FACULTY OF COMPUTING

ASSIGNMENT 1

REPORT ON VISIT TO NALI 2023

SECP1513

TECHNOLOGY & INFORMATION SYSTEM

SECTION 7, 2023/2024

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GROUP 1: GENSHIN STARTUP

BIL	GROUP MEMBERS	MATRIC NO
1	MUHAMMAD AMMAR BIN MOHAMAD IDHAM	A23CS0247
2	CHUAH CHUN YI	A23CS0070
3	CHONG JUN HONG	A23CS0066
4	TAI YI TIAN	A23CS0272
5	NAZMI HAIKAL BIN KHAIRUL	A23CS0145

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1.0 Group Introduction

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1.1 Group Details

Title of the report:	REPORT ON VISIT TO NALI 2023
Group leader:	MUHAMMAD AMMAR BIN MOHAMAD IDHAM
Group member:	CHUAH CHUN YI
	CHONG JUN HONG
	TAI YI TIAN
	NAZMI HAIKAL BIN KHAIRUL
Task assigned:	MUHAMMAD AMMAR BIN MOHAMAD IDHAM – Table of content and Poster Reflection
	CHUAH CHUN YI - Introduction part, Overview part and Poster Reflection
	CHONG JUN HONG – Reflection and Conclusion Part, Video Editing and Poster Reflection
	TAI YI TIAN – Front page, Reference and Poster Reflection
	NAZMI HAIKAL BIN KHAIRUL – Poster Reflection

2.0 Overview of the Program Visit

New Academia Learning Innovation also known as NALI is a framework of promoting innovative teaching and learning practices in education. To achieve entrepreneurial academia, student-centred and blended learning philosophy, multiple learning modes and materials are composed in NALI. NALI 2023 is an annual knowledge sharing event organised by Universiti Teknologi Malaysia (UTM) through Center for Advancement in Digital and Flexible Learning (UTM CDex) and Faculty of Computing (FC). The objectives of NALI 2023 are to recognize NALI research and innovation products in teaching and learning through exhibition and competition, become a platform for sharing of research and innovation products in teaching and learning and improve STEM awareness among educators in practising NALI.

The theme for NALI 2023 is resilience education for future-oriented quality graduates. In this era of globalisation, resilience is vital for an individual to manage challenges and overcome obstacles. During facing problems, the individual also needs to learn how to cope with stress and be positive thinking. Therefore, resilience education can be applied in various ways, especially schools, to equip an individual to better navigate life's challenges and reach their full potential. In NALI 2023, the participants showed the outcome of their research about the theme through an exhibition of posters in the booths. For example, NXT-Prime in Educational Robotics, Secondary School Students' Performance, Motivation and Vocabulary Retention Through the Implementation of Augmented Reality in English Language Classroom and AI Usage in Modern Education: Nurturing Adaptability. The participants also explained about how usage of ICT in teaching and learning related to their research.

