

Community Involvement in an English Classroom of a TVET Institution in Malaysia: An Application of CDIO for Non-Engineering Program and Modified Design Thinking Model

Susan S Magallanes*, Julie Marlina Hasan

Department of General Studies, Politeknik Port Dickson, Malaysia

*Corresponding author's email: susanmagallanes@polipd.edu.my

doi: <https://doi.org/10.21467/proceedings.151.49>

ABSTRACT

In December 2020, a mini-pilot project was conducted by students of the Commerce Department, namely the students of Diploma in Marketing, Diploma in Secretarial Science, and Diploma in Accounting. This project aims to test students' coursework integration with the community and encourage students to care about the environment through eco-friendly products. The integration of community-based learning followed by CDIO (Conceive- Design- Implement and Operate) for Non-Engineering Courses and Modified Design Thinking Model. BARE Concept Bulk store, the company that responded to the students' request for collaboration, had their business owner as the Subject Matter Expert of this project. A list of online companies was contacted based on their responsiveness in Shopee, online learning, to gauge their interest in participating in the collaboration. A new startup company: the BARE Concept Bulk store responded. The business owner, who is also an expert in waste management, indirectly became this project's Subject Matter Expert in Eco products. The company will also feature the three best Oral Presentation Videos in the company's Instagram story and the sponsored prizes. The project provided motivation for the students to try harder to impress their clients. The videos presented were aligned with the assignment requirements and were presented creatively. This project showed promising results but required proper execution protocol with the collaborator.

Keywords: CDIO; Community-Based; ESL; Non- Engineering; TVET.

1 Introduction

Greta Thunberg's speech at the United Nations has created awareness among the youth to take drastic measures in environmental conservation and preservation. Responding to this need, a group of commerce students from Politeknik Port Dickson conducted a need analysis to identify their course mates' level of awareness regarding the zero-waste movement. The needs analysis showed that many of their course mates were aware of the zero-waste movement. However, they were unsure where to obtain eco-friendly and biodegradable products in Malaysia. A Subject Matter Expert was searched among the eco shops, online or physical. The owner of Bare Concept Bulk Store, Lim Chun Lan, responded to the proposal.

1.1 Purpose

The youth are the future of our country, the change agent for sustainability. This pilot project was meant to create awareness about eco-friendly products in the Malaysian market among the youth community through an hour webinar conducted by the project Subject Matter Expert. Then, the students will create a product comparison video of eco-friendly products available in Bare Concept Bulk Store with the conventional products available in the market.

1.2 Communities Involved

Two communities will benefit from this project. The first community was 94 Polytechnic Port Dickson students aged between 18-21 years old. The students of Polytechnic Port Dickson mainly desire to preserve



© 2023 Copyright held by the author(s). Published by AIJR Publisher in "Proceedings of the 3rd International Conference on Community Engagement and Education for Sustainable Development" (ICCEESD 2022). Organized by the Universitas Gadjah Mada, Indonesia on December 7-8, 2022.

Proceedings DOI: [10.21467/proceedings.151](https://doi.org/10.21467/proceedings.151); Series: AIJR Proceedings; ISSN: 2582-3922; ISBN: 978-81-961472-6-6

and protect the environment. As students from the Department of Commerce, they are very interested in the effective handling of natural resources and the impact of human consumption on the environment. In addition, they also want to know which consumer products, biodegradable juices, can further reduce the carbon footprint. The second community is the Zero Waste Community, represented by Bare Concept Bulk Store owner Ms. Lim Chun Lan. She operates a convenience store that sells eco-friendly products and provides BYOB (Bring your Own Bottle) services for refilling frequently used detergents such as laundry soap, bath soap, etc. She is also an advisor on this project and an expert in the Zero Waste Community who holds a Masters in waste management. Her involvement was to raise public awareness of the importance of effectively operating natural resources and developing an environmentally friendly business.

