AND FUTURE DIRECTIONS

Several recommendations can enhance the impact of future EMC events and ensure that sustainability becomes a continuous practice within the residential college. The project should continue to emphasise experiential learning by creating activities that allow students to practise, explore, and apply sustainability concepts in real-life situations. Hands-on elements such as waste sorting activities, interactive exhibitions, and energy-saving challenges can strengthen understanding and encourage long-term behaviour change. Improving sustainability facilities, including recycling stations, composting areas, and energy-efficient equipment, will also support the formation of daily green habits among students.

Increasing student ownership and leadership is equally important in enhancing engagement. When students are directly involved in planning, organising, and making decisions, they develop a stronger sense of responsibility and connection to environmental initiatives. This increased involvement can boost motivation and encourage students to maintain eco-friendly habits long after the programme ends. Allowing student-led booths, committees, or creative sustainability projects can further enrich the learning experience and make the programme more meaningful to participants.

Continuous evaluation is essential for strengthening future EMC events. Systematic assessments through surveys, reflection activities, and follow-up observations can help measure behavioural outcomes and identify areas that need improvement. The Earth Mini Carnival has proven that experiential and student-centred programmes can effectively promote environmental awareness and sustainable practices. Supported by research on active learning, sustainable campus environments, and student engagement, the EMC stands as a practical model for higher education institutions that aim to cultivate environmentally conscious communities. With enhanced activities, improved facilities, empowered student leadership, and ongoing evaluation, future EMC initiatives can continue to create meaningful and lasting impacts on students and the entire residential college environment.

CONCLUSION

The Earth Mini Carnival (EMC) at Tuanku Kurshiah Residential College demonstrates how student-led initiatives can effectively cultivate sustainability

awareness and encourage positive behavioural change among residential college students. Through experiential and interactive activities such as sustainability booths, DIY workshops, games, and hands-on learning, the programme transformed abstract environmental concepts into practical experiences that participants could relate to and apply in their daily lives. Participants not only gained a clearer understanding of the 3R principles Reduce, Reuse, and Recycle, but also recognised how individual actions contribute to broader environmental protection efforts.

Beyond improving knowledge and awareness, EMC fostered responsibility, teamwork, and community engagement by actively involving students in both organising and participating in the carnival. Reflection on personal habits, creative waste reduction activities, and collaborative learning experiences strengthened critical thinking and problem-solving skills. The consistent use of recycled materials in decorations and booths further reinforced the programme's sustainability message, demonstrating that environmentally responsible practices can be practical, innovative, and engaging.

Despite challenges such as limited time, a small volunteer team, and logistical constraints, EMC successfully achieved its objectives in promoting sustainability awareness and encouraging eco-friendly intentions among residents. The programme highlights the effectiveness of immersive, participatory, and community-centred approaches to sustainability education in higher education settings. Overall, EMC serves as a valuable model for future sustainability

initiatives in residential colleges by showing that experiential learning and student leadership can contribute to long-term environmental consciousness and a stronger culture of sustainability on campus.

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