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E-PROCEEDINGS

INTERNATIONAL TINKER INNOVATION & ENTREPRENEURSHIP CHALLENGE (i-TIEC 2025)

"Fostering a Culture of Innovation and Entrepreneurial Excellence"



e ISBN 978-967-0033-34-1



9 789670 103341

23 January 2025
PTDI, UiTM Cawangan Johor
Kampus Pasir Gudang

ORGANIZED BY:

Electrical Engineering Studies, College of Engineering
Universiti Teknologi MARA (UiTM) Cawangan Johor
Kampus Pasir Gudang
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e ISBN: 978-967-0033-34-1

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Published in Malaysia by
Universiti Teknologi MARA (UiTM) Cawangan Johor
Kampus Pasir Gudang, 81750 Masai



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PREFACE

It is with great pleasure that we present the e-proceedings of International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), which compiles the extended abstracts submitted to the International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), held on 23 January 2025 at **PTDI, Universiti Teknologi MARA (UiTM) Cawangan Johor, Kampus Pasir Gudang**. This publication serves as a valuable resource, showcasing the intellectual contributions on the invention and innovation among students, academics, researchers, and professionals.

The International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), organized under the theme "Fostering a Culture of Innovation and Entrepreneurial Excellence," is designed to inspire participants at various academic levels, from secondary students to higher education students and professionals. The competition emphasizes both innovation and entrepreneurship, encouraging the development of product prototypes that address real-world problems and have clear commercialization potential. By focusing on technological and social innovations, i-TIEC 2025 highlights the importance of turning creative ideas into viable, market-ready solutions that can benefit users and society. The extended abstracts in this e-proceedings book showcase the diverse perspectives and depth of research presented during the event, reflecting the strong entrepreneurial element at its core.

We extend our sincere gratitude to the contributors for their dedication in sharing their innovation and the organizing committee for their hard work in ensuring the success of the event and this publication. We also appreciate the support of our collaborators; Mass Rapid Transit Corporation Sdn. Bhd. (MRT Corp), Universitas Labuhanbatu, Indonesia (ULB), Universitas Riau Kepulauan, Indonesia (UNRIKA) and IEEE Young Professionals Malaysia, whose contributions have been instrumental in making this event and publication possible.

We hope that this e-proceedings book will serve as a valuable reference for researchers, educators, and practitioners, inspiring further studies and collaborations in both innovation and entrepreneurship. May the knowledge shared here continue to spark new ideas and market-ready solutions, advancing our collective expertise and fostering the growth of entrepreneurial ventures.

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A-SS095 PLANET HERO: UNCOVERING HOW TO SAVE OUR EARTH

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ABSTRACT

In this digitalization era, e-books are gaining more popularity in the market due to their convenience that includes accessibility, flexibility, and cost-effectiveness. Nonetheless, there is only a small number of e-books that focus on climate change in Malaysia. Even if there is an e-book or physical book that covers such topic, the contents can be hard for children to grasp because of the usage of the words, which are facts that can be tiring and boring for children to read. Hence, this invention will be suitable for children as the e-book is full of colorful illustrations, and contents that are exciting and related to the subject, thus, making it suitable for children to understand difficult topics. Notably, arts help people associate with difficult subjects such as climate change on a personal and emotional level, making it more applicable to their daily lives or the community (Bentz et. al., 2021). Additionally, this e-book can successfully capture children's attention as well as acquire new knowledge at the same time. Moreover, this e-book can be incorporated into school curriculums as educational resources for children to learn at school and simultaneously can be used by parents to cultivate the love of reading at an early age for their children.

Keywords: E-book, Climate Change, Children, Parents, Teachers

1. Product Description

An e-book entitled *Planet Hero: Uncovering How to Save Our Earth*, is created to educate children on the dangers of climate change along with what can they do to help save the earth in a fun and interesting way, and at the same time, catching their attention effectively. Furthermore, this e-book consists of 7 chapters that are vibrant with colors together with story telling that are intriguing for the children to read as well as related to the current course of events. For instance, the chapters would revolve around how climate change impacts other people or animals, the causes of climate change, and actions that children can do to fight climate change. As a result, children can gain knowledge along with stimulating their love for the environment. Additionally, this e-book will be perfect for young children aged 3 to 12 years old, parents together with kindergartener's and primary's teachers. This is especially because this e-book aligned with the school curriculums, perfect for educating children about the beauty of nature, and visually attractive for children under the age of 12.

