2023 Trend Report

Higher Education & e-learning in ASEAN

Vol. 2

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Higher Education Using Online Platforms

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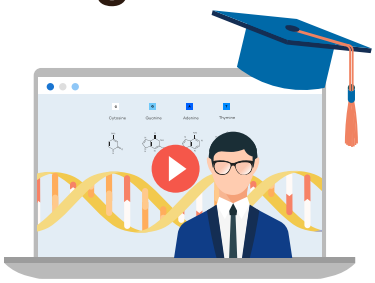
2023 Trend Report

Unlocking the Potential of e-Learning: Exploring Flipped Learning for Enhanced Education in Brunei



#FlippedLearning

Jiyeon Moon / Hanyang University

This article explores the use of e-learning platforms in Brunei's education system, with a focus on Flipped Learning. It discusses the effectiveness of Flipped Learning through two case studies with Bruneian students and emphasizes the role of instructors in promoting active student participation. The article concludes by acknowledging the benefits of e-learning while highlighting the need for educators to address the challenges posed by the lack of face-to-face interaction.

01

The utilization of e-learning platforms in various educational environments has become increasingly prevalent across different age groups. In Brunei's universities, widely known platforms such as LMS, Moodle, Canvas, or even self-developed official platforms have been adopted. Over the years of implementing these platforms, students have personally experienced the convenience of e-learning. Particularly, the digital generation, accustomed to consuming video content on platforms like YouTube and Instagram, quickly adapted to the concept of e-learning, which allows them to learn at their desired time and location, as well as control the pace of their learning by pausing or accelerating the playback. Considering the convenience in terms of physical and temporal aspects, what methods can be employed to enhance the utilization of online courses from an educational perspective?

▶ What is the Flipped Learning?

I present the concept of 'Flipped Learning.' Flipped Learning, introduced by Eric Mazur, a professor at Harvard University, has been recognized for its effectiveness through experiments in various educational fields since 1991. This approach flips the conventional order of learning, where students review the material after attending lectures. In traditional learning, professors deliver information during class, and students understand that information during or outside of class. In contrast, Professor Eric instructed students to read materials such as textbooks and lecture notes before attending the lecture. During class time, he posed questions and guided them to fully comprehend the content they had read (taught).

▶ The Two Sides of the Flipped Learning

Flipped learning does not solely pertain to offline environments. It encompasses the concept of learning sequence and approach, and in recent educational settings, it can be conducted in an online-to-online or online-to-offline manner.

- CASE #1

Sangran (2022) conducted an experiment on online flipped learning, focusing on Bruneian students in their early to mid-20s who were studying Korean. The students approached the given online lectures in various ways, taking into account their individual abilities and learning styles, prior to the class. More than 90% of the students agreed that they were able to understand the lecture content more easily after engaging in this method.

The most critical aspect emphasized in the aforementioned learning method is the importance of motivating students to autonomously inspire themselves. This refers to having the power to take control of their actions and actively engage in the learning process. Throughout the experiment, students were able to experience a sense of accomplishment by achieving self-established learning goals and engaging in new challenges, which facilitated their personal growth. However, it is important to consider that students with lower self-regulated learning competence may feel inadequate and become more disheartened in such situations, as they struggle to take initiative and actively engage. Furthermore, students who perceive their own skills to be low tend to participate passively in online classes and may encounter difficulties in their learning process.

On the other hand, when utilizing individually uploaded video presentations, students were able to replay specific segments as needed and actively provide feedback through comments. However, there were instances of technical issues such as Wi-Fi or microphone problems, which occasionally hindered the learning process. Furthermore, some students expressed negative reactions due to the inability to receive sufficient assistance from the instructor during times of difficulty in their learning.

- CASE #2

In a study conducted by Ali et al. (2022), 9th-grade students in Brunei were assigned to watch pre-recorded video math lessons before engaging in offline activities. The experiment revealed that participants held a positive perception of flipped learning, stating that watching the videos prior to the face-to-face classes enhanced their preparedness. Students with lower comprehension levels found it beneficial as they could supplement their learning at home, while simultaneously having the opportunity to receive additional explanations for their questions during the in-person sessions.

On the contrary, there was a negative perception towards group activities during offline sessions, and students expressed dissatisfaction with the inability to address immediate questions that arose while watching the pre-recorded videos. However, when considering the overall improvement in student performance, it can be concluded that the lessons yielded successful results if the objective of the classes was always focused on learning outcomes.

Considerations for Instructors Implementing Flipped Learning

When it comes to leading Flipped Learning, the most crucial aspect for instructors to consider is that their role in the classroom should go beyond one-sided knowledge delivery and instead focus on facilitating active student participation. In other words, it is essential to remember that the center of learning shifts from the instructor to the students, emphasizing the activities through which they engage in learning within the classroom (Kim & Lee, 2016).

In the e-learning environment, professors and students do not have face-to-face interactions as they would in a physical setting. However, it is essential for professors to establish a sense of presence, even though they are not physically present in front of the students. According to the studies conducted by Kim & Lee (2016) and Kim et al. (2015), this teacher presence fosters positive interactions between the professor and students in both e-learning and offline flipped classroom environments, ultimately leading to improvements in students' academic achievement. Therefore, professors should actively engage in online communication and interaction with students to enhance the effectiveness of learning. It is particularly important to pay attention to students with lower self-regulated learning competence by providing assistance in determining learning methods and goals, analyzing individual learning patterns based on data recorded on online platforms, and tailoring personalized approaches accordingly (Heo & Jo, 2020).

Students who are familiar with chat and video content tend to be more engaged in online classes compared to face-to-face classes. Even students who didn't speak up in the classroom are now freely expressing their opinions and emotions through text messages and emoticons, despite not using anonymous IDs. As demonstrated by Bruneian students in various experiments, e-learning can provide a better learning environment, albeit in a different way from previous generations. However, there are differences in how individuals adapt to the new learning environment based on their personal tendencies and capabilities, and there is clearly a gap resulting from the absence of face-to-face interaction. This highlights the need for educators to explore strategies to maximize students' learning outcomes in this non-traditional learning setting.

Implications

In line with the global trends, Brunei is continuously evolving and progressing towards the Fourth Industrial Revolution. Particularly, the e-learning education environment has quickly established itself, revealing numerous advantages and drawbacks. Now, it is time for further development and advancements. Moving forward, it is crucial to focus not only on the abundance of technological resources but also on how to effectively utilize them. This is a critical juncture where guidelines are needed to empower the digitally adept generation to leverage technology in impactful ways.

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System Integration in “System and Application Management Open Knowledge” (SYAM-OK)

#universitas_negeri_makassar #syam_ok #integration #spada

Valentino Aris & Rahmatullah / Universitas Negeri Makassar
Arini Lestari / Universitas Andi Djemma

System and Application Management Open Knowledge (SYAM-OK) is an online learning platform in the Makassar State University academic community. The implementation of SYAM-OK is related to other internal systems within Makassar State University and external systems at the Ministry of Education, Culture, Research, and Technology. Therefore, it is necessary to integrate the entire system internally and externally.

01

Integration of Learning Management System, Content Management System, and Academic Information System in SYAM-OK

The Development of information and communication technology is very fast, causing organizations to adapt and use information technology. This information technology is used to support business processes within an organization so that it can operate more effectively and efficiently. The application of information technology in today's organizations has covered all fields, without exception, in education. Various information systems have been developed to support core business in tertiary institutions, such as academic information systems, financial information systems, e-learning, library systems, and other information systems. However, these information systems are generally made separately or independently without connection. This stand-alone information system will produce a pile of data and information that needs to be integrated. The climax is when a university uses data for a purpose; there is potential for data redundancy, data inconsistency, and double entry in data, making it difficult to process the data to produce an insight beneficial for universities.

Universities need to think about integrated information systems holistically and have system integration capabilities to overcome problems such as those described above. Data integration is all about the practices, architectural techniques, and tools to achieve consistent data access and delivery across the spectrum. According to Kafel (2016), system integration has many benefits for organizations, such as increasing effectiveness and efficiency, which will help increase customer satisfaction. The benefits of system integration include reduced processing time, many processes completed at one time, reduced data input and correction costs, and reduced input errors and data duplication (Bakar, 2003; Kafel, 2016). With good data integration, the system implementation process in tertiary institutions can be carried out more optimally (Ashabu Khair et al., 2022; Kayanda, AM., 2022; Utomo DW. et al., 2018).

Makassar State University (UNM) has developed an integrated information system to support its academic process. The system is known as System and Application Management Open Knowledge (SYAM-OK). SYAM-OK is an application system that the UNM academic community can use for academic activities. SYAM-OK is then better known for its ability to increase effectiveness and efficiency in implementing online learning. The Learning Management System (LMS) is an application often used in online learning activities by students and lecturers within UNM. LMS SYAM-OK is a platform developed to facilitate the implementation of online learning both synchronously and asynchronously. In addition to online learning for the UNM academic community, SYAM-OK LMS can also be used to maximize the learning process for students from various universities in Indonesia who are taking courses offered at Makassar State University through the Merdeka Learning Campus Merdeka (MBKM) program for the Land Student Exchange scheme. Air Nusantara Credit Transfer System with Information Technology (PERMATA-SAKTI). The SYAM-OK LMS is also used to implement routine training by UNM, such as Basic Instructional Technique Skills Improvement Training (PEKERTI) and Applied Approach (AA).

To support the implementation of online learning, the SYAM-OK LMS is integrated with several systems, namely the Content Management System (CMS). First Volume) and Academic Information System (SIA). SIA is an application used to carry out academic administration, such as registering every semester, filling out a study plan card (KRS), guidance with an academic advisor, and viewing the results of their studies every semester. SIA can also be used to view courses and classes taught, input student grades, view student attendance data, provide guidance as academic advisors, and various other activities. SIA, CMS, and LMS are three integrated applications that interact to support the online learning process through SYAM-OK. The following are some of the integrations carried out in the three applications:

- Students who can fill in the KRS in the SIA have made UKT payments and updated their data in the UNM Financial Information System.
- Students must register and fill in the KRS at SIA at the beginning of the semester to take classes available at the LMS.
- Courses available at the LMS must first be registered with the SIA through inputting
- Courses by the Study Program Operator so lecturers can synchronize classes through the application.
- Lecturers create classes using CMS; students can access these classes on LMS.
- Lecturers who can access courses at CMS are registered as lecturers for the course in the SIA application.
- The student absence feature in the LMS will integrate the data with the SIA, where lecturers can view and print student attendance recaps through the SIA.
- The weighting of scores carried out at the LMS for student assessment is also integrated with the SIA, making it easier for lecturers to give grades at the end of the semester.
- Lecturers can manage content and access rights for students through the CMS, which will later be applied to the LMS when students access classes.
- If there is a change in the data in the SIA, especially the list of students in a particular class, the data in the LMS and CMS will also change. Synchronization must be done to make the data in the three applications identical.

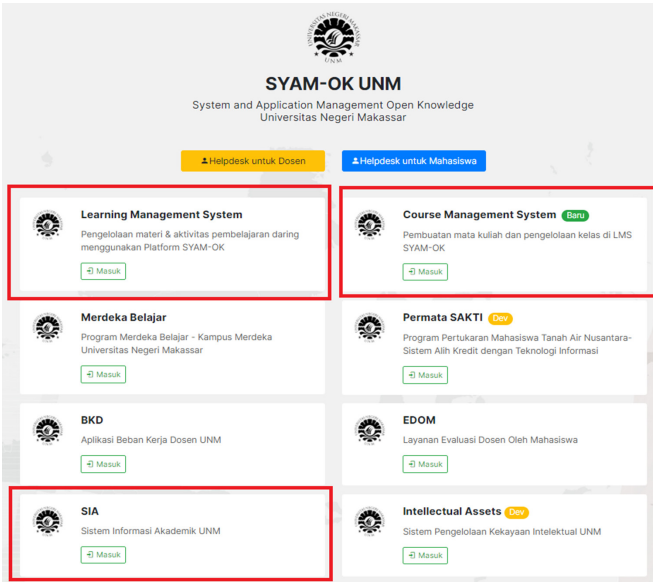

Figure 1.
Academic Information System, Learning Management System and Content Management System on SYAM-OK

The success of system integration at UNM must also be supported by the policy of the higher education leadership so that it can be implemented optimally. Higher education leaders make a policy that all courses in SIA must support lecturers to open LMS and CMS classes. This policy is undoubtedly successful, seeing that until now, the activity of using the SYAM-OK LMS is still very high in supporting the implementation of online learning at UNM. Good integration between the three systems in SYAM-OK and policies that support the integration process implemented at UNM have succeeded in getting UNM to gain national recognition, namely being included in the ten best campuses with the best online learning in Indonesia in 2021 and becoming the first best Learning System Online at the 2022 Diktiristek Award Event.

Implications

System integration and policy development to accommodate this integration are essential factors in successfully using SYAM-OK at UNM to support the implementation of online learning activities. With good integration between systems internally, the developed system can run optimally. To further maximize the system's performance, higher education leaders must make policies to support the integration of the system. This can be a best practice for other tertiary institutions to implement online learning platforms and internally integrate them with other systems.

02

SYAM-OK integration with the Indonesian Online Learning System (SPADA) KEMDIKBUDRISTEK

In the first part of this article, we have discussed the internal integration of SYAM-OK within Makassar State University (UNM). In addition to internal integration, the SYAM-OK Learning Management System (LMS) can be able to integrate its data externally so that it can be accessed on an online learning platform managed by the Ministry of Education, Culture, Research and Technology (Kemendikbud Ristek). This is done to measure the performance of implementing online learning conducted by universities in Indonesia. Therefore, the SYAM-OK LMS must be integrated externally with the Indonesian Online Learning System (SPADA).

SPADA Indonesia is one of the Directorate General of Learning and Student Affairs programs of the Ministry of Research, Technology, and Higher Education to increase equity of access to quality learning in tertiary institutions. With its online learning system, SPADA Indonesia provides an opportunity for students from one tertiary institution to take specific quality courses from other tertiary institutions, and their learning outcomes can be recognized as equal by the tertiary institution where the student is enrolled. SPADA Indonesia was developed to address several higher education challenges, such as the limited capacity of tertiary institutions, low affordability of tertiary institutions due to uneven distribution, there are still many tertiary institutions that do not yet have adequate and quality educational resources, more quality tertiary institutions are still concentrated in the island of Java, there is still a low level of equal and quality higher education services, and there is still an insufficient guarantee of meeting the needs and demands of quality higher education (https://spada.kemdikbud.go.id/berita/apa-itu-spada-indonesia, accessed 14 May 2023).

The initial stage for synchronizing SYAM-OK LMS data with SPADA Indonesia is synchronizing lecturer accounts. This lecturer account synchronization can be done if the lecturer already has an account at LMS SYAM-OK with SPADA Indonesia. The following displays the lecturer's account on SYAM-OK if it has been integrated with SPADA Indonesia.

