



# The Edcraft Catalogue: Collaboration of Artist and Academic in “Waste to Craft” Gamified Activity

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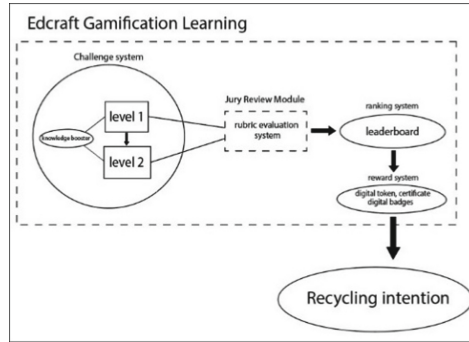
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**Abstract.** This paper introduces the Edcraft Catalogue, which presents work from the artist and students-academics in the promotional of the online gamified learning activity where the purpose is to improve the awareness of the recycling behaviour of the youth. Also, the catalogue aims to bridge between artist and academics artwork to achieve the collaborative Edcraft activity for better exposure to the public for a greater outcome, which is to achieve a higher recycling intention and eventually a change of behaviour. Besides, the catalogue’s contents and design layout will be shown as the development prototype before the official release.

**Keywords:** Craft design catalogue · online gamified learning · waste crafting arts · social awareness

## 1 Introduction

This paper introduces the development of the “Edcraft Catalogue” in the gamified learning of a social green movement with the incorporation of real artists’ work to produce a promotional catalogue that can close the gap between artists and academics through the gamified activity. In the context of waste to craft, many may think that waste is a “negative” word that potentially leads to unwanted consequences, but in Edcraft, waste is a new hope, where it can be up-cyclable, recyclable, reusable and re-imaginable. However, the work of recycling and upcycling practices in the household are still weak, and years of campaigns from municipalities and law enforcement are still less aligned with the growth of the population and household waste management [1]. Implementing sustainable development in Malaysian cities remains a problem [2] and if not mitigated, will result in an increase in nature-related disasters [3]. For example, human activities such as disposing of waste in the river, drain and open areas caused the occurrence of a “once in a century” flashflood that happened recently in Malaysia and it resulted in more than 125,000 people being affected [4]. Recycling and upcycling should reduce waste, yet in reality, the influence and awareness of green activities seem to be a never-ending challenge due to the changes in human behaviour, habits and media consumption. Through



**Fig. 1.** Overview of Edcraft Gamified Learning activity which focuses on the importance of recycling intention [4].

the catalogue, Edcraft's crafting ideas hoped to be one of the mediums to express to more audiences and change the way they think about recycling waste.

### 1.1 What is Edcraft?

Edcraft is a green movement applying gamification to engage youth to gain and learn the positive behaviour of recycling and upcycling. By turning unused and potentially reusable items, aesthetically pleasing and functional artwork are producible through the Edcraft activity.

Gamification strategies have grown in popularity over the last decade to digitally engage and motivate people to accomplish their goals [5]. Edcraft activity has also taken advantage of gamification on the digital platform to influence the youth in their recycling intention. By using the elements of video games like challenges of levels, points ranking in the leaderboard and rewards were implemented to attract their attention, just as how an actual video game has influenced them, the flow of the activity is as shown in Fig. 1. Combining video recording and online activity participation creates a sense of social influence between peers from extrinsic and intrinsic motivation that leads to their recycling behaviour [6].

## 2 Boundaries of Artist and Academic

In the academic world, knowledge is primarily communicated in analytical or abstract texts [7, 8], while on the other hand, an artist's knowledge is strongly experiential and commonly represented in non-textual forms or a unique visual language [7, 9].

Researchers Sameti, Koslow and Mashhady [11] compared 32 professional artists' opinions on design creativity with related academic literature and found that the artists view design as a problem-solving process to address customers' issues while academics approach to design as a collection of attributes, dimensions or characteristics that can be viewed and analysed. Similarly, Gera [16] stated that an academician is likely to frame problems and solutions in a theoretical and abstract context that appears unimportant and nonsensical to artists.