2. Gantt Chart

This project began with the idea pitching session which later was unanimously agreed by the group members. The project kicked off in October 2024 (refer to 1.1), with the dissemination

of Google Form that contains 17 questions to 42 respondents. The online survey via Google Form was conducted to obtain information about the target audience's interest (refer to 1.3). Following that, the analysis of data, the drafting stage and the cover page of the e-book were completed in November. Illustration process is expected to be completed within three months (November 2024– January 2025).

Last but not least, finalizing the whole e-book will be done in January (refer to 1.9). Additionally, *Planet Hero: Uncovering How to Save our Earth* does not require any cost estimation since all resources are online tools.

Table 1: Gantt Chart

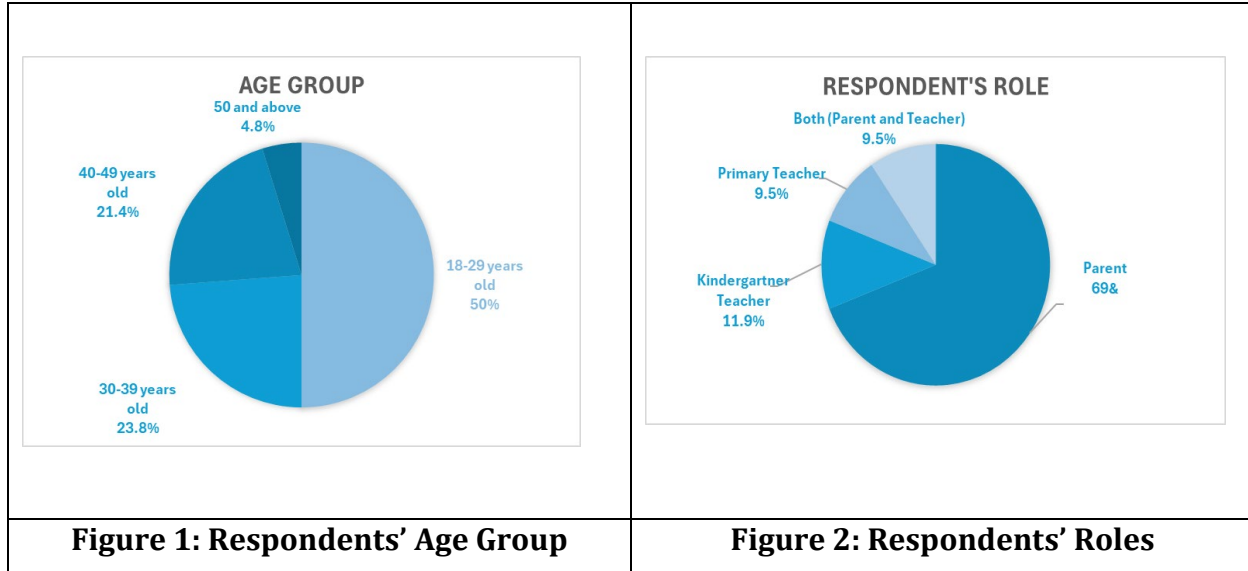
No.	Activities	2024			2025
		October	November	December	January
1.	Decide the final year project out of three project ideas, which is a children's e-book about climate change.	✓			
2.	Made some research and theories that are related to the project.	✓	✓		
3.	Conducted an online survey to learn more about the target audience.	✓			
4.	Plan the storyline of the e-book.	✓	✓		
5.	Visualize the illustration of the e-book.	✓	✓		
6.	Write the storyline in detail.	✓	✓	✓	
7.	Do the illustration of the e-book.		✓	✓	✓
8.	Design the cover book.		✓		
9.	Finalize the storyline as well as the illustration of the e-book.				✓

2.1. Results from the market survey

The purpose of this survey is to find out and analyze respondents' preferences and their opinions concerning the e-book. Additionally, this online survey is divided into three sections, section A covers respondents' demographic, section B focuses on their experiences with educational materials on climate change, and section C centers on participants' feedbacks on e-books for climate change education. Hence, a total of 17 questions were

designed to analyze the e-book's efficiency, interaction, and overall impact on children's comprehension of climate change.