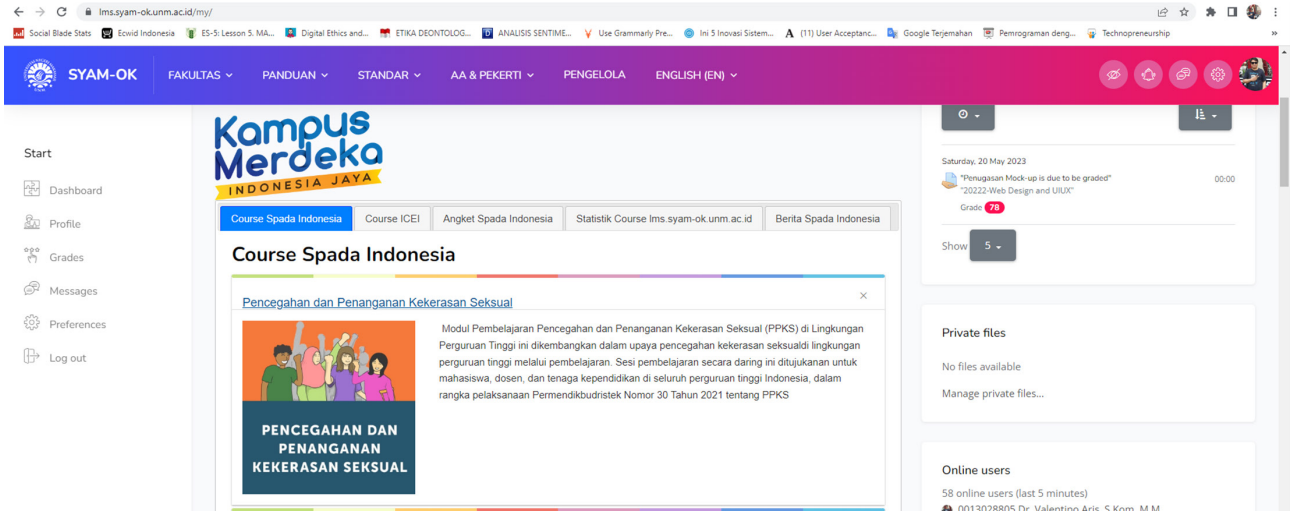

Figure 2. Lecturer accounts at SYAM-OK, which are integrated with SPADA Indonesia

After synchronizing lecturer data, the lecturer can enter class data in SYAM-OK on SPADA Indonesia. Class data can be documented easily by integrating existing data from SYAM-OK into SPADA Indonesia. The trick is to back up class data in the SYAM-OK application, then download the data backup file. After successfully downloading the backup file, the backup file can be restored to the lecturer's account in the SPADA Indonesia application by selecting the create course menu, filling in all course data, and selecting the "Select MBZ File" button to perform data integration. The data integration process of SYAM-OK and SPADA Indonesia can be seen in the following figure.

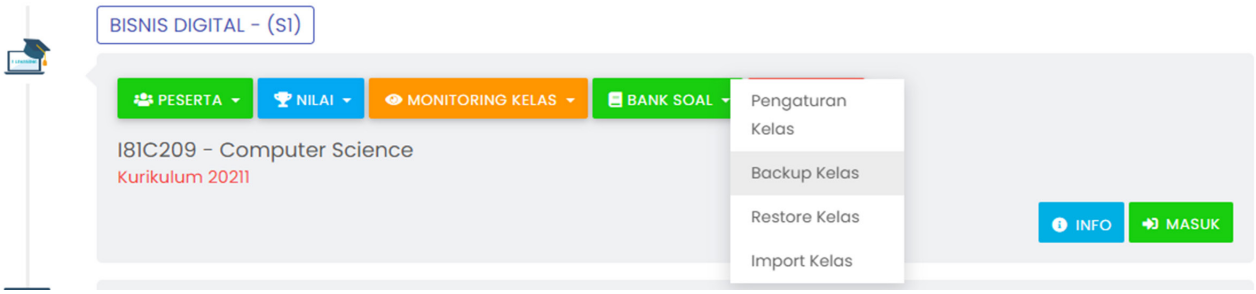

Figure 3. Class settings for backing up class data

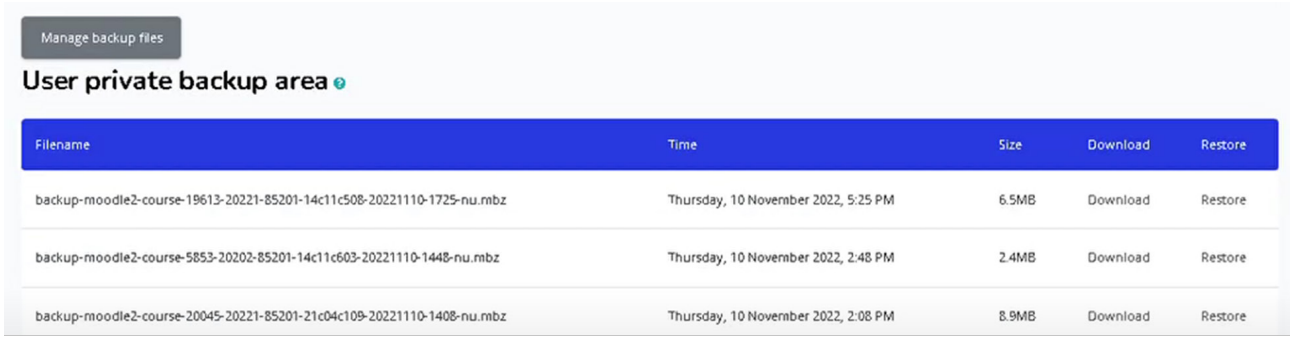

Figure 4. The backup of class data in SYAM-OK is successful, and data download can be done

Figure 5. Course Development Process at SPADA Indonesia

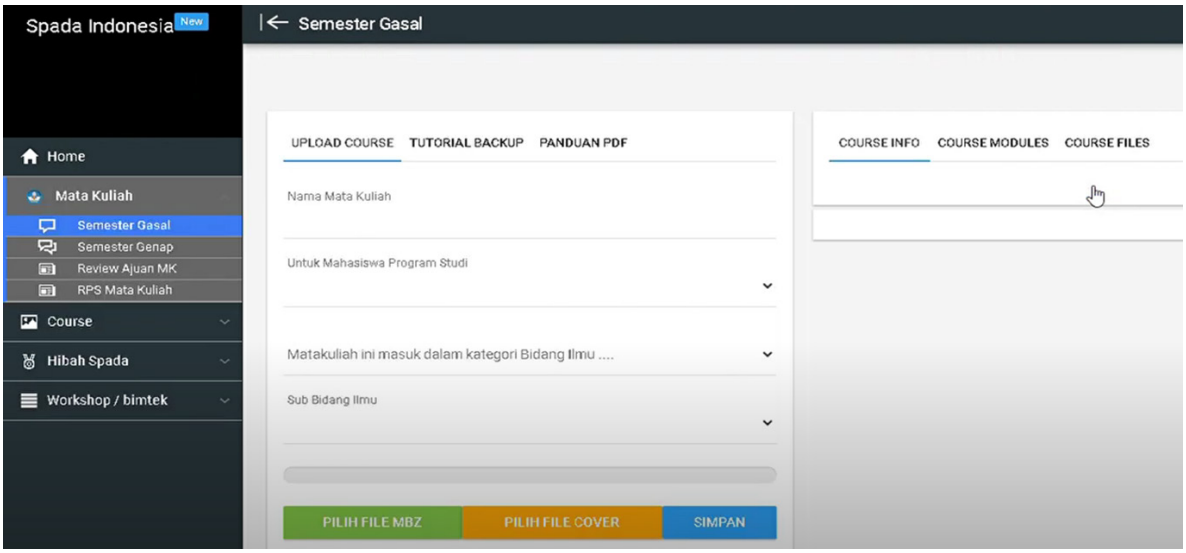

Figure 6. SYAM-OK Class Data Integration Process with SPADA Indonesia

The data integration process between SYAM-OK and SPADA Indonesia, which can be done very quickly, has made the UNM academic community enthusiastic about integrating the classes they created at LMS SYAM-OK into SPADA Indonesia. Based on the data we have obtained, the number of types that have been integrated into SPADA Indonesia to date is 500 courses. The election of UNM proves this as the first place in the Online Learning System (SPADA) at the 2022 Diktiristek Award event in the Learning and Student Award category in the Higher Education sub-category with the Most Subject Contributions in 2022. With the high level of UNM participation in integrating classes in SPADA Indonesia, it is hoped that the quality of education through online learning in Indonesia can continue to improve.

Implications

Makassar State University is one of the tertiary institutions that continue developing innovations to improve online learning quality. One of them is by using a single online learning platform known as SYAM-OK. SYAM-OK, in its implementation, has been integrated internally and externally, followed by policy development for the success of the integration process. External integration has been carried out by integrating LMS SYAM-OK with SPADA Indonesia. In 2022 UNM became the tertiary institution with the most contributions of Subjects, and it is hoped that this integration can improve the quality of education through online learning in Indonesia.

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Vilearning Unesa as MOOCS: Lecturer Problems

#MOOC #UNESA #Vilearning #Online Courses

Ms. Prima Vidya Asteria / UNESA

In the post pandemic time, courses using the ViLearning Unesa platform has decreased significantly. This is caused by several factors, including the uncertainty of the courses being taught in the coming semester so that preparation on Vilearning Unesa platform is not optimal; the technical ability of lecturers to take advantage of Vilearning Unesa features is not optimal due to limited preparation time; limitations of lecture material that uses a variety of media; display of course pages that are less interactive and communicative, as well as limited internet quota to ensure the smoothness and stability of the internet network.

01

Vilearning Unesa as MOOCS: Lecturer Problems

▶ Backgrounds

Since lectures have been held offline after the Covid-19 pandemic, the use of the Surabaya State University's Virtual Learning platform (Vilearning Unesa) has decreased significantly. Vilearning Unesa is only used to support the implementation of offline lectures by providing course descriptions, lesson plans, online attendance, and making lecture minutes. In general, Vilearning Unesa functions as a documentation database for lecture implementation. Only certain courses are "permitted" to use Vilearning Unesa as an interface for lecture activities. This is influenced by the existence of perceptions and supporting evidence which shows that the achievement of competency targets for online courses is lower when compared to the achievement of competency targets for offline courses. Although many factors affect the mastery of competencies tied to a course, the data on the results of assessments from several samples of online courses in the 2020/2021 academic year and 2021/2022 academic year prove that the average score in the same course is still lower than the grades of courses in previous academic years which were still held offline. This strengthens the emergence of policies from the authorities to limit the use of Vilearning Unesa as an interface for lecture activities. Practice-based courses are not permitted to use online learning models. For theory-based compulsory courses, a maximum of only 25% of the total lecture meetings are allowed to use online facilities. Meanwhile, the rest or at least 75% of the total lectures must be face-to-face. There are only a few courses with certain conditions that are allowed to carry out fully online lectures, especially in university compulsory courses which are attended by students from various study programs at Surabaya State University so that the number of participants in a study group exceeds

the capacity of the existing lecture halls. Various situations and conditions arising from this policy were indeed the main drivers for the decrease in the use of Vilearning Unesa platform. However, an interesting thing that must be observed against the backdrop of the emergence of the policy of limiting online lectures is the lower competency achievement of graduates of courses held online during the Covid-19 pandemic. For almost 4 semesters, it turns out that lecturers are still having difficulties adapting to the online learning model. Training support and assistance in the use of Vilearning Unesa turned out to be ineffective in helping to improve the competency achievements of course graduates. Actually, what are the problems faced by lecturers when using Vilearning Unesa platform as an interface for lecture activities?

Main contents

One of the main problems faced by lecturers is the uncertainty of the courses taught in the coming semester. Indeed, there are core courses that are taught according to the lecturer's field of expertise, but only one or at most two courses of expertise. Even then, it cannot be ascertained if there are other lecturers who have the same field of expertise so that sometimes the subject of expertise takes turns being the supervising lecturer. Not to mention other subjects that experience very high lecturer rotation. If in this semester you are teaching elementary level courses, it is not certain that next semester you will be teaching advanced level in advanced courses. Even though the online learning model requires preparation that takes longer and is more troublesome when compared to the offline learning model, so it is necessary to prepare more comprehensive online learning tools. Therefore, the determination of the teaching load which is carried out at the beginning of each semester causes the lecturer's preparation to seem sudden so that the learning tools made through Vilearning Unesa platform are less than optimal. Meanwhile, if the lecturer takes the initiative to prepare Vilearning Unesa platform for the course in the previous semester or during the semester break, then the uncertainty of the courses taught in the next semester will cause the preparation process to be redundant. When the course platform was already prepared, it turned out that the course was taught by another lecturer so that the platform on Vilearning Unesa remained unused.

In addition to changes in teaching schedules, the technical abilities of lecturers to utilize Vilearning Unesa features are also not optimal. Even though they have received training and assistance in making the course interface using Vilearning Unesa, the time constraints since the assignment of the teaching load with the lecture implementation schedule are very tight. This causes the features used in lectures to tend to be monotonous between the first meeting and the next meeting. In fact, the online learning model creates a learning atmosphere and learning environment that is very different from the learning model in the classroom. The limited interaction between lecturers and students causes lecturers to be unable to apply a variety of innovative learning models so that the learning atmosphere tends to be monotonous and interactions only go in one direction. If in face-to-face, the lecturer can provide a variety of models to change the learning atmosphere. As for the online learning model, once students lose motivation, the learning atmosphere becomes "silent". Interactive inducements made by the lecturer to liven up the atmosphere were only responded to in a "cold" manner by the students participating in the lectures. Therefore, online learning is learning that is very dependent on the features and learning media used so that lecturers' skills in using Vilearning Unesa are honed even more when given sufficient deadlines to prepare the interface for the course they are teaching (Asteria, 2021).

Another weakness possessed by lecturers is the limited lecture material that uses a variety of media. Generally, the material is in written form using PowerPoint, Canva or similar formats. It is still rare for lecturers to make lecture material based on audio-visual. Even though Vilearning Unesa has the ability to support content that is packaged in many formats, including audio-visual media and provides access to take advantage of all the attributes of the media. Indeed, network limitations and network stability have prevented audio-visual content, especially large ones, from being able to run smoothly. However, by limiting the theme and cutting the sub-competencies, it is hoped that it will be able to limit the capacity of the audio-visual media that is made. Clips of learning videos, for example, can run smoothly and be downloaded without problems, so that knowledge or tips and tricks can be used by lecturers to make learning videos. However, again the facilities and infrastructure owned by lecturers often also limit the production of quality learning videos. If made using a cellphone, the video image is sometimes too small or even the image is broken. Therefore, it is necessary to collaborate with lecturers, study program managers, and the Unesa KeceTV Unit to help lecturers develop learning media that are more interesting and in accordance with the needs of their courses (Yulianto, et al, 2022).

The appearance of the courses contained in Vilearning Unesa generally shows a uniform "face". On the first page, the content looks less communicative. Opening interactions in the form of greetings are sometimes absent or very monotonous. Explanations between content are very formal, like reading a report book. There is a lack of appreciation sentences, command sentences, or explanatory sentences or audio visuals that provide information like manuals so that the interface on the course page only looks like a collection of learning content. Therefore, lecturers need to evaluate the appearance of their course pages so that they are more interactive and communicative with variations between text and audio-visual media, perhaps by adding features like those on international-scale MOOCS pages (Asteria, 2021).

The characteristic of the online learning model is to create a learning environment that is not bound by time and place of educational interaction. However, the need for a large quota from Vilearning Unesa, especially when utilizing audio-visual features requires speed and stability of the internet network. Adequate internet capacity is needed to access a very large content repository in each subject, including content created by lecturers and students so that these learning resources can be accessed in every home and workplace. Finally, fast and stable network capacity is needed to support human-machine and human-human interaction in various formats; text, audio, video, images, etc., are learning assets that are carried out asynchronously and synchronously to create interactive learning contexts as compensation for the online learning model (Anderson, 2008).