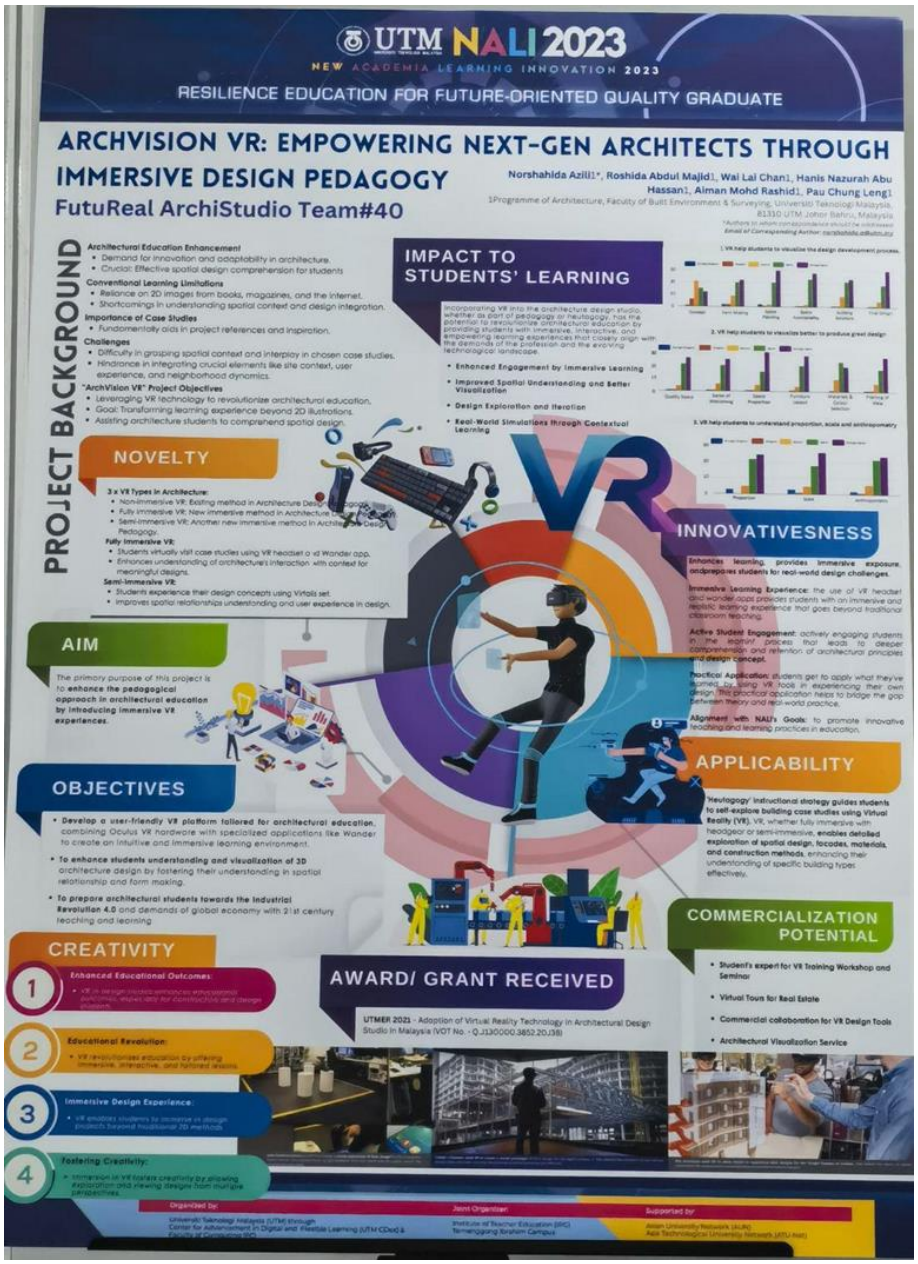
Moreover, there are also some workshops conducted in NALI 2023. For example, How to Build a Successful Online Course in OpenLearning, Augmenting Learning Instructions with ChatGPT Engagement and Enhancing Student Engagement and Resilience Through Blended Learning in Higher Education. In addition, one of the activities in NALI 2023 is Pecha Kucha, a presentation

with a format of 20 slides or images and each shown for 20 seconds. The main idea for the Pecha Kucha presentation is “talk less, show more”. This ensures the speaker is brief and conveys their presentation straight to the point.

Furthermore, NALI Award is also part of the program. The objectives of this award are to recognize and celebrate educators who have made significant contributions in the field of education by changing traditional teaching methods and embracing new and emerging technologies, pedagogies or instructional designs. The standard of NALI Award is based on the innovative output of learning materials with good pedagogies principles that has an impact on learning and teaching, integrated technology and incorporated elements of Higher Education 4.0. Other than that, there is also NALI Best Educator Award in the NALI 2023. This award emphasises an individual that displayed a passion for their subject matter, an understanding of pedagogy and fostering a love in learning and instilling lifelong skills as a teacher. The evaluation of the award is based on their impact on students' learning outcomes, their ability to apply different learning styles in teaching methods, use of innovative approaches and technologies and their contribution to the overall improvement in education.

3.0 Reflections on Posters

3.1 MUHAMMAD AMMAR BIN MOHAMAD IDHAM



Poster 1: Archvision VR: Empowering Next-Gen Architects Through Immersive Design Pedagogy

Virtual reality (VR) is a simulated experience that employs pose tracking and 3D near-eye displays to give the user an immersive feel of a virtual world. Nowadays, virtual reality has mainly been used as a platform for video games, most notably VRChat. “ArchVision VR” suggests that virtual reality can be used to enhance the pedagogical (teaching) approach in architectural education by introducing immersive virtual reality experiences. Conventional learning for architecture has a lot of limitations and challenges such as its reliance on 2D images and the difficulty for one to grasp certain contexts and crucial elements in architecture. “ArchVision VR” aims to transform the learning experience beyond 2D illustrations and assist architecture students to comprehend spatial design.

