

GREEN CAMPUS PRACTICES: A STUDY ON USING GREEN ENVIRONMENTAL ARTIFACTS ELEMENTS

Dayangku Dania Marliessa binti Ak Ahmad Affandy, Anna Alicia binti Abdullah, Faridah binti Che In

Commerce Department, Politeknik Kuching Sarawak

Abstract

This study examined the practice of using green environmental artifact elements at Kuching Sarawak Polytechnic, involving 401 respondents from students, staff, and lecturers. The main focus was on electricity saving, water saving, and 3R (recycling) practices. Findings showed that electricity saving practices through campaign posters or labels were at a high level (mean=4.18), while water saving through posters or labels was at a moderately high level (mean=3.87). The use of recycling bins for 3R practices also recorded a moderately high level (mean=3.50). The overall study showed that the level of awareness and practice of green elements was good, although additional efforts were needed to improve the effectiveness of recycling practices. This study provides an important insight into the effectiveness of green sustainability initiatives in educational institutions and provides a valuable data base for Kuching Sarawak Polytechnic to formulate more sustainable strategies and programs in strengthening green culture among its citizens.

Keywords: Electricity saving, Green environment, Green sustainability, Water saving, 3R.

INTRODUCTION

This study focuses on the practice of using green environmental artifact elements at Kuching Sarawak Polytechnic, emphasizing the effectiveness of their use in fostering a culture of environmental sustainability among campus residents. Green environmental artefacts such as recycling bins, water and electricity saving campaign posters, energy-efficient buildings, sustainable water management systems, and tree planting in campus areas play an important role in increasing awareness and green practices. These elements are not only physical but also function as educational tools that encourage campus residents to adopt a more environmentally friendly lifestyle. Based on the study findings, water and electricity saving posters were found to help increase user awareness through visual reminders, while the use of recycling bins is still at a moderately high level, indicating the need for additional efforts in increasing awareness and the facilities provided. This study also emphasizes the importance of user understanding of how to use green artefacts to ensure that their impact can be maximized. According to a study by the Reading Readiness Centre (2024), the implementation of sustainable practices in educational institutions, including through the curriculum and campus culture, can create a more sustainable future by instilling the value of sustainability among the younger generation. Meanwhile, the Berita Harian report (2024) stated that a green campus is a synergy between environmentally friendly practices and education to promote sustainable practices, which makes the institution an active contributor to a sustainable society. This study aims to identify challenges in the use of green artifacts at Kuching Sarawak Polytechnic, as well as provide suggestions for improvement to strengthen the effectiveness of its use. The results of the study are hoped to help this institution formulate a more sustainable strategy, thus introducing Kuching Sarawak Polytechnic as a model green campus in Malaysia, supporting the global goal of

environmental sustainability. This study examines the practice of using green environmental artifact elements at Kuching Sarawak Polytechnic (PKS) which aims to evaluate the effectiveness of these elements in fostering green awareness and practices among campus residents. Green environmental artifact elements include structures, systems, and materials specially designed to promote environmental sustainability, such as recycling bins, solar technology, energy-efficient buildings, green houses, and green campaign posters. According to Song and Yu (2018), the integration of these elements can have a positive impact on the environment through pollution control, cleaner production, and ecological improvements.

LITERATURE REVIEW

This study focuses on the practice of using green environmental artifact elements at Kuching Sarawak Polytechnic (PKS) with the aim of understanding the relationship between knowledge, attitudes, and green practices among campus residents. Although previous studies found that students' knowledge levels of green practices were high, their level of practice was still moderately high, as stated by Junainah and Basir (2020), where students at Kolej Universiti Islam Antarabangsa Selangor recorded a mean of 4.29 for knowledge but only a mean of 3.8273 for the practice of green practices. A similar phenomenon was also detected at Universiti Kebangsaan Malaysia, where although students' attitudes and knowledge towards sustainability were high, the frequency of green practices was still moderate (Nur Haziqah Mohd Safuan; Er, Ah Choy, 2022). Green environmental artifact elements such as recycling bins, water and electricity saving campaign posters, and energy-efficient buildings at PKS were designed not only to raise awareness but also to foster consistent green practices. According to Sahin *et al.* (2012), knowledge about environmental issues can form positive attitudes, which in turn influence a person's daily practices, including continued involvement in sustainable campus initiatives. At PKS such elements are integrated into the learning process and campus life to ensure a long-term impact on green culture. Conducive environmental factors not only support health but also improve students' academic performance, since environmental conditions can influence the way they think and learn (Amin & Apidah, 2023). This study aims to evaluate the effectiveness of these artifact elements in supporting green practices at PKS, as well as suggest improvements to strengthen these practices in the future.