▶ Conclusions

The problems faced by lecturers in using Vilearning Unesa cause the competence achievements of graduates of online courses to be lower than the competency achievements of offline courses. This is caused by several factors, including the uncertainty of the courses being taught in the coming semester so that preparation on Vilearning Unesa platform is not used; the technical ability of lecturers to take advantage of Vilearning Unesa features is not optimal due to limited preparation time; limitations of lecture material that uses a variety of media; display of course pages that are less interactive and communicative, as well as limited internet quota to ensure the smoothness and stability of the internet network.

Implications

It is necessary to increase coordination and collaboration between institutions and lecturers to provide certainty of teaching load, provide adequate preparation deadlines with the start of lectures, provide training on making international standard MOOCS, and set standards for implementing online learning activities by providing a fast and stable internet network for all components education.

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02

Suggestions for Improving Higher Education

Click each Index to go to the page that you want to read.

Gamification in Higher Education: A Comprehensive Review of Educational Apps

#gamification #blended_learning #gamification_in_higher_education

Sella Mawarni / Makassar State University
Hartoto / Makassar State University

This article presents an overview of gamification applications in higher education, with an emphasis on gamification elements such as challenges/tasks, points, levels, badges, and rankings of users. The applications studied include Quizizz, Padlet, Wordwall, and Kahoot. This article provides insights and recommendations for educators who wish to implement gamification in higher education.

01

Exploring the Application of Gamification Elements and Game Thinking in Educational Apps

Higher education institutions are constantly seeking innovative approaches to enhance student engagement and improve the learning experience. In recent years, gamification has emerged as a promising solution that effectively combines elements of game design with educational practices. Kapp (2012) defines gamification as using game-based mechanics, aesthetics, and game thinking to engage people, motivate action, promote learning, and solve problems. Gamification leverages the inherent human desire for competition, achievement, and rewards to motivate students and make learning more enjoyable. The use of technology tools (applications) can facilitate response and reinforcement to students. Applications that apply gamification principles must have gamification elements such as challenges/tasks, points, levels, badges, and rankings of users (Kiryakova, et.al., 2014). Game elements such as: challenges/tasks, points, levels, badges, and rankings of users can be found in several learning applications such as Wordwall, Socrative, Kahoot! FlipQuiz, Duolingo, Ribbon Hero, Quizziz, Padlet, Mentimeter and Goalbook. The use of game elements in gamification will basically continue to change according to developments in people's tastes and information technology, besides that there is no minimum standard for using elements in a gamification (Ariani, 2020).

This article presents an analysis of gamification-based applications based on indicators of gamification elements (challenges/tasks, points, levels, badges, and rankings of users) and game thinking (freedom to fail, rapid feedback, collaborative processes, and competition). These applications encompass a range of disciplines and educational activities, such as interactive quizzes, virtual simulations, and collaborative challenges. Some of the applications that will be discussed in depth in this article are: Quizziz, Padlet, Wordwall, and Kahoot. These applications were selected based on our experience in implementing gamification at Makassar State University. The selection of applications is also based on their level of popularity in the world of education or the majority of their use by educators globally.

▶ 1) Quizizz

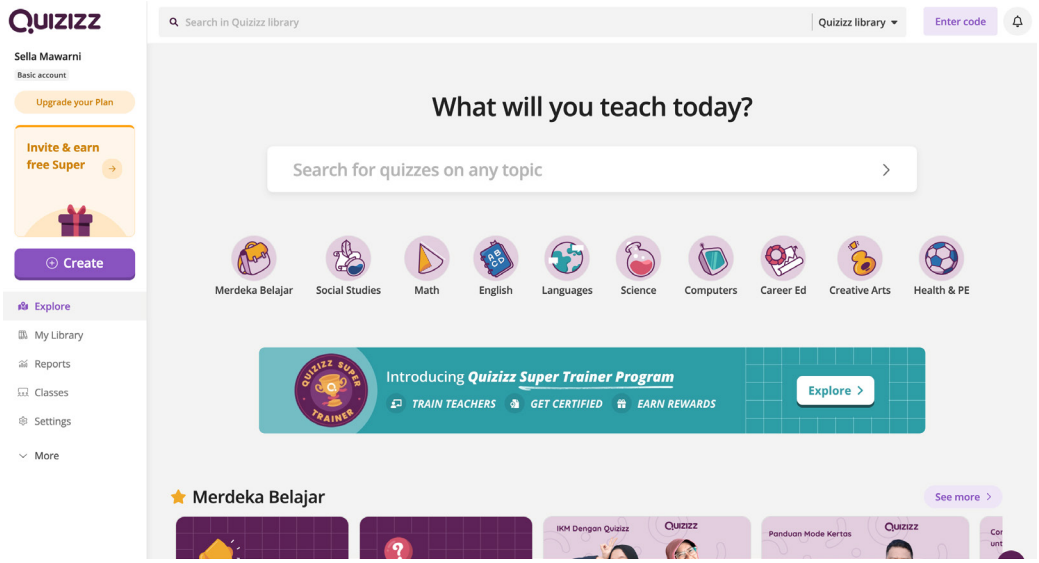

Figure 1. Quizizz Home Page

Quizizz (https://quizizz.com/) is a game-based learning platform that allows educators to create interactive and fun quizzes for students. In Quizizz, educators can create multiple choice questions, jumble (move elements to arrange them correctly), answer in the correct order, and other types of questions. Students can access the quiz via their own device, such as a cell phone or computer, and answer questions within a set time. A live score is shown when a question is answered, and a final rating is shown after the quiz is over. Interactive features and gamification elements, such as points, rankings, and leaderboards, are used to encourage student involvement and motivation in the learning process. Quizizz also provides reports that provide information about individual performance as well as the whole class. Quizizz applies a game thinking pattern which includes: (1) freedom to fail, that is when students answer questions or questions; (2) rapid feedback, that is when there is feedback on the answers given by students; and (3) competition, that is when Quizizz is played directly in class guided by a lecturer, competition will be created to achieve the highest ranking in class.

Table 1. Gamification Elements on Quizizz

Gamification Elements	Quizizz Features
Points and score	Quzizz provides a point and score calculation system when students answer questions that are displayed directly, so that students are motivated to get the highest points.
Rankings of users	At the end of the quiz, Quzizz displays a ranking and a leaderboard so students can see where they stand in a class or group. Students can reflect on how well their learning results compare to their peers. This can be used as follow-up material from lecturers to strengthen student learning motivation and compete positively.
Challenges/tasks	Quizizz allows setting the time in answering questions. This time limit becomes a form of challenge that creates positive anxiety and trains responsive skills in the context of the game.

We provide tutorials for making quizzes using Quizizz via the link (https://youtu.be/IEUs9kZyItE) or QR Code below.

▶ 2) Padlet

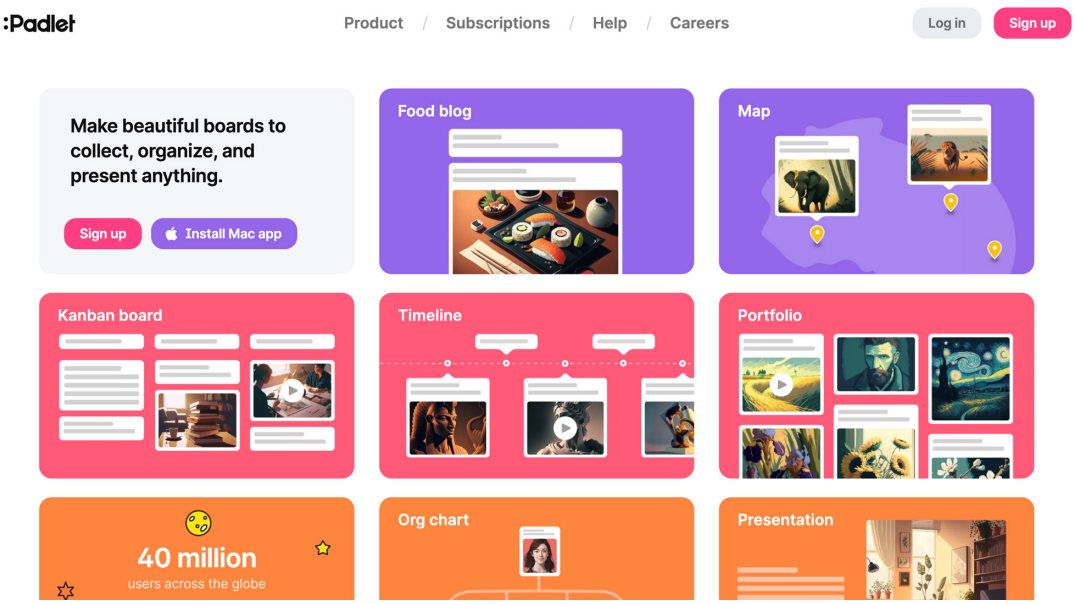

Figure 2. Padlet Front Page

Padlet (https://padlet.com/) is a collaborative platform that allows users to create and share virtual idea boards. Although Padlet itself is not an application specifically built with the aim of gamification, but with proper use, the principles of gamification can be applied in the use of Padlet. In Padlet, users can create boards similar to virtual walls, where they can add notes, images, videos, links, and many other types of content. This content can be freely arranged on boards, enabling collaboration and interaction between users. Students can collaborate in activities such as class discussions, group projects, or joint problem solving. Padlets provide additional features such as comments, likes, and the ability to set access permissions. Padlet applies a game thinking pattern that includes: (1) collaborative process, that is when Padlet is used in groups, cooperation between group members will be created so that they are able to produce the best projects; and (2) competition, i.e. if the Padlet setting allows scoring/scores for each post so that the Padlet will calculate the average score obtained based on the class assessment.

Table 2. Gamification Elements on the Padlet

Gamification Elements	Padlets Features
Points and score	Padlet provides a scoring system for each post. Scoring (1-100) can be found in the "Reactions" settings menu. Apart from that, in this menu there are also several other response settings such as liking posts, votes (upvotes and downvotes), and giving stars (1-5 stars).
Challenges/Tasks	Padlet provides a wide selection of post formats, such as in canvas, timeline, grid, list, wall, and map formats. When creating posts, users can insert image, audio, video files, links, and locations so that each student can produce different posts. Padlet posting criteria can be a challenge for students to be able to display their best posts.

We provide a tutorial video on making a digital classroom wall using Padlet via the link (https://youtu.be/C4SOItmxSTU) or QR Code below.

▶ 3) Wordwall

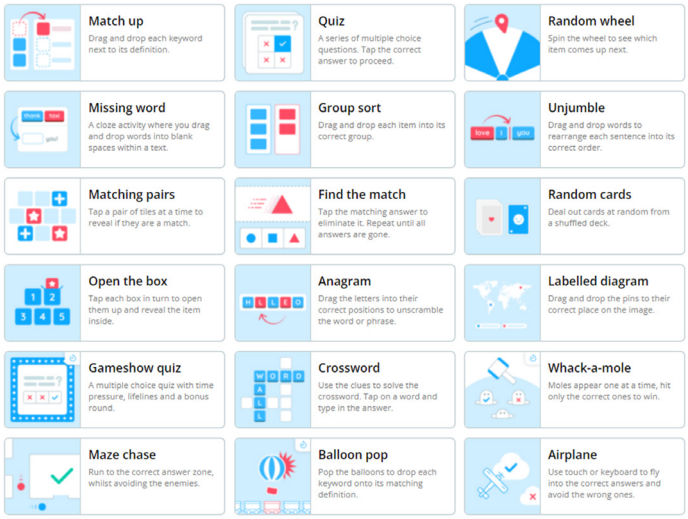

Figure 3. Various Game Options in Wordwall

Wordwall (https://wordwall.net/) is a learning platform that provides various types of interactive activities and games that can be used for learning. Several interactive activity templates provided by Wordwall include Match Up, Quiz, Open the Box, Unjumble, Flash Cards, Random Wheel, Wordsearch, etc. One feature that stands out from Wordwall is the ability to arrange activities collectively or collaborate with fellow educators. Wordwall can increase student interactivity, engagement, and participation in learning, through the use of well-designed activities. Using Wordwall can strengthen conceptual understanding, build vocabulary, practice language skills, and involve students in the learning process actively. As a gamification tool, Wordwall applies a game mindset which includes: (1) freedom to fail, that is giving students the opportunity to answer questions correctly or incorrectly; (2) rapid feedback, that is providing a direct response from each input answer given by students so that they can learn from mistakes and improve their understanding; (3) competition, that is through the work of questions or quizzes students can compete to get the top ranking.

Table 3. Gamification Elements on Wordwall

Gamification Elements	Wordwall Features
Points and score	Wordwall provides a scoring system for each answer. The score obtained will be calculated and accumulated at the end of the session. Lecturers can choose quiz settings, whether at the end of the game the correct answers will be displayed, leaderboards, and the opportunity to repeat the quiz. The score of the game will automatically be adjusted according to the number of questions given.
Challenges/Tasks	Wordwall has several special settings that can be set by the lecturer, such as setting the timeline for taking quizzes, when to take quizzes, and how many times you have the opportunity to take quizzes. These regulations will certainly have different impact challenges. This game challenge will provide playing and learning experiences for students.
Rankings of users	After completing the quiz, Wordwall will display a ranking and leaderboard based on their performance in answering questions or completing activities. Students can reflect on how well their learning results compare to their peers. This can encourage healthy competition and motivation to increase the score on the next quiz opportunity.

We provide a video tutorial on creating tasks in game form using Wordwall via the link (https://youtu.be/aNxaw-In0UA) or QR Code below.

▶ 4) Kahoot

Figure 4. Kahoot Front Page

Kahoot (https:// kahoot.com/schools-u/) is a web-based application that can be used to create quizzes, polls, and discussions in the form of games. This app is specially designed for learning purposes and serves as an engaging and entertaining tool to engage students in the learning process. Kahoot has several main features including: (1) interactive quizzes in multiple choice format, right or wrong answers, and short answers; (2) multiplayer which allows Kahoot to be played by many players simultaneously, (3) music and animation that is entertaining and creates a fun experience; and (4) there is analysis and feedback at the end of the session about student performance, this helps educators identify the learning abilities of each student. As a gamification tool, Kahoot applies a game thinking pattern which includes: (1) freedom to fail, that is in the quiz work session at Kahoot students are free to choose and try to answer each question to measure their understanding; (2) rapid feedback, that is providing feedback from each student's input (in the form of quiz answers for example) which helps create a learning environment that is dynamic, responsive, and centered on improvement; (3) competition, that is students can compete between friends in answering quizzes or questions on Kahoot so as to create motivation, involvement, and positive participation from students.

Table 4. Gamification Elements in Kahoot

Gamification Elements	Kahoot Features
Points and score	Kahoot is more suitable for face-to-face classes with the help of a projector screen display in front of the class to make the playing experience more tense as well as fun. Kahoot has a score and point calculation system on quizzes that have the correct answers as in quiz, puzzle, and type answer formats.
Challenges/Tasks	Kahoot provides several special settings that can be set by lecturers, such as the duration of answering questions. Speed is an interesting challenge for students to be able to give the best answers so they can become quiz winners. These regulations will certainly have different impact challenges. This game challenge will provide playing and learning experiences for students.
Rankings of Users	The leaderboard in Kahoot shows how participants rank based on their scores. This leaderboard is constantly updated during the game, allowing participants to see their position in real time and compare it with other competitors. This leaderboard feature encourages competition and motivation to reach the top spot in the game.

We provide a video tutorial on making games in class to measure student understanding using Kahoot via the link (https://youtu.be/j7tdKcSiLg0) or QR Code below.