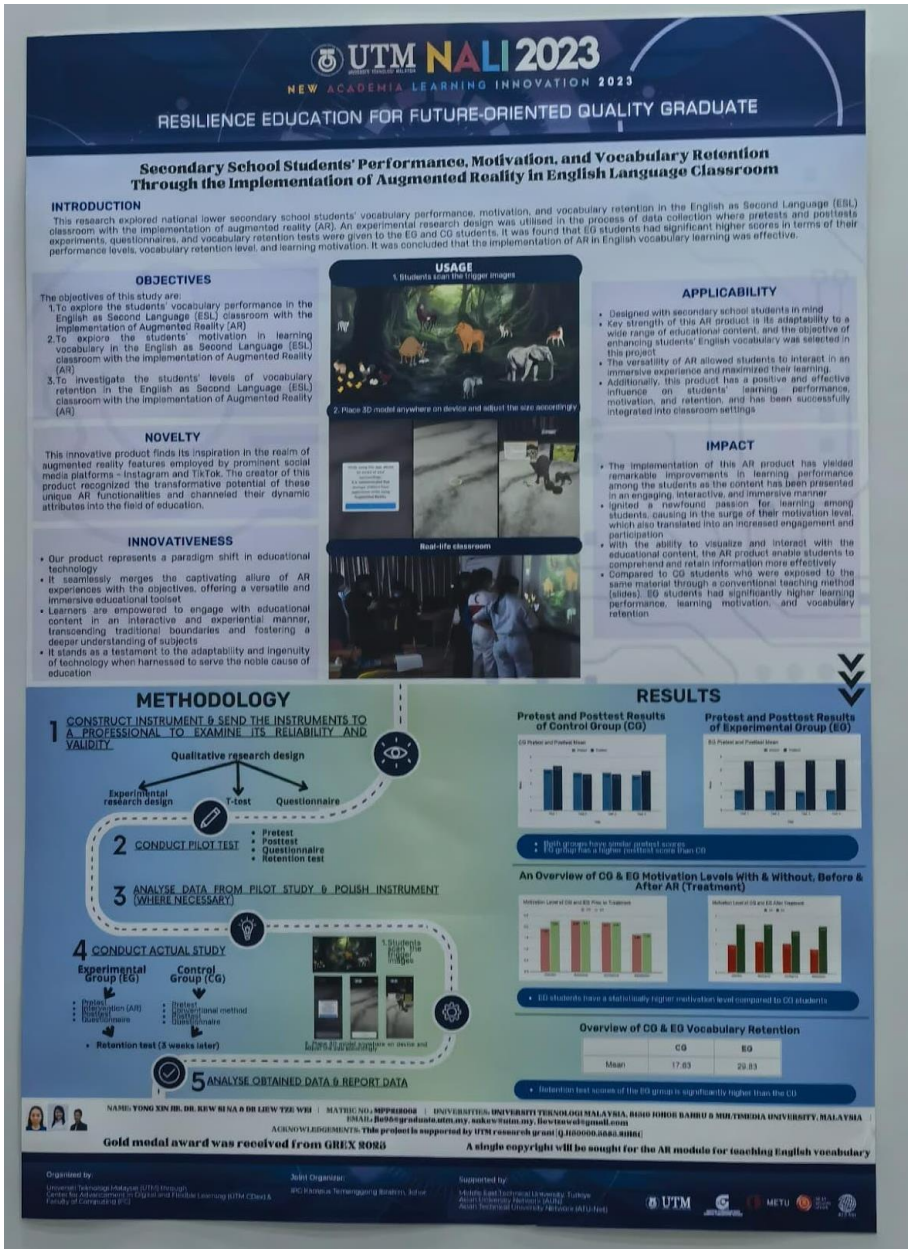
The objective of incorporating virtual reality into architectural education is that it can be used to develop a user-friendly virtual reality platform tailored for architectural education and create an intuitive and immersive learning environment. It can also enhance a student’s spatial understanding and visualisation of 3D architectural design. Virtual reality can enhance the engagement of students by immersive learning and by doing real-world simulations through contextual learning.

