SEAHES 2017
SOUTHEAST ASIAN HIGHER EDUCATION SUMMIT 2017

“FLEXIBLE EDUCATION: REDESIGNING LEARNING IN HIGHER EDUCATION INSTITUTIONS”

25-26 October 2017
Auditorium Putra, Universiti Putra Malaysia, Selangor, Malaysia
SOUTHEAST ASIAN HIGHER EDUCATION SUMMIT 2017

“FLEXIBLE EDUCATION: REDESIGNING LEARNING IN HIGHER EDUCATION INSTITUTIONS”

LOCATION:
Auditorium Putra, Universiti Putra Malaysia, Selangor, Malaysia
Message from Patron of SEAHES2017

It gives me immense pleasure to welcome all of you to the Southeast Asian Higher Education Summit 2017 (SEAHES 2017) with the theme “Flexible Education: Redesigning Learning in Higher Education Institutions”.

The digital transformation brought forth by the 4th Industrial Revolution has compelled institutions of higher learning to transform the way they operate. The fundamentals outlined by Malaysia Education Blueprint 2015-2025 (Higher Education) and efforts made by Malaysian higher learning institutions demonstrate a good beginning for the nation education system in riding the wave of the 4th Industrial Revolution. In 2017, the Ministry of Higher Education has embarked into an ambitious adventure to redesign the Malaysian higher education system. Such a focus was devised by bearing in mind that the digital era is changing the way higher education is managed and giving rise to new expectations. 2u2i, CEO@Faculty, iCGPA, Malaysia MOOCs, APEL and Gap Year are among the initiatives undertaken by the Ministry to nurture holistic, entrepreneurial and balanced graduates with the 21st century skill set.

The Ministry foresees that graduates of today will be the main driving force in accelerating the national aspiration towards becoming a high-income nation. However, for higher education to deliver the future generations with the right set of skills and knowledge; an imperative question should be asked regarding how the delivery of education will be transformed. In the 21st century education demands, the need to redesign the nation’s higher education is seen as urgent in order to remain relevant in this competitive era.

I am pleased to learn that many academic leaders from the ASEAN countries are here to discuss important issues affecting the current strategies in redesigning teaching and learning. It is our hope that this summit will play the paramount role of connecting the quadruple helix ecosystem which involves the academia, government, industry and community.

Congratulations to Universiti Putra Malaysia and the Higher Education Leadership Academy, Ministry of Higher Education for their joint-collaboration in organizing this summit. Events of this nature should be continued as it provides a platform for exchange of ideas and sharing of best practices to strengthen the quality of higher education in the ASEAN region.

I wish the distinguished speakers, guests and participants of the Summit a fruitful and memorable meeting and to the foreign speakers and participants, I hope you will have a pleasant stay in Malaysia.

Datin Paduka Ir. Dr. Siti Hamisah Tapsir
Director General
Department of Higher Education
Ministry of Higher Education Malaysia
It gives me immense pleasure to welcome all distinguished speakers, guests and participants to the Southeast Asian Higher Education Summit 2017 (SEAHES2017). SEAHES2017 is jointly organized by Universiti Putra Malaysia (UPM) and the Higher Education Leadership Academy (AKEPT), Ministry of Higher Education with support from the Council for Heads of Teaching and Learning Centers of Malaysian Public Universities (MAGNETIC) and Council of e-Learning for Public Universities (MEIPTA).

Institutions of higher learning in the ASEAN region are expected to continuously play a significant role in teaching-learning. It is also expected to develop talent, discover and share knowledge, as well as to provide professional services to the communities and industries in the era of Industrial Revolution 4.0. In order to face these challenges, institutions need to be innovative in developing and enhancing its core functions to remain competitive.

In line with the Summit’s theme “Flexible Education: Redesigning Learning in Higher Education Institutions”, SEAHES2017 is seen as an appropriate platform to share and identify Education 4.0 challenges faced by the higher education sector in ASEAN regions while at the same time looking for opportunities to enhance its role and responsibility.

The Summit provides a great opportunity for further discussions among ASEAN academicians to contribute ideas and share experiences to drive the growth and raise the standards of higher learning institutions in delivering outstanding academic outcomes to meet the future global needs. It is also a platform to bridge the knowledge gap among ASEAN institutions and explore new strategies in redesigning learning of higher education institutions for a more sustainable future.

On behalf of UPM, I would like to convey my sincere and deepest appreciation to the Higher Education Leadership Academy (AKEPT), Ministry of Higher Education as the co-organizer of the this Summit. I would also like to express my outmost gratitude to MAGNETIC and MEIPTA for supporting the Summit. Thank you to all sponsors and everyone who has contributed their time and support in making this Summit a great success.

I sincerely hope that SEAHES2017 will formulate a good resolution on ASEAN’s future directions to redesign learning in our higher education institutions.

Thank you.

“With Knowledge We Serve”

Professor Datin Paduka Dr. Aini Ideris, FASc.
DSIS, PSK, KMN
Message from the Co-Chair on Behalf of Organizing Committee

On behalf of the Organizing Committee, I would like to bid a warm welcome to all distinguished speakers, guests and participants of the Southeast Asian Higher Education Summit 2017 (SEAHES2017).

Higher education now operates in an increasingly interconnected world. As the global education landscape evolves in a fast challenging scenario, higher education academicians and leaders must understand the challenges and opportunities that lie ahead in order to address changes that are taking place. New strategies and approaches need to be explored to provide a more effective learning experience in line with the current technology evolution.

In order to achieve this, SEAHES2017 will support the aims of ASEAN institutions of higher learning to develop holistic, entrepreneurial and balanced graduates as well as to move together with the innovations and transformations of higher education delivery approach to meet the ever-changing global challenges such as the Industrial Revolution and Education 4.0 as highlighted in the Malaysia Education Blueprint (Higher Education) 2015-2025.

In conjunction with the theme “Flexible Education: Redesigning Learning in Higher Education Institutions”, this Summit provides a network for sharing of ideas and benchmarking with best practices of academicians and professionals from various institutions and disciplines. The discussions and sharing sessions by successful academics will provide delegates with new perspectives and insights to redesign learning in ASEAN higher education institutions.

I would like to take this opportunity to thank all speakers for taking the time to contribute to this Summit and sharing your expertise, knowledge and experience. Thank you also to our distinguished guests and participants for your esteemed involvement. I would also like to express our utmost gratitude and appreciation to the Higher Education Leadership Academy (AKEPT), Ministry of Higher Education, MAGNETIC and MEIPTA for co-organizing the Summit. Last but not least, thank you to all sponsors and everyone who contributed their time and support in making this Summit a success.

I wish all of you an enjoyable participation and contribution throughout the Summit. To our foreign delegates, welcome to Malaysia, and enjoy both the Summit and your stay in this wonderful country.

Director, Centre for Academic Development, Universiti Putra Malaysia and Director, Higher Education Leadership Academy, Ministry of Higher Education Malaysia
DAY 1: 25th October 2017 (Wednesday)

08:00-08:30 Registration

08:30-09:30 CONTRIBUTED PAPERS SESSION 1

09:30-10:30 INVITED SPEAKER 1
Chairperson: Professor Dr. Wong Su Luan
(Universiti Putra Malaysia)

The Market for Learning: Leading Transparent Higher Education
Professor Dr. Hamish Coates
Professor, Institute of Education
Deputy Director, Centre for the Assessment of College and Student Development,
Tsinghua University, China

10:30-11:00 Coffee Break & Networking

11:00-12:00 INVITED SPEAKER 2
Chairperson: Associate Professor Dr. Alyani Ismail
(Universiti Putra Malaysia)

Collaborative Work as a Catalyst of Flexible Education
Professor Dr. M. Iqbal Saripan
Deputy Vice Cancellor (Academic and International)
Universiti Putra Malaysia

12:00-13:00 CONTRIBUTED PAPERS SESSION 2

13:00-14:30 Lunch & Networking

14:30-15:30 INVITED SPEAKER 3
Chairperson: Associate Professor Dr. Goh Yong Meng
(Universiti Putra Malaysia)

Addressing the Changing Nature of Work: From Traditional to Innovative Pedagogies
Dr. Helen Bound
Principal Research Fellow & Head
Centre for Work and Learning
Institute for Adults Learning (IAL), Singapore

15:30-16:50 CONTRIBUTED PAPERS SESSION 3

16:50 Coffee Break & Networking /End of Day 1
DAY 2: 26th October 2017 (Thursday)

08:30-09:30  CONTRIBUTED PAPERS SESSION 4

09:30-10:30  INVITED SPEAKER 4
Chairperson: Dr. Khamurudin Mohd Noor
(Universiti Putra Malaysia)

Flexible Education: Institutional Support and Policy
Professor Dr. Mohd. Majid Konting
Director
Center for Academic Development (CADe)
Universiti Putra Malaysia

10:30-11:00  Coffee Break & Networking

11:00-12:30  OPENING CEREMONY AND KEYNOTE ADDRESS
The Changing Landscape of Higher Education towards 4.0
Datin Paduka Ir. Dr. Siti Hamisah Tapsir
Director General, Department of Higher Education
Ministry of Higher Education Malaysia

12:30-14:00  Lunch & Networking

14:00–15:00  CONTRIBUTED PAPERS SESSION 5

15:00-16:00  INVITED SPEAKER 5
Chairperson: Associate Professor Dr. Wan Zuhainis Saad
(Universiti Putra Malaysia)

Heutagogy: Redesigning Learning for Gen-Z
Prof. Dato’ Dr. Mohamed Amin Embi
Chief Information Officer/Director of Teaching and Learning
Technologies, Universiti Kebangsaan Malaysia

16:00-17:00  INVITED SPEAKER 6
Chairperson: Associate Professor Dr. Wan Zuhainis Saad
(Universiti Putra Malaysia)

Establishing Qalb-Guided Leadership Principles in
Teaching and Learning as an Academic Professionalism
Practice in Higher Education Institution
Assoc. Prof. Dr. Mohd Rushdan Mohd Jailani
Deputy Director, Centre for Academic Leadership
Higher Education Leadership Academy (AKEPT)

17:00  Coffee Break & Networking /End of SEAHES2017
CONTRIBUTED PAPERS SESSION

Code Theme

T  Flexible Education and Redesigning Learning: Theory and Practice

C  Flexible Education in ASEAN perspectives: Issues and Challenges

W  Flexible Curriculum and Pedagogies: Work-based and Work-place Learning (2u2i & 3u1i), Flexible Working and Global Context

H  Technology in Learning: Heutagogy, Learning Design, Mobile Learning, Gamification, Learning Space, Digital Literacy & Learning Analytics

P  Teaching and Learning as Career Pathway in Higher Education

S  Institutional Support and Policy for Flexible Education: Leadership, Academic Regulation and Processes, Talent Development

(Speakers are underlined; abstract numbers are in brackets with bold letters and page number)
# DAY 1: 25th October 2017 (Wednesday)

**PARALLEL ROOM 1: AUDITORIUM PUTRA**

| Chairperson          | Associate Professor Dr. Lailawati Mohd. Salleh  
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## SESSION 1