The boundaries between artists and academics might be difficult to cross because of their unique sets of knowledge and activities [7, 10]. Blom, Bennett, and Wright [14] conducted a dialogue session between 10 artists and 10 academicians who passed their knowledge and insights to each other but remained unpersuadable in stepping out of their area of expertise.

To create and achieve a greater quality of art production, there is a need for mutual understanding and hybrid characteristics between artists and academia. While academia has fostered an environment conducive to thinking and writing about art practice, it must also recognise that the artistic research process is entirely different from traditional research [14].

Most research knowledge is collected and distributed in the form of database writings inaccessible to artists, thus hampering knowledge diffusion [16]. To overcome barriers, Gera [16] suggested the following: (1) regular socialisation through observation, communication, and participation, and (2) creating a culture that encourages and gives rewards through information sharing, teamwork and innovation such as collaborative projects. Multi-faceted identities of an artist with academic characteristics or vice versa should be encouraged, supported, and educated because understanding and accepting the boundaries are valuable skills, especially for students engaged in art practice [14].

According to Lam [13], concurrently, individuals whose expertise covers practice and academia will experience higher psychological and cognitive ease because of the psychological proximity and synchrony of the two roles. Furthermore, it enables them to adopt a Janusian approach to knowledge or artwork creation – the ability to simultaneously think and act on many contradictories or opposing ideas [13]. When the gap between knowledge (theory vs practice) and ways of thinking (thinking vs doing) lessens, academics and artists can engage in knowledge sharing and dialogical interactions with each other [13].

For example, a study by Macdonald, Malone, and Firth [12] found that interdisciplinary co-design workshops that are inclusive and engaging can overcome distinct learning and communication cultures. Moreover, the participants in their study were enthralled and motivated by one another's diverse knowledge and abilities. This shows the importance of reducing the gaps between artists and academicians.

In the aspect of research, Blom, Bennett, and Wright [14] stated that some concepts of practice arts are consistent with traditional research while others are distinct but with the potential to expand their research concepts. Hence, thinking analytically and reflectively about one's artistic practice can have numerous outcomes and contribute to the practice itself [14].

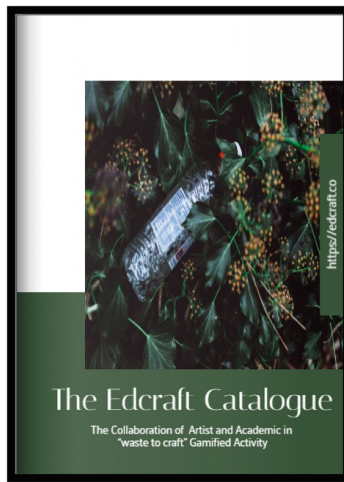
Both artists and academics should develop a collaborative project while leveraging each other's knowledge, leading to closer boundaries and facilitating effective and efficient outcomes. Beech, MacIntosh and MacLean [15] said knowledge transfer does not advance from an academic to an artist or vice versa. Instead, it is established in a collaborative discussion and then implemented together.

### 3 Design Layout with Past Artworks

Edcraft is an initiative to bring youth together to achieve recycling intentions aligned with SDG (Sustainable Development Goal) 12 - Sustainable consumption and production



**Fig. 2.** The catalogue content flow from beginning to finish



**Fig. 3.** Edcraft catalogue cover

empowered by gamification. The purpose is to ensure that the youth can understand and be aware of how to protect the natural resources and improve awareness of recycling behaviour and ways to reuse and recycle waste to build a sustainable green society. This catalogue is still in the design stage, only the design phase where the layout and contents have been created. The catalogue is expected to contain no more than 20 pages, main content area 1) Foreword, 2) The sustainability goal, 3) Past Edcraft, 4) About Edcraft, 5) Students artwork, 6) Artist artwork, 7) Edcraft competition, 8) Edcraft exhibition, 9) Acknowledgement and 10) About authors as shown in Fig. 2.

To date, the catalogue has been designed up to content number 3) that can be seen in Fig. 3 - the cover of the catalogue, Fig. 4 - 1) Foreword and 2) The sustainability goal, Fig. 5 - 3) Edcraft Archived and Fig. 6 - 4) About Edcraft.