Each application or gamification tool that has been discussed above, has a variety of varied features and of course has its own characteristics. In the mixed learning pattern, these four applications can be used in face-to-face or online (synchronous and asynchronous) learning formats. Based on our experience in implementing blended learning with the principle of gamification, the Quizizz and Padlet applications are more suitable for face-to-face and virtual face-to-face synchronous learning patterns, the Kahoot application is more suitable for face-to-face learning, while the Wordwall application is more suitable for use as independent assignments and carried out independently. async. Applications that are interactive quizzes (Quizizz, Wordwall and Kahoot) can be used to test student understanding at the beginning or end of learning, while the Padlet application can be used for material that requires brainstorming and in-depth discussion.

Implications

Learning applications are a tool for implementing gamification. Assistive devices can support the achievement of learning objectives if they are also supported by the use of appropriate learning strategies and settings. The role of lecturers or educators as learning designers, must be able to integrate elements of learning strategies, learning tools, and class settings proportionally and mutually support each other so that the application of gamification can increase student involvement in the learning process.

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Quality Assurance at Higher Education

#qualityassurance #highereducation #laos

Dr. Khamkeo HANSANA

To support learning and teaching with the regional and international education institutions, the quality assurance is one of the most important thing. With this circumstance, Lao Ministry of Education and Sports provides training to public teachers of four public universities. Furthermore, nowadays, the universities are considering using the Quality Assurance to the education field.

01

Quality Assurance is very important in Higher Education institutions of Lao P D R in these days. This is because of the fact that the Quality Assurance itself plays an important part in supporting learning and teaching practice of teachers, helping administrative teams and supporting staff to plan their work, ensuring that there is quality in teaching and learning practice and helping the Higher Educational institutions enable to integrate with the regional and international education institutions. In addition, the Quality Assurance ensures that foreign education intuitions recognize Lao Education. Because of such important roles of the Quality Assurance, the Ministry of Education and Sports; especially the Quality Assurance Department has been implementing trainings on how to write a Self-Assessment Report for teachers of four public Universities of Laos and other Higher Education Institutions. At the same time, there are internal and external accessors who under the supervision of the Quality Assurance Department, Ministry of Education and Sports. There are trainings which are always organized for them in order to assess the education institutions.

In the current time, every higher education institution takes the Quality Assurance into consideration. This is because it helps the higher education institutions improve their teaching and learning practice of teachers, curriculum, and human resources together with infrastructures. It becomes the factor that can draw students to study and ensure that they will have knowledge and competences that meet the of labor markets.

Due to the fact that the Quality Assurance plays an important role in improving education, recently, for example, University of Champasack organized training workshops on Quality Assurance; especially on how to write a Self-assessment Report for teachers. In addition, all faculties of National University of Laos organized the training workshops for teachers. Through having been trained, it can be seen that teachers, for example, have deepen understandings of writing their course syllabuses, assessment criteria, and marking schemes.

Moving from the institutional quality assurance, there are two faculties of National University of Laos namely: Faculty of Law and Political Science as well as Faculty of Economic and Business management would like get the ASEAN University Network QA Standard. These two faculties were assessed by the AUN accessors in recent years. For example, five years ago, Quality Assurance team of each department of the Faculty of Law and Political Science were trained on the ASEAN University Network Quality Assurance Framework many times. After finished the trainings, teams of the quality Assurance in each department started writing the Self-Assessment Report. In 2021, under the support of LuxDev's Project LAO/031, the Faculty of Law and Political Science held the Quality Assurance and it was assessed by the accessors from the ASEAN University Network Quality Assurance Agency. The result of the assessment came with the satisfied results. The results of assessment are very important because they were used to improve the weaknesses in order to get the standard of ASEAN University Network Quality Assurance.

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Approach to Effective Technique of Prediction, Observation, Discussion, and Synthesis (PODS) to Improve Research and Education at Yangon Technological University (YTU)

#Effective Technique #PODS #Research and Education
#Educational Philosophy #Teaching and Learning Activities

Prof. Dr. Hla Myo Tun / Pro-Rector (Research), Research Department, Yangon Technological University, Gyogone, Insein PO, 11011, Yangon Region, Republic of the Union of Myanmar

The study presents the advanced teaching and learning technique of Prediction, Observation, Discussion, and Synthesis (PODS) at Yangon Technological University (YTU). A technique of PODS is the effective teaching and learning activities used in research and education cultures at the universities. The analysis on PODS technique on semiconductor related subjects under the Department of Electronic Engineering of YTU has been accomplished in this works.

01 Education System at YTU

Yangon Technological University is only Research University and the Best Centre of excellence (COE) in Myanmar. The teaching techniques and research system at YTU are excellence to enhance the engineering higher education in Myanmar. There are various techniques for engineering education all over the world [1]. Among them, Prediction, Observation, Discussion, and Synthesis (PODS) is the best teaching and learning activities for enhancement of engineering higher education in science and technology education system [2].

Department of Electronic Engineering plays a crucial role in the best engineering department under Yangon Technological University. There are six main research groups under the umbrella of the Department of Electronic Engineering of YTU. They are (1) Semiconductor Electronic Research Group, (2) Telecommunication Research Group, (3) Automatic Control Research Group, (4) Signal Processing Research Groups, (5) Unmanned Aerial System Research Group, and (6) Microelectronics and Embedded Technology Research Group. Each research group worked together with each other to improve the quality of research work for the development of Department of Electronic Engineering of YTU. One of the most popular research groups is Semiconductor Electronic Research Group. The department development plan was established based on that research group by Japan International Cooperation Agency (JICA) Enhancement of Engineering Higher Education (EEHE) project. Most of the Japanese Professors from Chiba University, Kumamoto University, Kanazawa University and Okayama University in Japan have come to the Department of Electronic Engineering of YTU since 2014.

They advised the faculty members to promote the research capacity based on semiconductor engineering. There are four major areas under the semiconductor engineering. They are (1) semiconductor material, (2) semiconductor devices, (3) semiconductor measurement, and (4) semiconductor fabrication. According to the department development plan, the semiconductor engineering trend is one of the most important areas for bachelor degree program under the Department of Electronic Engineering at YTU. In order to get the accomplishment of Research-Based Education (RBE) system, the effective teaching method like PODS is very important for teaching and learning activities at the Department of Electronic Engineering at YTU. The PODS activities have been started at the beginning of 2017 at YTU. Most of the faculty members from the Department of Electronic Engineering at YTU could easily follow the fundamental concept on the effective teaching and learning activities in their class and laboratory.

Implications

The significant observation could be noted based on the analysis of Prediction, Observation, Discussion, and Synthesis (PODS) teaching and learning activities in the class and laboratory at YTU. The RBE system of YTU had met with the Outcome-Based Engineering Education (OBEE) for Quality Assurance (QA) Processes.

02 Prediction, Observation, Discussion, and Synthesis (PODS)

PODS is one of the learning cycle used for design active learning teaching module. In PODS learning cycle, students are encouraged to make a prediction about the result of a particular engineering experiment before any treatment. The experiment is then performed and the students are encouraged to make a quantitative or qualitative observation of the experimental results. And then, students can discuss and share their predictions and observations with group or class; whether the same or not from any conflict between their predictions and observations can be solved during the discussion phase. After discussion, students come to be a better understanding about the physics of semiconductor materials and devices underlying the observations amongst themselves and or with the facilitators. Finally, students are encouraged to synthesize their newly learned ideas and conclusions into the more general framework of their knowledge on semiconductor engineering.

Figure.1 shows the block diagram of PODS learning cycle that always start with the Prediction. In the case of improving the students' understanding on semiconductor electronics, the researcher has implemented and utilized the PODS learning cycle based on hand-on activities. This is because it is more suitable for the topic and students who learn in the physics of semiconductor electronics. All students have a chance to discuss, share their ideas and experience between their predictions and observations in this study. Moreover, it is important that all students are encouraged to synthesize what they have learnt. This can reflect how their understanding of a particular topic has been evolved to try to identify the critical issues that need to be addressed for meaningful

learning to occur. As they progress in their investigation of semiconductor electronics, the researcher can be given many opportunities to express their ideas.

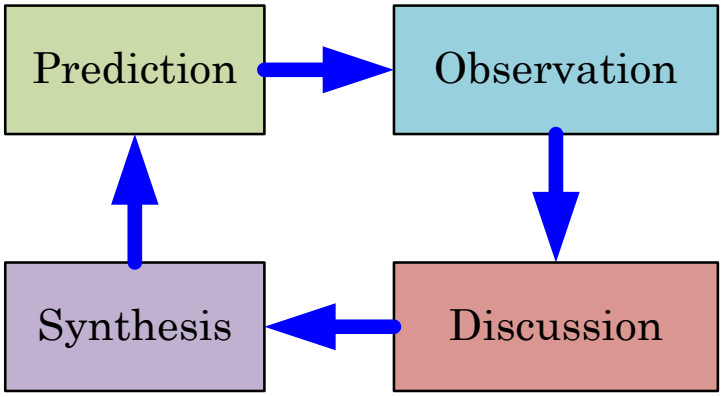

Figure 1. Block Diagram of PODS Learning Cycle

Activities of PODS Teaching and Learning

The researcher would like to create PODS learning cycle-based activities to help student motivate their research idea and knowledge on semiconductor related subjects. Researcher thus designed and implemented PODS based on Material in Electronics, PODS based on Physics of Semiconductor Devices, PODS based on Semiconductor Devices, and PODS based on Semiconductor Process and Material Characterization to explore students' motivation on doing research works in the semiconductor electronics areas. Moreover, the concepts covered in the PODS-based works. All students' response to this evaluation as a pre-analyzed and post-analyzed was used to evaluate the efficacy of those activities in terms of how much the activities could help all students to improve their motivation on doing research works for semiconductor electronics. Figure.2 demonstrates the design flow for the study.

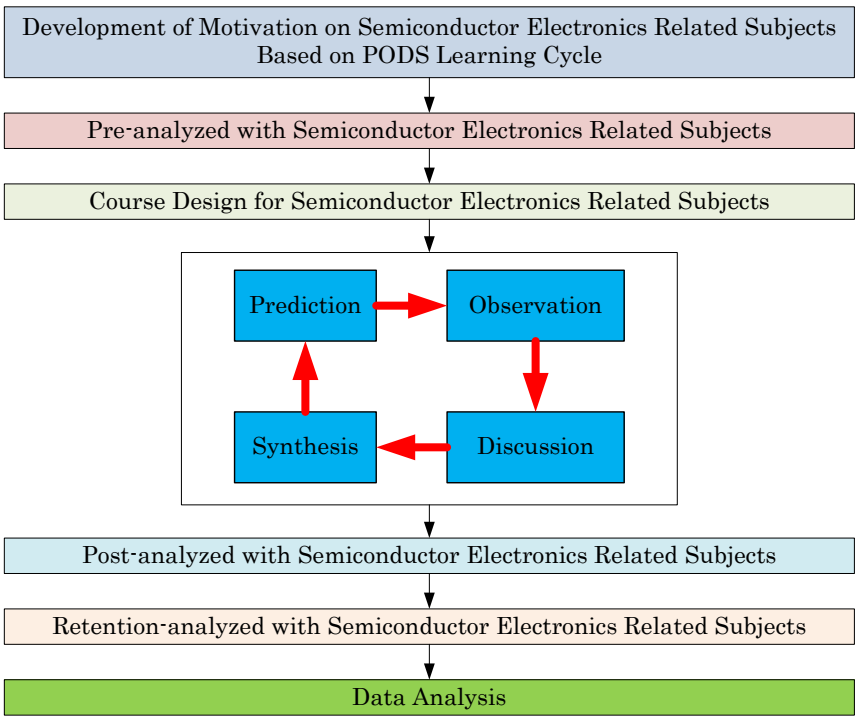

Figure 2. Design Flow

▶ Effectiveness of PODS System on Research Activities

The supervisors for research activities could utilize the PODS technique in experimental studies. The theoretical research could be come first and the expected outcomes would be observed in research group activities at YTU. The first principle calculations could be accomplished based on the PODS processes from the advisor. Table-I gives the Statistic Table of Research Works at the Department of Electronic Engineering of Yangon Technological University. The first row represents the academic year (AY), and the second row is for the number of research (NR) works at YTU. The number of doing research works is increasing year by year because the outcome-based education system reflects the improvement of teaching staff qualification and the development of YTU as a research university in Myanmar. The financial supports for doing research works are government funds, U Nyi Hla Nge Foundation research funds, and JICA EEHE research funds. Table-II gives the research publications of the teaching staff at the Department of Electronic Engineering of Yangon Technological University. The starting year is 2007, and the main areas for doing research works are based on the specializations of the Department of Electronic Engineering of YTU.

According to the analysis model for developing the students' activities for teaching and research works, some outstanding students had published their research outcomes. The significant point could be found in the 2013-2014 academic year for research publications at YTU. Table-III gives the research publications of undergraduate students. There are ten publications in prestigious academic societies such as IEEE or ELSEVIER in the world.

Table 1. Statistic Table of Research Works at the Department of Electronic Engineering of Yangon Technological University

AY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NR	1	1	2	2	2	2	3	3	4	4	4	10

Table 2. Research Publications of Teaching Staff at the Department of Electronic Engineering of Yangon Technological University

Year and Fields of Interest	Telecomm	GoPro	EmbSys	Semicon	UAS	Auto
2007						1
2008						4
2009		3			7	2
2010	2					
2011	1		1		1	1
2012	2					1
2013	1	1			1	
2014	8	2				20
2015	9	10	2	2	1	9
2016	6	8			6	18

2017	13	12	6	4	10	13
2018	2	8		11	7	11
2019	10	6	2	12	8	14
2020	16	10	3	23	8	18
Total	**70**	**60**	**14**	**52**	**49**	**112**

Table 3.
Research Publications of
Undergraduate Students

No	International Publications	Batch	Number	Country
1	International Conference (IoT, IEEE)	First	2	Indonesia
2	International Journal (Semiconductor)	First	2	USA
3	International Journal (Blockchain, Elsevier)	First	1	USA
4	International Conference (Control, IEEE)	Second	2	Thailand
5	International Conference on Science and Engineering (ICSE)	Second	3	Myanmar

Implications

Prediction, Observation, Discussion, and Synthesis (PODS) techniques could be utilized in teaching activities as well as research activities. The traditional technique on teaching activities could not be accomplished for 21st Century Skills for both teaching staffs and students in engineering. The achievements on research outputs could be the reflection of utilizing the PODS techniques at YTU.

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Assessments and the Learning Management System of De La Salle University-Dasmariñas

#cypherlearning #lms #onlineassessments

Roland Lorenzo M. Ruben and Constantino T. Ballena / De La Salle University - Dasmariñas: Ms. Hyojae Choi / KERIS

This paper focuses on online assessments, which are conducted remotely on the internet, a modality that provides flexibility, scalability, and convenience. Online assessments save time and costs through automated grading, elimination of physical materials, and efficient administration. However, challenges in their administration include technical issues, security concerns, cheating risks, and potential lack of student engagement. Overcoming these challenges requires careful planning, appropriate assessment tools, addressing security measures, promoting academic integrity, and fostering student engagement. Tips for successful implementation include planning ahead, choosing the right tools, ensuring security, fostering engagement, and providing timely feedback. By following these tips, educators can create effective and reliable online assessment environments.

01 Introduction

Online assessments are digital evaluations conducted remotely via the internet. They assess knowledge, skills, or other attributes using web-based platforms, in the case of De La Salle Unviversity-Dasmariñas (DLSU-D), the Schoolbook. Quiz type assessments such as discrete (multiple-choice questions, matching type, etc.) and non-discrete (essays, discussion, team assessments, etc.) are a common format. Online assessments offer flexibility, scalability, and convenience. Students can complete them at their own pace and location. They enable simultaneous evaluation of large numbers of individuals, with automated grading and immediate feedback. Time limits, adaptive questioning, and multimedia elements enhance the assessment experience.