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<tr>
<td>08.30 – 08.50</td>
<td>Inculcating Behaviour Change through Education for Sustainable and Consumption and Production (ESCP) [H1, Page 35]</td>
<td>Yuek-Ming Ho</td>
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<td>08.50 – 09.10</td>
<td>Diverse Views and Assessment in Relation to Creativity and Purposeful Advancement of Learners [T1, Page 30]</td>
<td>Dalia Aralas, Sarma Aralas and Habsah Hussin</td>
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<td>09.10 – 09.30</td>
<td>Demystification of Thinking and Building Characters via Forum Presentations: Graduate Students’ Perspectives [T2, Page 31]</td>
<td>Habsah Hussin and Dalia Aralas</td>
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## SESSION 2

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<tr>
<td>12.00 – 12.20</td>
<td>Redesigning Curriculum: Industrial-Based Learning 2u1i in UiTM [W1, Page 33]</td>
<td>Wan Aida Wan Yahaya, Sharipah Ruzaina Syed Aris, Wan Abdul Rahim Wan Mohd Isa and Syamsul Nor Azlan Mohamed</td>
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<td>12.20 – 12.40</td>
<td>Challenges in Implementating Bachelor Science Plantation Management Program with 2u2i Mode [W2, Page 34]</td>
<td>Radziah Othman, Che Fauziah Ishak, Abdullah Mat Rashid, Daljit Singh a/l Karam Singh and Noraini Md Jaafar</td>
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## SESSION 3

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<th>Time</th>
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<tr>
<td>15.30 – 15.50</td>
<td>Fostering Learners Engagement through Virtual Learning Environment [H3, Page 37]</td>
<td>Wan Zuhainis Saad</td>
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<tr>
<td>15.50 – 16.10</td>
<td>Intergrating Mind Map in Student-Centered Learning [H20, Page 56]</td>
<td>Sidek Ab. Aziz, Siti Noor Zakiah Ruslan and Che Azurahanim Che Abdullah</td>
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DAY 1: 25th October 2017 (Wednesday)
PARALLEL ROOM 2: COMPUTER LAB 2

Chairperson: Dr. Aini Marina Ma’arof
Universiti Putra Malaysia

SESSION 1
08.50 – 09.10
Multimodality Interactive Feedback-Approach for Design Studio Course [H7, Page 41]
Novia Admodisastro, Mohd Johari Mohd. Yusof, Shamsul Abu Bakar, Norhayati Mohd Ali and Sa’adah Hassan

SESSION 2
12.00 – 12.20
Comparison of Case-Based and Lecture-Based Learning in the Nervous System Module Among Pre-Clinical Students [T3, Page 32]
Aung Myo Oo, Sowmya Sham Kanneppady, Al-abed Ali Ahmed Al-abed, Sham Kishor Kanneppady and Ohn Mar Lwin

12.20 – 12.40
Introducing Studio Oriented Learning Environment (SOLE) in UPM Serdang: Accessing Student Centred Learning (SCL) in the Architectural Studio [H8, Page 43]
Mohd Zairul bin Mohd Noor

12.40 – 13.00
Team Based Learning: A Strategy to Enhance Understanding and Performance in Virology Courses for Undergraduate Veterinary Students [H9, Page 44]
Siti Suri Arshad, Gayathri Thevi Selvarajah, Wan Mastura Wan Mossadeq, Hazilawati Hamzah, Faruku Bande, Amira Peli and Mohd Hafiz Ngoo Abdullah

SESSION 3
15.30 – 15.50
Student-Created Video-Based Learning Approach: Applying 21st Century Learning Skills in a Management Accounting Course [H10, Page 45]
Syahrul Ahmar Ahmad, Rahimah Mohamed Yunos, Ahmad Marzuki Amiruddin Othman and Normala Sulaiman

15.50 – 16.10
Educational Mobile App Characteristics and Student Perception on its Application in Teaching and Learning [H11, Page 46]
Sharifah Norkhadijah Syed Ismail, Umi Raihana Abdul Rahman, Sarva Mangala Praveena, Emilia Zainal Abidin, Ilniza Rasdi and Mas Rina Mustaffa

16.10 – 16.30
Embracing Technological Advancements in Aiding Teaching and Learning (Technology in Learning – Learning Design) [H12, Page 47]
Rafidah Hod, Faridah Idris and Siti Khadijah Adam

16.30 – 16.50
A Computer-Supported Learning Tool to Improve Students’ Learning in Object-Oriented Models [H13, Page 48]
Norhayati Mohd Ali, Novia Indriaty Admodisastro and Sa’adah Hassan
DAY 2: 26th October 2017 (Thursday)
PARALLEL ROOM 1: AUDITORIUM PUTRA

Chairperson
Dr. Radhiah Shukri
Universiti Putra Malaysia

SESSION 4
08.30 – 08.50
Using Problem Based Learning Approach to Intergrate One Health Concepts among Veterinary and Medical Undergraduate Students [H14, Page 49]
Gayathri Selvarajah, Wan Mastura Wan Mossadeq, Siti Suri Arshad, Farina Mustaffa Kamal, Syafinaz Amin Noordin, Rasedee Abdullah, Mala Manickam and Mohd. Hafiz Ngoo Abdullah

08.50 – 09.10
Development of an Electronic Tool for Problem-Based Learning (PBL) as an Innovative Learning Strategy for Veterinary Education in UPM [H15, Page 51]
Wan Mastura Shaik Mohamed Mossadeq, Gayathri Thevi Selvarajah, Idawaty Ahmad, Hazlina Hamdan and Siti Suri Arshad

09.10 – 09.30
Strategies for Cultivating Patriotism among Students through Patriotism Based Courses [H16, Page 52]
Ku Hasnita Ku Samsu, Zatul Himmah Adnan, Mohd. Mahadee Ismail, Lee Yok Fee, Arfah Ab Majid and Ratna Roshida Ab Razak

Chairperson
Professor Dr. Wong Su Luan
Universiti Putra Malaysia

SESSION 5
14.00 – 14.20
Experiential Entrepreneurial Learning of Entrepreneurship Course in Higher Education [H17, Page 53]
Mass Hareeza Ali

14.20 – 14.40
Mindset Change – Questioning Skills as a Focus for Educator Professional Development [P1, Page 58]
Jon Mason, Su Luan Wong and Eunice Sari

14.40 – 15.00
A Conceptual Study on Academic Staff's Organizational Commitment in Malaysian Research Universities [P2, Page 59]
Roshafiza Hassan, Mohd Majid Konting, Ramli Basri and Soaib Asimiran
DAY 2: 26th October 2017 (Thursday)
PARALLEL ROOM 1: COMPUTER LAB 2

Chairperson: Professor Dr. Siti Suri Arshad
Universiti Putra Malaysia

SESSION 4
08.30 – 08.50
An Open Source Moodle Based Virtual Laboratories for Science Foundation Programme [H18, Page 54]
Zulkarnain Endut, Norihan Md. Arifin and Marina Mohd Top @ Mohd Tah

08.50 – 09.10
Analysis and Modeling of Projectile Motion using Tracker: An Interactive Approach to Foundation Physics Study [H19, Page 55]
Zulkarnain Endut, Nor Azah Abdul Aziz, Sharudin Omar Baki, Yaakob Mansor, Wan Mohd Daud Wan Yusoff, Zainal Abidin Sulaiman, Aina Suhaiza Mohamad Nazir, Noor Wahida Latif, Siti Suzilliana Putri Mohamed Isa, Ikhwan Syafiq Mohd Noor, Amirul Hakimi Baderus and Emma Ziezie Mohd Tarmizi

09.10 – 09.30
Development of Mobile Learning Application for Electricity and Magnetism Physics on Android Platform [H4, Page 38]
Che Azurahanim Che Abdullah, Azmi Mohammad and Zaida Abdul Wahab

Chairperson: Professor Dr. Siti Suri Arshad
Universiti Putra Malaysia

SESSION 5
14.00 – 14.20
A User-Friendly Classroom Response System [H21, Page 57]
Wan Azizun Wan Adnan, Syazwani Mohd Hatta, Alyani Ismail, Sharifah Mumtazah Syed Abdul Rahman, Makhfudzah Mokhtar, Roslina Shariff and Dayang Radiah

14.20 – 14.40
An Assessment of the Level of Entrepreneurial Leadership among Secondary Schools [S1, Page 60]
Abbas Sani Dahiru, Zaidatol Akmaliah Lope Pihie, Ramli Basri and Siti Aishah Hassan

14.40 – 15.00
Impact of Change at The Micro-Level: A Case Study in an Australian University [S2, Page 61]
Mohd Fauzi Kamarudin and Karen Starr
Datin Paduka Ir. Dr. Siti Hamisah Tapsir
Professor Dr. Hamish Coates
Professor Dr. M. Iqbal Saripan
Dr. Helen Bound
Professor Dr. Mohd Majid Konting
Professor Dato’ Dr. Mohamed Amin Embi
Associate Professor Dr. Mohd Rushdan Mohd Jailani
Datin Paduka Ir. Dr. Siti Hamisah Tapsir is currently the Director General at the Department of Higher Education, Ministry of Higher Education Malaysia. She oversees the implementation of the initiatives outlined in the Malaysia Education Blueprint 2015-2025 (Higher Education) for the public and private higher education institutions.

Prior to her current appointment, Datin Paduka Siti was the Deputy Director General for the public and private sectors for 8 years. She played the primary role in the establishment of a rating system for private colleges and the liberalization of private higher education. She also contributed significantly in the formation of several foreign university branch campuses in Malaysia and the enhancement of the public universities’ policies and governance.

Prior to her position at the Ministry, Datin Paduka Siti was the Deputy Vice Chancellor of Universiti Teknologi Malaysia. At the professional level, Datin Paduka Siti is a Board Member for Malaysia Board of Technologists, a registered engineer under the Board of Engineers Malaysia, a fellow of the Institute of Engineers Malaysia and an Associate Member of the American Civil Society of Engineers (2008-2012).
Professor Hamish Coates contributes to the field of higher education through research, leadership and development. Over 20 years he has led over 70 influential projects, worked across 50 countries, authored over 200 publications, procured over AU$23 million in funding, conducted hundreds of workshops, given over 260 keynotes and invited presentations, and generated ongoing revenue streams. He has an h-index of 32, over 4,500 citations, and is sought internationally as a speaker.

From 2013 to 2017 Hamish was Professor of Higher Education at the University of Melbourne’s Centre for the Study of Higher Education (CSHE), and is an Honorary Professor at the Melbourne Graduate School of Education. He was Founding Director of Higher Education Research at the Australian Council for Educational Research (ACER) from 2006 to 2013, and between 2010 and 2013 also Program Director at the LH Martin Institute for Tertiary Leadership and Management (LHMI). Hamish held prior roles at Graduate Careers Australia (GCA) and the University of Melbourne’s Assessment Research Centre (ARC).

Hamish completed his PhD in 2005 at the University of Melbourne, and subsequent executive training at INSEAD (Fontainebleau) and MBS (Melbourne). He holds a Master of Education, Bachelor of Science and Bachelor of Arts (Honours) from the University of Melbourne.

Hamish concentrates on improving the quality and productivity of higher education. Considered an authority in several areas, active interests include large-scale evaluation, tertiary education policy, institutional strategy, assessment methodology, learner engagement and success, and academic work and leadership.

Hamish teaching focuses on policy, leadership and methodology. He works with executive teams, tertiary staff, manages research groups, supervises graduate students, has led and contributed to numerous
advisory groups, runs workshops and conferences, has worked with hundreds of universities and training organisations, serves on several editorial and academic boards, consults to international agencies, and has held honorary fellowships at the several leading international institutions.

