

MELAKA
INTERNATIONAL
INTELLECTUAL EXPOSITION

MIIEX'24

12 JUNE '24

Dewan Taming Sari,
Universiti Teknologi MARA Caw. Melaka,
Kampus Alor Gajah, Melaka

*"Empowerment of Special
Needs through Invention
& Innovation"*

**EXTENDED
ABSTRACT**

MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024

**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND
INNOVATION”**

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UiTM Cawangan Melaka

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78000 Alor Gajah

Melaka Bandaraya Bersejarah

Website: <https://vmiex.uitm.edu.my/>

MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024

“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND
INNOVATION”

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PUBLISHED BY:

UiTM Cawangan Melaka

KM26 Jalan Lendu,

78000 Alor Gajah

Melaka Bandaraya Bersejarah

Tel: +606-5582094 / 2190 / 2113

eISBN: 978-967-2846-81-9

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INNOVATION, INVENTION, AND DESIGN

FOREWORD BY THE RECTOR OF UiTM CAWANGAN MELAKA



Professor Ts. Dr. Mohd Rasdi bin Zaidi

Rector, Universiti Teknologi MARA (UiTM)

Cawangan Melaka

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honour for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

2024 is a special year where MIIEX 2024 emphasizes the development of special needs. As we know, special needs indicate a limitation in a person's ability to engage in and benefit from various aspects, such as daily activities and education. Hence, with the theme "Empowering Special Needs Through Invention and Innovation," it is a platform for industries, professionals, academicians, students, and communities to share their innovative ideas and products to increase accessibility for those with special needs.

The successful implementation of MIIEX '24 is our joint success. This event was supported by the Melaka state government through YB Datuk Fairul Nizam bin Roslan, the EXCO of Science, Technology, Innovation, and Digital Communication. I also want to express my

gratitude to Universitas Negeri Padang, Indonesia, Universitas Muhammadiyah, Makassar, Indonesia, the International Association of Economic and Businesses (IAEB), Universiti Sains Islam Malaysia, Ibnu Umami Maktum Research Center (UMMI), USIM, and The Southeast Asia Minister of Education Organization Regional Centre for Special Educational Needs (SEAMEO SEN) as our co-collaborators for MIIEX 2024.

The collaboration from various parties in MIIEX '24 is a platform that will improve cooperation and interweaving among industries, professionals, academicians, students, and communities in shaping their potential in developing innovation products. This exposition also serves as a platform to cultivate and uphold the nation's innovation culture by presenting new ideas and research by young people, especially from academia and universities. Indirectly, MIIEX '24 will encourage all inventors towards empowering Science, Technology, Engineering, and Mathematics (STEM), especially in primary and secondary schools.

The new digital landscape also inspires more innovation and new ideas that contribute to various activities, such as business and industries. As a university that encourages "Research and Innovation," we aim to foster more innovative products that benefit scholars, industries, and communities, addressing issues to improve our present and future life.

This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams, who are the backbone of this exposition. Their hard work, effort, and time made this exposition possible.

Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

FOREWORD BY THE DEPUTY RECTOR (RESEARCH & INDUSTRIAL LINKAGES)



Associate Professor. Dr. Nur Hayati binti Abd Rahman

Deputy Rector (Research & Industrial Linkages), Universiti Teknologi MARA (UiTM) Cawangan Melaka

With much passion and privilege, let me warmly welcome all of you to the Melaka International Innovation Exhibition (MIIEEX), UiTM Cawangan Melaka's flagship event. I firmly believe that events such as these demonstrate the gradual evolution of this platform in terms of its significance and its governing principles within the sphere of learning and the broader scholarly society.

The theme for this year, "Empowering Special Needs Through Invention and Innovation," strongly connects to our mission of using research and technology to make a positive impact on the world we live in. Besides enforcing the message of diversity, this theme also reaffirms our focus on creating products to improve the lives of people with disabilities (PWDs). Such innovations are vital as only through focused constructive changes can society become more sensitive to the needs of all members.