1.3 Need Analysis

The students of Politeknik Port Dickson have long learned about the importance of protecting and preserving the environment. However, due to Malaysia's beginner's involvement in UN SGD goals as reported by the Department of Statistics Malaysia Official Portal, Malaysia's awareness of sustainability level is comparatively low. Hence, green consumer products are relatively non-existence and suffer from the greenwash marketing effect. This situation is reflected in the need analysis survey conducted by the project committee, as explained in Table 1.

Table 1: *The survey results*

Needs Analysis Survey Carried out by Project Committee	Yes (%)	No (%)
Do you bring your own grocery bag when you go shopping?	50.9	49.1
Do you bring your own water bottle when you go out?	77.7	22.3
Do you bring your own food container when taking away outside food?	12.5	87.5
Will you request for plastic straws when buying beverages?	50.9	49.1
I throw the plastic bag if I do not need it.	24.1	75.9
Do you have the habit of recycling?	66.1	33.9
Are you interested to know how to reduce garbage?	87.5	12.5
Do you care about the environment?	100	0
"Eco-friendly products help to reduce the usage of plastic." Do you agree with this statement?	100	0
Are you aware of eco-friendly products in the market?	77.7	22.3
Are you interested in using eco-friendly products?	93.8	6.3
Do you know where to buy eco-friendly products in Malaysia?	55.4	44.6

Based on the data collected, the youth have good basic sustainability habits and are interested in the alternative products consumed.

1.4 Instructional Objective

Henri Holec [1] has long promoted learners' autonomy in foreign language learning to improve self-efficacy and motivation. The students are represented by a committee member, which consists of 4 students who hold a higher level of English competency. The course lecturer arranged a meeting with the project committees to decide on the direction of this project's learning and instructional objective. The committee

members decided to apply the knowledge learned in Topic 1: Product and Services in real life by producing a promo video for one of the BARE concept Bulk Store products. At the same time, these students decided that good oral presentation is essential in their future careers, especially when working with the client, and this project is an excellent practice to sharpen the skill. Besides, these projects allow students of Politeknik Port Dickson to be more civic-minded and understand that everyone can contribute to the betterment of the community, as promoted by Farah Dina and Ana-Paul [2].

2 Research Methodology

2.1 Context Analysis-Oral Presentation Assignment in the English Classroom

Oral Presentation is the first assignment of DUE30022, occupying 30% out of 100% of the continuous assessment mark. Oral Presentation instruction was modified to accommodate the collaboration and ensure that the instructional objectives could be achieved. Students are required to produce a video to promote a company's product.

2.2 Implementation Model-CDIO for Non-Engineering Students

CDIO Model or *Conceive, Development, Implementation, and Operate Model* is not a foreign model in TVET institutions. Instead, it is a model conceived at MIT and then introduced globally through the CDIO World Initiative Organisation. It is common for this model to be utilized by engineering and not social science. A. Martins et al. [3] show that the adapted model, combining Development and Implementation, is suitable for program design, Master in Development Practice.

Furthermore, this model emphasizes active and experiential learning, which showed its dire need during the pandemic as students are confined at home and unable to have hands-on experience with the knowledge they learned. The solution was to carry out pedagogical changes to suit students' interests and keep their relevance to the model. The project activities can activate multiple learning domains (cognitive, affective, and psychomotor) and skills (interpersonal skills, communication skills, ICT skills, and Critical Thinking skills).

2.3 Content Design Model- Modified Design Thinking

Design thinking is another popular and widely used model applied in TVET institutions. Many may argue that design thinking requires an iterative problem-solving process. Many scholars have agreed that Design Thinking has limited problem-solving potential to be considered a distinctive and robust design concept. The anecdotal record shows that the systematic and coherency of this model allows users to apply it with ease.