Online assessments have become popular due to their convenience, scalability, efficiency, data analysis capabilities, and customization options. They provide convenience by allowing students to take assessments remotely at their preferred time and location. The scalability feature enables the evaluation of a large number of students simultaneously. Online assessments streamline the evaluation process, saving time and resources through automated grading and immediate results. They also offer enhanced data collection and analysis, including adaptive questioning and multimedia elements. Lastly, the customization options allow teachers to tailor assessments to specific objectives, ensuring effective evaluation. These factors have contributed to the increasing popularity of online assessments in various fields.

▶ Benefits of Online Assessments

Since DLSU-D has started using the Schoolbook, the way of giving assessments has changed. The traditional pen and paper tests have given way to online assessments. Below are some benefits of online assessments in Schoolbook.

1. Increased accessibility and flexibility

Figure 1. Online assessments provide the advantage of enhanced accessibility and flexibility than traditional assessments

Online assessments provide the advantage of enhanced accessibility and flexibility than traditional assessments, enabling students to conveniently complete assessments in any place and at their preferred time. This eliminates the constraints of physical presence and scheduling conflicts, making assessments accessible to a wider audience.

In the past, pre-tests were given in the classroom using pen and paper, and students would only have one chance to take it. If they miss it, then they would have to take it at another time in the faculty room or in the classroom. With online assessments, the students are given at least a day to a week to accomplish it. With this enhanced accessibility and flexibility, students can take assessments at their own pace, accommodating individual learning styles and preferences.

2. Reduced time and cost

The Schoolbook does everything for us. Gone are the days when students would wait for days, even weeks, for their test results to be given to them. Automated grading in online assessments reduces time and cost by eliminating the need for manual grading and providing instant results especially for discrete type of assessments. They eliminate or reduce the use of physical materials (Khan et al. 2019), saving on printing, and storage costs. DLSUD was able to reduce our carbon footprint when it stopped printing our major exams. Immediate feedback reduces the need for additional assessments and supports continuous learning. This is also a great opportunity to guide the students in the learning process.

3. Enhanced accuracy and consistency

Standardized assessments, automated grading systems, clear rubrics and scoring guidelines, data validation techniques, real-time analytics, and consistent delivery of questions and instructions enhance accuracy and consistency in online assessments. Standardization ensures all students receive the same assessment conditions, minimizing biases. Automated grading reduces human errors and ensures consistent evaluation. Rubrics and scoring guidelines provide clear criteria for assessing subjective questions consistently (Rahman, et al., 2022).

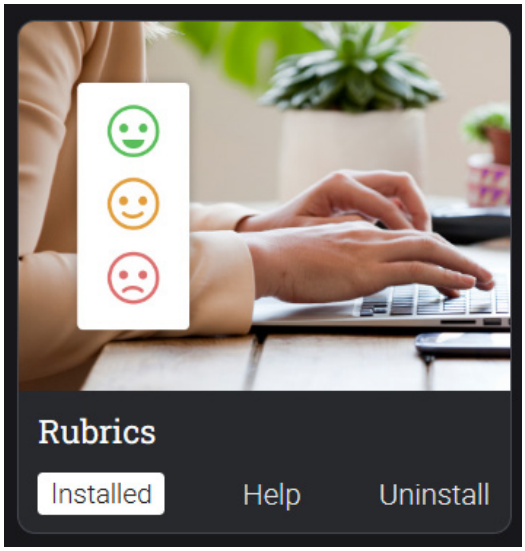

Figure 2. Rubrics and scoring guidelines provide a clear criteria for assessing subjective questions consistently

DLSU-D has institutionalized the use of rubrics for non-discrete online assessments like essay, discussion, dropbox and team assessments, among others. Real-time analytics in learning management systems (LMS) are tools that provide instant feedback and insights on learners' performance and progress. The Gradebook of DLSU-D's LMS has three analytic features, namely, the student's individual performance, the students' performance in an assessment, and the students' overall performance in all the assessments. It has helped teachers identify strengths and weaknesses, monitor student engagement and motivation, and adjust learning strategies and goals accordingly. Consistent delivery ensures fairness in the assessment experience.

▶ Challenges of Online Assessments

Online assessments come with a set of challenges that include technical issues, security and privacy concerns, cheating and plagiarism risks, and potential lack of student engagement.

1. Technical Issues

Technical glitches, network connectivity problems, or compatibility issues with different devices or browsers can disrupt the assessment process in online assessments, which rely heavily on technology. These issues can cause frustration and potential loss of data. DLSU-D has encountered a lot of concerns like this during the pandemic. Some students were not able to submit their assessments on time; some had difficulties in posting their answers because of technical difficulties. In some assessments, students are given two to three attempts when they submit their outputs in order to mitigate this issue. Whenever they encounter a technical problem, they still have another attempt to submit their answers.

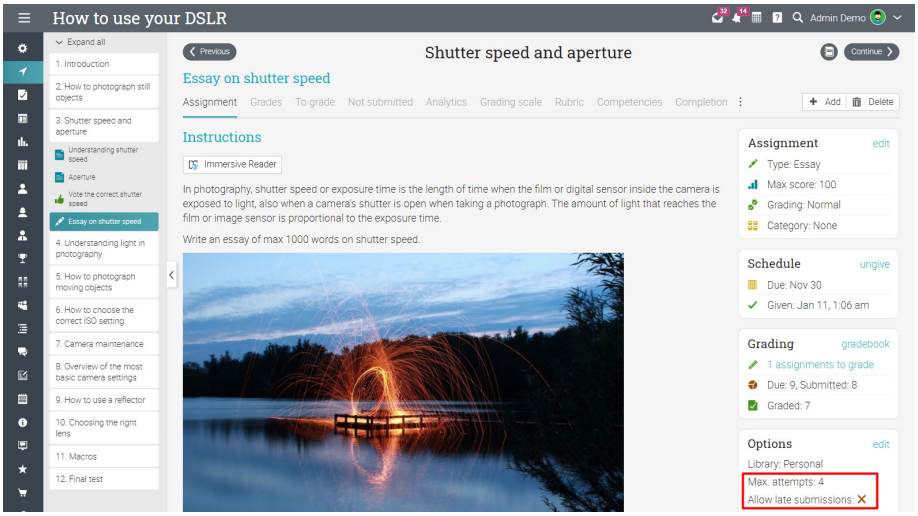

Figure 3. Giving multiple attempts mitigates the issue on technical issues

2. Security and privacy concerns

Security and privacy concerns are raised in online assessments due to the transfer and storage of sensitive data. Measures must be in place to protect the integrity of the assessment, prevent unauthorized access to questions or answers, and ensure the confidentiality of students' personal information. Students need to learn the fundamentals of online security best practices. Cybersecurity is mostly handled by skilled techs and professionals, but students can also take steps to protect their online data effectively. They need to use strong passwords, install antivirus software on all their devices, and avoid public Wi-Fi in favor of more secure channels. These are simple security tools that every student should have. The Schoolbook security features encrypted personal passwords, encrypted URLs to prevent unauthorized sharing, all web pages and videos are served over HTTPS, and

there is also a two-factor user authentication. NEO has secure storage. They store all files in the Amazon storage system (S3), which is secure as it allows authorized access only to those files. We store all data in the Amazon relational database system (RDS) which is secure, and password protected. NEO has a secure server. All its software runs on the Amazon Elastic Computing cloud (EC2), which is secure, and password protected. The servers are constantly monitored by DLSU-D's staff and Amazon's own management software.

3. Cheating and plagiarism

Figure 4. Academic integrity is essential for maintaining the quality and credibility of your education and your future career

Cheating or plagiarism is another concern vis-a-vis online assessments. Students can search for answers or collaborate with others during the assessment; such act compromises the integrity of the evaluation (Holden et al. 2021). This is the greatest concern of professors. To mitigate these risks, effective proctoring measures and plagiarism detection tools must be implemented. In DLSU-D's Schoolbook, the following features have been installed: Turnitin, a plagiarism tool; Safe Exam Browser, for secure online exams; and Proctored Assessments, a feature that allows the teacher to restrict students' access to assignments. Cypher Learning, DLSU-D's Schoolbook provider, and Turnitin have been collaborating with each other since 2015 to provide a more seamless experience for users of NEO LMS and Turnitin. This integration allows users to access the features of Turnitin Feedback Studio directly from within NEO, without having to log in on different portals or use different credentials. This integration helps to support academic integrity by making it easier for instructors to identify potential plagiarism in student work.

4. Lack of student engagement

Engaging students during online assessments can be challenging. Without the physical presence and interaction found in traditional assessments, students may feel disengaged or unmotivated, resulting in a reduced effort or performance. Strategies such as incorporating interactive elements, clear instructions, and varied question formats can help enhance student engagement in online assessments.

To cope with these difficulties, it is necessary to try out some creative online assessments. Some examples of alternative assessment techniques that can be done on Schoolbook include:

- Portfolios: Students collect work over the course of a semester or year and submit these to their instructor for assessment. These include essays, projects, or other evidence of learning. Portfolios can be a great way for students to showcase their skills and knowledge, and they can help students reflect on their own learning.

- Live stream performance tests: Students are individually tested on their skills and knowledge in real time. This can be done through Microsoft Teams, Zoom or other online platforms. Live stream performance tests can be a great way to assess students' ability to apply what they have learned in a real-world setting.

- Multiple-choice questions with explanatory responses: Students are asked multiple-choice questions, but they are also required to explain their answers. This allows instructors to assess students' understanding of the material, not just their ability to memorize facts. Multiple-choice questions with explanatory responses can be a great way to assess students' critical thinking skills.

These are just a few examples of alternative assessment techniques. There are many other possibilities, and the best approach will vary depending on the subject matter and the learning goals of the course.

▶ Tips for Successful Implementation

Here are some tips for a successful implementation of online assessments:

1. Plan: Take time to carefully plan and structure online assessments, including defining objectives, determining assessment format and duration, and considering the level of difficulty. This helps ensure a well-organized and purposeful assessment process.

2. Choose the Right Assessment Tools: Select reliable and user-friendly online assessment platforms or tools that offer features such as question variety, automated grading, security measures, and data analysis capabilities. Familiarize yourself with the platform and provide clear instructions to students.

3. Ensure Security and Academic Integrity: Implement measures to maintain security and prevent cheating by utilizing proctoring tools, securing browsers, and randomizing question order. Communicate expectations and guidelines very clearly to students to promote academic honesty and integrity.

4. Foster Student Engagement: Design assessments that promote student engagement by using varied question formats, interactive elements, and real-world scenarios. Encourage student questions, feedback, and discussions related to the assessments to enhance their interest and participation.

5. Provide Timely Feedback: Aim to provide prompt and meaningful feedback to students. Utilize automated grading features when possible and offer personalized feedback for open-ended questions or essays. Timely feedback helps students understand their performance, identify areas for improvement, and stay motivated.

By following these five tips, you can create a successful online assessment environment that supports effective learning, accurate evaluation, and student engagement.

▶ Conclusion

Online assessments have become a powerful tool in education, offering flexibility, scalability, and efficient evaluation processes. While challenges exist, they can be overcome with careful planning, the right tools, and security measures. The benefits of online assessments are undeniable, from time and cost savings to enhanced accuracy, consistency, and student engagement. By incorporating online assessments, educators can unlock the potential for more inclusive and accessible evaluations tailored to individual student needs. Embracing the digital transformation of education prepares students for the demands of the modern world and fosters their growth and success.

Implications

Educators should embrace the infinite possibilities that online assessments bring. Educators should adapt to the ever-changing educational landscape and shape a future where assessments are not just tests to be answered by students but are venues for transformative experiences that empower students. Educators should explore available platforms, equip themselves with necessary knowledge, and integrate online assessments into their teaching practices. Embracing the opportunities they provide for personalized learning, real-time feedback, and data-driven decision-making can make a difference in the lives of their students; thus, paving the way for a brighter future of education.

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03

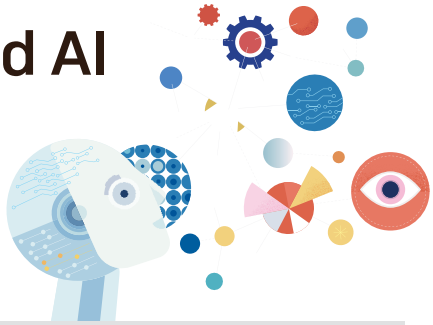
Higher Education with Artificial Intelligence (AI)

Click each Index to go to the page that you want to read.

Boosting Education with OER and AI

#OER #Education #AI #Learning

Ms. Hnin Aye Thant / Department of Higher Education
Ms. Khin Thandar Nwet / Department of Higher Education
Ms. Thuzar Aung / Myanmar Aerospace Engineering University
Mr. Si Thu Wai / TET Myanmar



Open Educational Resources (OER) and Artificial Intelligence (AI) present transformative potentials in global education. OER, comprising free, online educational materials, enhances education affordability and access, while encouraging pedagogical innovation. Research demonstrates positive outcomes from OER use, including improved grades, retention rates, and collaboration skills. OER's impact extends globally, as seen in Myanmar, where organizations like "Mote Oo Education" and the "Monastic Education Development Group" democratize learning material access, despite facing challenges like the digital divide and variable resource quality. Also, the incorporation of local language access, as demonstrated by Khan Academy's Burmese version, furthers inclusivity.

Meanwhile, AI integration into educational platforms, as seen in Khan Academy and Formative's partnership with ChatGPT, revolutionizes digital learning by providing personalized learning, intelligent tutoring, and efficient assessment. This significantly enhances the learning experience when paired with OER and verified learning certifications, for instance, courses from Coursera Community Project Network.

Despite its promise, the implementation of this combined approach should not overshadow traditional pedagogical strategies, and issues such as data privacy and fairness must be addressed. Collectively, OER and AI could serve as key drivers in building a more inclusive, effective, and innovative global education system.

01 Introduction

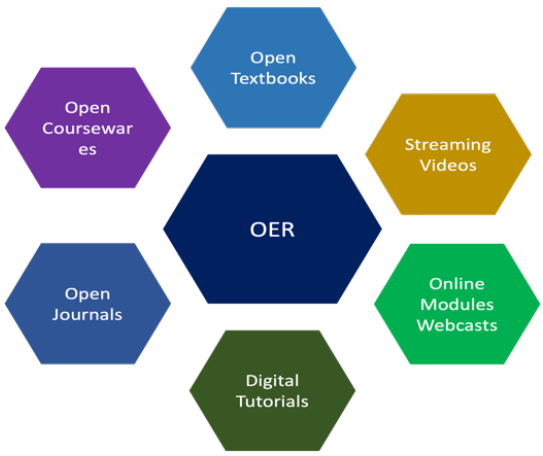


Figure 1. Types of OER

OER refer to any type of educational materials that are available online and can be used freely by anyone. These resources include textbooks, modules, lecture notes, videos, tests, software, and other learning materials as shown in Figure 1 based on [1]. OER has gained a lot of attention in recent years due to their potential to improve access to education and reduce costs for students. Many other institutions and organizations have created and distributed OER, and the movement has gained significant momentum. Today, there are thousands of OER resources available online, covering a wide range of topics and subjects.

02 Impacts of OER on Learning

OER substantially enhances higher education, improving affordability, completion rates, and academic performance. Studies [2] involving thousands of students demonstrate that OER not only eases financial burden but also improves grades and lowers course withdrawal rates, particularly benefitting part-time students and underserved groups. Thus, OER addresses key challenges in today's higher education landscape.