MIIEEX allows researchers, students, and industry professionals to come together, share their innovative research, and develop viable research partnerships. It has been great to see the enthusiasm of the participants and the efforts they put into their projects, which can offer various social and economic benefits. This is why one can state that MIIEEX is a great

opportunity for creating connections between the academic environment and industry, facilitating the implementation of innovative and promising projects.

Finally, I would like to express my sincere appreciation to all the members and supporters of the organizing committee, all the participants, sponsors, and everyone involved in preparing this event. I want to express my gratitude for your commitment and involvement, as the success of MIIEX and the development of an active culture of innovation in our university and beyond is partly owed to your support.

Thank you

FOREWORD BY THE PROJECT DIRECTOR



Dr Zulkefli bin Muhamad Hanapiyah

Senior Lecturer

Assalamualaikum and Warmest Greetings,

It gives me a great pleasure, on behalf of the organizing committee, to welcome all participants and speakers to the Melaka International Intellectual Exposition 2024 (MIIEX '24) with the theme "Empowering Special Needs Through Invention and Innovation." We are honoured and pleased to welcome all participants to this biennial event.

MIIEX '24 is a platform that gathers experts from local and international industries, academia, scientists, researchers, and the community to contribute to the advancement of scientific and technological knowledge. This knowledge helps develop disruptive innovation products that improve daily activities for businesses and the community, especially those with special needs.

MIIEX '24 provides an atmosphere for inventors of all levels to gain new exposure and collaborate. Indirectly, this promotes a collaborative and innovative culture that focuses on cutting-edge technologies and new standards in technology and creativity.

MIIEX '24 is anticipated to serve as an arena for participants to acquire and disseminate revolutionary information on ideas and innovation. It is intended that the competition will expose the contestants' minds to the latest technologies and designs, aligning with the government's goal of encouraging innovation in Malaysia.

Finally, I want to compliment my fellow committee members on their amazing efforts, which were vital to the event's success. In addition, I want to thank our co-organizers, event sponsors, and participants. Optimistically, we hope that all new knowledge discovered, invented, or innovated will lead us toward future sustainability.

Thank you.

**FOREWORD BY MELAKA STATE EXCO OF SCIENCE, TECHNOLOGY,
INNOVATION AND DIGITAL COMMUNICATIONS**



YB Datuk Fairul Nizam bin Roslan

Melaka State Exco of Science, Technology, Innovation and Digital Communications

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honor for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

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Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

MIIEX'24 ORGANISING COMMITTEE

COMMITTEE	NAME
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	BUSHRA ABDUL HALIM
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	FAIQAH HAFIDZAH BINTI HALIM
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	AFZAN SAHILLA BINTI MOHD AMIR HAMZAH
	MUHAMMAD FURQAN BIN AZHAR
	KHAIRUL AZHAR BIN LOCHMAN

ABOUT MIIEX'24

MIIEX'24 is an innovation competition annually organised by UiTM Melaka with the intention to bring together ideas and inspiration that could fit in for commercialization needs.

This event creates a platform for researchers to establish networking, partnership and opportunities to collaborate with industries.

OBJECTIVES

1. Encourage and instil passion towards inventing and innovating among UiTM Cawangan Melaka staff, students and academicians of local and international higher education institutions;
2. Highlight distinguished talents of skilful inventors and exhibit intellectual products, inventions and innovations among local and private tertiary institutions, government and private agencies, including international participants;
3. Become an effective Business Matching platform for participating research products, matching industries and partnering government agencies;
4. Recognise, inspire and promote invention and innovation products to be patented and commercialized;
5. Increase passion towards inventing and innovating through research and boost interests of government and non-government agencies to obtain consultancy services from a line up experts of higher education institutions and UiTM Cawangan Melaka.