He has worked with governments, institutions and agencies in: Australia, Austria, Bangladesh, Belgium, Cambodia, Canada, China, Colombia, Cyprus, Egypt, Fiji, Finland, France, Germany, Hong Kong, India, Indonesia, Ireland, Italy, Japan, Kazakhstan, Kuwait, Malaysia, Mexico, Netherlands, New Zealand, Norway, Pakistan, Philippines, Qatar, Romania, Russia, Saudi Arabia, Singapore, Slovak Republic, South Africa, South Korea, Sri Lanka, Sweden, Taiwan, Thailand, United Arab Emirates, United Kingdom, United States, Vietnam and Zimbabwe.
ABSTRACT

THE MARKET FOR LEARNING: LEADING TRANSPARENT HIGHER EDUCATION

Hamish Coates
Centre for the Assessment of College and Student Development, Tsinghua University, China

Current global crises imperil exactly the kinds of progress higher education has helped to create. The sector must contribute now like never before—to help society advance amid perpetual uncertainty. But it must put its own house in order first, and do a better job conveying its value and transformative potential. Improving transparency is critical to the future of higher education. This talk articulates the role and necessity of transparency to creating substantial opportunities for innovation and transformation. The talk offers a transparency roadmap: it reveals the socioeconomic pressures reshaping higher education, clarifies the value and nature of transparency to all stakeholders, examines emerging reporting indicators and platforms, reviews improvement opportunities for students, faculty, institutions and systems, and forecasts how to engineer important next steps. The roadmap is designed to be of broad value to leaders of all kinds working in and with tertiary education. The talk synthesises diverse theoretical and empirical perspectives, incorporating analysis of quality and productivity, academic work and leadership, indicators and metrics, commercial trends and institutional models, as well as student learning and outcomes. It creates new futures for higher education by integrating and opening up issues that have been confined largely to insiders.
Professor Dr. M. Iqbal Saripan
Deputy Vice-Chancellor (Academic and International)
Universiti Putra Malaysia
iqbal@upm.edu.my

Professor Dr. M. Iqbal Saripan was the recipient of Top Research Scientist Malaysia (TRSM), 2013 National Young Scientist Award and 2012 The Young Outstanding Malaysian Award (TOYM). Recently in 2016, he has received an alumnus of the year for University of Surrey. He is listed as Top Ten Creative Young Malaysian by Top Ten Magazine in 2015. In January 2013, Elsevier awarded him as the Most Valued Reviewer for Radiation Physics and Chemistry Journal. Currently, he is the Deputy Vice Chancellor (Academic and International) of Universiti Putra Malaysia.

In the world of academics, he is an international quality assurance expert in academics to World Bank project for Bangladesh and currently assigned to evaluate academic programmes at Bangladesh University of Engineering and Technology (BUET). He is also an assessor for the Malaysian Qualification Agency (MQA) and the Engineering Accreditation Council (EAC). Iqbal is also a resource person for Outcome Based Education and e-learning at the national and international levels.

His standing in research is visible to the international research community in his area. Apart from being a reviewer to many impact factor journals, he is also currently a promotion evaluator and research grant assessor to King Abdulaziz City of Science and Technology (KACST) Saudi. He was appointed as a Visiting Researcher at Dammam University Saudi, Lawrence Berkeley National Laboratory USA and University of Surrey UK. He has delivered many keynote and plenary speeches in both local and international conferences. He is well known as an expert in the area of digital image processing and has received over RM3 million research funding from both local and international funding agencies. To date, he has published more than 80 international journals.

In Institute of Electrical and Electronics Engineers (IEEE) Malaysia, he was the chair for IEEE GOLD Chapter in 2010-2011, vice chair for IEEE Consumer Electronics from 2009 until 2012, and vice chair for IEEE Signal Processing since 2014. He is also a Chartered Engineer with Engineering Council UK since 2015 and is a panel evaluation member of the Chartered Engineers in UK.
ABSTRACT

THE MARKET FOR LEARNING: LEADING TRANSPARENT HIGHER EDUCATION

M. Iqbal Saripan
Universiti Putra Malaysia

Current global crises imperil exactly the kinds of progress higher education has helped to create. The sector must contribute now like never before—to help society advance amid perpetual uncertainty. But it must put its own house in order first, and do a better job conveying its value and transformative potential. Improving transparency is critical to the future of higher education. This talk articulates the role and necessity of transparency to creating substantial opportunities for innovation and transformation. The talk offers a transparency roadmap: it reveals the socioeconomic pressures reshaping higher education, clarifies the value and nature of transparency to all stakeholders, examines emerging reporting indicators and platforms, reviews improvement opportunities for students, faculty, institutions and systems, and forecasts how to engineer important next steps. The roadmap is designed to be of broad value to leaders of all kinds working in and with tertiary education. The talk synthesises diverse theoretical and empirical perspectives, incorporating analysis of quality and productivity, academic work and leadership, indicators and metrics, commercial trends and institutional models, as well as student learning and outcomes. It creates new futures for higher education by integrating and opening up issues that have been confined largely to insiders.
Dr. Helen Bound

Principal Research Fellow & Head,
Centre for Work and Learning
Institute for Adults Learning (IAL), Singapore

helen_bound@ial.edu.sg

Helen heads the research Centre for Work and Learning (CWL) at the Institute for Adult Learning, Singapore (IAL). CWL’s research contributes to policy and practice in the continuing education and training sector in Singapore. Helen’s research interests focus on learning across a wide variety of contexts, including workplace learning, learning in high technology environments, professional learning and learning through collaborative activity.

She has published widely on a range of topics including professional learning and development of continuing education/vocational teachers, workplace learning, generic skills, dialogical enquiry, learning spaces between classroom and work and the development of research instruments.

Helen has a background in vocational training and education, having coordinated the Bachelor of Adult and Vocational Education at the University of Tasmania, (Australia) and before that spent some years as a trade union trainer. Prior to that, her experience teaching in Australian secondary schools is the source of her deep interest in pedagogy and learning.
ABSTRACT

ADDRESSING THE CHANGING NATURE OF WORK: FROM TRADITIONAL TO INNOVATIVE PEDAGOGIES

Helen Bound
Centre for Work and Learning
Institute for Adults Learning (IAL), Singapore

Now, and more so into the future, our lives involve transitions of one kind or another. As global markets move, global and national political shifts in power occur, rapid evolution of technology and the impact of climate change, impacts work it is incumbent on us to make constant micro and sometimes macro adaptations to change. In addition, more than particular skills or competence, employers are now concerned about qualities such as honesty, integrity, trust, interpersonal and collaborative capabilities in their graduate recruits. This landscape of constant change requires resilience and agency from a strong sense of identity. Given this landscape of constant change and emphasis on generic capabilities, how do educators prepare their graduates for now and the future? Traditional approaches rooted in an acquisition model of teaching and learning are no longer adequate. Ethical qualities and identity are not developed through lecturing at students, nor through separating theory and practice, creating a dualism, or assuming that learners will effortlessly ‘transfer’ what is learnt in educational institutions to work settings. Lecturers in higher educational institutions need to make fundamental epistemic shifts in their beliefs about teaching and learning. In this presentation, I address this issue through considering learning, not as a change in behaviour, or that which happens inside individual minds, but as a process contributing to an increased capability to act differently in the environment. When it comes to designing curriculum, I suggest we need to start at the end by asking the question, what is it we want our graduates to be and become? Designing learning that encompasses iterative movement between classroom learning experiences and being in work settings (e.g. 2u2i) needs to address the historically constituted roots and traditions of a profession/vocation which have shaped its cultures and styles of working as well as the habits of those people working in the field as integral to being and becoming of a particular profession/vocation. Educators also need to know the affordances for learning at and through work in order to build on these and address constraints, as learners move iteratively between the work setting and the educational institution.
Professor Dr. Mohd Majid Konting

Director
Center for Academic Development (CADe)
Universiti Putra Malaysia

mmk@upm.edu.my

Professor Dr. Mohd. Majid Konting is the Director of the Centre for Academic Development, Universiti Putra Malaysia. He was the 3rd Director of the Higher Education Leadership Academy (AKEPT) and its first Deputy Director (Teaching and Learning). His research, teaching and expertise lie in the field of educational policy, research, evaluation, learning, teaching, assessment, leadership, and teacher development. He has conducted 75 research and the findings have been used as a basis for the formulation of educational policies and initiatives such as higher order thinking skills (HOTs) and teacher development in the Malaysia Education Blueprint 2013-2025, Malaysian Smart Schools and Smart Education in Korea and Japan, higher education soft skills and the Malaysian Soft Skills Scale (My3S), and Leadership Development in Higher Education Learning and Teaching Framework. He has graduated 18 doctoral and 36 Master of Science students by research.

He has presented 375 papers mainly as keynotes and invited papers, authored and co-authored 39 ISI/Thomson/Scopus articles, 28 books and book chapters, 57 teaching modules, six monographs and 45 proceeding articles. His “Methods in Educational Research” (DBP, 1990) has been reprinted 9 times. He has conducted 156 trainings and was the national master trainer of learning outcomes and soft skills.

Mohd. Majid is involved in many committees, board and professional associations. He was Chairman, National Critical Agenda Project on Higher Education Leadership, a member of the Ministerial Committee on Malaysia Education Blueprint (Higher Education), the National e-Learning Committee, the National Academic Awards Steering Committee, Global Forum on Executive Development and Business Driven Action Learning (Davos) and Universiti Sains Malaysia Board of Governance. He is a member of the Education and Human Capital Development Cluster of the National Professor Council, Malaysia Association of Education (MAE) and Malaysia Education Research Association (MERA) as well as a member of the Management Science/Operations Research Society of Malaysia and Association of Vocational and Technical Education of Malaysia (AVTEM).
ABSTRACT

FLEXIBLE EDUCATION: INSTITUTIONAL SUPPORT AND POLICY

Mohd Majid Konting
Centre for Academic Development
Universiti Putra Malaysia

Institutional support and policy are pertinent in transforming and sustaining flexible education. Rather than homogeneity of traditional education, a more flexible institutional system and structure ought to be designed and put in place for the higher education institutions to function efficiently. These include flexible academic regulations, recruitment and retention, the availability of agile support services, infrastructure and info structure as well as administrative and financial systems. This paper highlights some issues of institutional support and policy that urgently need to be addressed for flexible education initiatives to be a success.
Prof. Dato’ Dr. Mohamed Amin Embi is a professor of technology-enhanced learning at the Faculty of Education, UKM. He is a leading consultant, expert and master trainer on e-Learning in Malaysia and in the Asia-Pacific region. Currently, he is the CIO, and the Director, Centre of Teaching and Learning Technologies, UKM. His recent publication entitled ‘Web 2.0 Tools in Education Series’ has recorded more than 1.5 million ‘reads’ in Scrbd.com and Slideshare.net.