Through this project, it can provide a big impact on students’ learning. Incorporating virtual reality into architecture has the potential to transform architectural education by giving students immersive, engaging, and empowering learning experiences that closely correlate with the needs of the profession and the growing technology landscape. Virtual reality can also spark excitement in architectural students, being able to see their 2D architectural plans come to life in a 3D environment with a 1:1 scale, as if they were seeing that building in real life.

In conclusion, virtual reality can vastly improve the learning experience for architectural education. There is only so much a human can do by drawing lines on a piece of paper, it doesn’t always translate well into our 3D real world. With virtual reality, we can bridge the gap by providing students to immerse themselves in the virtual world and see their architecture plans in

3D. In recent years, virtual reality gear, although still expensive, are getting cheaper and more advanced. I hope that this trend can continue to make learning with virtual reality more accessible to everyone.

3.2 CHUAH CHUN YI



Poster 2: Secondary School Students' Performance, Motivation, and Vocabulary Retention Through the Implementation of Augmented Reality in English Language Classroom

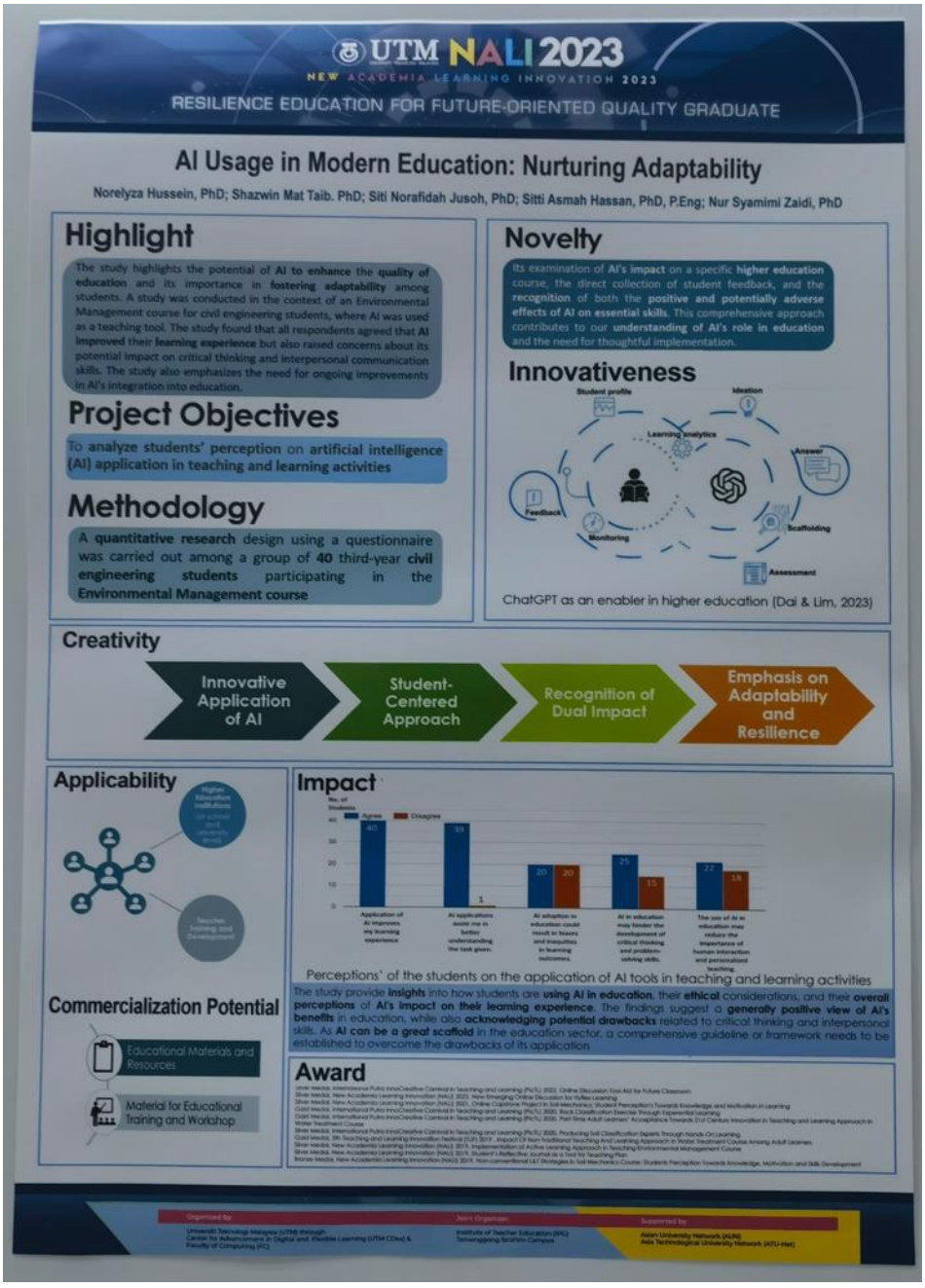
Augmented Reality (AR) is an interactive experience that integrates the real world with computer-generated content. For example, multiple sensory modalities including visual, auditory, haptic, somatosensory and olfactory are used in augmented reality. Nowadays, augmented reality has experienced a rapid development since smartphones and other electronic gadgets have become more accessible in the world. With the use of software and hardware such as apps and AR glasses, we can overlay the digital content in our real-life situation. One of the applications of augmented reality is the Pokémon Go mobile game. We have no doubt that AR plays a vital role in Industry 4.0 by allowing users to 'unite' themselves with the machines and optimising productivity. Besides, augmented reality technologies also can be implemented in the education sector and this will break off the traditional teaching and learning.