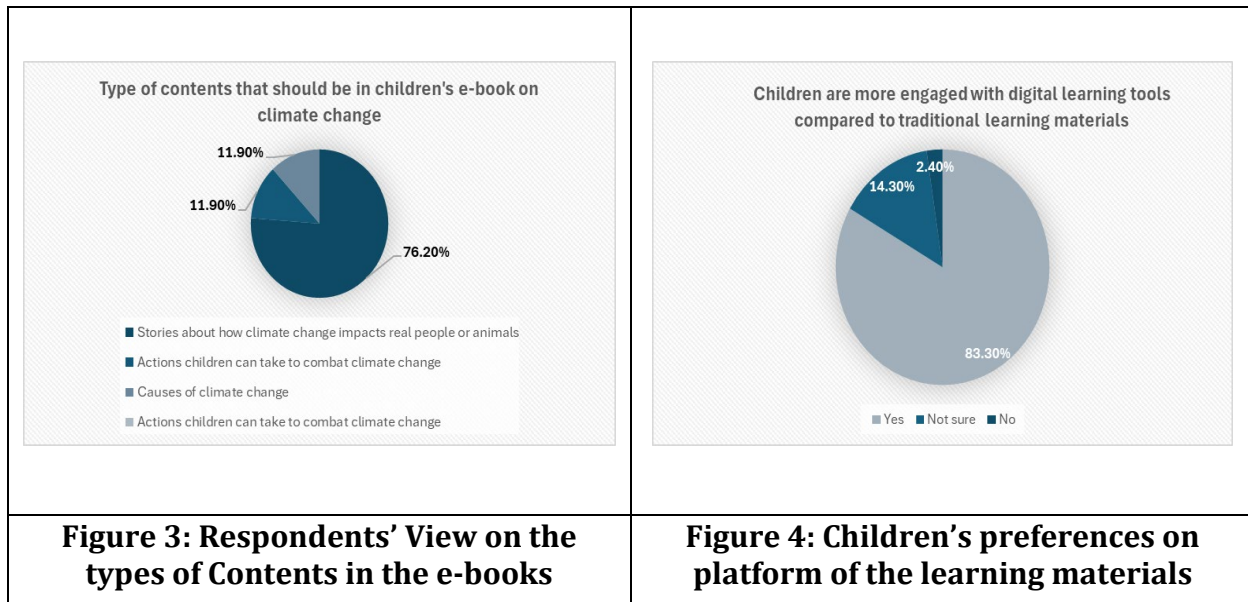
Section A: Demographics



In **figure 1**, the majority of the respondents are at the age range of 18 to 29 years old and following that, the second highest and the third highest are nearly the same age range, which is 23.8% for participants that are at the age 30 to 39 years old and 21.4% for respondents that are at the age range of 40 to 49 years old. Meanwhile, people who are 50 years old and above have the least percentage, which covers 4.8%. In addition, the likelihood of parents and teachers having digital literacy is minimal, as the majority of the people of that age are competent at handling technology.

Figure 2 concentrates on the respondents' roles. Additionally, more than half of the respondents are parents, with only 11.9% being kindergartener teachers. Interestingly, primary teachers and respondents that answer as both parent and teacher have the same percentage which is at 9.5%. This showcases a variety of points of views, including beliefs and opinions from parents and educators.

