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**GROUP REPORT**

**(NEW ACADEMIA LEARNING INNOVATION 2018)**

**TECHNOLOGY AND INFORMATION SYSTEM**

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# Introduction

This report is talking about the visit of New Academia Learning Innovation (NALI) 2018 organized by the Center for Teaching and Learning (CTL), UTM. This exhibition is held at Dewan Sultan Iskandar, UTM Johor Bahru on 25th and 26th September 2018.

New Academia Learning Innovation (NALI) 2018 is a celebration for innovative teaching and learning practices. The objectives of this exhibition are:

1. To recognize NALI research and innovation products in teaching and learning through exhibition and competition.
2. To be the platform for sharing of research and innovation products in teaching and learning.
3. To improve educators’ competency in practicing teaching and learning in the 21st Century through NALI talk series and workshops.
4. To improve STEM awareness among educators in practicing NALI.

NALI emphasizes the concept of entrepreneurship. By entrepreneurship, we refer to the context of learning that is more productive, creative and innovative (Zaini, 2012). There are two modes under NALI – Pedagogy/ Andragogy and Digital Resources, all of which contains 15 projects.

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| *model baru*  *Figure 1: Model of NALI. Taken from http://ctl.utm.my/nali/pengenalan/.* |

The exhibitions had held 86 booths with different projects that related to education and technology. Each booth has specific technology that can applied in education. For this report, we had visited booth 21 to 27. We listened the exhibitor’s presentation in each booth and each of us chose and typed the booths. We combined our separated reports into one.

# Effective Team Formation Using Personality Type Differences in an Interdisciplinary Engineering Education Project

In this project, it exhibits about the project done by a total of 282 students from four different engineering school that were divided into 15 teams. But the highlights of this project is not about the task done by the students but it is about how students with different personality in a team can worked together to finish the task. The objective of this project is how engineering education programmers should include interdisciplinary team-based learning experience to develop and build students’ character, enable student to work in teams efficiently and develop the skills to prepare them for real world engineering experience.

In this project, students were asked to build a hospital food delivery robot. The task includes four different aspects. The aspects are: design and development of the body structure of the robot, responsible for the development of navigation system, develop a robotic hand that will hold the cup, and develop mobile application for controlling the Bluetooth and servo motor. The Keirsey Personality Types are Artisan, Guardian, Rational and Idealist. They are formed to 15 groups whereas the members may have different personality from others.

From this project, the result of this study showed that team members with different personality types worked really well together rather than team members with same personality in an interdisciplinary project. The results also showed that personality inventories also can be used as a guidance for academic tool in forming more effective teams.

# Coolverter: A Learning Aid to Master the Skill of Converting Units of Length

This project is exhibiting about a learning aids made to help students in converting units of length. The presenter for the exhibition is Mohd Hafizi Haris Fadzillah. The aim of this project is to help students to understand the concept of converting unit of lengths better and can master the skills in converting unit of length in Mathematics.

The learning aids that made to help students named as ‘Coolverter’ because it is a converter and cool, said by the presenter. What important in this project is that the coolverter not as same as other learning aids used to convert units of length like multi-units’ ruler and mathematics notes chart. Coolverter more focusing on offering the experience of self-exploration in finding the answer to convert unit of length. Coolverter is designed with seven sets of digits from number 1 to 9999999. With this approach, students can convert the unit even with big numbers. It also includes four basic units of length which is kilometer, meter, centimeter and millimeter. Students also can use to convert from the biggest unit to smallest unit like kilometer to millimeter.

From the project, it was found out that before they use the coolverter, a lot of students do not clearly understand the concept of converting unit of length. It shows that students did not master in converting unit of length. Result from post-test show improvement from the student skills. Coolverter are only use to help students master the concept of converting the unit of length. After students master the skills, they can do it by themselves without using the coolverter.

# An Online Authentic Learning Environment to Support Knowledge Construction among Non-statistics Major Undergraduates

An authentic learning environment is a pedagogical approach that allows to build meaning based on real life situations and personal experiences of learners. The actions used to create an authentic learning environment are needed because according to the researchers if learning is separated from the real world knowledge will be weak and not applied outside the classroom.

Implementing authentic learning in online platform can be extremely resource intensive and costly to develop. Herrington and Oliver, supported by Vygotsky’s Social Development Theory and Lave and Waenger’s Situated Learning Theory indicate into an innovative and cost-effective approach to incorporate the critical characteristic authentic learning.

It is intended to develop an online authentic learning environment (OALE). OALE have some components are:

1. Task is the main feature, presented to the students as a project work.
2. Forum and group allows social interaction for knowledge construction among the learners while investigate their task from various aspects pointed out by every members.
3. Resources component consist of the digital learning materials, either dynamic or static learning material.
4. Assessment provide avenue for evaluation on students learning.
5. Support offers learning support and technical support to develop learning skills towards independent learners.

Some authentic tasks are:

1. Provide authentic contects that reflect the way the knowledge will be used in real life.
2. Provide authentic tasks and activities.
3. Provide access to export performances and the modeling of processes.
4. Provide multiple roles and perspectives.
5. Support collaborative construction of knowledge.
6. Promote reflection to enable abstraction to be formed.