The catalogue is important for communicating with the public on the importance of upcycling. Inspired by Brown et al. [17], it links artists and academics to achieve aesthetic



Fig. 4. Edcraft catalogue aim

images of reusing and recycling waste, designs may be fiction, but with a strong message on recycling awareness and sustainability topics, the innovative idea of Edcraft is to close up the gap between illustration, concepts and design with the academically heavy on the sustainability issue that is scientifically oriented.

The catalogue covers in Fig. 3 show the plastic bottles in the greens, where both recycling and greens can co-exist. The content in Fig. 5 also presented the past Edcraft's ideas designed by students that have been recycled simple waste such as plastic bottles into a work of art that can be used in several looks and different shapes such as a vase and a face shield. The Edcraft catalogue aims to publicise the positive idea of sustainable consumption and production to address the problems caused by waste that turns into artwork. As waste is a word that most people think of as a "dirty" or "negative" term in practical, it is reflected as something unhygienic to most people, but Edcraft is to channel the negative assumption through the creative artwork with the environmental sustainability topic as the good cause.

In previous Edcraft activities by Cheng et al. [18], and Cheng et al. [19], participants have expressed their interest and the potential of gamified ideas on recycling activities and the activity itself. It was also considered innovative learning to nurture recycling intention and has received good feedback due to its innovation. Nevertheless, edcraft did fulfil the standards of gameful learning and participants were engaged with the fun learning experience. However, some participants think that the activity will not be a success without a long term and consistent exposure to learning and reminders. Therefore, the Edcraft catalogue is a new approach to getting more varieties from the ecosystem.

The catalogue presents the recycled waste artworks that have been designed, such as transforming plastic bottles into a flower vase and a face shield, as examples of reusing plastic bottles as they have had an extreme impact on the environment in terms of decomposition. Edcraft's creative ideas through catalogues (printed and digital) are



Fig. 5. Edcraft Archived.



Fig. 6. Edcraft vase and face shield

expected to be one approach to communicate to wider audiences and improve the way people think about recycling.

The catalogue design aims to cultivate youths' creativity in upcycling through the assistance of multimedia and smart devices, increasing their attention and awareness of recycling. Most notably, reducing the demand for raw materials and conserving natural resources, thus achieving sustainable development, reducing pressure on landfills and maintaining a clean environment, saving energy used to obtain raw materials and then manufacture them. Also, to create a new atmosphere and different decor, invent many

creative ideas that highlight the simplest materials, including damaged or old ones, which can be converted into wonderful decorative pieces.

The catalogue also consists of the work of artists that crafts their piece of art from recycled items that will be included after the next Edcraft that will be carried out soon.

## 4 Conclusion

This catalogue is a beginning stage of experimenting with the design layout to publicise and attract the public to sustainability topics. The artist's work of "waste to craft" served as an inspiration and academic artwork to communicate with the inspiration from the designers; both of the works are believed to be able to affect more people about the awareness of environmental issues.

Also, to maintain Edcraft's motto as a green movement that is not targeting high profitability but to gain awareness from the public that the world is in danger. The accumulative small, massive amount of action can change society by reducing the natural disasters that are seemingly not "natural".

Although it may seem like Edcraft works like a campaign, it is more than just a campaign. The idea behind Edcraft utilises the concept of gamification in learning, Multimedia, information technology, and upcycling to be adequate to the youth as a green action to change their perception of recycling and create urgent attention towards the sustainable issue for the world and planet.

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**Authors' Contributions.** Each author has contributed sufficiently in this project and all authors have agreed to the work in its current form.

Kin Meng is the main author of the paper and is responsible in streamlining the paper writing and carrying Edcraft with the support from Multimedia University and MYSUN MMU.

Athirah is the second author who contributes the content explaining the connection between artist and academic.

Marei is the third author that contributed to the first phase of the catalogue layout design of the Edcraft activity.

Ah Choo is the fourth author who administers and organises the Edcraft activity and project.

Kim Geok is the fifth author that supported Edcraft activity through his leadership from MYSUN MMU.

Junita is the sixth author who supported Edcraft activity and projects. She also administered research on layout designs and activities.

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