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TECHNOLOGY &

INFORMATION SYSTEM

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| TOPIC | 1. Flash Floods Detector. 2. Go Green School: Community Service Learning. 3. Adapting Gamification Approach In Massive Open Online Courses To Improve User Engagement. |

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**SUMMARY**

The aim of this report is to introduce people, especially educators to New Academia Learning Innovation (NALI) which is a new learning concept that is more productive, creative and innovative. It was sponsored by the Centre for Teaching and Learning (CTL). Our group members had been given the opportunity to visit the NALI booths on both 25th and 26th September 2018. These new learning methods are to prevent the students from becoming bored in class and to expand the ideas of the theory in the book itself. NALI is also a method to sharpen the skill for entrepreneurial. The most crucial part is to emulate the best teaching and learning practices from the world’s best research university.

**INTRODUCTION**

New Academia Learning Innovation (NALI) is a program that emphasize on entrepreneurship for students. It is initially launch by our 6th Prime Minister of Malaysia, Datuk Seri Najib bin Abdul Razak. The Centre of Teaching and Learning (CTL), UTMLead has been carrying out the initiatives on the context of learning that is proactive as well as productive. The concern of this program is to be deliver both online and face-to-face. To emphasize the concept of entrepreneurship, NALI has introduced two modes of learning which Pedagogy/Andragogy (Learning Mode) is and also Digital Resources. For instant under digital resources, UTM has been using the e-Learning for a long time to ease the students’ and lecturers’ work. Video materials such as MOOC, BLOSSOMS and Open Courseware has also been helping the students learn in an improved and effective way.

**FLASH**

**FLOOD DETECTOR**

**Flash Flood Detector**

One of the supernatural even in the world is natural disaster. Flash flood one of it. As a human being we cannot avoid it from happen, but we could aware ourselves before something happen. This is the main objective of the creation of ***“Flash Flood Detector”.***

Other than that, the product is used for education field also due to the related term to physics. It was created using the Buoyant Force. It stated that the, object that float should have a small value of weight and it should be lower than the up-thrust force. This is where the buoyant force work.

**How does the Flash Floods Detector works?**

There’s an aluminium ball work as a lever at the water level tank. The ball is used to measure the water level. Then, it was connected to a circuit that had a light bulb. The aluminium ball was attached with a thumbtack as a touch point to the circuit. Once, the ball reach the top level, the thumbtack will touch the circuit and complete the circuit. So finally, the light will light up and this shows the warning the rise in water level.

**Effects of flash floods**

**Damage to irreplaceable property**

* + Photographs and personal paperwork are some of the common, irreplaceable items destroyed. However, not only damage paper-based items. The mud can ruin washable items like linens, furniture, clothing, toys.
* **Disease**
  + Flood waters often enter sewage drains and cause mixing of the oods waters and sewage contents. This can cause diseases like salmonella, cprytosporidium, giardia, Additionally, standing ood waters encourage mosquito breeding, increasing the risk of dengue fever, Ross River fever, Murray Valley encephalitis, etc.
* **Loss of pets** 
  + Pet death is one of the major unspoken consequences of odds. Pets are often conned in a space and cannot effectively escape oods waters
* **Death**
  + Flood waters are murky, dark and turbulent. They are far more dangerous than swimming in the river or a beach.

**GO GREEN SCHOOL: COMMUNITY SERVICE LEARNING**

**Go Green School: Community Service Learning**

On the 25th and 26th of September 2018, our group members has visited this booth in the NALI event at Dewan Sultan Iskandar, UTM Skudai. This topic is under the Learning Mode which integrates the community service project which to bury civic value in themselves such as responsibility, politeness and teamwork as well as strengthen the community bond in where we live or work. This method applies in the classroom through meaningful service to the community. The crucial part of this program is to inculcate the awareness on the importance of protecting our beautiful nature. Other than cleaning up, we also plant the trees in the school area to increase more production of the oxygen. The old said, the fresher the air, the fresher the mind. When the school areas are lively and beautiful, the vibes around us also affects our positive moods and releases dopamine hormone from our body, scientifically. Its also has been proven scientifically that green color can sooths our eyes when seeing things. Other than increasing our knowledge about flora and fauna, we also creates bond between university and schools community and nevertheless promoting our university programs. It has been said that the students are required to monitor the growth process fortnightly through the semester. This will increase the curiosity of the students about plants and produce a nature lover citizen. This program can be sponsored by the university or schools to encourage the students to participate in the go green community. Youths must be educated to preserve the greens since the economy nowadays are keen on building enormous buildings such as malls and offices. To create a more sustainable future, every each one of us can take baby steps from now such as recycling our food containers, papers and plastics every day. These steps have been taken by the UTM community throughout the years. A neighborhood campaign can be organized by donating used clothes and goods to the people in need annually.

By doing these hands-on activities, students didn’t just improve academic skills, but also develop communication skill, decision-making and building self-esteem. One step into giving birth into an excellent student.

