Redesigning Assessment For Holistic Learning
CONFERENCE 2017
BOOK OF ABSTRACT
Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017

20th – 21st November 2017

Crystal Crown Hotel,

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Book of Abstract
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FOREWORD

DIRECTOR GENERAL OF HIGHER EDUCATION
DATIN PADUKA IR. DR. SITI HAMISAH TAPSIR

Assalamualaikum and a very good day to all.

It is my great pleasure to welcome all honourable guests and prominent speakers to our first Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017, and all academicians presenting their research here.

In this age of learner-centered education, we as educators must familiarize ourselves with alternative assessment such as portfolios, technology-based assessment and performance-based assessment. These alternative assessments are important as they are used to determine what students can and cannot do, in contrast to what they do or do not know. Such practice of assessment will definitely serve to improve the quality of teaching and learning.

I thank Prof. Dr. Fauza Abdul Ghaffar and her ADeC team for organizing this Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017 and hope the effort will continue towards better methods of assessment which will improve the quality of teaching and learning.

Thank you and wassalam,

*signature*

Siti Hamisah Tapsir
FOREWORD

DEPUTY VICE CHANCELLOR (ACADEMIC & INTERNATIONAL) UNIVERSITY OF MALAYA
DATO' PROF. DR. AWG BULGIBA AWG MAHMUD

Assalamualaikum and greetings.

I would like to bid everyone welcome to all distinguished guests, invited speakers and participants of this 2-day Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017. This conference will feature academicians from various institutions in Malaysia, including our own UM academics who will share their research findings concerning alternative methods of assessment.

This is the first of such conference to be organized by UM’s Academic Enhancement and Leadership Development Centre (ADeC). By the end of this conference, a guidebook on alternative assessment will be published for Ministry of Higher Education Malaysia.

I would like to thank the team in ADeC, headed by Prof. Dr. Fauza Abdul Ghaffar, in making this conference a success. I hope everyone are able to keep moving forward with the spirit we share today for the betterment of our innovative and alternative assessment in higher education.

Best regards,

*signature*

Awg Bulgiba Awg Mahmud
FOREWORD

MINISTRY OF HIGHER EDUCATION
DR. AISHAH ABU BAKAR

Assalamualaikum and greetings.

On behalf of the Department of Higher Education, I am honoured and delighted to welcome you to the first Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017.

The objective of this conference is to bring together researchers and practitioners of innovative and alternative assessment among academics in higher education. It is hoped that all participants would take this opportunity to meet and expand their networking with fellow academicians inside the discipline of assessment. This could present future opportunities for new research collaboration and innovation in teaching and learning.

In the spirit of innovative and alternative assessment, let us strive to share and expand our experiences in this 2-days conference, towards better and holistic assessments.

Thank you and wassalam,

*signature*

Aishah Abu Bakar
PREFACE

DIRECTOR, ACADEMIC ENHANCEMENT AND LEADERSHIP DEVELOPMENT CENTRE (ADeC)
PROF. DR. FAUZA ABDUL GHAFFAR

Assalamualaikum and greetings.

On behalf of the Academic Enhancement and Leadership Development Centre (ADeC), I would like to welcome all professors, researchers, participants, panellists and our keynote speaker. Our sincere appreciation for your presence to our first ever RAHoLE Conference 2017. The conference and compilation of abstracts in this book would not have happened without your enthusiasm as academicians.

We have decided to organize the alternative assessments presented in the conference into five sub-themes, as you could find in this book of abstract. Nevertheless, the purpose of these assessments is the same; to improve learning, inform teaching, help students achieve the highest standards they can and provide meaningful reports in students’ achievement. Different educators might find different types of assessment more effective for their personal styles, their students and the context in which they work, so it is hoped that the compilation of experiences in this book is able to shed some light and spark ideas for educators to improve their practice concerning assessment.

I am sure we can all learn from each other in improving our current practices. On behalf of the team at ADeC, we hope that this first conference will be the start of many to more successful events to catalyse assessment in our country’s teaching and learning culture.

Thank you,

*signature*

Fauza Abdul Ghaffar
PREFACE

CONFERENCE DIRECTOR, REDESIGNING ASSESSMENT FOR HOLISTIC LEARNING (RAHoLE) CONFERENCE 2017

DR. FARRAH DINA YUSOP

Assalamualaikum and greetings.