There are five stages in Design Thinking; Empathise, Define, Ideate, Create, and Test. The modification, conducted on young learners in [4], was done in two stages: Empathise and Test. These two stages require the student to be immersed in the environment to observe and engage with the community, but the lockdown limited it due to the pandemic. Hence, the webinar, where the Subject Matter Expert was brought in to tell the students the consequences of not unsustainable consumerism and its impact on the earth and future resource. The same person also provides the platform to test the students' products via the response and view gained by the video they created.

2.4 Combining the Implementation Model and Content Design Model

The implementation and content design model as combined will be explained in Figure 1.

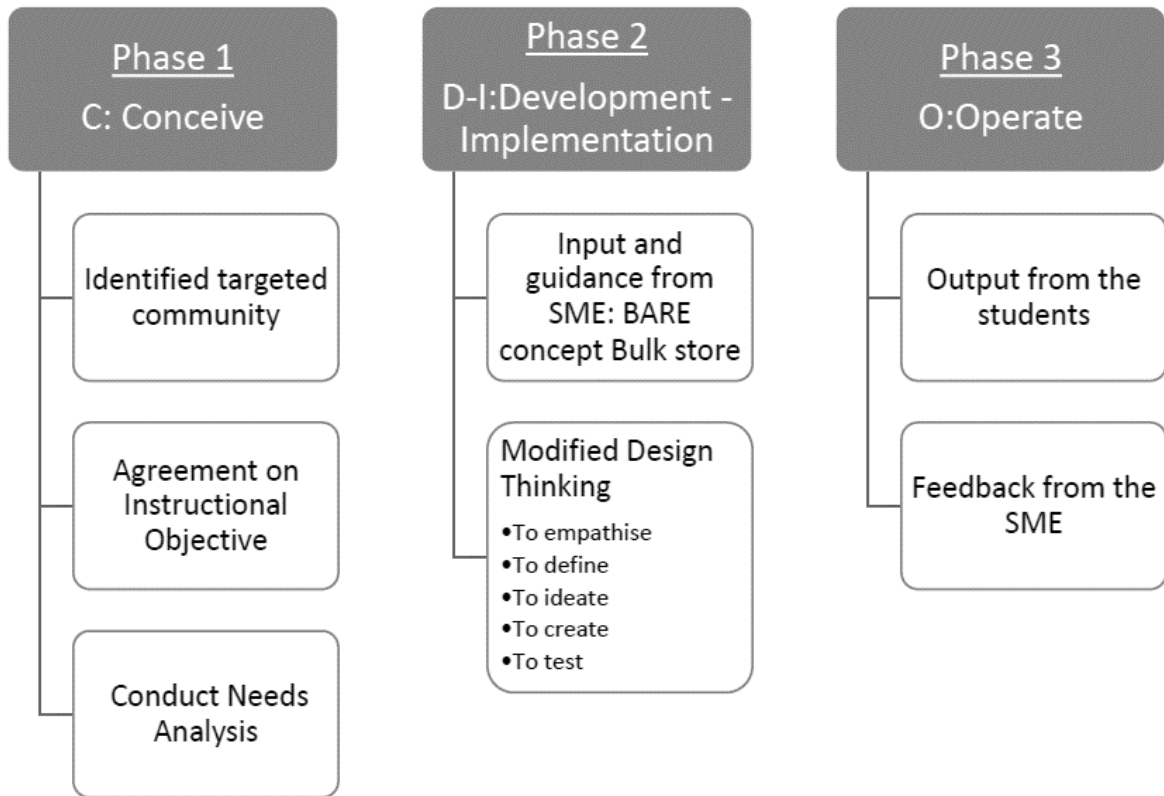


Figure 1: Phases of CDIO for Non-Engineering implementation

3 Results and Discussion

3.1 Implementation

Table 2 shows the CDIO (Conceive, Development, Implementation, and Operate) for the Non-Engineering Model of this project and the Modified Design Thinking Model in the Development-Implementation Phase.