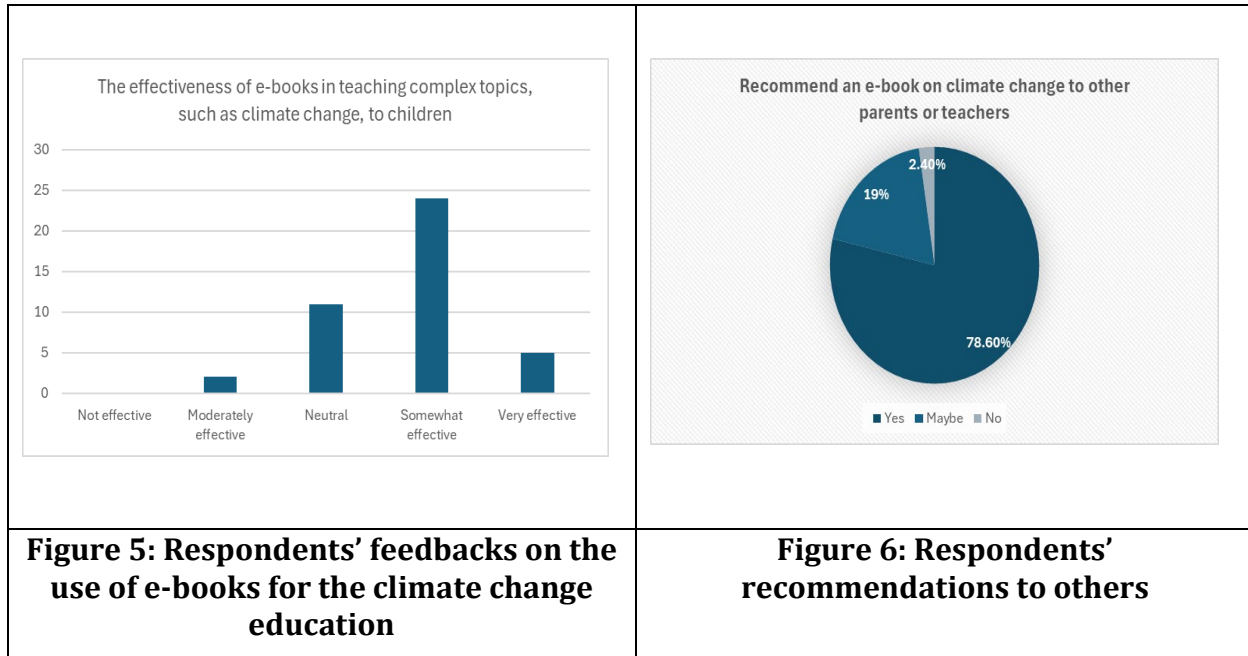
Section B: Respondents' Experience with Educational Materials on Climate Change Topic



In **figure 3**, most of the respondents chose stories about how climate change impacts real people or animals as content that should be focused on. Notably, some of the participants agree that causes of climate change and actions that children can take to fight climate change should be included in the children's e-book considering that both of these contents have the same percentage which is 11.9%. Undoubtedly, it is an essential issue to discuss it with children, thus why the respondents selected these three choices. Thereupon, by incorporating these three choices that were chosen by the respondents, the children can understand easily the causes of climate change, how it affects people and animals, as well as what action they can take to preserve the Earth.

Whilst **figure 4** centers on whether children enjoy digital tools such as e-books or traditional tools like printed books as their educational resources. Additionally, the majority of the respondents agree that children are more interested in digital tools as opposed to traditional tools. Although, about 14.3% of respondents are unsure regarding this and 2.4% disagree with this statement.

Section C: Feedbacks on e-books on climate change education



In **figure 5**, 24 respondents believe that e-books are somewhat effective in teaching complex topics like climate change to children, and 5 respondents agree that e-books are very effective in doing so. Nonetheless, 11 respondents decided to choose neutral as their choice, while there are 2 people who admitted that e-books are moderately effective in teaching difficult topics to children. To conclude, the majority of the respondents agreed that e-books are an effective tool to educate difficult subjects to children.

Figure 6 discloses that more than half of the respondents agree to recommend an e-book on climate change to other parents and teachers. Meanwhile, 19% of the respondents remain uncertain, and only 2.4% are reluctant to make such recommendations. In general, the findings indicate that the majority of the respondents are keen to recommend an e-book about climate change to others.

