



INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT



e ISBN 978-967-2948-56-8



“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT

Copyright © 2023 by the Universiti Teknologi MARA (UiTM) Cawangan Kedah.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission, in writing, from the publisher.

© iSpike 2023 Extended Abstract is jointly published by the Universiti Teknologi MARA (UiTM) Cawangan Kedah and Penerbit UiTM (UiTM Press), Universiti Teknologi MARA (UiTM), Shah Alam, Selangor.

The views, opinions and technical recommendations expressed by the contributors and authors are entirely their own and do not necessarily reflect the views of the editors, the Faculty, or the University.

Editors : Dr. Siti Norfazlina Yusoff
Azni Syafena Andin Salamat
Nurfaznim Shuib

Cover design : Syahrini Shawalludin
Layout : Syahrini Shawalludin

eISBN 978-967-2948-56-8

Published by:
Universiti Teknologi MARA (UiTM) Cawangan Kedah,
Sungai Petani Campus,
08400 Merbok,
Kedah,
Malaysia.

- | | | |
|----|--|---------|
| 7. | Sad Nature Bag
<i>Nurul Hazirah Amani binti Hafizal, Khursiah Nur binti Mohamad Amin & Nurulhuda Insyirah binti Khairol Maizi</i> | 702-705 |
| 8. | Mehlcate Gift
<i>Noor Ruzzuwana binti Rahlan, Darshanaa A/P Gunasingam, Dania Balqis binti Rezaman, Aniq Hakimi bin Rozishahlan & Nur Zahirah Aqilah binti Johori</i> | 706-709 |

CATEGORY: CSP YOUNG INVENTOR

- | | | |
|----|---|---------|
| 1. | Gyroscopic Contactless Head Mouse
<i>Nannabhad Thammultri, Bhandhisa Pongsak, Pakin Teerachotmongkol & Athicha Siriboonlamom</i> | 710-713 |
| 2. | "Imagine Spacing Ruler, Your Writing Buddy"
<i>Saadiah Juliana Saadun, Putri Qisha Nur Iman, Damia Humaira Syuhaimi, Nurul Aina Amilia Mokhtar, Khayra Zarith Khuzairi, Siti Maslinda Syed Musa & Farah Ilyana Azlan</i> | 714-718 |
| 3. | SOAP4LYFE: Soap Used Cooking Oil with Sandal Wood and Black Seed
<i>Irdina Iwani Abd Jalil, Fatin Nur Amira A.Rosman & Fatin Nursabrina Lokman</i> | 719-723 |

CATEGORY: CST YOUNG INVENTOR

- | | | |
|----|--|---------|
| 1. | Smart Exposure to Artificial Intelligence (AI) Among the Primary School Students
<i>Muhammad Adam bin Helmi, Mohammad Qayyim bin Mohammad Rizal, Muhammad Anas bin Helmi & Adlin Elieza binti Nik Awang</i> | 724-726 |
| 2. | Go Beyond
<i>Raidahwati binti Jalalin, Madni bin Siadi, Maimunah binti Tajuddin, Mohd Hafiz bin Abdul Karim & Myzan Luqman bin Mohd Yazid</i> | 727-729 |
| 3. | Sustainable Sap Hydrogels Enhance Controlled Urea Release in Agriculture
<i>Maizatul Husna Nasuha Mazlan, Alyasofea Nazrul Hisham, Hatika Kaco & Mohd Shaiful Saja</i> | 730-736 |
| 4. | Coco M Board (Coconut Multipurpose Board)
<i>Norzalina binti Jenal, Badreanaliss binti Ignicious Nizam, Farishah Najwa binti Roslan, Nurin Qistina Basyirah binti Rusli, Nur Hidayatul Munirah binti Mohd Zaiton, Nadhirah binti Abdul Halim & Fateha Syahera binti Khairul Anuar</i> | 737-740 |

Assalamualaikum warahmatullahi wabarakatuh,



First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality. I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services. By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality. I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

Professor Dr. Roshima Haji Said
RECTOR
UiTM KEDAH BRANCH



WELCOME MESSAGE (i-SPIKE 2023 CHAIR)



We are looking forward to welcoming you to the 3rd International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPIKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPIKE 2023; your dedication and hard work are greatly appreciated.

Dr. Junaida Ismail

Chair

3rd International Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023)

COCO M BOARD (COCONUT MULTIPURPOSE BOARD)

Norzalina binti Jenal
Badreyanaliss binti Ignicious Nizam
Farishah Najwa binti Roslan
Nurin Qistina Basyirah binti Rusli
Nur Hidayatul Munirah binti Mohd Zaiton
Nadhirah binti Abdul Halim
Fateha Syahera binti Khairul Anuar
SMK Seri Kenangan
zalinajenal@gmail.com

ABSTRACT

Coconut trees plantations is widely seen in Malaysia. Parts of the trees are used to produce many various products and used in many ways especially in cooking. Coconut fibre becomes the waste products and contributes to environmental pollution which has been one of the global problems. This product supports the government efforts to enhance the recycle programme which has been one of the country's agenda and help to reduce rubbish in the environment. Hence turning waste to wealth to preserve the ecosystem. Coco-M Board, Coconut Multipurpose Board is a two in one product. Fibre from the coconut fruit is used as the main material to produce the board. The raw and blended coconut fibres are mixed together Starch flour is used as the binding agent. Starch flour solution is then poured to the mixture of coconut fibre. The mixture is then compressed and dried to a specific mould. It has a multipurpose function, one side act as a white board and another side is a bulletin board. This product can be stand upright and hung. It is portable, easy to handle and can be used in different premises for different purposes. The product supports the Ministry of Education in implementing the 21st Century Learning. It can be one of the teaching aids in the learning dan teaching process which makes learning more interesting. Hence providing a conducive learning environment. It is cheaper from the already existing product. It is a Malaysian product which can be proud of.