For his outstanding and significant work in education, he has received numerous prestigious international awards including the Open Education for Excellence Individual Educator Award 2016 and the Open Education for Excellence Open MOOC Award 2016 (from the Open Education Consortium) as well as the Excellence in Distance Education Award 2016 (from the Commonwealth of Learning). In 2010, he received the prestigious ISESCO Prize for Science and Technology (for e-Learning Technology).
Current global crises imperil exactly the kinds of progress higher education has helped. Today’s educators are constantly developing the skills students need to compete in the global economy. But what are the characteristics or skills needed to be an effective 21st century educator? Fundamentally, this entails the need for educators to be aware that they are now dealing with a new 21st century learners – Generation Z – who have different priorities and ways of learning. The problem is that most educators are still teaching the way they were taught in the past. Hence, there is a need to revisit the traditional conception of teaching often referred to as pedagogy. It is time that we explore new ways to redesign learning so that it is relevant to the growing challenges of preparing our students to function in tomorrow’s world. In this regard, this presentation postulates the need for educators to rethink their conceptions of teaching and redesign their students’ learning experience so that they meet the needs of the 21st century education. This can be done by first understanding who the Gen Z are and how they have become self-determined learners. How is Gen-Z different from Gen-Y? What do educators need to know in order to engage Gen-Z? How does Gen-Z prefer to learn? These are some of the questions that we need to explore we we wish our students to experience a more engaging and meaningful learning experience. This new knowledge is called heutagogy and should be mastered by all educators especially at the higher education level.
Mohd Rushdan Mohd Jailani is Associate Professor at the Faculty of Leadership and Management, USIM. His area of specialization is Islamic Thought and Spirituality. Currently, he is Deputy Director, Centre for Academic Leadership (CAL) at Higher Education Leadership Academy (AKEPT). Prior to this, he was Dean at USIM’s Faculty of Leadership and Management and Director for Asian Centre for Research on Drug Abuse (ACREDA), USIM.

He contributed extensively to the writing of a chapter on Developing and Sustaining Leadership Excellence, in MOHE’s University Transformation Programme (UniTP) Playbook on Strengthening Academic Career Pathways and Leadership Development. He is also directly involve in conducting several academic leadership development programs at AKEPT and universities such as Qalb-Guided Leadership and Qalb Leadership Decision Making: Balanced Leadership Model.
ABSTRACT

ESTABLISHING QALB-GUIDED LEADERSHIP PRINCIPLES IN TEACHING AND LEARNING AS AN ACADEMIC PROFESSIONALISM PRACTICE IN HIGHER EDUCATION INSTITUTION

Mohd Rushdan Mohd Jailani
Centre for Academic Leadership
Higher Education Leadership Academy (AKEPT)

Discussing the common academic professionalism practices in higher education especially in 21st century era, we have been witnessing the struggle of academicians in juggling their functions in conducting researches, providing services or innovation, teaching as well as maintaining academic collegiality and leadership. However, teaching part is oftentimes being perceived as less significant due to its silent share in promotion and always victimizes technology as a substitute in delivery. For one thing an educator should ponder upon; teaching is unequivocally instrumental to students’ understanding and enthusiasm to knowledge and chiefly to equip students with adabic quality as a holistic individual as clearly stipulated in our philosophy of education. With this regard, there must be a dominant role of educators to demonstrate the genuine leadership character as a noble role model to students during teaching and learning process or even beyond the means. However, this trajectory is always spiritual demanding; thus the emphasis on the importance of educator’s intention, passion and sincerity in teaching is worth celebrated in relation with students’ outcomes comprehensively. Therefore, the breakthroughs of this paper is to prompt i) a discourse on the notions and importance of leadership in teaching and learning as the essence of academic professionalism in higher education institution ii) comparative analysis on the excellent qualities for educators and iii) how Qalb-Guided Leadership Model is imperatively recommendable and relevant for academicians to establish the praiseworthy practice in teaching and learning process particularly on the blink of 21st century epoch.
DIVERSE VIEWS AND ASSESSMENT IN RELATION TO CREATIVITY AND PURPOSEFUL ADVANCEMENT OF LEARNERS

Dalia Aralas¹, Sarma Aralas² and Habsah Hussin¹

1) Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
2) Universiti Malaysia Sabah, 88400, Kota Kinabalu, Sabah, Malaysia

aralasdal@yahoo.com or dalia@upm.edu.my

The accelerating pace with which dazzling, futuristic technologies are thrust upon us demands creativity in meeting complex challenges that shape the nature of societal change, with varying effects at global, communal and individual levels. It becomes imperative to examine the ways our educational enterprise may enable learners to meet challenging situations. The paper examines the diverse views underlying the educational enterprise, and the constraints and affordances that arise, as they impinge on notions of creativity and purposeful advancement of learners in flexible ways. The paper examines the implications for the assessment of particular aspects of student growth which are deemed essential within contexts of change. The paper concludes with a proposal for the development of assessment schemes which take into account valuable aspects of creativity and purposeful advancement of learners.

Keywords: creativity, assessment, flexible education, diverse education

ABSTRACTS
DEMYSTIFICATION OF THINKING AND BUILDING CHARACTERS VIA FORUM PRESENTATIONS: GRADUATE STUDENTS’ PERSPECTIVES

Habsah Hussin and Dalia Aralas

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

drhhesr@gmail.com or drhbh3883@upm.edu.my

The belief that thinking is very challenging and complex is deeply entrenched in our learners’ minds due to filial, cultural and societal impositions. One of the ways to demystify this belief is for M.Ed. (Master of Education) students undertaking the Thinking Skills in ESL course to work in small groups to give forum presentations on controversial yet substantial issues in education. Data were gathered from observation of their forums as well as their reflections of the forums. The findings indicate that being involved in the process and delivering the forums have succeeded in alleviating these graduate students’ fear of thinking, given them the opportunity to think on their feet while simultaneously allowing them to develop positive personality traits and values. Details of the findings and their impacts and implications on the redesigning of classroom practice to capitalize on learners’ potentials will be delineated during the conference.

Keywords: thinking, building characters, forum, graduate students
COMPARISON OF CASE-BASED AND LECTURE-BASED LEARNING IN THE NERVOUS SYSTEM MODULE AMONG PRE-CLINICAL STUDENTS

Aung Myo Oo¹, Sowmya Sham Kanneppady¹, Al-abed Ali Ahmed Al-abed¹, Sham Kishor Kanneppady² and Ohn Mar Lwin³

1) Lincoln University College, 47301, Petaling Jaya, Selangor, Malaysia
2) International Medical University, 57000, Bukit Jalil, Kuala Lumpur, Malaysia
3) Universiti Malaya, 50603, Wilayah Persekutuan Kuala Lumpur, Malaysia

aung@lincoln.edu.my or dr.agmyooo@gmail.com

Case-based learning (CBL) is self-directed, student centered learning method based on the instruction by real life scenarios. Lecture-based learning (LBL) is teacher centered with trivial involvement of the students. The aim of this study was to compare effectiveness of CBL with LBL in nervous system module and to compare students' knowledge by evaluating them with multiple choice questions (MCQs) after CBL/lecture. Total 106 second-year medical students of 2 subsequent batches (62 students (58.5%) from batch 4 and 44 students (41.5%) from batch 5) were participated in this study to have adequate sample size. These students were randomly assigned to two groups: lecture-based (54 students) and case-based (52 students). A case of “alcohol intoxication” was randomly selected and delivered by both teaching methods in nervous system module. Evaluation was done by MCQs test. Feedback of the learners were also taken. While comparing the student’s knowledge by assessing them with six MCQ questions, results obtained for both teaching methods were not statistically significant. However, overall knowledge of batch 4 was higher compared to batch 5 with significant result (p<0.05). It was found that both lecture and CBL had helped the students to gain knowledge in this topic and this was reflected in their feedback in which they suggested to have both lecture and CBL as their teaching-learning methods. In addition, 66 students (62.3%) of both batches preferred both methods of teaching. It was concluded that both teaching methods were beneficial for the students to achieve knowledge and to prepare for written exam in this module.

Keywords: creativity, assessment, flexible education, diverse education
REDESIGNING CURRICULUM: INDUSTRIAL-BASED LEARNING  
2u1i IN UiTM

Wan Aida Wan Yahaya, Sharipah Ruzaina Syed Aris, Wan Abdul Rahim Wan Mohd Isa and Syamsul Nor Azlan Mohamed

Universiti Teknologi MARA, 40450, Shah Alam, Selangor, Malaysia

wanaida486@salam.uitm.edu.my

The implementation of the 2u1i study mode at Universiti Teknologi MARA paves an innovative approach towards introducing students not only to the work environment but also to the industry. Taking into consideration the transforming nature of Malaysian higher education, eleven programmes were selected to pilot the 2u1i curriculum at Universiti Teknologi MARA this coming 2017. The strengths of these programmes are on the existing relationships between the faculty, its practicing lecturers and the industry, the practice-based/work-place application learning of the field directly from the industry, as well as the flexibility of the curriculum to accommodate and balance the two. The pilot programmes emphasize a shift from the conventional exam-based evaluation to experiential learning where hands-on practice is key. The shift suggests a direct method of learning the field and skill, as well as ensuring that students are groomed to be industry-ready, according to the mould suggested by the industry themselves.

Keywords: 2u1i, tertiary education, industry-based learning
The belief that thinking is very challenging and complex is deeply entrenched in our learners’ minds due to filial, cultural and societal impositions. One of the ways to demystify this belief is for M.Ed. (Master of Education) students undertaking the Thinking Skills in ESL course to work in small groups to give forum presentations on controversial yet substantial issues in education. Data were gathered from observation of their forums as well as their reflections of the forums. The findings indicate that being involved in the process and delivering the forums have succeeded in alleviating these graduate students’ fear of thinking, given them the opportunity to think on their feet while simultaneously allowing them to develop positive personality traits and values. Details of the findings and their impacts and implications on the redesigning of classroom practice to capitalize on learners’ potentials will be delineated during the conference.

**Keywords:** thinking, building characters, forum, graduate students
INCULCATING BEHAVIOUR CHANGE THROUGH EDUCATION FOR SUSTAINABLE AND CONSUMPTION AND PRODUCTION (ESCP)

Yuek-Ming Ho

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

yuekming@upm.edu.my

In the 11th Malaysia Plan 2016-2020, a new curriculum on Education for Sustainable Consumption and Production (ESCP) for secondary schools was proposed and developed by SCP Malaysia under the auspices of the Economic Planning Unit (EPU) Malaysia. The ESCP curriculum focuses on seven sustainable development areas identified in Malaysia’s Green Growth Policy which are: sustainable energy consumption, water consumption, waste management, food consumption and production, mobility, homes and buildings, and tourism and leisure. This curriculum emphasises the relevance of sustainable consumption and production practices in daily life, with the underlying philosophy of gaining more through less. The goal of the curriculum is changing consumption behaviour. Education for Sustainable Consumption combines education for sustainable development (ESD) and consumer education. The former focusses on the inter-relatedness among people, cultures and the ecosphere, while the latter highlights the rights and responsibilities of the consumer. Both ESD and ESCP is about learning for change and learning to change. To prepare the young generation for active participation in a sustainable society, schools must provide knowledge, skills and attitudes fit for daily life. The ESCP curriculum hopes to produce a new generation of Malaysian citizens that will fulfil the education for sustainable consumption objectives in educating towards sustainable lifestyles. Herein, lies the challenge in applying educational strategies and effective pedagogies that will bring about intrinsic behaviour change.