3. Novelty and uniqueness

The uniqueness of this e-book, *Planet Hero: Uncovering How to Save our Earth*, is that it is tailored to children under the age of 12 because of its appeals that includes vibrant illustrations, relatable scenarios, and the usage of the words are simpler for them to comprehend. Other than that, in comparison to printed books, this product is eco-friendly since it is fully online, hence minimizing the negative environmental effect of printed books, while simultaneously encouraging the sustainability theme and purpose of the content itself. Additionally, this e-book promotes a holistic learning approach to children, acquiring new knowledge, building emotional connection, and developing practical skills as well as

nurturing their sense of love towards the environment. In addition, this invention encourages children to take actions in protecting the Earth, thus cultivating a sense of responsibility within themselves.

4. Benefit to mankind

Planet Hero: Uncovering How to Save our Earth has its own benefits that humans can gain from and that includes promoting sustainable practices and raising awareness regarding climate change. In addition, by exposing this e-book to children, they could learn valuable information and useful skills as well as utilizing those skills to good use. For example, by incorporating this e-book into the school curriculum, students can learn about sustainable practices, and thereafter, children can assimilate it into their daily lives hence, making sustainable lifestyle more regularized in the society. Moreover, children can gain benefit from this e-book considering that it teaches children concerning the causes of climate change together with the solutions to the issues thus, raising awareness regarding climate change at their early age can be in helpful in a lot of ways.

5. Innovation and Entrepreneurial Impact

This project, *Planet Hero: Uncovering How to Save our Earth*, encourages creativity as well as enhances children's problem-solving skills. As this e-book contains enthralling storyline that are related to the world's current issues, it can motivate parents, teachers, and children to reflect about the world's problems and then come up with practical solutions and as a result improving the reader's problem-solving skills. Other than that, this e-book promotes a wide variety of collaboration among parents, teachers together with educational institutions. Additionally, create digital transformation in education. Additionally, this e-book uses digital tools as its platforms, thereupon showcasing the possibility of using digital tools in education by incorporating interactive elements and multimedia, opening the way for future developments in digital education.

6. Potential commercialization

Planet Hero: Uncovering How to Save our Earth has the potential to be an interactive app such as video games or quizzes. This can be useful for parents and teachers as they can track their children and students' progress reports as well as making it more fun for them to learn about climate change. Furthermore, this e-book is possible to be published in multilingual edition as the e-book can be translated into multiple languages to attract an international audience, particularly those who are in areas that prioritize environmental education. In addition, having partnerships with NGO or organization's that are focused on the environment can be beneficial considering that by making sponsorship deals with the organization, this e-book can gain more acknowledgement and financial support to promote this book into international markets.

7. Acknowledgment

The author would like to express gratitude to the second researcher, Derwina Daud, for her words of encouragement and in-depth discussions in regard of this project. Also, big thank you for family members and friends and for their essential supports as well as their valuable advice throughout the making of this project. Furthermore, the authors hope that this e-book will encourage children to develop a heartfelt love towards the environment and foster a strong commitment together with discipline to protect the Earth from any harm. Moreover, the authors wish that with this e-book, it can lead to significant discussions among children, parents, and teachers, encouraging everyone to work together to protect our world for the future generations.

8. Authors' Biography



Sabrina Mohamad Fadzill is a Diploma in English Professional Communication student at UiTM Johor Branch, Segamat Campus. Her significant interest in language, communication, and creative writing has fueled her ambition to create educational and fascinating content. Sabrina's project reflects her dedication to her academics as well as her passion to raise awareness regarding major global concerns such as climate change. Additionally, this e-book, *Planet Hero: Uncovering How to Save our Earth*, showcases her ingenuity and motivation to encourage young children to act for a brighter future.



Derwina Daud, is a senior lecturer in the Akademi Pengajian Bahasa, UiTM Johor, Segamat Campus. With over 15 years of experience in teaching English to both undergraduates and graduates students, she has great interest in sociolinguistics, media linguistic and creative writing. She is currently pursuing PhD in applied linguistic, at the Akademi Pengajian Bahasa, UiTM Shah Alam. Her dissertation title is *Multimodal Critical Discourse Analysis (MCDA) of Internet Memes on Malaysian Movement Control Order (MCO) 2.0 during COVID-19*.