Table 2: Summary of the project

Implementation Stages based on CDIO Model	Criteria	Summary of activities by stages
Conceive Stage	Targeted audience	DUE30022 students taught by Miss Susan in December 2020, with 66 students forming 17 groups.
	Instructional Objectives	By the end of the assignment, students can: a. apply the knowledge learned in Topic 1 Product and Services in real life by producing a promo video for one of the BARE concept Bulk Store products. b. understands the importance of good oral presentation in their future career, especially when working with the client c. be more civic-minded and understand that everyone can contribute to the betterment of the community.
	Need Analysis	Students work together to form a questionnaire to understand each other's understanding of eco-friendly products. The result of the questionnaire was presented to the SME by chosen student representatives.

Implementation Stages based on CDIO Model	Criteria	Summary of activities by stages
Development-Implement	Input from SME	On 30/3/2021, SME conducted a webinar based on the data on the Need Analysis presented. She gave an introductory talk on her company’s products
	Modified Design Thinking Model	<p>Modified Design Thinking Model* was used to help students in the design process to encourage students:</p> <ul style="list-style-type: none"> a. to empathize with the future generation with depletion in resources and hence the need to have more Eco- friendly products; b. to define the problem and reflect on how this problem able to solve the ; c. to ideate a way to create an attention-catching presentation video while designing their presentation slides and writing the presentation scripts; d. to create a prototype (storyboard), a mind map of their presentation video storyline and content. This procedure was not linear because testing, coaching, and corrections were repeated several times; e. to test how the client perceived their videos and the number of likes and views received. (This part will be discussed further in Operate stage). <p>* Modified DT model was crucial as the immersion stage cannot occur naturally due to the pandemic, but the gruesome data, videos, and photos evoke strong student reactions. This process mimics the immersion stage in DT.</p>
Operate	Output from the students	Students' feedback that it is the first time they work so hard on an English presentation video.
	Feedback from the SME	<p>SME could not feature the students’ video as promised as the submission was 2 weeks overdue* as planned. She feedbacks that the video was well done and able to shine a good light on the company’s brand. She is delighted that students are more Eco-conscious now.</p> <p>*Highlighted as one of the project’s challenges</p>

3.2 Evaluation

At the end of the project, the committee members interviewed 4 out of 66 students they gauged their friends’ views of the project. Students reflected that the group discussion and interaction with the SME/ business owner allowed them to bridge what they learned with the importance of sustainability and the knowledge to protect, conserve, and sustain the environment and resources. They can expand their knowledge, based on their experience, at their own pace with minimum empowerment, even during the lockdown. They reported that their friends valued and approved the information learned during the webinar and brainstorming activities and considered other fields' skills and knowledge in designing the promotional video for Bare Concept Bulk Store. In terms of socialization, students learn their team member's strengths

and weaknesses and use that to design promotional videos unique only to their team's values despite interactions through conference apps and collaboration tools.

As stated in Figure 2, the SWOT analysis table summarises evaluations from the SME and course lecturer. The committee members concluded that the involvement of the Subject Matter Expert and her community had enriched their English learning experience and allowed them to do the video assignment in a more worldly and relatable context.