THEME

'EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND INNOVATION'

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Sensory Kit Box

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Abstract

Mrs. Azura, director of Al-Ghazali Special Kids Care Centre said that children with autism often face sensory overload in various environments. Current sensory solutions are limited in their accessibility, customization, and portability, leaving many children without adequate support to manage their sensory needs. Sensory Kit Box brings new ideas by combining four different sensory needs such as textures, colors, sounds, and smell to create a fun and educational experience for children with sensory needs. It's like a treasure chest filled with items that stimulate the senses, helping children explore and learn in an enjoyable way. There are four sections in this Sensory Kit Box which are sections for sound, texture, smell and taste. Sensory Kit Box provides a structured yet flexible environment for children with autism, which allow the children to engage with various textures and sensory stimuli, helping them regulate their sensory responses. The Sensory Kit Box also enhances concentration and attention span, encouraging better focus. Additionally, Sensory Kit Box is designed portable and can be easily transported to different environments, such as school, therapy sessions, or outings. Sensory Kit Box functions as valuable sensory input, serving as a means of self-regulation or sensory seeking, providing vital sensory input, and maintaining optimal sensory processing.

Keywords: Various, Flexible, Accessibility, Stimulation

1. INTRODUCTION

Sensory Kit Box brings new ideas by combining four different sensory needs such as textures, colors, sounds, and smell to create a fun and educational experience for people with sensory needs. It's like a treasure chest filled with items that stimulate the senses, helping children explore and learn in an enjoyable way. In our Sensory Kit Box, each item in the kit is selected to provide sensory stimulation, promote emotional regulation, and encourage positive sensory experiences for these children. There are four sections in this Sensory Kit Box which are sections for sound, texture, smell and taste. Whether at home, in school, or during therapy, this kit offers support and

resources for parents, caregivers, therapists, and educators to assist children with autism in their everyday lives.

2. OBJECTIVE

The objective of the “Sensory Kit Box” is to provide sensory experiences that stimulate various senses such as touch, sight, sound, smell, and taste. This can be particularly beneficial for children with sensory processing disorders, encouraging exploration and discovery by offering a variety of materials, textures, colors, and objects that engage different senses. Sensory Kit Box aims to provide a versatile and adaptable resource that supports sensory exploration, development, and well-being especially for children with autism.

3. NOVELTY & INVENTIVENESS

Sensory Kit Box designed by combining four different sensory needs such as textures, colors, sounds, and smell to create a fun and educational experience for children with sensory needs. It's like a treasure chest filled with items that stimulate the senses, helping children explore and learn in an enjoyable way. Built with a structured yet flexible environment for children with autism, offering a controlled space where children can engage with various textures and sensory stimuli, helping them regulate their sensory responses.

4. PRACTICALITY & USEFULNESS

In designing the Sensory Kit Box, practicality and usefulness are the most important factors to focus on. Each item in the kit is specially selected to provide sensory stimulation, promote emotional regulation, and encourage positive sensory experiences. Practicality entails selecting items that are durable, easy to clean, and most importantly safe for children. There are four sections in the Sensory Kit Box which include sections for sound, texture, smell and taste. As well as to focus on engaging with various textures and sensory stimuli, helping them regulate their sensory responses and reducing sensory overload and anxiety. The Sensory Kit Box also enhances concentration and attention span, which is vital for children with autism, encouraging better focus. The Sensory Kit Box is designed portable and can be easily transported to different environments, such as school, therapy sessions, or outings.

5. CONCLUSION

The Sensory Kit Box serves as valuable tools for providing multi-sensory experiences. By engaging with multiple senses simultaneously, sensory kits can support children with sensory processing disorders to increase their ability to engage in daily activities and social interactions effectively.

REFERENCES

- *The Benefits of Sensory Bins for Children With Autism*. (2023, October 16). HANDS Center for Autism. Retrieved April 29, 2024, from <https://www.handscenter.com/the-benefits-of-sensory-bins-for-children-with-autism>
- *Sensory Kits | Autism Multi Pack | Weighted Therapy Pack | Fidget Toy Packs | Classroom Packs*. (n.d.). Sensory Direct. Retrieved April 29, 2024, from <https://www.sensorydirect.com/great-value-bundles>
- *Six Developmental Benefits of Sensory Bins*. (2021, March 3). Salus University Health. Retrieved April 29, 2024, from <https://www.salusuhealth.com/news/2021/03/six-developmental-benefits-of-sensory-bins.html>
- *Sensory Products Box - Sensory Box for School - Sensory Products*. (n.d.). Autism Products. Retrieved April 29, 2024, from <https://www.autism-products.com/product/sensory-products-box/>