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## Aim and Scope

The International Journal of Creative Multimedia (IJCM) is a peer-reviewed open-access journal devoted to publish research papers in all fields of creative multimedia, including Digital Learning, Film & Animation, Media, Arts & Technology and Visual Design & Communication. It aims to provide an international forum for the exchange of ideas and findings from researchers across different cultures, and encourages research on the impact of social, cultural and technological factors on creative multimedia theory and practice. It also seeks to promote the transfer of knowledge between professionals in academia and industry by emphasising research where results are of interest or applicable to creative multimedia practices. We welcome all kinds of papers that connect academic researches with practical and industrial context in the field of creative multimedia. The scope of the IJCM is in the broad areas of Creative Multimedia following the five major thematic streams, includes but not limited to:

- Digital Learning
- Media, Arts & Technology
- Games and Virtual Reality
- Cinema and Film Studies
- Animation and Visual Effects
- Visual Design and Communication

## Foreword from Digital Learning Editorial Team

Greetings from the Editors and welcome to the Special Issue on Digital Learning in the 21st century. In this Issue, we present papers from international and local researchers focusing on research papers in areas of education technology, learning analytics, e-learning, engineering, IT, business and management, creative multimedia and many other domains that seek to improve the learning process of the learner with technologies. These papers were presented in the ELITE 2019 International Conference held in Multimedia University, Cyberjaya, Malaysia on October 2, 2019, in conjunction with the 2019 IDE4TE International Exhibition on Oct 1, 2019. Themed, “Empowering Learning, Innovating Teaching Environments”, this event showcased best practices of Malaysian Universities, particularly from the network of Industry Driven Education Alliance (GLU iDE4) comprising of Universiti Teknologi Petronas (UTP), Universiti Multimedia (MMU), Universiti Tenaga Nasional (UNITEN) and Universiti Kuala Lumpur (UniKL), as well as from international presenters from China, India, Bangladesh and Maldives.

The papers presented in this Special Issue centred around 5 sub-themes; 1) Innovative Pedagogies & Instructional Design, 2) New Roles of Teachers, 3) Redesigning Curriculum for Education 4.0, 4) Emerging Technologies In The Classroom, and 5) Designing Learning Spaces for 21st Century Education, and are very timely articles for readers interested in adapting technology in today’s classrooms. We hope that these papers will provide further insight and contributions to the knowledge base in these fields and we hope you enjoy reading them.

**Prof. Ts. Dr. Neo Mai**, Multimedia University, Malaysia

*Professor Dr. Neo Mai is the Director for Academic Development for Excellence in Programmes and Teaching (ADEPT) for Multimedia University, and Professor in the Faculty of Creative Multimedia, and the Institute for Digital Education and Learning (IDEAL). Prof. Mai is the Director of the award-winning MILE Research lab and founding Chairperson form the CAMELOT (Centre for Adaptive Multimedia, Education and Learning cOntent Technologies) Research Centre. Prof. Mai's research interests are in the design of constructivist learning environments, micro-learning, team-based learning and web-based education. She was the recipient of the 2014 Excellent Researcher Award, an AKEPT Certified Trainer for Interactive Lectures (Level 1, 2, 3), an HRDF certified trainer and is certified in Team-Based Learning from the Team-Based Learning Collaborative, USA.*

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*Dr. Gan Chin Lay is a Senior Lecturer affiliated with the Faculty of Business, Multimedia University. Her main research interest is in learning analytics, particularly related to technology-enhanced student-centered learning environments. Her research domains include teaching and learning issues such as student engagement, and educational technology integration frameworks.*

**Dr. Liew Tze Wei**, Multimedia University, Malaysia

*Dr. Liew Tze Wei is a Senior Lecturer at the Faculty of Business, Multimedia University, Malaysia. He is leading the Human-Centric Technology Interaction Special Interest Group, in addition to serving as the collaboration & innovation coordinator and research & innovation committee member in the faculty. His research interests and contributions fall within learning sciences, human-computer interaction, and media psychology; with a strong focus on experimental research approach.*

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## The Role of Blended Learning Technologies in Enhancing Student Engagement in Theory Dominant Subjects

Sharmini Gopinathan, Murali Raman, Anusuyah Subbarao, Anisha Haveena Kaur  
*Multimedia University, Malaysia*

### Abstract

The application of blended learning in education has seen a steady rise over the years, especially among undergraduate and postgraduate students. Consequently, educators are in a position where they are inclined to select the most appropriate approaches in teaching and learning in order to improve learning among students and to fulfil profession requirements. This paper aims to investigate the role of blended learning technologies in enhancing student engagement in theory dominant subjects. The data attained from respondents were analysed qualitatively. A class of 38 students were observed and trained using blended learning technologies. The results revealed that innovative teaching strategies, gamification, simplified teaching, sense of belonging and equal opportunity does have a significant impact in enhancing student engagement in theory dominant subjects. The results of this study will be valuable and useful in the development of various innovative teaching techniques which are able to attract students throughout the learning process, especially in theory dominant subjects.