From the poster above, I felt amazed that the implementation of augmented reality in English language classrooms is effective for teaching and learning. This can be proven by the outcome of the research that shows experimental group students (groups of students with implemented AR in learning) have better performance level, learning motivation and vocabulary retention levels. They also stated that the versatility of AR has helped students to have an immersive and enjoyable experience in their learning. In my opinion, the application of ICT such as augmented reality in teaching and learning will definitely benefit both teachers and students by creating a connected-learning between teachers and students, accessing the latest learning materials and creating an immersive environment for learning. For example, this can allow students to have a clear and better understanding of the knowledge especially for those complex subjects such as Biology, Physics and Chemistry. However, a coin has two faces. The disadvantages of this implementation of AR in the education sector are the compatibility of existing ICT products, hardware, software and also highly-cost.

In conclusion, I had a deeper understanding and gained new insights on the implementation of augmented reality (AR) for teaching and learning in English Language Classroom from the poster. I really hope that the use of ICT such as AR for teaching and learning will become an emerging trend in the education sector although there are some difficulties to realise it. As a

computer science student, I should prepare myself well by keeping passion to learn new things and adapting myself with new innovations and technologies.

3.3 CHONG JUN HONG



Poster 3: AI Usage in Modern Education: Nurturing Adaptability

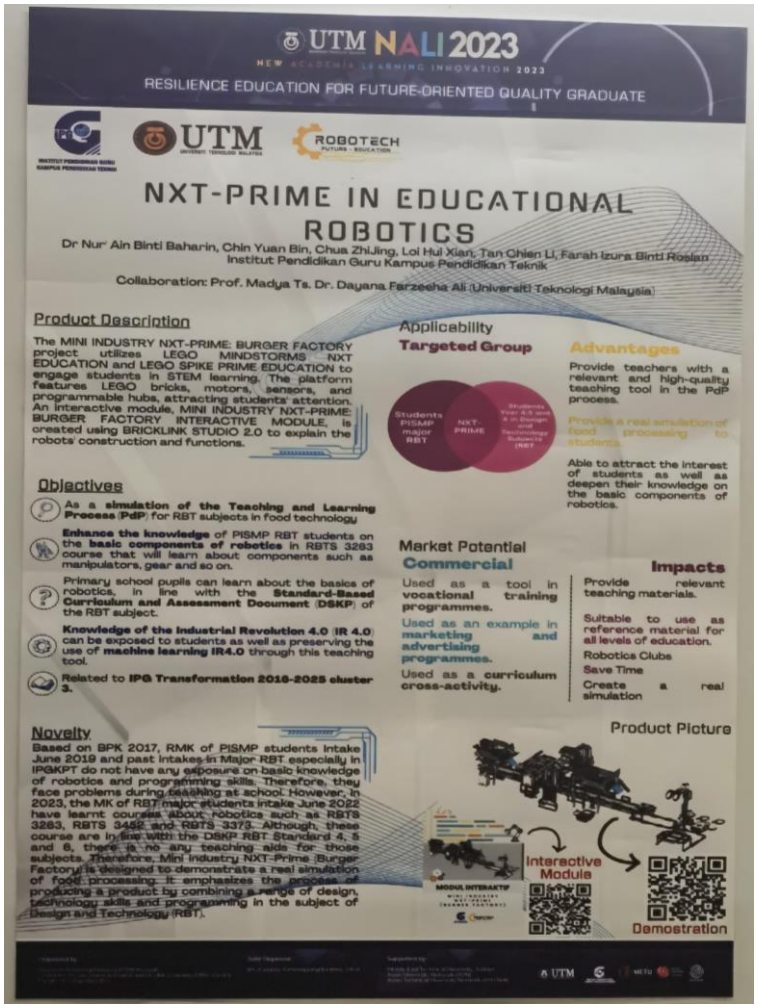
AI also known as Artificial Intelligence has developed so fast nowadays and played an important role as a useful tool to make work or progress more efficient and convenient. If this tool is used correctly or in the right manner, it can increase the efficiency of projects and work. For example, AI could generate ideas for users when a user inputs a problem or question. However, it is up to the users to determine if the ideas given are correct or relevant. Thus, the way we apply the use of AI in our daily life is important to make use of the advantages of this tool. From the poster, the innovativeness of students in using AI as a tool in education and learning is the key to determine if AI could bring benefits in modern education. As the world keeps on changing and developing at a rapid pace, adaptability and resilience are the important values we should preserve in order to make sure that we can keep up with the rapid pace of globalisation and benefit ourselves.