Keywords: Education for Sustainable Consumption and Production (ESCP), consumption behaviour, sustainability education, behaviour change, effective pedagogies
GAMIFICATION OF HAEMATOLOGY: MAKING HAEMATOLOGY FUN

Lai Mei I¹, Eusni Rahayu Mohd. Tohit¹, Faridah Idris¹, Sabariah Md Noor¹, Zanina Seman¹ and Mas Rina Mustaffa²

¹) Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
²) Faculty of Computer Sciences and Information Technology, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

lmi@upm.edu.my

Education has evolved from a material based process, in which the instructor (lecture or teacher) presents the information to the student in the class to a process where the students are able to learn at their own pace in their own space. So, the model has changed from teacher-centered to student-centered learning. Interactivity maintains learner interest and provides a means for personalised learning and reinforcement. Evidence has suggested that learners gain knowledge, skills, and attitudes better and faster through interactivity, games and e-learning compared to the traditional instructor-based methods as the former complements the latter. The main goals of medical education are to equip students and graduate clinicians with the necessary medical knowledge and skills and to provide them with the strategies for their application in practice. The integration of multiple learning activities including animations, games, simulations, video demonstrations as well as virtual cases into undergraduate, graduate and continuing medical education has significant impact on the delivery and performance of medical education. We have designed and developed two board games for haematology for offline interactive activity and supported by an online learning environment to further facilitate the learning. The online learning environment will be able to accommodate interactive activities including animations and animated diagrams, video demonstrations, simulations, video clip of experts teaching the subject, illustrations and medical images for visualisations, self-assessment exercises as well as problem-based integrated cases for the students to apply their basic and clinical knowledge. These activities will allow students to be able to learn at the own pace as well as have fun learning with their friends.

Keywords: creativity, assessment, flexible education, diverse education
FOSTERING LEARNERS ENGAGEMENT THROUGH VIRTUAL LEARNING ENVIRONMENT

Wan Zuhainis Saad

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
zuhainis@upm.edu.my

New technology is drastically changing the conditions in which teaching and learning is conducted and this is also true for higher education. Technology used outside the classroom to deliver content is an efficient way to prepare students for classroom activities and increases the class time available for student-centred active teaching. This pedagogical strategy could help traditional brick-and-mortar universities to add value to face to-face interaction in a digital world. Modern advancements in technologies and further developments in computer-mediated communication have tremendously enhanced social practice. The ubiquitous learning management system is one of the wide range of technology tools that is now commonly use in educational settings. An interactive learning management system can result in dynamic, active, and interactive student engagement, the development of skills, and co-constructed knowledge. An interactive learning environment was integrated in PutraBLAST (Moodle LMS) for microbiology courses. Students were involved in interactive collaborative learning through Web 2.0 tools and virtual learning. The applications of Web 2.0 tools include the use of presentation tools (Slidebean, Emaze) collaborative tools (Popplet, Padlet, Trello), digital storytelling (ISSUU, Flipsnack) integration of quiz added video (Edpuzzle) and assessment tools (Quizalize). These Web 2.0 tools can be used as Resources, Activities or Assessment in Moodle. Content development in Moodle were used in the flipped classroom approach. Screen-casting (Screencast-O-matic), own videos development with integrated quizzes and interactive learning materials using plug-in in Moodle. Big Blue Button were used for discussion outside the class time. These virtual discussions were recorded for students to be able to access anytime, anywhere. In order to satisfy the new trends and requirements for the fast oriented, flexible and suitable education, it is essential to develop and organise the learning process by implementing the newest approaches and technologies available. Qualitative data are obtained from students’ reflections and compiled as an e-portfolio.

Keywords: asynchronous learning, online interactive learning, collaborative learning
DEVELOPMENT OF MOBILE LEARNING APPLICATION FOR ELECTRICITY AND MAGNETISM PHYSICS ON ANDROID PLATFORM

Che Azurahanim Che Abdullah, Azmi Mohammad and Zaidan Abdul Wahab

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

azurahanim@upm.edu.my

This paper presents the design and development of Mobile Learning application for Physics II subject focusing mainly on Electricity and Magnetism Physics. The mobile learning application is developed on Android Platform using Java programming language. The aim is to help students in Physics II course at the Department of Physics, Faculty of Science, Universiti Putra Malaysia. With this mobile application, student could learn and revise the key elements in the topic “Electricity and Magnetism” anywhere and anytime at their own pace. Our approach is to incorporate definition, formula, and animation concept with command language in creating comprehensive, fun and informal environment in presenting Electricity and Magnetism Physics. This mobile learning application intends to complement the requirement for student centered learning and e-learning systems due to the great potential of mobile apps in enhancing students’ learning process. Current research presents the design and development of Mobile Learning application for Electricity and Magnetism Physics to increase students’ performance and reduce certain misconceptions about electricity and Magnetism as the apps provide students with the definition, formula, and animation concept with command language in creating comprehensive, fun and informal environment in understanding the concept in Electricity and Magnetism Physics. This app is important in education due to fact that it is not only support learning but also provide learning experience and activities for students where both learning materials and feedbacks are included in the current apps. In addition, this apps intends to complement the requirement for student centered learning and e-learning systems due to the great potential of mobile apps in enhancing students’ learning process. This apps also will help in engaging community with Physics.

Keywords: mobile apps, physics, electricity and magnetism, android, java
DEVELOPING A PROTOTYPE OF AN AUGMENTED REALITY EMBEDDED GAMIFICATION LEARNING KIT FOR CLASSROOM INSTRUCTION

Mas Nida Md. Khambari

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

khamasnida@upm.edu.my

The dynamic nature of 21st Century learners calls for a new mode of instruction. The Malaysian Education Ministry, in the Malaysian Education Blueprint 2015-2025 (Higher Education), has charted waves of transformation to accelerate improvements in Higher Education instructions so as to create new generation of Malaysian students to excel globally in a competitive environment (Ministry of Education Malaysia, 2015). With such aspiration, a change of mode of instruction at the higher education institution level is of a crucial need. This research will develop an instructional kit that applies game mechanics that triggers exploration and finding clues with competition elements. A prototype of a gamification kit that uses a treasure hunt or orienteering mechanics will be developed in this research where students will experience the wonders of play. The kit would be a robust or universal kit, whereby almost any topic or subject can be plugged into the kit to enjoy gamification. This kit will offer physical and augmented reality clues and challenges throughout the game equipped with a well-constructed module. The ADDIE Model will be used as the framework to design and develop the kit, and the UTAUT and TAM theory will be employed to seek users’ feedback on their experience in the gamified instruction. The prototype and its module will be tried and tested on at least three different courses offered at the Faculty of Educational Studies. Participants would be undergraduate students enrolled in the selected courses and their respective instructors. Data will be collected both quantitatively and qualitatively in the forms of surveys, interviews, and observations in terms of users’ feedback on the kit and its design, experience, and the approach. The design of the kit will be revisited recursively using the R2D2 design strategy (reflective, recursive, design, develop) until a concrete and robust design has been achieved.

Keywords: gamification, augmented reality, ADDIE, UTAUT, TAM
The Philosophy of Science FSA3000 course offered at the Faculty of Science, Universiti Putra Malaysia (UPM) since 1997 is one of the subjects that must be taken by the students pursuing Bachelor Of Science with Education (BSDP) majoring in Mathematics, Physics, Chemistry or Biology. The full Teaching-Based Teaching Method (TCL) should be converted to Student-Centered Learning (SCL) activities involving Blended Learning and Flipped Classroom modes. A study focusing on the development and production of e-module for this course has been carried out. This e-module will be upgraded to the level of OpenCourseWare (OCW). This paper presents the effectiveness of implementing the e-module to a group of students attending the FSA3000 course in the second semester in 2016/2017 session.

**Keywords:** Philosophy of Science, e-module, OCW
Multimodality appears to be the new frontier of Human-Computer Interaction (HCI). It represents an important opportunity for providing feasible support with different modalities to access information. The multimodality describes communication practices using modalities such as written comments, graphical annotation and images to compose messages. The usage of different modality increase recipient’s understanding of these messages. This is the result of a shift from isolated text being relied on as the primary source of communication, to the image or video being used more frequently in the digital era. The application of multimodality studies has a wide impact, beyond the field of HCI, including in teaching and learning environment. In the Faculty of Design and Architecture (FRSB) in UPM, design studio is a main academic course in their architecture design bachelor programs. The students are required to take a number of studio design courses such as Studio Basic Design (LAN3000), Studio Landscape Design (LAN3001) and etc. throughout their four years course. Therefore, studio courses placed an important position in design education. The students in a studio course are subjected to a series of critiquing sessions, where the lecturers offer critiques on their work. During the design critique sessions or design crits a students’ work is critique by the lecturer, while other students wait their turn. This long queue of students, limits the time the lecturer can spend on each student, often resulting in a condensed or superficial discussion. Usually after the critic sessions, the lecturer do provide some written comments but this usually does not reflects upon real moments of the critique is given thus the meanings may have lost. Therefore, this research
is motivated to investigate the use of multimodality as an opportunity for lectures and students in FRSB, UPM to enhance their teaching and learning experience in the design studio courses. Deeper understandings gained are used to derive requirements and follows with design solutions to develop a multimodality interactive feedback-approach using mobile device for design studio course. The system would allow the lecturers to provide, record and shared feedbacks to the students during design crits by using different modalities, such as textual notes, annotated video and photos. In addition, the lecturers are able to monitor the recorded feedbacks given by overseeing progress of the students’ works based on these feedbacks. As a result, the students are able to perceive the feedbacks better to assists them to improve their works in the design studio course.

**Keywords:** multimodality, feedback-approach, design studio course
INTRODUCING STUDIO ORIENTED LEARNING ENVIRONMENT (SOLE) IN UPM SERDANG: ACCESSING STUDENT CENTRED LEARNING (SCL) IN THE ARCHITECTURAL STUDIO

Mohd Zairul bin Mohd Noor

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

M_zairul@upm.edu.my or Zackzairul19@gmail.com

This paper reports the initial results of the exploratory research related to student-centered learning in final year Architecture’s studio education in UPM. Student centred learning is defined as an approach to empowered the students in their own learning. Although a various study on the adaptability of this concept in education has increased, there is a little to none study conducted for the benefits of an architectural education from studio design perspective. In this article, we defined the Student-centered learning (SCL) as an approach to increase student’s autonomy in learning curve especially in making decision-related to design subjects using summative and formative approach. The objective of this article is to experiment the SOLE model and how it can move forward. The SOLE (Studio oriented learning environment) model encompass lecturing, sharing and peer review that inspired by self-regulated theory. However, several problems and difficulties were identified namely, lacking tutor’s input and problems in discussion dynamic asides from resistance to peer assessment. This article suggests a number of improvements for future recommendations. The study will benefit the educators in the architectural field contribute to help the students to build on unique background knowledge and at the same time let the students generate learning opportunities and reconstruct knowledge dynamically in an open-ended learning environment to implement SCL in the studio module.