**Keywords** Blended learning; Student engagement; Enhancing; Innovative teaching; Undergraduates; Theory dominant subjects

### Introduction

The Malaysian education system aims to equip students holistically apart from preparing them for the challenges and opportunities of the 21<sup>st</sup> century (Ministry of Education Malaysia, 2013). The Malaysian government has managed to restructure the nation's higher education system in response to the call for

nation-building as per the nine challenges laid out in Vision 2020 (Grapragasem, Krishnan, & Azlin, 2014). According to the Malaysia Education Blueprint 2013-2025 (2013), Higher Education Institutions (HEI)s are highly encouraged to undertake and embrace change in order to achieve excellence to face competition in the overall global education market. Since the education process is constantly evolving; therefore, changes in both teaching and learning are inherent. Consequently, the traditional speech-like method of teaching (which educators and students have been accustomed to) is rapidly being replaced by a hybrid method known as blended learning. This particular method incorporates the use of digital technology alongside the face-to-face method and is deemed to be more student-centred. A huge fragment of blended learners fall under the higher education category. This means that undergraduates and postgraduates are those who are more likely to participate in lessons which apply blended learning techniques.

### **Problem Statement**

Higher learning institutions are under increasing pressure to deliver innovative programs and methods of teaching that meet the rising demands of students as well as accrediting institutions (Albers-Miüller, Straughan, & Prenshaw, 2001). One of the biggest challenges faced by educators at the moment is the ability to capture students' attention during lessons which focuses on one hundred percent theory. Educators teaching theory dominant subjects are usually more focused on explaining a system of ideas, principles and concepts. There is basically little (or none) practical application in these classes. Traditional teaching methods are deemed to be ineffective because constant technological developments will always change the learning process (Simplicio, 2000). The traditional face-to-face teaching method causes students to get bored and inattentive throughout a two to three-hour lecture session. With no creativity being applied in teaching the subject, students easily get disengaged and at the end of the day, return home without learning anything. At the end of the semester, students would typically complain that they have learnt 'nothing' and that they have had difficulties retaining information from the classes as the subject was taught blandly.

### **Literature Review**

Student engagement generally refers to the passion, degree of attention, curiosity and interest shown by students throughout the learning process (The Glossary of Education Reform, 2016). Student engagement in higher learning institutions is deemed to be important because it acts as a proxy for quality (Zepke & Leach, 2010). Furthermore, good student engagement would in due course extend to an increase in students' performance in class. In addition, students who are more involved in lessons tend to develop themselves holistically in terms of soft skills (Fauziah, Rosna, & Tengku Faekah, 2012). Ultimately, these

students will end up to be graduates that are more appealing to employers due to the soft skills acquired (Raybould & Sheedy, 2005).

Lee and Hammer (2011) explained that although educators are constantly seeking for new instructional techniques in teaching, students still face problems in terms of motivation and engagement. Parsons and Taylor (2011) have raised concerns that educators face difficulties in coming up with ideas to engage with students and this has resulted in them to completely scrap the idea of coming up with new and innovative teaching methods. Educators would then result back to traditional teaching methods and ultimately, this causes student disengagement, which is a major concern to institutions (Parsons & Taylor, 2011).

That being said, educators are still advised to select the best pedagogy (Johnsen, 2012) in order to improve learning among students as well as to fulfil profession requirements. It may be the simplest form of technique if the educator does not have a grand strategy. Following the current trend, the best pedagogy would be to apply blended learning techniques in theory dominant subjects which could eventually ensure that students are engaged throughout the course.

Blended Learning Technologies in Enhancing Student Engagement in Theory Dominant Subjects. Five blended learning technologies were carefully identified and chosen to enhance student engagement in theory dominant subjects.