It is my privilege to welcome all academics and participants to our Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017. Your participation in contributing articles have made this book of abstract possible, as one of the product from RAHoLE conference.

All the abstracts were carefully categorized into five themes to provide readers with ease of access and better understanding on application of alternative and innovative assessment.

It is hoped that the ideas and experiences shared in this book would be able to positively impact our higher education and fellow academics in efforts to re-evaluate the way we perform assessments.

Thank you,

*signature*

Farrah Dina Yusop
ACKNOWLEDGEMENTS

Special thanks to everyone who helped and contributed to making Redesigning Assessment for Holistic Learning (RAHoLE) Conference 2017 a fabulous success!

Deputy Vice Chancellor (Academic & International), University of Malaya

Dr. Aishah Abu Bakar, Director of Academic Development Management Division, Ministry of Higher Education

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KEYNOTE SPEAKER

Redesigning Assessment for Holistic Learning
Dr. Paula Hodgson
The Chinese University of Hong Kong

Synopsis

Education has gone through phases of change, from building basic knowledge for manual work to high levels of competence for managing complex tasks. The biggest change is connectivity in the technology-mediated learning environment, which has allowed learners to learn beyond self-imposed boundaries, including time and space, in the past two decades. The disruptive innovation of massive open online courses started in 2012 provides an unprecedented option in education. Education 4.0 emphasizes innovative knowledge production, and learners act as a major source of tech evolution in the service of producing innovation. This implies that classroom learning should be a time for students to work through the process of design, from unbundling problems to resynthesizing options and possibilities, to creative potential solutions. Nevertheless, the mode of assessment seems predominantly to reinforce memorization, understanding and analysis of knowledge. Innovation and creativity invite learners to learn from mistakes and a mindset of making the impossible possible. Assessment needs to embrace the creative process in which on-going feedback is the way to groom learners to develop the required mindset and competence in education 4.0. This implies that educators need to redesign both assessment methods, assessment tasks relate to authentic real-world problems and maximize alternative formative and summative assessment through technologies.
KEYNOTE FORUM

Alternative Assessment in the Context of Redesigning Higher Education

Moderator: Dr. Adelina Asmawi, University of Malaya

Panellist:
Assoc. Prof. Dr. Joharry Othman, International Islamic University Malaysia
Mr. Mohd Yazid Abdul Hamid, Seek Education Sdn Bhd

Synopsis

As Greek philosopher Heraclitus had noted: the only constant thing in the world is change. Today, the world is facing rapid changes and innovations, especially in technological advancement. Such advancement is globally acknowledged, hence calling for the need to redesign our industry and higher education. As academicians are very familiar with the conventional practices, how ready are we to take part in redesigning our higher education? What changes do we need to make in our assessment in order to embrace changes and overcome challenges that come with new initiative such as iCGPA and Industry 4.0? Students today are different in so many ways, yet they will soon graduate and most will be entering the working world. Hence, it is also important for us to understand the current employers’ expectation towards graduates and latest assessment methods being used to gauge potential employees’ strengths and weaknesses. What are the alternative assessments being employed to address such changes in higher education and industry?
FORUM

Alternative Assessment: Voices from the Field

Moderator: Dr. Adelina Asmawi, University of Malaya

Panellist:
Mr. Zaid Ali Alsagoff, AQL Learning Innovation Consultancy
(Technology Based Assessment)
Prof. Dr. Rohaida Mohd Saat, University of Malaya
(Self & Group Based Assessment)
Assoc. Prof. Dr. Jaafar Jantan, Universiti Teknologi MARA
(Performance Based Assessment)
Prof. Dr. Debra Sim Si Mui, University of Malaya
(Portfolio Based Assessment)

Synopsis

Alternative assessment is usually designed to enable students to take active role and become more involved in their own assessment. Excellent educator should be able to utilize alternative assessments to trigger students' higher-order thinking skills, so they do not only memorize information, but able to assemble them into complex understanding and insight. That sounds very well in theory, but how does it work in practice? The panellist will share their experience on alternative assessments which include: performance-based assessment, portfolio-based assessment, self- and group-based assessment and technology-based assessment.
HOW THIS BOOK IS ORGANIZED

The abstracts in this book are organized into five themes. The themes are:

- Group-based Assessment
- Performance-based Assessment
- Technology-based Assessment
- Portfolio-based Assessment
- Self-Assessment
ABSTRACTS: GROUP-BASED ASSESSMENT

“Formal group assessment tasks typically include assignments or projects and presentations allotted to groups with two or more members.”