Keywords: SOLE in Architectural Education, SCL, peer review, architectural pedagogy, redesign learning
TEAM BASED LEARNING: A STRATEGY TO ENHANCE UNDERSTANDING AND PERFORMANCE IN VIROLOGY COURSES FOR UNDERGRADUATE VETERINARY STUDENTS

Siti Suri Arshad¹, Gayathri Thevi Selvarajah¹, Wan Mastura Wan Mossadeq¹, Hazilawati Hamzah¹, Faruku Bande¹, Amira Peli¹ and Mohd Hafiz Ngoo Abdullah²

1) Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
2) Cyberjaya University College of Medical Sciences, 63000, Cyberjaya, Selangor, Malaysia

suri@upm.edu.my

Readiness Assurance Process (RAP) is one of the team based learning (TBL) approaches that consisted of five stages; pre-session preparation before the class, individual readiness assurance test (iRAT), group readiness assurance test (gRAT), appeal process (feedback session) and clarifying by facilitator. The objective of this study is to evaluate the impact of TBL on undergraduate veterinary student performance in learning virology course. A total of 119 students received learning materials in advance before the class begins. During iRAT session, student answered the questions individually via PutraBLAST online system before proceed to a group for gRAT session. By the end of the semester, students submitted self-reflection by providing their opinion, open suggestions, in addition to set of questionnaire. The study showed that most students performed well with grade A during the gRAT test in both theory (94.84%) and practical (100%) sessions as compared to iRAT where 38.03% and 43.70% of the students obtained grade A in theory and practical, respectively. Most students had positive feedback toward TBL in terms of its clarity, assessment pattern and acceptance as a method that improved learning. TBL approach using gRAT improved veterinary student performance in both theory and practical in virology course. In addition to that, TBL improved their engagement with the subject, promote their learning skills, and preferred approach compared to the conventional way of learning virology subject.

Keywords: veterinary students, team based learning, virology
STUDENT-CREATED VIDEO-BASED LEARNING APPROACH: APPLYING 21ST CENTURY LEARNING SKILLS IN A MANAGEMENT ACCOUNTING COURSE

Syahrul Ahmar Ahmad¹, Rahimah Mohamed Yunos¹, Ahmad Marzuki Amiruddin Othman¹ and Normala Sulaiman²

1) Faculty of Accountancy, Universiti Teknologi Mara, 85200, Johor, Malaysia
2) Academy of English Language, Universiti Teknologi Mara, 85200, Johor, Malaysia

syahrul.ahmar@johor.uitm.edu.my

Literature has long discussed the advantages of video-based learning as opposed to text learning approach. Despite that it is easier to be accessed and allow learners to revisit the video at anytime, video-based learning approach is also able to stimulate the interest of learners, upgrade learners’ motivation to study, increase their understanding and knowledge retention, and improve performance. This study is intended to share the outcome from implementing student-created video learning project to the final semester Bachelor of Accounting students. Students were assigned with pre-determined topics and they were required to produce a video presentation from the chosen topic. The project was carried out into competition where the best video wins a prize. Upon completion of the video presentation, students were required to provide their evaluation based on the 12 statements using 5-point Likert scale. Majority of the students indicated that the video project enhance their learning and stimulate their interest in the subject. The outcome of the study reveals that students utilized and explore their capability in applying creativity, planning, and collaborating skills which are essential with the needs of 21st century learners.

Keywords: learning, students, video, 21st learning skills
EDUCATIONAL MOBILE APP CHARACTERISTICS AND STUDENT PERCEPTION ON ITS APPLICATION IN TEACHING AND LEARNING

Sharifah Norkhadijah Syed Ismail¹, Umi Raihana Abdul Rahman¹, Sarva Mangala Praveena, Emilia Zainal Abidin¹, Irniza Rasdi¹ and Mas Rina Mustaffa²

1) Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia
2) Faculty of Computer Science and Information Technology, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

norkhadijah@upm.edu.my

Mobile app characteristics and its application in the teaching process was measured using self-administered questionnaire. The survey was conducted among 107 UPM students from various courses in September 2015 to April 2016. An available mobile app was built and used in the small classroom of 37 students for four weeks. Student’s feedback and perception on the app usage was compared before and after the app usage. The preferred characteristic of an app to majority students is a fast loading application (N = 98, 92%), low battery consumption (N = 79, 74%), high data security (N = 72, 67%) and compatibility to the mobile platform (N = 68, 64%). Other characteristics includes great user interface, high adaptability and good customer support. Items that need to be included in the app were the lecture notes (N = 78, 73%), examination tips, exam report and carrier information (N = 76, 71%), a discussion room (N = 65, 61%), quizzes (N = 61, 57%) and videos related to the lecture topics (N = 60, 56%). Majority of the students agreed, app can be a tool for teaching and learning (N = 76, 71%) and encourage them to be an effective learners (N = 80, 75%). They also agree that the app is a method to monitor students performance (N = 55, 51%), encourage students to be an independent learners (N = 47, 44%) and communication method with lecturers (N = 46, 43%). However, they don’t feel that app will encourage the student to be active in the class (N = 36, 34%). This study did not detect any significant differences on the perception scores of the students before and after the app usage. Mobile app with an interface that suit students need can be interesting in learning process.

Keywords: educational, mobile app, higher education, interactive teaching, learning
EMBRACING TECHNOLOGICAL ADVANCEMENTS IN AIDING TEACHING AND LEARNING (TECHNOLOGY IN LEARNING – LEARNING DESIGN)

Rafidah Hod, Faridah Idris and Siti Khadijah Adam

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

rafidahhod@upm.edu.my

The world is undergoing a speedy transformation with advances in various technologies affecting many aspects of our personal, social and career life. As educators of higher academic institutions, how can we take full advantage of the technology that is shaping our world? This presentation is meant as a sharing of experience of how we constantly have to be brave, challenge ourselves and get out of our comfort zone to try new things. Or perhaps in some instances, the same thing but in a different way. As much as technology is there to help us, designing learning to a particular group of learners still requires great wisdom and meticulous planning. The message I would like to impart is that, now that technology is the enabler in teaching and learning activities, we should develop a stronger connection to our learners. Ultimately, it is the human touch that is irreplaceable.

Keywords: technology, learning design, gamification
A COMPUTER-SUPPORTED LEARNING TOOL TO IMPROVE STUDENTS’ LEARNING IN OBJECT-ORIENTED MODELS

Norhayati Mohd Ali, Novia Indriaty Admodisastro and Sa’adah Hassan

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

hayati@upm.edu.my

There is a vast consensus on the important of teaching object oriented modelling in a university, particularly for Computer Science and Software Engineering program. Teaching object-oriented modelling is important for computer science and software engineering students as this knowledge and skills are widely used in the computing industry. Most universities provide the object oriented modelling course to facilitate students in obtaining the modelling knowledge and skills. Educators in most universities have always used the Unified Modeling Language (UML) in teaching object oriented modelling. There are many UML tools to support the teaching of UML but these tools are mostly focused for professional developers and not for educational purposes. UML tools for educational purpose are still less. There are several challenges for educators in teaching students about UML diagrams (or models) as reported by many studies. However, our research only focuses on two challenges in teaching UML diagrams. First challenge is to make students understand the theoretical concepts of UML and they know ‘how to model’. A major concern from previous studies is that UML is a complex language and based on our experience in teaching UML diagrams, students have difficulty in modeling UML diagrams. There are general guidelines in creating UML diagrams. However, the same common mistakes/errors are made by most students. The second challenge is the issue of checking the validity of the UML diagrams. Students are not sure whether their diagrams are correct according to the diagram syntax. Sufficient practices of UML can enhance students’ knowledge and skills in UML diagrams. Thus, to address the two challenges in teaching UML diagrams, we propose an educational supporting tool for UML diagrams to assist the computer science students in learning the UML diagrams. This computer-supported learning tool is an educational tool with the aim to enhance and promote self-learning about UML diagrams. Students can use the supporting tool to enhance their understanding and skills in creating UML diagrams. In addition, it could facilitate the students and educators in the teaching and learning of UML diagrams in object oriented modelling.

Keywords: object-oriented model, unified modeling language, UML diagram, educational supporting tool
USING PROBLEM BASED LEARNING APPROACH TO INTEGRATE ONE HEALTH CONCEPTS AMONG VETERINARY AND MEDICAL UNDERGRADUATE STUDENTS

Gayathri Selvarajah¹, Wan Mastura Wan Mossadeq¹, Siti Suri Arshad¹, Farina Mustaffa Kamal¹, Syafinaz Amin Noordin², Rasedee Abdullah¹, Mala Manickam³ and Mohd. Hafiz Ngoo Abdullah⁴

1) Faculty of Veterinary Medicine, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
2) Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
3) Faculty of Medicine and Defence Health, Universiti Pertahanan Nasional Malaysia, 57000, Kuala Lumpur, Malaysia
4) Faculty of Medicine, Cyberjaya University College of Medical Sciences, 63000, Cyberjaya, Selangor, Malaysia

gayathri@upm.edu.my

Problem based learning (PBL) is one of the popular teaching methods in medical and veterinary schools where it introduces real life cases to stimulate learning, the integration of knowledge and lifelong learning skills. “One Health” (OH) is the collaborative effort of multiple disciplines, working locally, nationally, and internationally to attain optimal health for people, animals and the environment. Many emerging health issues are linked to increasing contact between humans and animals, intensification and integration of food production, and the expansion of international trade and travel. Many of the emerging infectious and zoonotic diseases can involve livestock, wildlife and pet animals. OH concepts can be incorporated in PBL modules to address issues at the level of animal, human and environmental interface; aid the understanding of multi-disciplinary approach for disease control; facilitate team building and group management skills; explore policies on trans-boundary diseases; encourage critical thinking; reflect real life problems; interesting and motivating for the students. A total of 98 veterinary students from the Faculty of Veterinary Medicine, UPM; 37 students from Faculty of Medicine (UPNM) and five from Faculty of Medicine (CUCMS) were involved in solving PBL cases related to OH zoonotic diseases such as Meliodosis (bacteria), Rabies (virus) and Sporotrichosis (fungal). A survey was
conducted using a questionnaire where the students provided feedback on their learning experience through PBL approach and their views on the PBL module. Overall, students both from medical and veterinary background found collaborative PBL to solve OH cases interesting and provided more insights into the disease investigation and understood the roles of medical officers and veterinary officers in collaboratively managing disease outbreak. This activity enable students to understand the emerging and re-emerging infectious diseases, transboundary diseases and current technologies in disease investigation. This form of PBL in One Health has received wider acceptance from academic members.

**Keywords:** One Health, PBL, medicine, veterinary, reflection
DEVELOPMENT OF AN ELECTRONIC TOOL FOR PROBLEM-BASED LEARNING (PBL) AS AN INNOVATIVE LEARNING STRATEGY FOR VETERINARY EDUCATION IN UPM

Wan Mastura Shaik Mohamed Mossadeq¹, Gayathri Thevi Selvarajah¹, Idawaty Ahmad², Hazlina Hamdan² and Siti Suri Arshad¹

1) Faculty of Veterinary Medicine, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
2) Faculty of Computer Science and Information Technology, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

wmastura@upm.edu.my

Problem-Based Learning (PBL) approach incorporates soft skills with content learning and encourages those who take part in its processes to act as an agent of change in teaching and learning styles. However, PBL is seen by many as burdensome as it is time consuming, requires paper-oriented assessments and unstructured as opposed to traditional way of teaching. Furthermore, majority of students and lecturers today prefer to connect through social media and search for information using on-line search engines, hyperlinks and web-based electronic teaching and learning tools on a daily basis. An affective learning tool for PBL which allows proper monitoring of the students’ learning progress in addition to tapping students’ affinity towards technology is therefore warranted. MyVetPBL™ system was developed to combat problems related to PBL. This system was created using a Software Development Life Cycle which involved planning, system design, implementation, testing, and deployment of system. The interface design, database design and the program codes for these designs were created using Java, PHP language and MySQL database. Unlike the other e-learning tools available on the market, this interactive system incorporates the coordinator, student, facilitator and administrator modules in one package. A survey and several user acceptance tests (UAT) for the system were conducted to evaluate the validity of system against its requirements in real-world setting. This system has the potential to penetrate the foreign market as it can be modified to suit the learning needs of veterinary, animal science, science, medical and health students alike due to its user-friendly approach and design.