In this contents the knowledge construction is about Sharing and comparing information, dissonance, negotiation of meaning, testing hypotheses, and application said from Gunawardena et al, 1997.

# Improving Students’ Learning Outcomes through e-Service Learning based on Authentic Learning Strategy

This project is exhibiting about the improving students’ learning outcomes through e-Service Learning based on authentic learning strategy. The objective of this project is to examine the effect of online platform use in the service learning programme based on authentic learning strategy towards Student Learning Outcome (SLOs).

Student Learning Outcomes are the statements that determine what the students know can do or can demonstrate when they have completed or participated in a course. A quantitative research design was used to conduct this research. Involving 30 undergraduate students from different faculties who enrolled in one of the co-curriculum courses. An analysis of Student Learning Outcomes (CLO1, CLO2 and CLO3) through a series of service learning activities in an online platform.

From this project, the impacts are pioneer in implementing authentic learning strategy in platform MOOCs, structured and organised learning activities relatable with elements of authentic learning for educators to follow and implement, and learning materials can be access in MOOC platform and can support long life learning community.

# Conceptual Diagram: An Innovative Approach in Teaching Nursing Concept

This project is presenting about the teaching nursing concept by using conceptual diagram. The presenter is Rambe C.Ramel, Jr., a teacher from Philippine.

The objective of this project are to determine the pre-test and post-test for studies of the participants in the control group (traditional lecture) and experimental group (conceptual diagram) in terms of their retention and critical thinking skills, to determine the mean gains or improvements from the pre-test and post-test performance of the participants in the control group and experimental group and to determine the significant difference between the mean gains of the participants in the control group and experimental group.

In a nutshell, a significant difference existed between experimental group and control group in all areas of learning measured in this study. The retention and critical thinking skills of participants were greatly improved when using conceptual diagram learning. The practice of traditional teaching and conceptual diagram was found to be more implicit in enhancing retention and critical thinking learning skills of nursing students.

# Implementation of Holistic Social Learning Environment

One of the preparations to enter the industries world is to have both character and knowledge. To be able to survive, students need to have critical thinking and also social skills. This study intends to design, evaluate, and implement an online social based learning environment which provides the elements of social cognitive.

By using this learning, students will be able to become the creator of their own knowledge. And also by constructing their own knowledge through social interaction within the learning community, they will be able to break the conventional learning environment. The earning activities can be commercialized into a learning module as a guideline to create learning plans. This module can be used by lectures, educators, and instructors in higher education.

There are three main objectives that were outline to achieve the global of this study. Design and implement an online learning environment, evaluate the effects of student’s holistic learning in online social learning environment, and develop framework of holistic learning approach through social based on learning environment. The design was based on online social learning environment which include social, cognitive, and also teaching. Solving the problem through group discussion in online setting through CN is one of the applicability which gives an impact such as students can actively taking part in the group discussion to solve critical tasks, and there are also many other impacts. This study acquired several rewards such as bronze medal and silver medal.

# Enhancing Student’s Involvement and Success In e-Learning through Learning Analytics Intervention.

As the internet almost used in every part of the world, the learning system has also transformed from learning in class into learning online. A research has designed a Learning Analytics Intervention integrated with learning style model and motivational model to enhance student’s involvement and success in e-learning.

The objectives of this study are to develop Learning Analytics Intervention embedded in e-learning, to investigate the effects towards students, to analyze how students use Learning Analytics Intervention, and to formulate a learning pathway of students. The novelties are in literature, systematic reviews, and future research. Elements of Education 4.0/21st Century 4C’s skills (Collaboration-forum, Communication-forum, Critical Thinking-quiz, Creativity-mind map), to design meaningful and interactive learning materials, more on students-centered and student’s learning styles are the applicability (NALI).

The impacts to students learning are in performance, such as academic achievement and cognitive retention, also in engagement, such as motivation, cognitive engagement, and learning behaviors. There is also an impact in empowerment like E-learning Environment, and learning process. This study will also be awarded a Medal in eLCC and GREx COM.

# Trends in NALI

From this visit of NALI exhibition, we learned a lot of method to improve our own potential using some good learning method. And in this era, we can conclude that the student also can learn by themselves used by some creative method to take some important education that supported by the teacher.

One of the example is by using a converter device called ‘Coolverter’ to calculate the mathematics conversion. This will make the students to understand the concept of mathematics conversion. By using the ‘Coolverter’, students will get the answer and at the same time increase the knowledge.

Another example is by using Microsoft Powerpoint to prepare slides about nursing learning. Putting tables and figures will make the slides more interesting and attracts students’ attentions. Teaching using conceptual diagrams will make the students to increase their critical thinking skills and retention.

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| C:\Users\Prema Karira\AppData\Local\Microsoft\Windows\INetCache\Content.Word\IMG-20180926-WA0012.jpg  Figure 2: Coolverter | Figure 3 Conceptual diagram of Nursing Learning in Microsoft Powerpoint |

# Reflection

After we looked in every booth, they have different method which used some different way how to teach someone. We can take the conclusion if nowadays, the learners have to change their traditional method to modern method which is followed the current trends.

However, creativity is the main component that must be collaborated with modern method and combined it in real life. So, it can be an alternative for learners to teach students using a good method and students can application it in outside of the classroom. But, not just the learners who play a role in this things also the students have to support to play this role.

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