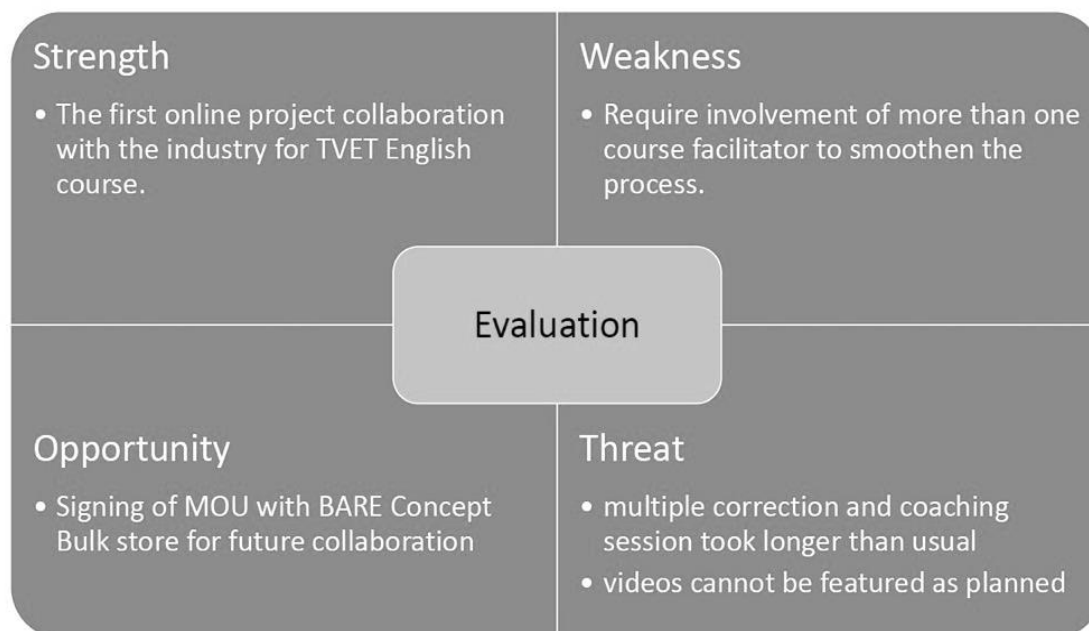


Figure 2: *Project Evaluation from the SME and lecturer*

4 Conclusions

This project shows that community involvement effectively creates awareness about eco-friendly products in the Malaysian market. Besides, students' approaches in video production are more careful with the presence of a community, and the video produced is more creative. Applying CDIO for non-engineering and Modified Design Thinking provides a smooth structure for the project. The project can be better if students can submit it on time and if we have the chance to work with companies who are familiar with our students.

5 Declarations

5.1 Acknowledgments

Special thanks to Miss Lim Chun Lan, Business Owner of BARE Concept Bulk Store, for being the Subject Matter Expert and sharing her pearls of wisdom with us during this project. The authors would also like to thank our colleagues Dr. Diana Busra (Research Consultant, Department of General Studies, Politeknik Port Dickson), Masniza Binti Mansor (Head of English Language Unit, Department of General Studies, Politeknik Port Dickson, and Sharonjit Kaur A/P Karam Singh (Assistant Course Coordinator for DUE30022, Department of General Studies, Politeknik Port Dickson) for their assistance and comments that significantly improved the manuscript.

5.2 Publisher's Note

AIJR remains neutral with regard to jurisdictional claims in published map and institutional affiliations.

How to Cite

Magallanes & Hasan *et al.* (2023). Community Involvement in an English Classroom of a TVET Institution in Malaysia: An Application of CDIO for Non-Engineering Program and Modified Design Thinking Model. *AIJR Proceedings*, 354-360. <https://doi.org/10.21467/proceedings.151.49>

References

- [1] F. D. Yusop, & A. Correia, "On becoming a civic-minded instructional designer: An ethnographic study of an instructional design experience," *British Journal of Educational Technology*, vol. 45, no. 5. 2013. <https://doi.org/10.1111/bjet.12112>.
- [2] H. Holec, *Autonomy and Foreign Language Learning*. 1981. New York: Pergamon Press.
- [3] A. Martins, E. Ferreira, J. Quadrado, "CDIO in the Design of a Non-Engineering Program," 13th International CDIO Conference in Calgary, Canada. 2017. <http://www.cdio.org/knowledge-library/documents/cdio-design-non-engineering-program>.
- [4] J. Coorey, & G. Caldwell Rinnert, "Design Thinking for Preschoolers: Encouraging Empathy through Play," *International Association of Societies Design Research Conference 2019*, vol. 4. 2019. <https://iasdr2019.org/uploads/files/Proceedings/le-f-1157-Coo-J.pdf>.