Highlighted findings on the impact of OER on teaching and learning include:

- OER significantly boosts education affordability by offering free, high-quality resources.
- It broadens global access to education, particularly benefiting remote and underserved areas.
- OER facilitates the customization of learning materials, leading to enhanced learning outcomes.
- Collaboration is fostered through OER, bolstering essential skills like teamwork, communication, and problem-solving.
- OER promotes pedagogical innovation and ensures the provision of updated, relevant content.
- The utilization of OER enables tracking and analyzing learning patterns, providing invaluable insights for educational research.
- Empirical studies report positive learning outcomes from OER use, including improved grades and higher retention rates.
- Free verified certificates from initiatives like Coursera Community Project Network enhance value for learners, providing independently verifiable credentials [3][4].
- A holistic approach that combines AI technology, OER, and verified learning certifications can significantly enhance the overall learning experience.

03 OER in Myanmar

OER are profoundly influencing education in Myanmar, particularly through the work of organizations like Mote Oo Education [5] and the Monastic Education Development Group (MEDG) [6]. Also, the incorporation of local language access, as demonstrated by Khan Academy's Burmese version, furthers inclusivity [7]. By democratizing access to learning materials, these organizations are enhancing the educational landscape and fostering a collaborative learning culture.

Mote Oo Education creates high-quality, open-source educational materials and advocates for teacher training, making customized learning resources readily accessible. Similarly, MEDG, through its online learning platform MEConnect, ensures that students in monastic schools can access curriculum-aligned resources and that educators receive professional development support.

However, despite these positive strides, the implementation of OER faces challenges. The digital divide, lack of sufficient teacher training, variable quality of resources, and language barriers are substantial hurdles. For instance, not all students and teachers have equal access to internet-enabled technology, and many educators may require additional training to effectively utilize these resources.

To optimize the benefits of OER, it is imperative for policy-makers, educators, and stakeholders to work collectively. Efforts should focus on bridging the digital divide, enhancing teacher training, instituting rigorous quality control measures, and creating resources in local languages. This multi-pronged approach can ensure the continued growth and success of initiatives like those of Mote Oo Education and MEDG, helping to build a more inclusive and effective education system in Myanmar.

04 AI and OER

Leveraging OER and AI can significantly improve learning outcomes. Khan Academy has announced a pioneering partnership with ChatGPT to revolutionize digital learning by integrating AI-powered interactive conversational tools into their educational platform [8]. Educational platforms such as Khan Academy and Formative [9] utilize these technologies to enhance the learning process:

- Personalized Learning: Khan Academy uses AI to customize content, fostering improved learning paths.
- Intelligent Tutoring: Platforms incorporating ChatGPT offer one-on-one AI tutoring, supporting students on demand.
- Predictive Analysis: Formative uses AI to identify potential learning difficulties early on.
- Efficient Assessment: Formative, leveraging ChatGPT, automates question creation for assessments, saving significant time for teachers and providing timely feedback and insights.

However, it's critical to address issues such as privacy, data security, and fairness when integrating AI with education. AI and OER should supplement, not replace, effective teaching and learning strategies.

Implications

In regions like Myanmar, where OER significantly impacts education, it's essential to address digital disparities, boost teacher training, enforce quality controls, and develop local language resources. The successes of initiatives like Mote Oo Education provide promising models for OER implementation.

AI's integration with OER, as seen in the Khan Academy-ChatGPT partnership, promises enhanced learning. However, privacy, data security, and fairness concerns must be addressed. AI and OER should enhance, not supplant, effective pedagogical strategies. These technologies must be utilized responsibly for a more inclusive, effective global education system.

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Exploring Students' Usage, Preferences, and Perceptions of AI-based Apps in National Economics University (NEU)

#AI-based apps

Pham Xuan Lam, Le Thi Hoai Thu, Tran Thi My Diep, Pham Duc Trung / NEU

The rapid advancement of Artificial Intelligence (AI) has led to its widespread use in education, with applications like OpenAI's ChatGPT gaining popularity for their human-like responses. However, concerns about AI-assisted cheating and responsible use have also emerged. This paper presents insights from a survey conducted at National Economics University (NEU) in Vietnam, exploring students' usage, preferences, and perceptions of AI-based applications. The survey revealed that a significant percentage of students had used AI-based applications, primarily for tasks such as information lookup, assignments, and programming. The most popular AI-based applications included ChatGPT, Duolingo, Notion AI, and Elsa Speak. The findings indicate positive student perceptions and a willingness to continue using AI-based applications in their studies.

01 Introduction

Artificial Intelligence (AI) has advanced quickly in recent years, leading to numerous uses in a variety of fields, including healthcare (Xu, Sanders, Li, & Chow, 2021) and education (Zawacki-Richter, Marín, Bond, & Gouverneur, 2019). Massive amounts of data can be used to teach AI systems how to simulate the human brain and perform regular tasks. Applications of artificial intelligence have been used in education to improve administrative and academic assistance (Zawacki-Richter et al., 2019). An interactive chatbot called ChatGPT, recently developed by OpenAI ("OpenAI,"), might make it much easier for instructors to incorporate AI into their lessons. To provide responses that are human-like to user input, ChatGPT implements Natural Language Processing (NLP). It has drawn interest from across the world because of its excellent performance in producing answers that are solid, orderly, and instructive (Zhai, 2022). The results show that this AI-based application is capable of receiving a university degree (Bates, Cobo, Mariño, & Wheeler, 2020) and also can pass graduate-level business and law exams (Kelly, 2023), even though its scores weren't very good at this point. ChatGPT has experienced the fastest user application growth in history since its release on November 30, 2022, and just two months later, in January 2023, it had 100 million active users (Zhou, Ke, Qiu, Huang, & Zhang, 2023).

Despite its popularity, ChatGPT and AI-based software in general have created significant difficulties and risks for the educational system. There are concerns about AI-assisted cheating because it can be used to produce written assignments and exams on behalf of students and can respond specifically to user questions. The implications of ChatGPT and AI-based application in the field of education were explored (Lim, Gunasekara, Pallant, Pallant, & Pechenkina, 2023; Mhlanga, 2023). Different publications about Generative AI tools were analyzed, and the results showed that instructors were worried about using them in the classroom. Because AI-based applications can quickly produce appropriate texts, they raised concern that students would utilize it to outsource their work. As a result, researchers emphasized the significance of using AI-based applications responsibly and ethically. Several problems were identified with the studies, including plagiarism, wrong replies, and inaccurate citations. Therefore, it is necessary to give special attention to the effects of AI-assisted learning to maximize its advantages and minimize its disadvantages.

The reasons and methods by which students use AI-based applications to support their academic or professional activities, and their opinions about those applications, will be covered in more detail in the next section. The results are from a survey of current students at National Economics University (NEU).

Implications

The rapid advancement of Artificial Intelligence (AI) has led to its widespread use in education. AI systems, powered by extensive data, can simulate human brain functions, and perform various tasks. OpenAI's ChatGPT, an interactive chatbot, has gained popularity for its human-like responses and instructive nature. However, AI-based software, including ChatGPT, has also raised concerns in education, such as the potential for AI-assisted cheating and the need for responsible use.

02

Usage and Preference of AI-based applications among Students

The data was conducted in a short online survey with students majoring in Management Information Systems (MIS), Computer Science (CS), and Information Technology (IT) of National Economics University (NEU). There were one 110 responses collected, 25% of which confirmed that they had used applications related to AI, while 15% have not used AI-based applications. A significant percentage has not given a clear affirmation. The result shows that 61% choose another option in this question. When research team do further study with specific questions, the response rate about AI-based applications increased markedly. 91/110 responses were established and divided into 3 main aspects:

- Type of AI application used
- Using of specific AI-based applications
- Purpose of using AI-based applications

The research team has listed some types of AI-based applications that are suggested to students such as: Automatic translation tool, create and analyze text, online learning app, audio and video creation tools, outfit, and style suggestion app... , and much feedbacks confirm that they have been using these applications. Even many students also selected multiple types of applications at the same time. Among the types of applications used, the automatic translation tool was the most chosen by students 67 respondents used this application. AI-based online learning apps took 2nd place with 47 responses. This is followed by applications to create and analyze text, audio and video creation tools, and outfit and style suggestion app. A handful of responses suggested other types of applications including personalized education app, virtual assistant, chatbots.

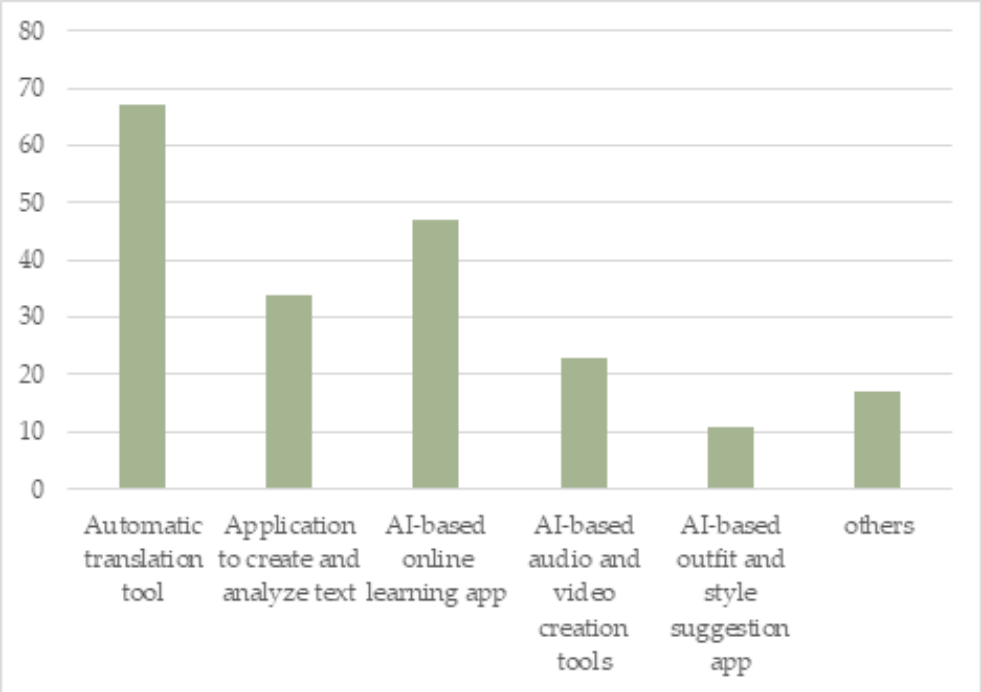

Figure 1. Type of AI-based applications

Besides the research team carried out more detailed research with some popular AI-based applications including Notion AI, ChatGPT, Grammarly, Duolingo, Elsa Speak and so on. The results obtained from 91 responses, Chat GPT applications was used the most with a count of 49 responses. It is an emerging AI application that are selected and used by students. This is followed by the Duolingo with 42 responses. The next rankings are Notion AI with 37 responses and Elsa speak with 31 selections. Midjourney, Grammarly, QuillBot are the next students' choice and all of them are above 20 selections. A small number of other students choose Anki, Brainly, Stepwise Math and Kaltura to support their working and learning.

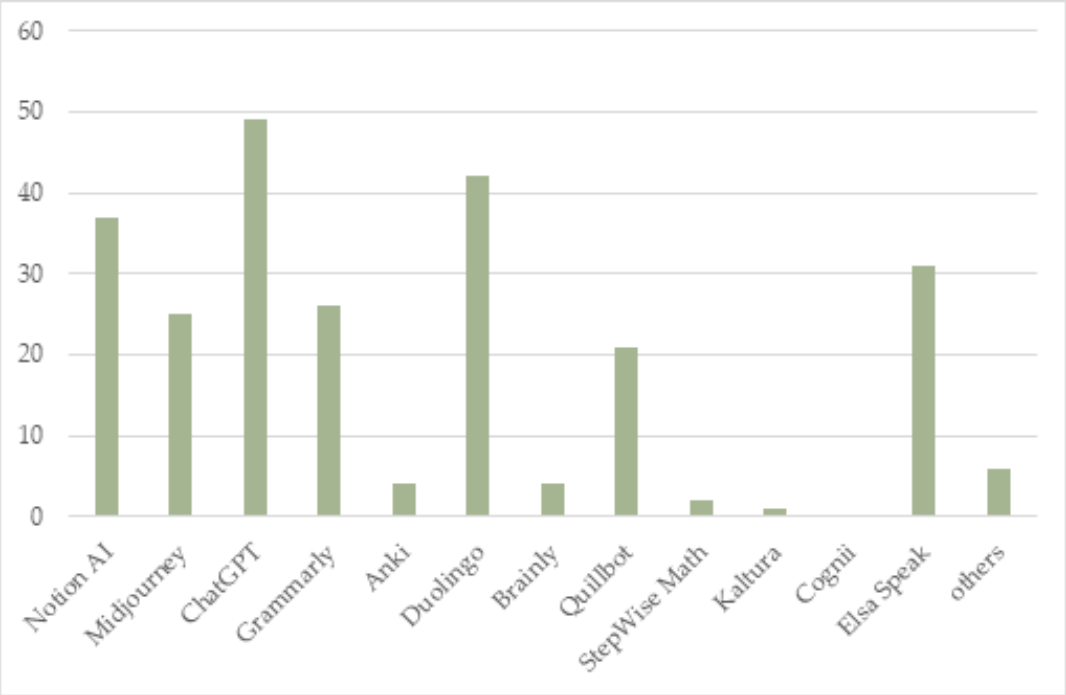

Figure 2. Using of specific AI-based applications

In addition, the purpose of using AI-based applications is still studied. All most respondents use AI-based applications to look up information and documents (78/91 responses). Many of them also have the purpose of doing assignments and submitting assignments with 55 selections. Furthermore, many students used AI-based applications to program with 39/91 responses. This may be logical as the survey's objects are students of Computer and Technology major and study many subjects relates to programming. The number of students responding to the purpose of using it to prepare documents and reports accounted for 35 responses. This is also one of the students' learning activities. Besides a plenty students use AI-based applications for image and video processing - 29 choices or composing purposes - 11 choices.

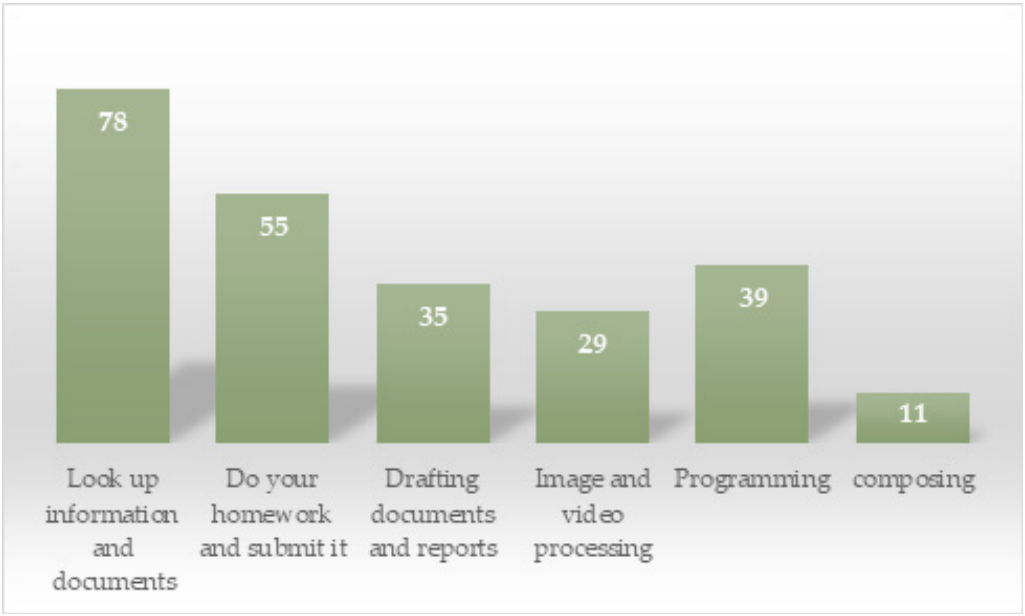

Figure 3. Purpose of using AI-based applications

Implications

Students in National Economics University in Vietnam have used a diverse range of AI tools, including translation, online learning, and text analysis applications. Popular choices include ChatGPT, Duolingo, Notion AI, and Elsa Speak. Students primarily use AI apps for information lookup, assignments, and programming. Suggestions for improvement include better verification, database updates, and user-friendly interfaces. Overall, the survey highlights positive student perceptions and a willingness to continue using AI-based applications in their studies.