Dr Roger Moni, Good Practice Guide for Assessment of Group Tasks
Hybrid Approach in Assessing Future Journalists

Siti Suriani Othman  
Communication Programme, Universiti Sains Islam Malaysia (USIM); suriani@usim.edu.my

Teaching future journalists is challenging mainly because journalism itself is a field currently being contested as either being an academic, or merely a vocational field. Thus, in its teaching and learning process, journalism can be taught as a form of science and/or an art. Furthermore, the emergence of the internet (and now the fourth industrial revolution), has turned journalism into a field that moves rapidly with various enhancement that needs various skills (multi-skilled journalists) to be handled. Thus, equipping future journalists to be efficient for the future is never an easy task. Thus, I argue that journalism education should provide both skills – the science and arts, for the future journalists so they may respond accordingly to such unprecedented transformation. In my teaching, which is showcased in this voster project, I included the assessment methods applied that includes the “hybrid approach” of both hard and soft skills in teaching and learning such as: Academic Poster Presentation, Collaborative Assessment by Seniors, Publication in National and International Newspapers, Organising Journalism-Related Events, Entering Communication-Related Competitions, Organising Talks by Journalists and Showcasing Students’ Work at established Journalism Corner at USIM Library. Based on the assessments conducted, it is clear that they allow students to gain hybrid knowledge—both science and arts as sufficient skills to venture journalism as a career. In all these assessment processes, I also argue, permit students to gain and strengthen religious belief and ethics in managing the assignments. The examples provided in this presentation includes my teaching at USIM, Xiamen University, China and Xiamen University Malaysia (XMUM).
VidCase: An Alternative Assessment Method for the Millennial Students

Noor Liza Adnan¹, Rokiah Muda¹, Nur Raihana Mohd Sallem¹, Wan Karomiah Wan Abdullah², Siti Rokyah Md Zain¹

¹Faculty of Accountancy, UiTM (Terengganu); noorliza@tganu.uitm.edu.my
²Faculty of Computer Science and Mathematics, UiTM (Terengganu); wkaromiah@tganu.uitm.edu.my

This paper outlines an assessment method, named VidCase (Video Case Study), which is Solving a Mystery of a Case Study using a Video Presentation. Basically, it requires a case study that covers the syllabus content and leaves a mystery to be solved. Students are to work in a group of 10 to 12. They need to act and record the solution in a 45-minutes video which is to be presented in front of five jurors to assess each video. Besides the marks earned, winners are also to be awarded based on a few criteria.

Keywords: alternative assessment, case study, video, mystery, solution
Echo Problem in Listening Assessment

Junaidah Md Din¹, Siti Rubaini Mat¹, Siti Shahirah Sulaiman¹, Siti Fazilah Shaik Mohd Noor¹
¹Pusat Tamhidi, Universiti Sains Islam Malaysia; junemddin@yahoo.com

Malaysian University English Test (MUET) has been implemented by the Ministry of Education to prepare tertiary students with the necessary English language skills. These skills are significant not just for the sake of passing the examination but also to train the students with English medium instructions in the classrooms at the tertiary level. On that note, this paper intends to enhance the authentic assessment environment particularly for MUET’s Listening Test preparation, on students’ ability to comprehend a comprehensive audio text by extracting target information accordingly. In this quantitative quasi-experimental study, students were given a listening test at two venues. Venue A was at the designated lecture hall that has bare tiled floor and concrete walls. While, Venue B was at an auditorium that has carpeted floor and soft walls. It was discovered that students perform better for the listening test at the latter venue because it was done in its holistic environment. On that note, this paper discusses on creating a conducive environment for these pre-university students in their activities in reducing the echo effect. In addition, there are several recommendations that are proposed to overcome echo in order to achieve its holistic assessment environment.