**Effects of Going Green**

* **Pollution rate decreased**

Going green helps the environment by reducing the amount of pollution that enters the soil, water and air. By using alternative energy sources and avoiding the burning of fossil fuels, recycling and reducing waste and driving more efficiently, fewer pollutants are released into the environment. For example, a study by the Environmental Protection Agency found that air quality in the United States is steadily improving but as of 2008, approximately 127 million Americans still live in areas with potentially hazardous levels of air pollution.

* **Reduce Greenhouse Gas Emissions**

Greenhouse gas emissions such as carbon dioxide are thought to be a significant contributing factor to global warming. By reducing the amount of time you drive, maintaining your vehicle or driving a green car such as a hybrid, you can help to lower your contribution to the global warming problem.

* **Resource Conservation**

The bulk of the world electric power is generated by the burning of fossil fuels, such as oil, coal and natural gas. Burning these types of fuels releases greenhouse gases into the air, and their limited supply makes them unsustainable in the long-term. Reducing energy consumption, using alternative energy sources and recycling reduces the strain on these resources and cuts down on emissions. For example, the Environmental Protection Agency estimates that recycling just one plastic bottle conserves enough energy to light a 60-watt light bulb for up to six hours.

* **Less Waste**

Going green encourages people to reduce their consumption, recycle as often as possible and reuse items in an effort to reduce waste. Reducing waste helps the environment by decreasing the amount of material that ends up in landfills, where they can biodegrade and release carbon dioxide which contributes to the greenhouse gas effect. The Environmental Protection Agency also encourages recycling in lieu of incinerating waste, which can release smoke or other potentially harmful pollutants into the air.

**ADAPTING GAMIFICATION APPROACH IN MASSIVE OPEN ONLINE COURSES IMPROVE USER ENGAGEMENT**

**Adapting Gamification Approach in Massive Open Online Courses to Improve User Engagement**

The booth of “Gamification Education” is held in NALI (New Academia Learning Innovation) in Dewan Sultan Ismail from 25 SEP until 26 SEP 2018.

The gamification of learning is an educational approach to encourage learners to study by using game elements, video game design and so forth.

The objectives of this department are to identify the gamification elements that are suitable for Open Learning MOOC and the parameters of measuring the user’s engagement through the website. Other than that, it is here to apply the gamification elements in the Open Learning MOOC for increasing the learners’ engagement level. Besides that, it is here for measuring the learners’ engagement towards MOOC by comparing analytic results between MOOC that applied gamification elements and MOOC without implementation of gamification elements. (MOOC, Massive Open Online Courses is actually stood for Open Learning platform in Malaysia.)

Lots of benefits are provided by gamified education, which include, no more boring lecturer class due to multiple elements of teaching materials can be inserted in process of teaching, for example video, text, audio, and animation. Besides, it helps students in remembering what they have learned. Truly, gamification is an amazing and powerful tool for catalyzing attention, focus and investment. They give students ownership of their learning, it makes learning visible, making the class fun and in another way decreasing the cases of playing truant among the students, and so on.

Now, the gamification elements applied in Web Programming course had been chosen as one of the core subject in Computer Science course of University Technology Malaysia, which can be accessed through bit.ly/GAIMOOC.

There’s a few of global education apps that are using gamification concept:

Firstly, TEDEd, it’s a gamified educational app to create actionable video lesson, and they provided a web app that allows users to create their own video lessons that are actionable.

Second, Khan Academy, which is a platform where students can learn math, science, computer programming, history, and et cetera. And, it’s promoting free educations all around the world, with around 36 languages. Khan Academy is running efficiently due to they truly utilizes Core Drive 1 (Epic meaning & Calling) to motivate donors, tutors, and also volunteers to achieve its mission, which is to provide free education for everyone forever. Besides, Khan Academia also recognizes their interns from all around the world by using Core Division 5 (Social Influence & Relatedness).

Thirdly, Coursera, which is a gamified educational app that allows us to get Ivy-League education from our own home. It provides universal access to the world’s best education from top universities. Yet, it isn’t free.

Forth, Solo learns which is a very useful app for a newbie in learning computer coding. Needless to say, it has lessons that teach players how to do simple code. They utilize player challenges by provided a code playground where players can show off the code they have created and get feedback from others.

As a conclusion, gamification education bring us a dozen of benefits, although it will come out with some cons, but the pros still cover up it cons. This is due to the reason that technology is now widely used all around the world. Parents should expose their children in gamification education that will make them feel fun of studying, and also produce a creative and innovative generations.

**CONCLUSION**

Lastly, New Academia Learning Innovation (NALI) is really a fantastic platform for a student and also a tutor to develop communication skills, and also, extracurricular knowledge. Besides that, students may get a lots of innovations from this sharing exhibition, for example, learning through playing games, creating some small things that are useful in our life like the “Flash flood detector”. And, raising our environmental protection consciousness, like “Go Green School”.

Truly, it should be promoted throughout Malaysia constantly and not just among university students but also for students in primary and secondary school in order to improve the quality of educations in Malaysia.

 