03

Exploring Students' Perception and Assessment of AI-based applications

The first part of this report showed a rich number of AI-based apps used by students at National Economic University (NEU). The AI-based apps are mostly used to learn English, especially to improve speaking and writing skills. Another major purpose when using smart apps is to look up insights, a good example for this is Chat GPT. This report maintain research meaning of AI-based apps under students' outlook. Our survey showed that students' perception of this type of application is very good. The students agreed that AI-based applications helped them improve their work and study performance (approximately 94%). A similar percentage of students (about 92%) also said that using an AI-related application helps them to shorten time to complete work.

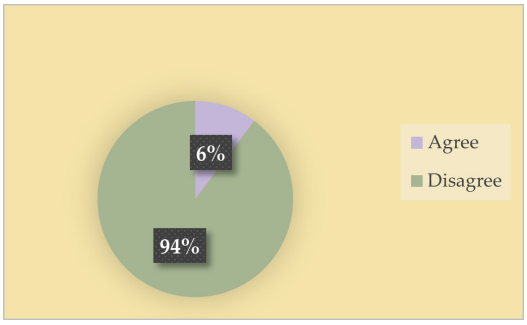

Figure 4. Improve their work and study performance

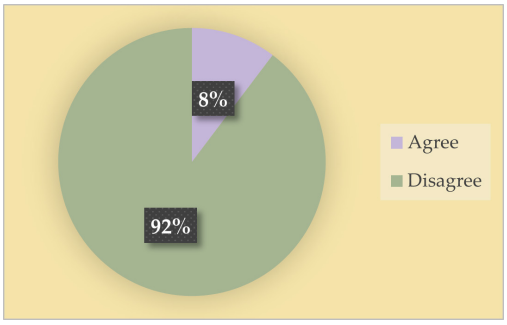

Figure 5. Shorten time to complete work.

This report also explores in-depth students' assessments when using AI-based apps. Some detail results are list in Table 1. Specifically, for translation support or natural language processing tools (such as Google translate, Grammarly, ...) which are evaluated as fast processing speed, the output is quite good.

Chat GPT is an AI-based apps tool that is currently a new trend in Vietnam. This is a tool that combines search and natural language processing quite effectively. Most students who use Chat GPT appreciate the convenience of this tool. Some significant comments are “fast speed”, “wide search areas”, and “easy to use”.

Although this survey pointed out the advantages of AI_ apps, these tools have disadvantages. Some of them are unverified search findings (for GPT Chat) and poorly structured answers (for automatic translation tools).

Table 1. Evaluation of the features of the AI-based apps

ChatGPT	Fast processing speed Pretty accurate answer Must check the answer again The Vietnamese version has many wrong answers Easy to use
Grammarly, Google Translate...	Good quality Convenient Free The structure of the sentence is wrong Easy to use
Duolingo, Elsa Speak, Notion AI...	Good quality Convenient, Improve skills Useful for work and study Easy to use Support for job

Implications

It is a fact that there is no one best solution for all applications. Each application has both strengths and weaknesses. These are some suggestions on solutions to improve features of AI- based applications:

- Information search results need to be better verified
- The information in the database needs to be updated (e.g., the code in GPT's answer is 2021 only).
- User interface should be designed more friendly (for GPT)
- Understand more about the language and context (especially Vietnamese) to give more correct answers.
- Should have a low-cost policy for student accounts

As a finding of this report, it can be concluded that almost students have a positive perspective of the usage of AI-based applications, and they are willing to continue using them in study at university.

04

Summary

The survey conducted at the National Economics University (NEU) provided valuable insights into students' usage and perception of AI-based applications. The results demonstrated a diverse range of AI tools being utilized, with a focus on language learning, information retrieval, and text analysis. Students reported positive experiences with AI-based applications, acknowledging their ability to enhance work and study performance while reducing completion time. However, limitations were identified, such as unverified search results and poorly structured answers in some AI tools. Recommendations were made to improve AI-based applications, including better verification of information, regular database updates, user-friendly interfaces, and language contextual understanding. Overall, the survey highlighted the positive impact of AI-based applications on student learning and the importance of continuous improvement to maximize their benefits.

Implications

The diverse range of AI tools utilized, particularly in language learning, information retrieval, and text analysis, showcases the potential of AI in various educational aspects. However, limitations like unverified search results and poorly structured answers need to be addressed.

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04

Efforts to Strenthen Higher Education and Competitiveness

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Techno Innovation Challenge Cambodia 2022

Innovation, Challenging, ITC

Ms. CHOM Sreylam / ITC

Techno Innovation Challenge Cambodia is a competition program which students from different skills team up, design, build and pitch their innovative STEM-based solutions for solving a real-world problem within 4 weeks duration, organized by Institute of Technology of Cambodia. Teams need to prove and test their ideas and prototypes through a customer interview and some business research to compete with other teams on Semi Final to advance to the final round. The first winning team will receive USD 2,000 in cash prize, the second winning team will receive USD 1,500 as prize, for the third winning team will receive USD 1,000 and for other three teams will receive USD 500 for runner up award.

01

Techno Innovation Challenge Cambodia 2022

Institute of Technology of Cambodia (ITC) is a Cambodian Higher Education Institution providing engineering fields, which was founded in 1964 and supported by cooperation between Cambodia. More than 10,000 executive members have graduated from ITC.

ITC has a clear long objective and mission. The fourth objective of ITC is to train engineers in innovation and entrepreneurship, in order to create highly skilled jobs and answers to future challenges. ITC was selected as the only one to pilot the MS2W Institutional Innovation Challenge, which was named “Techno Innovation Challenge Cambodia” in Cambodia during the first quarter of FY2019 by the USAID Connecting the Mekong through the Education and Training (USAID COMET) Project to be organized in 2017, at Institute of Technology of Cambodia, Phnom Penh, Cambodia. The program is based on Texas A&M University (TAMU)’s Innovation Challenge, called Aggies Invent. The competition program is based on and supported by TEXAS A&M University College of Engineering where students focus on designing, building, and then selling a solution to a real-world problem that has been provided by an industry or Agency partner. It is found to be the spark that gets students excited, and inspired, and provides the energy to continue developing their solution in subsequent efforts.

The challenge event will be a four-weekend duration that is mostly performed over a weekend for university students to team up, design, build and pitch their innovative solutions under one of the themes: Internet of Things or e-Commerce (ICT), Education or Health, and Agriculture or Energy. It has a transformational effect on students by:

- Providing them necessary technology, materials, mentorship and training to support their innovation.
- Working in teams where they have to share ideas, brainstorm, and deliver the steps toward a solution in deadlines staged throughout the experience
- Meeting deadlines requiring teams to make decisions about their solution, determine a path toward implementation, and build the solution according to a schedule
- Developing and practicing effective communication skills as they "sell" their solution to a panel of judges as they compete for placement in the competition. Competition provides the focus and is like a pitch they will need to compete for funding for their project in the industry or as a startup.
- Providing them with a situation that is as much like their first job in a high-performance team as possible in a short period in a university setting
- TICC is to push students' Innovation to the next level by providing them an opportunity to perform design and acquire skills essential to becoming successful innovation leaders and thus realizing that they can develop complete solutions.
- After the challenge, student teams especially engineering students have minimum viable products (prototypes) that are working, useful, and validated from customer and business perspectives.

Our program is supported by the Ministry of Education, Youth, and Sports, the Ministry of Economy and Finance. It is funded by the Francophone University Agency, and co-funded Khmer Enterprise, Smart Axiata, the Erasmus+ Program of the European Union and FoodSTEM. Other partners include EZECOM, TEXAS A&M University College of Engineering, Lower Mekong Initiative, ASEAN, Emerald HUB, and FORICA as below.

Figure 1. Organizationas and partner institutions for Techno Innovation Challenge

During the COVID-19 pandemic, schools and universities are closed and participation that required program take place online. The program has 4-weekend, for the first week: team up, study about the business model, connect mentors with a team, and find a topic and solution. In the second week: modify the prototype, and learn how to make a video, presentation and pitch. The third week: Semi-final presentation, get feedback and update the prototype. And for the last final week: final presentation (Video 5 mins and Q&A 5mins). The workshop agenda is attached below:

Table 1. Workshop agenda

Date	Time	Activities	Venue
Saturday, Jan 15	8:00 – 12:00	- Introduction - Team Formation - Mentor connection - Training on Business Concept	Online (Zoom)
Sunday, Jan 16	-	- Team Brainstorm - Build something Fast! – Physical Representation - Mentor Interaction	Work as individual team
Sunday, Jan 23	8:00 – 12:00	- Training on a good Pitch and Customer Interview - Teamwork: Review and Preparation	Online (Zoom)
Sunday, Jan 30	8:00 – 15:00	- Semi-final presentation - Announce top teams to Final Pitch	Online (Zoom) & Facebook Live
Sunday, Feb 13	8:00 – 15:00	Final Pitch and Awarding	Online (Zoom) & Facebook Live

Week 1 and 2 hold on (January 15th, 16th, 23th, 2022, by online), The first weekend was an Intensive Design Experience. The shortlisted applicants teamed up with 3 to 7 members. The team started to design the solutions for solving a real-world problem and build the prototype as realistic as possible. then connecting Mentors with groups. and on the second weekend, different workshops and mentoring were provided to the teams. one more thing, Teams went out to do customer interviews or do the online survey about their project.

Week 3 is the Semifinal round that took place on (January 30th, 2022, online). The 29 semi-finalist teams pitched on the Semi-final round. The top 15 teams advanced to the final round competition next week. Each team was given 5 minutes to pitch, show a video clip and demonstrate their prototypes, followed by a 5-minute Q&A session, where judges could ask questions to clarify and inquire about details.

Figure 2. Team's list that passed the semi-final

The last weekend is the final round was on (February 13th, 2022, by online) The 15 finalist teams pitched on the final round competition to compete for cash awards. Each team was given 8 minutes to pitch, show video clip and demonstrate their prototypes, followed by a 7-minute Q&A session, where judges could ask questions to clarify and inquire about details.

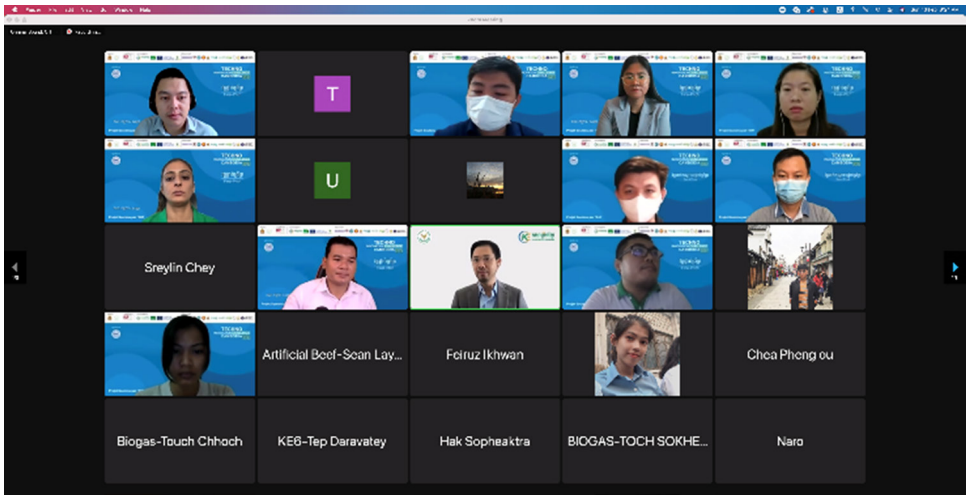

Figure 3. Final show

The 1st Winning team received USD 2,000, the 2nd Winning team received USD 1,500, and the 3rd Winning team received USD 1,000. And other 3 teams will receive 500$ for runner up award the 1st Winning team is InsightChop, the 2nd Winning team is Eco-Saver, and the 3rd Winning team is Lime Material. And other 3 teams' runner up award are Biogas, Fruit-Tech and WeGan. The winning teams as below.

Figure 4. The winning teams

Some of the key results from the program 2022 on the participants were:

- 98.9% of participants agreed, strongly agreed, or somewhat agreed that they could improve their technical skills and entrepreneurship.
- 95.9% of participants somewhat agreed, agreed, or strongly agreed that they could understand the complete design experience.
- 100% of participants somewhat agreed, agreed, or strongly agreed that they could increase my soft skills: creativity, Presentation skill, Problem-solving, teamwork, and/or self-confidence.
- More than 80% of participants will continue their work to startup.
- 99% of participants were satisfied or very satisfied with the program.

The program was very challenging on time, resources and labs. However, the teams demonstrated their great work, but more importantly their creativity, enthusiasm, and commitment. The 3 Winning teams were found and the awards were given. The top six teams were selected and given the co-working and incubator space at ITC to continue their project.

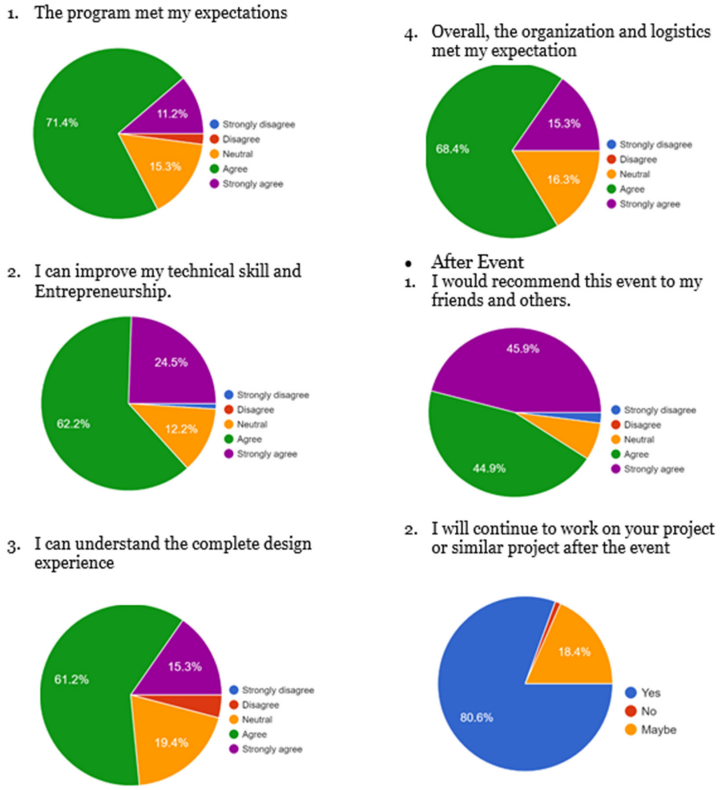

Figure 5. Overall Evaluation of the Program

There was some difficulties conducting the Techno Innovation Challenge such as distance communication, low internet connection of Candidates, Prototype manufacturing and other technical problems. Therefore to make better innovation challenges, those problems have to be solved.