RESEARCH METHOD

This study employs a quantitative research design, with findings summarized using statistical analysis and presented in numerical form (Baker, 1999). The sampling method used is non-probability, specifically convenience sampling (Malhotra, 2012; Ritter *et al.*, 2015). The population of Politeknik Kuching Sarawak (PKS) is estimated to exceed 3,417 individuals (Poliku, 2024). A sample size of 401 respondents is considered adequate for this study, as it is larger than 30 and less than 500, following Roscoe's (1957) guidelines. The data collection instrument is a questionnaire, adapted from items developed by previous researchers such as Klan-ghee Tiew, Kohel Watanabe, Noor Ezlin Ahmad Basri, Shahrom Md. Zain, and Hassan Basri (2013). The data collection process involves distributing the questionnaire in person through a Google Form link and QR code. Data analysis is performed using the SPSS (Statistical Package for Social Science) software.

RESULTS AND DISCUSSION

A study on the level of practice in the use of green environmental artifacts at Kuching Sarawak Polytechnic (PKS) showed that the practices of institutional residents in saving water, electricity, and the use of 3Rs were at a moderately high to high level. The level of water saving practice recorded a mean value of 3.87, indicating high awareness among students to apply measures such as using rice washing water to water plants. This finding is consistent with a study by Nur Adilah Zainuddin and Zuraini Anang (2024) which found that student involvement in water saving practices was high. In the context of electricity saving, the level of practice recorded an overall mean value of 4.17, indicating high performance. Among them, students reported turning off computers when not in use for a long period of time (mean=4.52) and unplugging electrical appliances from the plug when not in use (mean=4.40). Electricity saving campaign posters and labels played an important role in influencing this behavior, in line with the findings of Nurul Hidayah (2020) which showed that the level of knowledge and practice in using electricity was high among students. Although the level of 3R practice using recycling bins recorded an overall mean value of 3.49 (medium high), additional efforts are needed to improve this level. Activities such as bringing reusable water bottles (mean=3.33) and reusing unprinted paper (mean=3.16) show potential for improvement. This practice is in line with a study by Nur Haziqah Mohd Safuan and Er Ah Choy (2020), which stated that students' knowledge level of 3R practice was at a high level. Overall, the overall mean score for the level of practice of using green environmental artifacts was 3.84, indicating a medium high level. This study is reinforced by the findings of Junaidah & Hanim (2020) and Siti Rohani (2013), which showed that students' level of practice towards sustainability was high.

Table 1. Overall score of practice level of use of green environmental artifacts among Kuching Polytechnic Sarawak Students

Item	Min	Knowledge Level
Level of water saving practices	3.87	High
Level of electricity saving practices	4.17	High
Level of practice of using 3R - Recycling Bin	3.49	Medium High
Overall mean score for knowledge level 3.84 = Medium High		

CONCLUSION

Overall, this study shows that the residents of Kuching Polytechnic Sarawak (PKS) demonstrate a high level of knowledge regarding the use of green environmental artefacts such as electricity saving, water saving, and 3R practices. This finding reflects the growing awareness among students, lecturers, staff, and personnel of the importance of natural resource management and environmental sustainability. Despite the high awareness, this study also highlights the need for improvement in the level of practice, especially in the aspect of recycling, where the use of recycling bins has not yet reached its full potential. The effectiveness of the use of green environmental artefacts such as water and electricity saving posters and labels, as well as 3R infrastructure, has had a positive impact on the behavior of campus residents. PKS residents show that they have

understood and practiced the concepts of waste reduction, wise use of water and electricity, as well as awareness of the importance of recycling. However, further involvement and improvement of more user-friendly infrastructure are important to ensure the sustainability of green practices among campus residents. This study emphasizes that more systematic implementation and monitoring of green environmental artefacts will play an important role in forming a stronger green culture at PKS. Efforts to improve and promote the use of these green artifacts, including raising awareness about recycling and providing better facilities, will help SMEs become better examples of sustainable environmental management. With effective implementation, Kuching Polytechnic Sarawak has the potential to become a model for other educational institutions in sustainable practices and responsible environmental management.

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