Keywords: problem-based learning, electronic, innovation
STRATEGIES FOR CULTIVATING PATRIOTISM AMONG STUDENTS THROUGH PATRIOTISM BASED COURSES

Ku Hasnita Ku Samsu, Zatul Himmah Adnan, Mohd. Mahadee Ismail, Lee Yok Fee, Arfah Ab Majid and Ratna Roshida Ab Razak

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

atyn74@yahoo.com or hasnita@upm.edu.my

Patriotism based courses such as History (Sejarah), Civic Education and Citizenship (Pendidikan Sivik dan Kewarganegaraan), General Studies (Pengajian Am), Malaysian Nationhood (Kenegaraan Malaysia) and Ethnic Relations (Hubungan Etnik) has been taught to Malaysian students since they were in primary school until they reach tertiary education. Certainly, the general objective of those courses are to inculcate as well as strengthening patriotism spirit in students. Unfortunately these courses are always seen as boring and dull subjects by students due to the needs of memorising facts and historical events. This quantitative study therefore aimed at identifying the teaching and learning strategies which can attract students’ interest on this kind of nation building course, thereby making the learning process fun yet effective. The sample consisted of 800 respondents from public universities, those are 400 students of Universiti Putra Malaysia (UPM) and 400 students of Universiti Pendidikan Sultan Idris (UPSI) which have experienced taking Malaysian Nationhood course. Their experiences are important to achieve the objective of this study. The finding shows there are direct and indirect teaching and learning strategies to attract students’ attention for these courses, for instance by having interactive lecturer with students, using social and inductive methods such as role play, debate, games and forum.

Keywords: teaching and learning strategies, patriotism, nation building course
EXPERIENTIAL ENTREPRENEURIAL LEARNING OF ENTREPRENEURSHIP COURSE IN HIGHER EDUCATION

Mass Hareeza Ali

Faculty of Economics and Management, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

mass@upm.edu.my

The research focuses on the experiential learning as one of the assessment in the Entrepreneurship course. The view and perception of the students’ demographic factor such as age, gender and full-time status (full time, executive students, distance learning student) who experienced the Entrepreneurship course from Universiti Putra Malaysia (UPM) are presented in the form of information gathered through questionnaire. The findings reveal that these experiential learning have overall satisfaction and highly appreciated from the students than the traditional face-to-face activity in class. Results from the research were expected to contribute new information in the development criteria and things to be concerned on any assessment of implementation within Entrepreneurship course in the universities.

Keywords: entrepreneurial, education, experiential, Malaysia
Virtual laboratory can provide a cost-efficient way to organize high-quality laboratory work for a large number of students. It is a damage resistance laboratory, thus opening the possibility to learn from the mistakes. By combination with learning management system (LMS), assessing lab report and student performance becomes much easier. The objective of this research is to develop a virtual laboratory for science foundation programme in Universiti Putra Malaysia. The virtual laboratory has four criteria. First, the user interfaces for each piece of equipment must be identical to the corresponding real devices. Second, the behaviour of the virtual system must be equivalent to the system behaviour in the physical paradigm. Third, visualization must be provided that makes students feel like they are looking at a real authentic thing. Fourth, the virtual laboratory space must be created which allows for communication and collaboration among students and with the lab supervisor. Recent progress indicates Moodle and Easy Java Simulations are very important software for virtual laboratory development.

**Keywords:** virtual laboratory, Moodle, learning management system
Video modeling engages students directly in the development of physical models has become an increasingly important part of physics education. In this paper, we demonstrate the capability of Tracker, an open source video analysis and modeling software to actively engage students in the design, implementation and analysis of mathematical models in the case of projectile motion. We found that the software provides a gentle introduction to student in understanding projectile motion theory by testing their models experimentally using a direct visual inspection, a process that is both intuitive and discerning. This software provides more autonomy to the student in studying projectile motion compared to traditional learning approaches. Tracker also uses the Open Source Physics code library thus relatively sophisticated models are possible to analyze.

**Keywords:** Tracker, projectile motion, video modeling, open source physics
INTERGRATING MIND MAP IN STUDENT-CENTERED LEARNING

Sidek Ab. Aziz, Siti Noor Zakiah Ruslan and Che Azurahanim Che Abdullah

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

sidek@upm.edu.my

Mind map is considered as one of the great presentation method which involves diagram or chart to summarize information, ideas, tasks or a solid description of the purpose of explaining a concept or idea. Meaningful learning is more easily achieved through mind map approach when new concepts are more specifically linked to the concept of a more general concept that has long been understood. Mind map involves diagram or chart is drawn to summarize information, ideas, tasks or a solid description of the purpose of explaining a concept or idea. Mind maps are used to improve memory through the subconscious mind. The main objective of the present work is to review the use of mind maps to improve student achievement, especially for students enrolled FSA300 Philosophical of Science at the Faculty of Science, Universiti Putra Malaysia. This has been implemented comprehensively through qualitative and quantitative approaches. The aim of the project is also to assess the effectiveness of learning through student achievement and assess the level of acceptance and suitability of using mind maps in the process of teaching and lifelong learning.

Keywords: mind map, memory, mind concept
A USER-FRIENDLY CLASSROOM RESPONSE SYSTEM

Wan Azizun Wan Adnan, Syazwani Mohd Hatta, Alyani Ismail, Sharifah Mumtazah Syed Abdul Rahman, Makhfudzah Mokhtar, Roslina Shariff and Dayang Radiah

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

wawa@upm.edu.my

Our developed classroom Response System (CRS) is a technological way for lecturers to engage and assess students in real time on the discussed topics. It facilitates students’ active participation in classroom and can be used in a variety of learning environment such as during lectures of large number of students or during student centred learning activities. CRS provides flexibility to lecturers as questions can be in both subjective and multiple choice formats. It provides a real time quantitative feedback to lecturers on student answers. Graphs representing all students respond can be immediately displayed. From the displayed graphs, the lecturer will be able to gauge the students understanding of the subject matter. Hence, immediate feedback can be given to the students on the topic to clear students’ misunderstanding of concept etc. Furthermore, every student performance records is always available since every class session is being recorded and stored. The students’ stored records can also be used to monitor students’ attendance. The benefit of the developed CRS is that lecturers can instantly create questions and be given to students to answer. In addition, it enables each student to respond during the class activities and become an active participant. Students will be able to get immediate feedback from lecturers based on their responds. On top of that, the student performance records are always available since the system keeps a log of every class session. The developed system can also be used to monitor students’ attendance.

Keywords: classroom response system, real time student feedback, educational tool
MINDSET CHANGE – QUESTIONING SKILLS AS A FOCUS FOR EDUCATOR PROFESSIONAL DEVELOPMENT

Jon Mason¹, Su Luan Wong² and Eunice Sari³

¹) Charles Darwin University, 0909, Darwin, NT, Australia
²) Universiti Putra Malaysia, 43400, Serdang, Selangor Darul Ehsan
³) UX Indonesia, 12910, Jakarta, Indonesia

jon.mason@cdu.edu.au

This paper reports on a project that combined research with professional development focused on developing student questioning skills in Malaysian educational settings. Originally targeted at pre-service teachers, the scope expanded to include academic staff from all teaching areas within Universiti Putra Malaysia following successful workshops for pre-service teachers and their lecturers. It was conceived as a strategic response to the stated goal within the Malaysian Curriculum of achieving a shift toward student-centred pedagogies. The Question Formulation Technique (QFT) was first introduced to participants as a structured approach to teaching students how to formulate and refine their own questions and as a means of changing traditional instructor-led classroom dynamics – with the aim of strengthening student inquiry. Developing questioning skills was therefore presented as fundamental to the critical thinking and problem-solving skills recognised by educators advocating focused development of ‘21st century skills’. Given that Malaysian student performance in the Programme for International Student Assessment (PISA) has rated poorly in recent years, suggesting that Malaysian students are poor critical and creative thinkers, this intervention seemed timely. Apart from enthusiastic responses by participants the findings indicate that the QFT is a viable intervention in which student questioning skills can be scaffolded in traditional Malaysian classroom settings. This was emphasised when the QFT was combined with a variety of digital technologies, including social media.

Keywords: questioning, QFT, inquiry, student-centred, teaching
A CONCEPTUAL STUDY ON ACADEMIC STAFF’S ORGANIZATIONAL COMMITMENT IN MALAYSIAN RESEARCH UNIVERSITIES

Roshafiza Hassan, Mohd Majid Konting, Ramli Basri and Soaib Asimiran

Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
roshafizahassan@gmail.com

Research Universities (RU) are focusing on research and development whereby the academic staff are required to commit a larger amount of their time by doing research. At the same time, they have to integrate their research activities in teaching and learning process. Their roles are very important as they are the key of success for educational settings in all organizations. Therefore, academic staff is a most important determinants and leading factors towards the success or failure of the universities’ performance. Their commitments are most needed in achieving the mission and vision as well as sustaining a good reputation of the university. There are several reasons for the academic staff in Malaysian Research Universities committing to their workplace organization. It can be seen from the aspect of affective, normative and continuance. Besides, leadership style by the management level was found to be one of the factors. As a leader, they should foster a balance between support, autonomy and staff expectations. Hence, the factors which may affect academic staffs’ commitment towards an organization is crucial to higher education institutions. This conceptual study aims to identify the factors which lead academic staffs’ level of commitment, whether still remains or leaving their organizations. An information about the study was obtained, collected and scrutinized from various sources of past and current studies suited to the context of Malaysian Research Universities.

Keywords: organizational commitment, academic staff, Malaysian Research University
AN ASSESSMENT OF THE LEVEL OF ENTREPRENEURIAL LEADERSHIP AMONG SECONDARY SCHOOLS

Abbas Sani Dahiru¹, Zaidatol Akmaliah Lope Pihie², Ramli Basri² and Siti Aishah Hassan²

1) Federal University Gusau, Nigeria
2) Faculty of Educational Studies, Universiti Putra Malaysia, 43400, Serdang, Selangor,

abbassanidahiru@yahoo.com

The purpose of this study was to determine the level of entrepreneurial leadership among secondary schools in Zamfara State, Nigeria. 358 teachers participated in the study. Survey method was employed in collecting the data, and the data were analyzed using descriptive statistics. According to the findings of the research, the accelerator behavior dimension of entrepreneurial leadership recorded the highest mean score while the dimension of miner behavior recorded the lowest mean score. On the overall, the results indicated that the perception of the respondents on the level of Entrepreneurial Leadership is having an overall mean score of (M= 3.34, SD= 0.83), which means that, the level of Entrepreneurial leadership practice among secondary schools in Zamfara state is at a moderate level. The implication of findings is that, there is the need for the policy makers and school leaders to evolve ways of improving the practice of entrepreneurial leadership to the highest level for the attainment of an effective teaching and learning process.