The project and research carried out in this poster makes me feel that AI has brought a great impact on our life in both positive and negative sides. Education is one of the aspects that was highly impacted by the invention of AI. Though students have different perceptions on the use of AI in modern education, for me, I think that everything has pros and cons, it depends on how we maximise the advantages of the function of AI to help us in our study. Make use of its function but not just rely on it. AI could generate or give us false information but it doesn't mean that we couldn't benefit ourselves using AI in the process of learning. In the teaching process also, AI could be useful as it gives an opinion or different point of view. It could act as a reference for students to study but the validity of the information given needed to be verified by students themselves and not just followed or copied only whatever is given or generated.

To maximise the goods brought by the use of AI in modern education, I should access and compare more information to make sure that the ideas generated are valid or true. By doing so, I not only can make my work or the process of learning more efficient, I can also learn new things from different sources and improve the skill in verifying the validity of an information. Besides, in my opinion, I think we have to adapt ourselves with all the new updates and changes in the field of ICT. We should learn to make use of and adapt ourselves with new inventions or

innovation and not just see the cons side of it. For me, I think the use of AI will not reduce the importance of human interaction and personalised teaching since, in contrast, I think it will increase the interactions among students as discussion would be made in verifying opinions generated by AI and the opinion from students. Thus, in conclusion, I think that the usage of AI in Modern Education could bring benefits depending on the innovativeness and creativity of users.