Keywords: holistic assessment, listening assessment
Medical Biochemistry: Enhancing Achievement in Learning Outcomes through Self-based and Group-based Assessments

Noor Akmal Shareela Ismail¹, Khaizurin Tajul Ariffin¹, Ekram Alias¹, Tan Jen Kit¹, Mohd Hanafi Ahmad Damanhuri¹, Norwahidah Abdul Karim¹, Goon Jo Aan¹, Zakiah Jubri @ Mohd Zubri¹, Suzana Makpol¹, Yasmin Anum Mohd Yusof¹

¹Biochemistry Department, Faculty of Medicine, Universiti Kebangsaan Malaysia; nasismail@ukm.edu.my

Conventional teaching and learning method in Medical Biochemistry was reported to be less effective in achieving its objectives, therefore interactive learning serves as a nuanced approach to enhance the learning outcomes among students. In relevance to Education 4.0, students are guided to determine their self-learning process by utilizing digital technologies. In our current practice, we tested students’ comprehension towards Medical Biochemistry through various online platforms such as: online quizzes (Kahoot! and iFolio), OSPE-based practical session, team-based learning, Educreations and Padlet. Subsequently, the learning outcomes were holistically assessed through students’ formative performance (group-based assessment) and reflection (self-based assessment).

Keywords: digital technologies, interactive learning, learning outcomes, online platform, formative assessment
JAZZ UP your ESL Classroom with AR (Augmented Reality)

Agelyia a/p Murugan
AIMST University Malaysia; agelyia@aimst.edu.my

As an English Language educator, I was assigned to teach English for Professional Purposes (EPP) to a group of undergraduate students which consist of 150 students from Faculty of Business Management, Faculty of Applied Sciences, Faculty of Engineering and Faculty of Dentistry. EPP provide students the opportunity to refine written and communication skills in English which is the crucial needs required by potential employers. There were 4 on-going assessments given in this course apart from final examination. One of the assessment was to present content knowledge by using poster. Since the students are from the 1st cohort of Generation Z, I adapted a technique to engage the students to do their poster presentation by integrating technological tools. They were given some choices to use any Augmented Reality (AR) applications and also DIY Hologram to make the presentation more interactive and engaging. Lecturers from all the faculties were invited to come and view the students’ poster presentation, which was held at the university hall foyer. This presentation had sparked a lot of questions and answers between the lecturers and students and has given a platform for the students to present in a more authentic and spontaneous way without anxiety.

Keywords: English for Professional Purposes (EPP), augmented reality (AR), DIY Hologram, poster presentation, communication skills.
Gamification of Education: Assessment on Knowledge and Behaviour through Socrative

Nurul Atira Khairul Anuar Holder\textsuperscript{1}, Foong Chan Choong\textsuperscript{1}, Nik Nadia Nik Nazri\textsuperscript{1}

\textsuperscript{1}Medical Education & Research Development Unit (MERDU), Faculty of Medicine, University of Malaya; nurul_atira@um.edu.my

We realized that paper-based assessments are unable to provide instant assessment results to enhance student learning when we implemented peer tutoring sessions. Later, we used Socrative as an online platform for students to answer and discuss the questions. Students received instant results and used real time item analysis in facilitating the discussion (e.g. identifying the questions that the majority answered wrongly and discussed the reasons why this was so). Students also used Socrative to give anonymous feedback to each other on strengths and ways to improve for the next session (e.g. “I hope all students will be punctual”).

Keywords: peer tutoring, medical education, struggling students, e-learning
Using Peer Assessments for Problem-Based Learning to Assess Students’ Professionalism

Chan Choong Foong¹, Zurine Nor Anuar¹, Che Rafidah Aziz¹, Nurul Atira Khairul Anhar Holder¹, Jamuna Vadivelu¹

¹Medical Education and Research Development Unit (MERDU), Faculty of Medicine, University Malaya; foongchanchoong@um.edu.my

For the past few years, the Faculty of Medicine, University of Malaya has been using peer assessments to assess professionalism of its medical students. Every week, a group of seven (or eight) students work together in solving a problem-based learning (PBL) case. Prolonged interactions and observations enhance validity and reliability of the students’ judgment. Anonymous assessment results are given to respective students in promoting self-reflection. Positive and negative reinforcements are also used to enhance effectiveness of peer assessments on student professionalism. The assessment is conducted twice in an academic year.