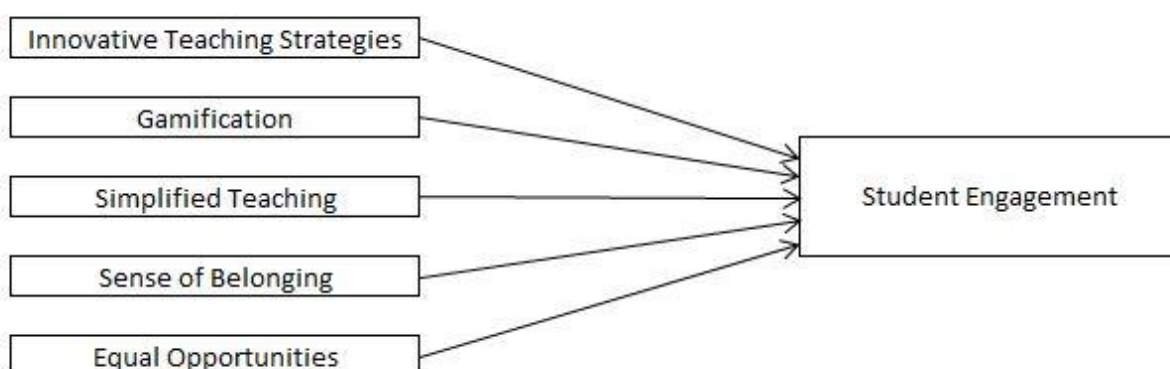


Figure 1 Research Model

Figure 1 depicts the model which educators could apply in future lessons. The five blended learning technologies include innovative teaching strategies, gamification, simplified teaching, sense of belonging and equal opportunities.

Innovative teaching strategies represent variability in lessons. Educators are encouraged to use creative methods with minimal incorporation of the traditional method. Some of the strategies suggested include the use of interactive materials, outdoor lessons, guest speakers and many more.

Gamification promotes a more casual learning environment whereby students are allowed to challenge themselves and each other in a series of online games. This is considered to be a more 'fun' approach as students are allowed to compete with each other and earn rewards. Furthermore, this method of learning enables students to quickly pick up and retain information.

Simplified teaching is basically a simpler and more practical way of teaching theory based subjects. This technique inclines more towards a student-centred approach. A course based on progress (practical application) instead of grading (memorising) would tremendously be beneficial to the students undertaking theory subjects as they tend to be more alert when the former is implemented. In addition, educators are also encouraged to provide lessons in concise summarisations instead of long, boring lectures.

Sense of belonging towards a class is also vital in ensuring student engagement. Students greatly appreciate the fact that their discussions are taken seriously and acknowledged by everyone (including their lecturer) in the class. They would like to feel that they are an important part of the class. Inclusion in class activities would further strengthen their understanding in the lesson as they are fully committed and immersed in the activity in hand.

Finally, equal opportunity for class involvement enables students to regularly participate in class activities without feeling left out. By allowing students to always play their part in the activities, they would be able to slowly unleash their creativity to tackle the topic or case in hand. This would only work if everyone is given the same opportunity to participate and if the lecturer encourages the students to develop their own voices.

### **Methodology**

Focus Group Sessions were conducted to obtain detailed information about personal and group feelings, perceptions and opinions. The Focus Group sessions were conducted on a class of thirty-eight students in Multimedia University, Cyberjaya. The blended learning technologies were applied throughout each lesson within the semester and feedback from students were recorded. The end result is a focus group report which



highlights the relationship and role of blended learning strategies using games in classrooms to enhance student engagement especially in theory dominant subjects.

Students were exposed to an array of blended learning technologies which incorporate each of the technologies listed in the research model. Students were given chances to work in groups for activities such as Poison Ball, Scavenger Hunt and impromptu presentations. All these activities require equal participation among the students and at the same time, they were not restricted to a classroom setting. Students were also taught using Kahoot (an online quiz application) and media (video and audio). Furthermore, sessions where students were brought outdoors and had guest lecturers teaching them were also included as part of the research. Traditional games like Snap and Snakes and Ladders were also used as part of the quiz segment during lessons.

## Results

Data was collected from students' feedback and thematically analysed to pick out the key points that lead to increased student engagement. It was found that innovative teaching strategies, gamification, simplified teaching, sense of belonging and equal opportunities played a positive role towards enhancing student engagement.

## Discussion and Conclusion

Findings showed that students had better engagement as well as fun learning environment in the class. This method of teaching also increased students' understanding of the subject matter as well as performance in the final examination. The research findings may bring about the use of various innovative techniques to attract students. A more fun and enjoyable learning environment. Increase student numbers and indirectly increase revenue.

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**Dr Sharmini Gopinathan** is a Lecturer at Faculty of Management and Head of Marketing MMU Business School. Dr. Sharmini has very sound knowledge in quantitative study namely in PLS.

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