3.4 TAI YI TIAN



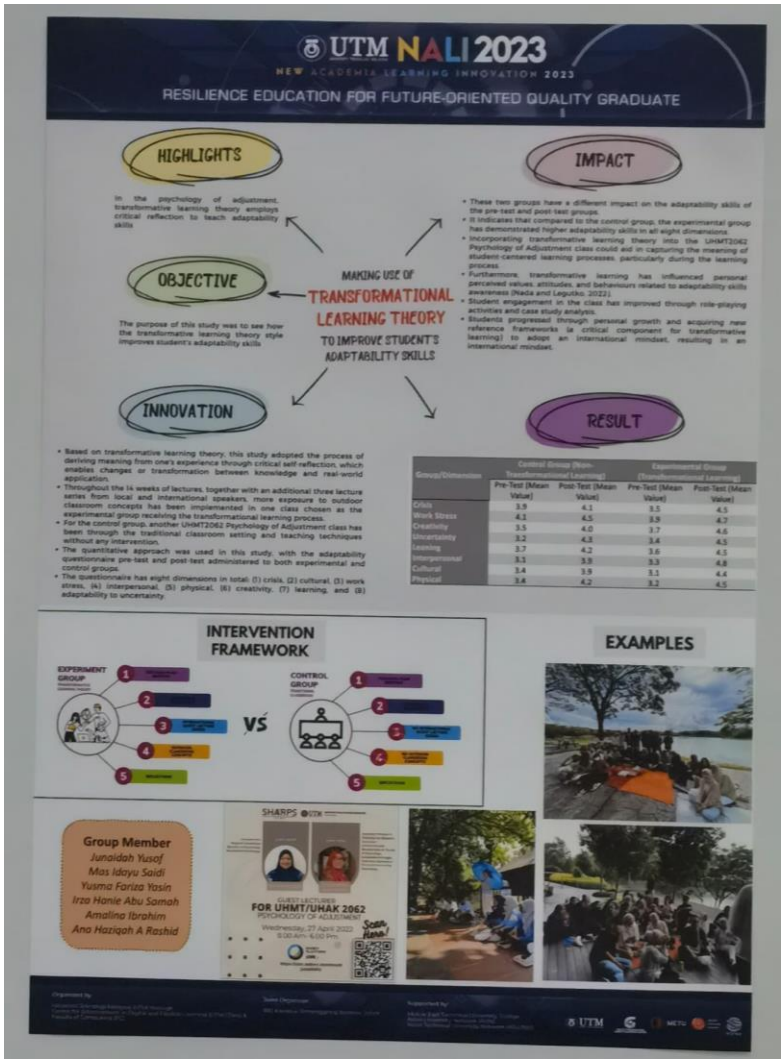
Poster 4: NXT-Prime In Educational Robotics

Robotics is an interdisciplinary field that involves design, construction and use of robots. The purpose of robotics is to create robots to perform tasks done traditionally by human beings. With the innovation of robotics, human lives can be more easily and convenient. For example, robots in industry fields help us to decrease the cost and let customers buy products which are in good quality with a lower price. This is because robots can increase the speed of production and reduce human error. In the medical field, the damaged body part can be replaced with a robotic body part. Other than that, there are also a lot of robots being used in our normal life such as vacuum bot and lawn-mower. So, we can say that robots have become a part of our life to help us in our daily tasks.

From this poster, I feel great about their project. This is because their objective is to let primary school pupils learn more about the basics of robotics. To achieve their objectives, they use Lego to attract the school pupils' attention. This can make them more likely to learn about robotics. While learning robotics, the school pupils can catch up with IPG Transformation 2016-2025 cluster 3 and learn knowledge about the robot components such as manipulators and gear. This can give a lot of advantages to school pupils such as becoming more creative and learning teamwork. Also, their projects have big market potential such as being a tool in vocational training programmes. This can help people to learn more professional knowledge and skill about robots to help them in finding a job or improving themself. So that they can be able to catch up with the technology nowadays as the technology always improves day by day. This project also can be a curriculum cross-activity to help students to explore their potential.

After listening to the presenter's explanation and interview and reading information on the Internet, I found that robotics really brings a lot of advantages to humans nowadays. In my opinion, robotics should be known by more students and give a chance to them to learn about it because it will really help them a lot in future but not only in their academics. Combining robotics with other new technologies such as AR or AI will really change our life in the future because the improvement of technology cannot be expected just like people in the past cannot expect that much work can be done with just using a smartphone nowadays.

3.5 NAZMI HAIKAL BIN KHAIRUL



Poster 5: Making Use of Transformational Learning Theory to Improve Students Adaptability Skills

Learning theory is a belief or principle created to better understand how humans gather, understand, process and apply new information. One of the most famous learning theories of a working human adult is the transformational learning theory. Transformational learning theory is a theory of how people relate their newly founded information into their daily life. This theory is a part of constructivism, which is a framework that acknowledges that every learner creates their own interpretation based on the interaction of new knowledge. Transformational learning consists of 10 learning processes. Experiencing a disorienting dilemma, conducting a self-examination, critically assessing the present assumptions, recognizing shared experiences, exploring options for new roles, planning a course of action, acquiring knowledge, trying out a new role or behaviour, building competence and confidence in the new role and reintegration.

Based on the research poster, I am able to understand the importance of implementing the correct learning methodology in our current education system. As per the poster, they have proven their objectives of investigating how the transformative learning theory style improves a student's adaptability skills. They measure their findings based on eight different groups or dimensions which are work stress, crisis, creativity, uncertainty, learning, interpersonal, cultural and physical. In all eight dimensions, the experimental group (the group with transformative learning) surpassed the control group (the group without transformative learning) with a consistent lead. They also state that the experimental group are able to adopt an international mindset or global mindset which is international strategic management research.