Keywords: entrepreneurial leadership, secondary schools, teachers
IMPACT OF CHANGE AT THE MICRO-LEVEL: 
A CASE STUDY IN AN AUSTRALIAN UNIVERSITY

Mohd Fauzi Kamarudin¹ and Karen Starr²

¹) Universiti Teknikal Malaysia Melaka, 76100, Durian Tunggal, Melaka, 
Malaysia
²) Deakin University, 3125, Burwood, Victoria, Australia

mohdfauzi@utem.edu.my

The current context of higher education is one of dynamic change. Catalysts for higher education change include globalization, technological advancements, competitive forces and policies oriented towards the free market. Nevertheless, implementing higher education change is not an easy task especially at the micro-level. It involves various degree of engagement, decision making and strategic alliances to buy in the staff to make the change a success. Research has shown that change impacts individuals of the organization and vice versa. In all these developments, the call for best practices in leading successful higher education change is greater than ever. This paper presents the findings of a case study of a micro-level change in an Australian University involving the amalgamation of two faculties into one. The aim of this paper is to provide change perspectives from those involved on their experiences and reflections, as well as constructing meaning towards the macro and micro issues of current higher education trends. Framed by a case study research design utilising the constructivist Grounded Theory for data gathering and analysis, 29 people were interviewed selected through the Theoretical Sampling method. This people consist of university executives, academics and administrators from both the former faculties and the change committee. The result of the study reveals several important lessons useful for higher education leaders and change agents, as well as insightful perspectives of the higher education at the micro-level. The paper ends with suggestions for leaders and their role towards leading successful change in today's complex higher education scenario.

Keywords: change, higher education, leadership, qualitative, grounded theory
LIST OF PARTICIPANTS

Australia

Chris Pilgrim
Swinburne University of Technology
Australia
E-mail: cpiilgrim@swin.edu.au

Jon Mason
School of Education
Charles Darwin University, NT
Australia
E-mail: jon.mason@cdu.edu.au

China

Hamish Coates
Tsinghua University
Republic of China
Email: h.coates@unimelb.edu.au

Malaysia

Ahmad Nizam Abdullah
Center for Academic Development
Universiti Putra Malaysia
E-mail: a_nizam@upm.edu.my

Aini Marina Ma’arof
Faculty of Educational Studies
Universiti Putra Malaysia
E-mail: aminarina@upm.edu.my

Alyani Ismail
Center for Academic Development
Universiti Putra Malaysia
E-mail: alyani@upm.edu.my

Amir Syahir Amir Hamzah
Faculty of Biotechnology and Biomolecular Sciences
Universiti Putra Malaysia
E-mail: amirsyahir@upm.edu.my

Anas Mohd Mustafah
Faculty of Engineering
Universiti Putra Malaysia
E-mail: anas_mustafah@upm.edu.my

Anas Salleh
Faculty of Veterinary Medicine
Universiti Putra Malaysia
E-mail: annas@upm.edu.my

Arina Zafirah Zulkaffi
Center for Academic Development
Universiti Putra Malaysia
E-mail: arina_zafirah@upm.edu.my

Aung Myo Oo
Lincoln University College
E-mail: aung@lincoln.edu.my

Aziman Abdullah
Faculty of Computer Systems and Software Engineering
Universiti Malaysia Pahang
E-mail: aziman@ump.edu.my

Azlan Kamari
Center for Academic Development
Universiti Pendidikan Sultan Idris
E-mail: azlan.kamari@fsmt.upsi.edu.my

Azry Mohd Adeny
Center for Academic Development
Universiti Putra Malaysia
E-mail: azryadeny@upm.edu.my

Azura Adam
Center for Academic Development
Universiti Putra Malaysia
E-mail: azuraa@upm.edu.my

Badrul Azhar Md. Sharif
Faculty of Forestry
Universiti Putra Malaysia
E-mail: b_azhar@upm.edu.my

Chan Cheong Jan
Faculty of Human Ecology
Universiti Putra Malaysia
E-mail: chanupm@gmail.com

Che Azurahanim Che Abdullah
Faculty of Science
Universiti Putra Malaysia
E-mail: azurahanim@upm.edu.my
Lailawati Mohd Salleh  
Faculty of Economics and Management  
Universiti Putra Malaysia  
E-mail: lailawati@upm.edu.my

M. Iqbal Saripan  
Office of the Deputy Vice Chancellor  
(Academic and International)  
Universiti Putra Malaysia  
E-mail: iqbal@upm.edu.my

Manisah Othman  
Faculty of Economics and Management  
Universiti Putra Malaysia  
E-mail: manisah@upm.edu.my

Mas Nida Md. Khambari  
Faculty of Educational Studies  
Universiti Putra Malaysia  
E-mail: khamasnida@upm.edu.my

Mass Hareeza Ali@Hamid  
Faculty of Economics and Management  
Universiti Putra Malaysia  
E-mail: mass@upm.edu.my

Mazlina Mazlan  
Faculty of Veterinary Medicine  
Universiti Putra Malaysia  
E-mail: m_mazlina@upm.edu.my

Mohamad Mazzuan Jamaludin  
Center for Academic Development  
Universiti Putra Malaysia  
E-mail: mazzuan@upm.edu.my

Mohamad Termizi Borhan  
Center for Academic Development  
Universiti Pendidikan Sultan Idris  
E-mail: termizi@fsmt.upsi.edu.my

Mohamed Amin Embi  
Centre for Teaching and Learning Technologies  
Universiti Kebangsaan Malaysia  
E-mail: m.amin@ukm.edu.my

Mohd Ezad Hafidz Hafidzuddin  
Centre of Foundation Studies for Agricultural Science  
Universiti Putra Malaysia  
E-mail: ezadhafidz@upm.edu.my

Mohd Fauzi Kamarudin  
Centre for Languages and Human Development  
Universiti Teknikal Malaysia Melaka  
E-mail: mohdfauzi@utem.edu.my

Mohd Johari Mohd Yusof  
Faculty of Design and Architecture  
Universiti Putra Malaysia  
E-mail: m_johari@upm.edu.my

Mohd Kuizwa Mohd Johari  
Academic Leadership Higher Education Leadership Academy (AKEPT)  
E-mail: kuizwa@mohe.gov.my

Mohd Majid Konting  
Center for Academic Development  
Universiti Putra Malaysia  
E-mail: mmk@upm.edu.my

Mohd Noor Hisham Mohd Nadzir  
Faculty of Science,  
Universiti Putra Malaysia  
E-mail: mnhisham@upm.edu.my

Mohd Shamzi Mohamed  
Faculty of Biotechnology and Biomolecular Sciences  
Universiti Putra Malaysia  
E-mail: m_shamzi@upm.edu.my

Mohd Zainal Zamzuri  
Faculty of Food Science and Technology  
Universiti Putra Malaysia  
E-mail: mohdzainal@upm.edu.my

Mohd Zairul Mohd Noor  
Faculty of Design and Architecture  
Universiti Putra Malaysia  
E-mail: m_zairul@upm.edu.my

Muhamad Hafiz Abd Rahim  
Faculty of Food Science and Technology  
Universiti Putra Malaysia  
E-mail: muhdhafiz@upm.edu.my
Sabarina Mohammed Shah  
Faculty of Economics and Management  
Universiti Putra Malaysia  
E-mail: sabarina@upm.edu.my

Sharifah Kartini Said Husain  
Faculty of Science  
Universiti Putra Malaysia  
E-mail: kartini@upm.edu.my

Sharifah Salmah Syed Hussain  
Faculty of Veterinary Medicine  
Universiti Putra Malaysia  
E-mail: ssalmah@upm.edu.my

Shafinah Kamarudin  
Faculty of Agriculture and Food Sciences,  
Universiti Putra Malaysia  
E-mail: shafinah@upm.edu.my

Sharipah Ruzaina Syed Aris  
Curriculum Affairs Unit Division, Academic Affairs  
Universiti Teknologi Mara, Shah Alam  
E-mail: srruzaina@salam.uitm.edu.my

Sidek Ab Aziz  
Faculty of Science  
Universiti Putra Malaysia  
E-mail: sidek@upm.edu.my

Siti Fatimah Mohamad  
Faculty of Food Science and Technology  
Universiti Putra Malaysia  
E-mail: s_fatimah@upm.edu.my

Siti Hamisah Tapsir  
Department of Higher Education  
Ministry of Higher Education Malaysia  
E-mail: sitihamisah@mohe.edu.my

Siti Suri Arshad  
Faculty of Veterinary Medicine  
Universiti Putra Malaysia  
E-mail: suri@upm.edu.my

Sumarni Ismail  
Faculty of Design and Architecture  
Universiti Putra Malaysia  
E-mail: sumarni@upm.edu.my

Suraya Muda  
Center for Academic Development,  
Universiti Putra Malaysia  
E-mail: surayamuda@upm.edu.my

Syafinaz Amin Nordin  
Faculty of Medicine and Health Sciences  
Universiti Putra Malaysia  
E-mail: syafinaz@upm.edu.my

Syahrol Ahmar Ahmad  
Faculty of Accountancy  
Universiti Teknologi MARA Johor  
E-mail: syahrul.ahmar@johor.uitm.edu.my

Syakirah Samsudin  
Center for Academic Development  
Universiti Pendidikan Sultan Idris  
E-mail: syakirah@fsmt.upsi.edu.my

Shukri Mohamed  
Faculty of Forestry  
Universiti Putra Malaysia  
E-mail: shukri@upm.edu.my

Umi Raihana Abd Rahman  
Faculty of Medicine and Health Sciences  
Universiti Putra Malaysia  
E-mail: umiraihana_ar@yahoo.com

Wan Azizun Wan Adnan  
Faculty of Engineering  
Universiti Putra Malaysia  
E-mail: wawa@upm.edu.my

Wan Mastura Shaik Mohamed Mossadeq  
Faculty of Veterinary Medicine  
Universiti Putra Malaysia  
E-mail: wmastura@upm.edu.my

Wan Nur Ibtisam Wan Ismail  
Academic Leadership Higher Education Leadership Academy (AKEPT)  
E-mail: nuribtisam@mohe.gov.my

Wan Zuhainis Saad  
Faculty of Biotechnology and Biomolecular Sciences  
Universiti Putra Malaysia  
E-mail: zuhainis@upm.edu.my

Wong Foong Yee  
Faculty of Economics and Management  
Universiti Putra Malaysia  
E-mail: fywong@upm.edu.my

Wong Su Luan  
Center for Academic Development  
Universiti Putra Malaysia  
E-mail: suluan@upm.edu.my
Yasminani Mohamad  
Center for Academic Development  
Universiti Putra Malaysia  
E-mail: yasminani@upm.edu.my

Zaidi Mat Daud  
Faculty of Economics and Management  
Universiti Putra Malaysia  
E-mail: mrzaidi@upm.edu.my

Zulkarnain Endut  
Centre of Foundation Studies for Agricultural Science  
Universiti Putra Malaysia  
E-mail: zulkarnainendut@upm.edu.my

Nigeria

Abbas Sani Dahiru,  
Federal University Gusau  
Nigeria  
E-mail: abbassanidahiru@yahoo.com

Singapore

Helen Bound  
Institute for Adults Learning (IAL)  
Singapore  
E-mail: helen_bound@ial.edu.sg
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SEAHES2017 Main Committee Members
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Corporate Strategy and Communication Office, UPM
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