Keywords: medical student, peer assessment, problem based learning, small group, student professionalism
Collaborative Assessment Survey: A Measure of Group Teamwork

Vinothini Vasodavan¹, Dorothy DeWitt¹, Norlida Alias²

¹Faculty of Education, University Malaya; vino1905@gmail.com

In order to explore students’ collaborative skills, an instrument to measure team collaboration was designed. The assessment was developed based on five-point Likert scale with total of 29 items were divided into seven components; member characteristics, process and structure, environment, communication, purpose, process, and resources. The assessment was administered upon accomplishment of a collaborative group task using different type of collaborative tools such as discussion forum and wikis.

Keywords: collaborative tools, 21st century teaching, collaborative learning, teamwork
Group-Based Assessment: Using Multimedia Presentation to Promote Collaborative e-Learning

Donnie Adams¹, Humamuddin Abu Samah¹, Syafizza Norida A. Samat²

¹Faculty of Education, University of Malaya; donnieadams@um.edu.my

Assessment for holistic learning is a prominent issue in higher education today. The authors propose a new approach to assessment—group-based assessment (GBA), a didactical model consisting of eight steps that integrates multimedia presentation with peer assessment to foster collaborative e-learning. In this approach, students are active participants in the assessment process which includes in-class group learning, peer assessment, and peer and instructor feedback. The proposed didactical model fosters communication and collaboration among students, encourage creativity, motivation, and dynamism of the e-learning process for both lecturers and students. In addition, guidelines for implementing GBA are provided.

Keywords: group-based assessment, collaborative e-learning, peer assessment, multimedia resources
A Pilot Study: Soft Skills Assessment on Communication Skills and Teamwork among Computer Science Students

Unaizah Obaidellah¹, Mahmoud Danaee¹, Nabil Makarim¹, Raja Jamilah Raja Yusof¹, Ang Tan Fong¹

¹Faculty of Computer Science & Information Technology, University of Malaya; unaizah@um.edu.my

²Academic Enhancement and Leadership Development Centre (ADEC), University of Malaya; mdanaee@um.edu.my

This work proposes a quantitative and qualitative method of evaluating undergraduate computer science students on the Fundamental of Programming course based on communication skills and teamwork. Six groups of students collaboratively (within group members) and competitively (between group members) completed a series of activities over five weeks during class. Assessments included student’s peer review and instructors’ evaluation at a group level. Our observation indicated that the national’s iCGPA rubric learning outcomes assessment guide needs further evaluation.

Keywords: communication skills, computer programming, group-based assessment, team work

Acknowledgements: The work is funded by the UM-LiTeR Grant 2017(RU008R-2017) of the Academic Enhancement and Leadership Development Centre (ADEC), University of Malaya
Holistic Assessment—An Idea from the WOU Experience

Jasmine Selvarani Emmanuel¹, Chng Lay Kee¹, Michelle Loh Woon Har¹

¹Wawasan Open University; jasmineemmanuel@wou.edu.my

The holistic assessment method used was the organization of a Malaysian Food and Cultural Fest to assess part of the learning outcomes of the Cross-Cultural Intelligence course and the Comparative Religions course. The sixty students in these courses had little knowledge of each other’s cultures and religions and this was a hands-on learning experience for them. The project also exposed them to a broader and deeper set of skills, knowledge, and habits of success than those they developed through the traditional focus on academic content knowledge which can enhance their graduate employability and prepare them for the challenges of their work life.

Keywords: culture, cross-cultural intelligence, holistic assessment, religions
Manifesting the Understanding of ‘Integration’: Assessing Biomechatronics through Group Exhibition

Nur Azah Hamzaid

Department of Biomedical Engineering, Faculty of Engineering, University of Malaya; azah.hamzaid@um.edu.my

Biomechatronics is an integration of multiple engineering domains, including electronics engineering, mechanical engineering, control engineering and information technology as well as human biology, into a single application-based specialization. To deliver the knowledge and understanding of this complex inter-relation between the multiple fields, and to make the students realize the inter-connection of the different domains to make a single useful solution, is not easy to achieve in a single semester course. Adopting the ‘Assessment for Learning’ paradigm, this course introduced an exhibition-based group project in the first week of the semester. Cooperative learning is promoted through individual responsibilities in the group in order to come up with a solution prototype. Throughout the semester, as the knowledge, principles and ideas were delivered through weekly lectures, they would already have the group assessment in mind thus making the learning meaningful and automatically practical.