Keywords: Coconut fibre, Starch flour, recycle, board, 21st Century Learning

INTRODUCTION

In the era of modernization, the impact and effect of the activities to the environment can endanger humans and ecosystem. Environmental pollution has been one of the global problems. The plantation of coconut trees is a common situation in Malaysia. Parts of the coconut trees are used to produce many various products with different purposes. Coconut fruits are usually known in Malaysian cooking and coconut fruit fibres become waste products.

Coconut fibre

Coir is a natural fiber extracted from the husk of coconut. Coir is the fibrous material found between the hard, internal shell and the outer coat of a coconut. The individual fibre cells are narrow and hollow, with thick walls made of cellulose . They are pale when immature, but later become hardened and yellowed as a layer of lignin is deposited on their walls. Each cell is

about 1 mm (0.04 in) long and 10 to 20 μm (0.0004 to 0.0008 in) in diameter. Fibres are typically 10 to 30 centimetres (4 to 12 in) long.

Board

A bulletin board (pinboard, pin board, noticeboard, or notice board in British English) is a surface intended for the posting of public messages, for example, to advertise items wanted or for sale, announce events, or provide information.

A white board is a hard smooth white surface used for writing or drawing on with markers. They can also be used for a variety of purposes.

PROBLEM STATEMENT

- ï Environmental pollution is becoming more serious
- ï Coconut fibre is a waste product
- ï Coconut fibre is easily available unfortunately not utilise to the fullest.
- ï Coconut fibre can also be obtained in large quantities due to the agriculture industry.
- ï Finding a suitable and easy teaching aids and tools for twenty first Century Learning

RESEARCH OBJECTIVES

- ï Preserving the environment by using degradable material
- ï Recycling of waste materials.
- ï Prevent allergies due to the use of artificial materials.
- ï Produce a safe health and environmental product.
- ï Enhance the recycling programme
- ï Producing products for teaching and learning process for multi level institutions and for the different type of usage in any premises.

THE PRODUCT: COCO M BOARD

Coco M Board, Coconut Multipurpose Board is a floor cleaning product, invented by improving the already made product in the market.

Coco M Board is made up of the coconut fiber as the main material. Starch flour is used as the binding agent. The blended fiber and starch solution are then compressed to a precise mould. The product is then dried under the hot sun for several days. By using other materials, the board is produced into a two sided board. One side is a whiteboard and the other side is a bulletin board.

This product is a two in one product with a multipurpose function. Beside that, the board can be stand upright and hung for easy usage in any type of conditions. The product is biodegradable because it is produced with natural resources. By combining two different type of boards, the cost of the board is cheaper from buying two different types of boards.

The main purpose of producing the product is to recycle waste products to beneficial products. Hence helping to preserve ecosystem by using biodegradable materials. Besides that, this products can be one of the teaching aids and tools for 21 st Century Learning implemented by the Ministry of Education.

This product is the first ever product using coconut fiber as the main materials in making a board. It can be a Malaysia product that can be proud of.

THE BENEFIT

- ï Reduced the after used rubbish in the environment.
- ï Preserving the aesthetic value of the ecosystem.
- ï Producing a safe and biodegradable material.
- ï Enhance the recycle programme by producing by-product using recycle coir fibre.
- ï Educating the society of using natural products and supporting the recycling programme.
- ï A product of Malaysian identity

CONTRIBUTION TO THE COMMUNITY

- ï Supporting the Ministry of Education by providing teaching tools / aids for Twenty First Learning Century
- ï Giving the opportunity for the community to have a better choice of natural board product.
- ï Providing a reasonable price board with multipurpose function .
- ï A portable product that is to handle and use
- ï Can be used in different type of premises.

ACKNOWLEDGEMENTS

SMK Seri Kenangan, Kedai Kelapa Taman Yayasan, Mr Fathi Nazrudin

REFERENCES

https://5tech.com.my/interactive-touch-smartboard/?gclid=Cj0KCQjw9deiBhC1ARIsAHLjR2D72a80e9qdIGHPkZLvBGq05nuWp-JJqv2NFN7y5XM9fOB3_DsZuJ0aAhUaEALw_wcB

https://en.wikipedia.org/wiki/Global_warming

<http://www.theplasticfreetimes.com/health-impacts-phthalates-polystyrene-and-other-chemicals-used-make-plastic>

http://greenliving.lovetoknow.com/How_Styrofoam_is_Bad_for_the_Environment

<http://isites.harvard.edu/fs/docs/icb.topic967858.files/PolystyreneFactSheets.pdf>

<https://www.nrdc.org/stories/global-warming-101>

e ISBN 978-967-2948-56-8