In conclusion, I can confidently say that our current education system is nowhere near perfect as there are more efficient learning methods than the one that we have been using all this time. There are a lot more improvements that could be implemented into our education system. Even though our current facilities are not suitable for transformative learning because it requires more efficient time management and better facilities, we should always look for a better way to learn. Not just academically, but other skills too such as adaptability as shown in the research poster. Perhaps more research is needed to fully understand the true capability of these unique learning theories.

4.0 Recorded Interview Sessions with Innovators

Link:

https://youtu.be/EZ4Jzix2_lA

5.0 Reflections and Conclusion

The activities have given a lot of benefits to students. Through the projects and research carried out, students as participants can learn a lot of extra knowledge based on the topic of their project since they have to search and gather true information related to their research topic in order to complete their task. Besides, since the creation of posters based on certain specific research involves a group of participants consisting of few people, students can improve their skill of communication while interacting with one another to make sure that the research carried out is completed in a proper manner. Besides, through the workshop, students can obtain some tips and useful advice on the ways to build a successful online course in OpenLearning. Aside from that, students can learn about the important role of ICT which has been developing at a rapid pace in modern education and the ways to apply the function of ICT in learning or their studies.

Visiting NALI 2023 could bring a positive impact on the course since the activities carried out have similar themes with the course, which is information, communication and technology. From the activities carried out in NALI 2023, we could find out and see much research related to modern technologies. For example, research on Robotic, research on Artificial Intelligence and research on social media applications like TikTok. Most of them emphasise on how these technologies are used or applied in modern education or how they bring impacts on students either in a positive or a negative way. All the research is useful for students to obtain knowledge and allow them to apply it in the course, for example when doing an assignment, knowledge gained can be used to improve the quality of assignment done.

From the activity, I learned the importance of adaptation and resilience in the process of learning. As technology nowadays develops and keeps on updating at a vigorous pace, everything keeps on changing and the changes occurring could bring either pros or cons. Thus, it is important for us to adapt to the changes and learn how to use the new updated technologies to improve ourselves in learning. For example, one of the most popular tools nowadays, ChatGPT, an artificial intelligence, has no doubt brought a huge impact on modern education. It shows pros and cons. It depends on the users to maximise its function to make users' work more efficient and convenient. The information or ideas provided by the AI may not be exactly true, however as

a user, students have to use it wisely, verify the information or ideas obtained. Throughout the process, not only can students improve their skill on verifying validity of an information, but they also can learn extra knowledge from the ideas provided besides making their study process more efficient. Thus, from the research and projects in NALI 2023, I learned that it is important for us to adapt ourselves to the changes of technologies.

The activities of NALI 2023 do spark the interest in students since the activities are related to the courses or programs applied by students. It provides students with knowledge and information which are interesting and useful. For us, our group consists of five students who all take the computer science, graphic and multimedia software course. We all enjoy the activities very much since we can see many projects related to our course and could obtain some useful information from it. For example, all of us are quite attracted to the Booth which promotes the use of VR in teaching and learning. From there, we could see how VR works well in carrying out the process of teaching and learning through the demonstration by the participants at the booth.

Visiting NALI 2023 and the interview sessions help us a lot in learning the course material better. Since NALI 2023, we have witnessed many projects related to graphic and multimedia. Besides, we also get useful advice from seniors of the same courses who are the participants of the activities. From their research, we can see and have an idea on something that we will learn in the coming years in our course in university.

6.0 References

1. https://utmcdex.utm.my/nali2023/
2. https://www.sap.com/sea/products/scm/industry-4-0/what-is-augmented-reality.html#:~:text=Augmented%20reality%20definition,real%2Dlife%20environments%20and%20objects.
3. https://studiousguy.com/robotics-examples/
4. https://program-ace.com/blog/augmented-reality-in-education/#:~:text=used%20in%20education.-,Augmented%20reality%20in%20schools,math%20more%20interactively%20and%20engagingly.
5. https://en.wikipedia.org/wiki/Artificial_intelligence
6. https://www.techtarget.com/searchcio/definition/ICT-information-and-communications-technology-or-technologies