Keywords: group exhibition, prototype, role play
Assessment of Cognitive Level in Database Subject using Problem-based Learning Approach

Noor Maizura Mohamad Noor¹, Rosmayati Mohemad¹, Faizah Alop¹
¹School of Informatics and Applied Mathematics, Universiti Malaysia Terengganu; maizura@umt.edu.my

The advancement of technology has led to the biggest challenge in coping up with current generation of students’ learning style. Problem-based learning (PBL) is widely being used as teaching and learning approach in various different fields such as medical, engineering and computer science especially in database subject. The database is a challenging subject among students because it needs an abstract understanding of several theories, concepts and technical processes. Learning process using traditional lecture is not adequate to produce graduate with both theory and technical skills. Students taught using PBL will retain more knowledge and demonstrate greater critical thinking skill. In addition, assessment integrates seamlessly with PBL. The correct assessment used will ensure that students are deriving the maximum benefits from PBL. Oral presentation and quizzes are the types of assessment, in which have been used in PBL in order to provide students an opportunity to practice their communication skills while presenting findings to their peers and groups, as well as to evaluate their cognitive level.

Keywords: assessment, database, practical competency, problem-based learning and rubric
ABSTRACTS:
PERFORMANCE-BASED ASSESSMENT

“In its simplest terms, a performance assessment is one which requires students to demonstrate that they have mastered specific skills and competencies by performing or producing something.”

Annenberg Learner
Implementation of Practical Work in Engineering Study

Azita Laily Yusof¹, Norsuzila Ya’acob¹, Ainnur Eiza Azhar¹
¹Faculty of Electrical Engineering, Universiti Teknologi MARA (UiTM); laily012001@yahoo.com.my

One of the important professional skills in engineering study is a development of students’ practical work. Practical work can be embedded in curriculum structure in order to expose students with industry experience after their graduation. Practical work can enhance students’ knowledge in relevant engineering area in order to prepare them to become holistic engineers. In the previous education study, implementation on practical skills did not increase attention as compared to knowledge domain. Thus, this research provides a method of practical work in the teaching and learning process in Mobile and Satellite Communication Networks course. The drive test measurement as being used by telecommunication engineer was conducted to monitor real cellular activities in order to expose students with practical skills. To fulfil this work, the students were divided into several groups and one mini project was assigned to each group. The students needed to conduct drive test measurement to analyse the actual data related to signal quality and finally complete their written report. Practical skills with teamwork are measured as criteria in the assessment.

**Keywords:** drive test measurement; mini project; practical work

**Acknowledgements:** This paper is part of research work that is supported by Faculty of Electrical Engineering, UiTM Shah Alam.
I-DE-AR (Innovative Differential Equation using Augmented Reality)

Nor Adila Ahmad¹, Siti Janariah Jantan¹, Azia Idayu Awang²

¹Politeknik Sultan Azlan Shah; dylahmad89@gmail.com

I-DE-AR is a Teaching and Learning (T&L) innovation developed to facilitate the process of online learning in Ordinary Differential Equation (ODE). By using I-DE-AR, the process of T&L will be simplified and students will be able to acquire previous knowledge in an instant. I-DE-AR has better learning effect for student-centered learning compared to conventional learning. I-DE-AR provides more benefits in integrating teaching and enhances students’ learning performance and motivation. The assessment done in order to justify the effectiveness of I-DE-AR is by using summative evaluation, in which students will be evaluated using final exam at the end of the semester and performance-based assessment will be applied using online quiz after the application of I-DE-AR.

Keywords: ODE (ordinary differential equation), augmented reality
Technology-enhanced Assessment Module (TeAM) For Vocational Subject For Secondary School Level: A Supplementary Authentic-Based Assessment Module

Nithiananthini a/p Kumarawel¹, Farrah Dina Yusop²

¹ Faculty of Education, Universiti Malaya; nithia.k@siswa.um.edu.my
² Faculty of Education, Universiti Malaya; farah@um.edu.my

TeAM is a module that was developed as a technological supplementary competency assessment module apart from the current assessment method in Multimedia Production subject. This is a vocational subject that was implemented as an elective in the local government school. Currently, student’s performance is evaluated in two methods: Test-based and Modular-based Competency Assessment. However, student’s competency is assessed based on their skills and knowledge based on what they have learnt from the module. The current assessment module does not measure students’ real-world or authentic problem-solving skills and other industrial-based skills such as technology, social interaction and communication skills which are need by 21st century global workers.