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Techno Innovation Challenge Cambodia's Facebook page, https://www.facebook.com/innovationchallengecambodia/?ref=page_internal

Driving Educational Advancement in Korea: Reforming Regulations and Embracing Innovative Models

#OnlineEducation #EnglishTeaching #MinervaSchoolInspired #LifelongLearning

Mr. Wooyong Shin / Yonsei University

In an effort to advance education in Korea, two significant developments have taken place. Firstly, a committee under the Prime Minister's Office has recommended revising regulations to lower education requirements for non-Korean English teachers in online education, aiming to foster international growth for online education companies. Secondly, the Ministry of Education has approved the establishment of Taejae University, a cyber university inspired by Minerva School's innovative approach. Taejae University aims to provide flexible and lifelong learning experiences through online education.

01

Promoting Equity and Global Expansion: Reforming English Teaching Regulations

A committee formed under the Prime Minister's Office has proposed a revision to regulations regarding the education requirements for non-Koreans teaching English online. The committee, consisting of five members, has recommended that the Ministry of Education amend its enforcement ordinance, which currently mandates that private academies, known as "hagwons," must hire English teachers with a bachelor's degree or higher.

This requirement has been criticized as discriminatory, as it does not apply to Koreans who can teach English at hagwons with an associate degree. Until 2004, both groups were required to have a four-year degree. The committee's decision is in response to demands from online education companies, which argue that the existing requirement limits their ability to expand internationally.

These companies point out that their competitors based outside of Korea often connect students with university students who have a higher education level, such as juniors or seniors from prestigious institutions like Harvard in the United States. Such programs attract students from around the world, including Korea.

The committee, after considering the complaint, agreed that the requirement should be revised for online education. However, they emphasized that the rules for in-person education should remain unchanged. They believe that online classes are easier to monitor and thus

provide better protection against inappropriate teacher behavior. In-person classes, on the other hand, require a more cautious approach due to the greater influence teachers can have on students.

The committee stressed that while the education requirements may be eased for non-Korean teachers, the screening and management of teachers' qualifications should not be relaxed. They called on hagwon owners to strictly adhere to the rules outlined in the Hagwon Law and related enforcement ordinances, with the ministry supporting these efforts. The committee also suggested that the ministry streamline the application process for overseas applicants seeking English-teaching positions.

If the ministry decides to relax the requirements for foreigners, the committee believes it would stimulate the online education sector and create more opportunities for Korean students living in less-developed regions, where access to private education, especially English language education, is limited. The ministry has expressed its willingness to consider the committee's recommendations and will review the outcomes of the meeting before making any revisions to the relevant regulations.

Implications

1. Expanded opportunities for non-Korean English teachers: Lowering the education requirements would create more teaching opportunities for non-Koreans who possess relevant skills and experience but lack a bachelor's degree, leading to a more diverse pool of English instructors.

2. Increased competitiveness for Korean online education companies: Relaxing the regulations would enable Korean online education companies to compete more effectively internationally, as they would have the flexibility to adopt innovative models, attract students globally, and strengthen their market position.

02 Taejae University: Pioneering a New Era of Cyber Education in Korea

The Ministry of Education has approved the establishment of Taejae University, a cyber university. Taejae University, founded with a donation of 300 billion won by HanSam Honorary Chairman Cho Chang-geol, has garnered significant attention for its pursuit of the Minerva School's educational approach. It will officially commence operations in September.

Taejae University has adopted Minerva School as its role model. Established by entrepreneur Ben Nelson in 2012, Minerva School operates without a physical campus. Students participate in classes online and engage in dormitory life while traveling to different countries. They also collaborate with international companies and non-profit organizations on projects to develop their skills.

The Ministry of Education approved the establishment plan for Taejae University in 2022, and the school established the Taejae Academy Corporation and received approval for establishment from the University Establishment Evaluation Committee this year.

Taejae University is scheduled to open in September, with a plan to admit a total of 100 freshmen across five departments: Innovation Foundation, Humanities and Social Sciences, Natural Sciences, Data Science and Artificial Intelligence, and Business Innovation.

Cyber universities have been operated as "remote educational facilities for lifelong education" based on the Lifelong Education Act. Since 2009, existing universities have been converted or newly established as cyber universities. Currently, there are 19 cyber universities, including the 11 converted universities and one newly established university in 2009, with nearly 90,000 registered students (excluding 130,000 non-quota students) studying at these institutions.

Implications

1. The establishment of Taejae University as a cyber university reflects a growing trend in the education sector towards innovative and technology-driven learning models. By adopting the educational approach of Minerva School, which emphasizes online classes, global engagement, and project-based learning, Taejae University aims to provide a unique educational experience. This implies that there is an increasing awareness of the value and effectiveness of online education and the potential it holds for offering flexible, accessible, and globally connected learning opportunities to students.

2. There is a recognition of the need for accessible and flexible educational platforms that can meet the diverse learning needs of individuals at different stages of their careers. It reflects a broader shift towards embracing lifelong learning as a means to adapt to a rapidly changing job market and foster personal and professional growth.

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Enhancing Higher Education Cooperation: Malaysia-UK MoU and an Innovative English Education Platform

#HigherEducationCooperation
#EducationPartnership #51Talk

Mr. Wooyong Shin / Yonsei University

Malaysia and the United Kingdom have recently signed a memorandum of understanding (MoU) to strengthen cooperation in the higher education sector. This collaboration aims to enhance scientific research, talent training, academic exchanges, and promote areas such as STEM, ICT, TVET, innovation, online education, lifelong learning, and entrepreneurship. Meanwhile, the innovative online English education platform, 51Talk, has been recognized for its unique teaching approach and received appreciation from Malaysia's Prime Minister at a youth empowerment forum, highlighting the importance of equipping the next generation with effective English communication skills.

01 Malaysia and United Kingdom Strengthen Higher Education Cooperation

Malaysia and the United Kingdom have recently signed a memorandum of understanding (MoU) aimed at enhancing cooperation in the higher education sector. The MoU encompasses various areas of collaboration, including scientific research, talent training, academic staff and student exchanges, training platforms for education administrators and educators, scholarship opportunities, bilateral programs between institutions, and cooperation in fields such as STEM, ICT, TVET, innovation, online education, lifelong learning, and entrepreneurship.

The signing ceremony took place at the Department for Education (DfE) in the UK and was witnessed by the Malaysian high commissioner to the UK. The MoU was signed by the secretary-general of the Malaysian Ministry of Higher Education and the UK's Permanent Secretary at the DfE. During the visit, the Malaysian delegation also attended an Asean Ministerial Breakfast Meeting to discuss education sector planning and development in Southeast Asia, as well as other relevant topics such as climate change, gender equality, TVET, and digital technology.

Additionally, the secretary-general had the opportunity to engage with over 300 Malaysian students in the UK during an Aidilfitri event. Another significant event was the signing of an MoU between two Malaysian universities, UPSI and UniSZA, and the University of London School of Oriental and African Studies (SOAS) to promote the Malay language. UPSI will focus on sharing Malay culture and values, while UniSZA will lead the digitization of Islamic and Malay manuscripts in the SOAS collection.

Implications

The signing of the memorandum of understanding (MoU) between Malaysia and the United Kingdom signifies a commitment to enhance collaboration and mutual benefits in the higher education sector. This partnership opens opportunities for scientific research, talent training, academic exchange, and the promotion of various fields such as STEM, ICT, TVET, innovation, online education, lifelong learning, and entrepreneurship. The MoU not only strengthens ties between higher education institutions but also facilitates the exchange of knowledge, expertise, and resources between Malaysia and the UK. This collaboration has the potential to drive advancements in education, research, and development, while promoting cultural understanding and fostering global connections in the academic arena.

02

51Talk Empowers Malaysian Youth with Innovative Online English Education

51Talk is a prominent online English education platform with a global presence. Headquartered in Singapore, the company specializes in providing personalized English lessons to young learners aged 3 to 15, as well as adults aged 18 and above. Established in 2011, 51Talk was listed on the New York Stock Exchange on June 10, 2016. To date, the platform has served students from over 50 countries and regions, with more than 100 million classes conducted. With a diverse pool of over 20,000 highly qualified teachers from North America and the Philippines, 51Talk is committed to delivering high-quality language learning services to its global audience.

Since entering the Malaysian online education market in March 2022, the company has gained a strong foothold through its innovative AirClass (AC) teaching system. This unique platform allows young students to learn English through real-time translation, taught by teachers from around the world.

Recognizing the need for improved conversational English skills among Chinese students, 51Talk aims to empower the next generation with the ability to communicate effectively in English. Their courses align with the Common European Framework of Reference for Languages (CEFR), an international standard for language proficiency.

Jack Huang, the founder and CEO of 51Talk, explains that English has become the primary language for global communication, leaving non-native speakers at a disadvantage. As a result, many countries have made English an integral part of their childhood curriculum.

The platform's distinctive and enjoyable teaching approach caught the attention of Malaysia's Prime Minister, Dato' Seri Anwar Ibrahim, during the Youth Empowerment Forum Malaysia 2023. 51Talk's method focuses on short but frequent one-on-one lessons that reinforce concepts at regular intervals to aid information retention. Interactive and entertaining sessions make the learning process engaging for young children.

Notable attendees at the forum, including Selangor Crown Prince Tengku Amir Shah Sultan Sharafuddin Idris Shah, Malaysia's Communications and Digital Minister YB Fahmi Fadzil, Muar Member of Parliament YB Syed Saddiq Syed Abdul Rahman, and squash legend Datuk Nicol Ann David, praised 51Talk's vision to equip Malaysia's next generation with English communication skills, aligning with the core values of Malaysia Madani.

As the only private online education company invited to the forum, 51Talk attracted interest from various strategic partners, including government entities, for potential collaborations. The company has a track record of winning awards in the Asian education sector and is eager to collaborate with partners in the Malaysian market to create opportunities for youth to contribute meaningfully to nation-building.

Implications

51Talk's unique teaching philosophy and innovative online platform have the potential to revolutionize English education in Malaysia, empowering the country's youth with effective communication skills and bridging the language barrier in the globalized world.

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Bridging the Education Gap: OVERMUGGED's Affordable and Accessible Tuition Revolution

#TuitionRevolution #EdTechInnovation #InclusiveEducation #OVERMUGGED

Mr. Wooyong Shin / Yonsei University

Darrell Er founded OVERMUGGED as an online community that has evolved into an affordable tuition brand offering online subscription services for 'O' Level subjects. With experienced tutors, they focus on exam skills and content mastery. Despite challenges, the company has grown and plans to leverage artificial intelligence and machine learning to enhance the learning experience, while prioritizing affordability and accessibility.

01 OVERMUGGED: Singapore's First Online Tuition Subscription Service

Darrell Er, a graduate of Nanyang Technological University in 2020, embarked on a career with the Singapore Tourism Board as a management associate. However, his entrepreneurial spirit soon took hold, and after a little over a year, he made the decision to become a full-time entrepreneur. This marked the birth of his first official business venture, OVERMUGGED.

During his time at university, Darrell had ventured into various small business endeavors. However, it was with OVERMUGGED that he found his true calling. Passionate about making a positive impact on students' lives, Darrell, who had been a tutor for nine years, was driven by a vision of providing quality education to all, regardless of their socioeconomic background.

Founded in 2021, OVERMUGGED is a tuition brand based in Singapore that offers comprehensive learning experiences for both 'O' and 'A' Levels, both online and in-person. The brand's mission is to make quality education affordable and easily accessible, which led them to launch an innovative online subscription tuition service. For a monthly fee of just S$99, students gain access to 16 to 18 online lessons covering all core 'O' Levels subjects. The pricing strategy was deliberate, aiming to make the cost per class as low as S$5.50. By setting the price lower than the average Singaporean household's monthly expenditure on private tuition, which stands at S$112, OVERMUGGED ensures affordability for a wider range of students.

Moreover, the subscription plan includes weekly learning resources to supplement students' education and grants them access to past lesson recordings, enabling them to review lessons at their own pace. The comprehensive coverage of subjects is a key aspect of OVERMUGGED's offering, as they strive to be a one-stop learning hub catering to the needs of most students.

Darrell acknowledges that the competitive pricing of their online classes might not be the most financially viable approach. However, he sees it as a way of giving back to the community and ensuring that every student in need of tuition can access it. To support this endeavor, most of their tutors teach for free or receive a low payout. Furthermore, the subscription service is provided for free to their own group tuition students, ensuring they receive support in subjects where they may not have access to regular tuition.

The team at OVERMUGGED consists of 18 tutors from diverse backgrounds, including experienced instructors from top tuition centers, individuals with a Master's Degree in education, and even former MOE teachers. Each online lesson lasts for 1.5 hours, with a minimum of two lessons per subject. The focus of the lessons is on exam skills, including answering techniques and content mastery.

The introduction of the online subscription plan has garnered positive feedback from students. They appreciate the convenience and accessibility it offers, allowing them to learn comfortably from home. The flexibility to choose specific areas of focus rather than attending lessons for all subjects is also well-received.

The success stories shared by students who have benefited from OVERMUGGED's services are remarkable. Many have seen significant improvement in their academic performance, with a notable increase in the percentage of students achieving top grades. For instance, the 2022 batch of students achieved outstanding results, with over 70% attaining A1/A2 grades and over 90% scoring at least a B3 at the 'O' Levels.

To ensure students' progress is consistently monitored, OVERMUGGED tracks their performance through weekly worksheets, topical tests, and mock exams. These assessments not only aid in identifying areas for improvement but also help students prepare effectively for the actual exams.

Darrell, despite his young age, has faced doubts and criticisms due to his unconventional approach to running the company. OVERMUGGED's policies, such as an unlimited leave policy for tutors and investing in free educational resources, were questioned by some who believed it would hinder profitability. However, Darrell has remained steadfast in his commitment to his mission and vision, prioritizing social impact over short-term financial gains.

OVERMUGGED has thrived as a bootstrapped startup, achieving a 20% enrollment growth every quarter and generating a six-figure revenue in its first year. The COVID-19 pandemic presented challenges, but it also opened up opportunities for the company to make a positive difference. During the circuit breaker period, when physical classes were not possible, OVERMUGGED provided free educational resources to students and conducted free webinars to guide them in making informed decisions about their post-secondary education. These initiatives helped build strong relationships with students and parents, further establishing OVERMUGGED as a trusted brand.

Looking ahead, Darrell believes that artificial intelligence (AI) and machine learning will play a significant role in creating personalized learning experiences for students. OVERMUGGED aims to expand into the edu-tech space, leveraging technology to provide even more engaging and intuitive learning experiences. The company is actively seeking seed funding and venture capital to support its growth and reach a wider audience.

Implications

By offering a low-cost subscription-based tuition service, OVERMUGGED has made quality education accessible to a broader range of students, especially those from lower-income backgrounds. This approach has the potential to bridge the educational gap and provide opportunities for students who may have otherwise struggled to afford private tuition.

By exploring personalized learning approaches, the company aims to cater to individual student needs and provide a more effective and engaging educational experience. This implication highlights the potential for technology to revolutionize the way education is delivered and personalized, opening doors for more effective and inclusive learning environments.

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ACU PROJECT

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Address 64, Dongnae-ro, Dong-gu, Daegu, Republic of Korea

TEL. +82-53-714-0114 **Homepage** https://www.aseanoer.org