Keywords: supplementary assessment, technology, vocational, project-based learning, authentic/real-world problem

Acknowledgements: Part of this project is funded by the University of Malaya UMLiter Grant 2017 (Grant no. RU008T-2017).
A System for Managing and Accounting for Learning Outcomes

David Yoong

Faculty of Languages and Linguistics, University of Malaya; davidyoong@um.edu.my

A comprehensive system of thinking and practice called 'Learning Outcomes Operationalisation Practices' (LOOP) was created to aid academics manage and account for all learning outcomes systematically and clearly. Among others, LOOP enables one to i) determine methods of assessments, ii) conceptualise curriculum design based on assessment methods, iii) register complex learning areas, and iv) identify problematic areas inhibiting students' learning. LOOP complies with the MQA requirements. Leveraging on available software, LOOP saves time by also automating otherwise labour-intensive manual procedures and enables team assessments for large numbers of students.

Keywords: learning outcomes management, curriculum design, curriculum audit, automated methods
Authentic Service-learning as a Mean to Nurture Civic-minded Professionals

Farrah Dina Yusop

Department of Curriculum and Instructional Technology, Faculty of Education, University of Malaya; farah@um.edu.my

This paper describes the application of authentic service-learning approach embedded in a series of postgraduate instructional design and technology (IDT) course in a Malaysian research-intensive university. The design of the course followed the Civic-Minded Instructional Designers (CMID) framework that emphasizes on educating students’ intellectual, skills and attitudes to be civic-minded professionals.

Keywords: Civic-Minded Instructional Designers (CMID), instructional design, service-learning, community-based learning

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Assessment of Practical Competency in Food Microbiology Course

Amiza Mat Amin¹, Tuan Zainazor Tuan Chilek², Nor Hayati Ibrahim¹

School of Food Science and Technology, Universiti Malaysia Terengganu; ama@umt.edu.my

Assessment of a practical test in food microbiology course was designed to ensure that the students are competent in performing basic food microbiological techniques including using a compound microscope and performing aseptic techniques. Once the tasks or questions for practical test were generated, a rubric was designed to assess the students’ performance for each task. The students’ practical competency for each task was assessed by the lecturer or his assistants by observation in a designated station.

Keywords: food microbiology, practical competency, assessment, rubric
Assessing Core Manipulative Skills in a Biochemistry Lab Practical Test

Mariam Taib, Hazlina Ahamad Zakeri, Azila Adnan, Muhamad Fairus Noor Hassim, Aziz Ahmad

School of Fundamental Sciences, Universiti Malaysia Terengganu; mariamt@umt.edu.my

Biochemistry is one of the basic subjects in a Biological Science programme that should provide sufficient background knowledge as well as technical skills/competency in Biology. These skills are particularly important when the students embark on their Final Year Project. Basic skills such as preparation of reagents, serial dilutions and constructing a standard curve are seen as the most important in Biochemistry and hence, students’ competency in these should be assessed. Biochemistry lab practical test consists of four questions where one question addresses Psychomotor domain Level 2 (Guided Response) while the other three questions address Level 3 (Mechanism). In the one-hour test, students were given 15 minutes to complete each task. Technical skill-based assessment was particularly done on task no. 2 (serial dilution) to see students’ execution of task, while assessment on the other three questions was based on the production of results by the students. The assessment rubric comprises two sub-attributes with specific weightage, on a scale of 1-5 as scores.

Keywords: biochemistry lab test, rubric, skill-based
Simplified Thematic Engagement of Professionalism Scale (STEPS): A Performance Based Assessment to Nurture Professionalism Growth in Clinical Year Students

Nurhanis Syazni Roslan¹, Muhamad Saiful Bahri², Ahmad Fuad Abdul Rahim¹

¹Department of Medical Education, Universiti Sains Malaysia; nurhanis_syazni@usm.my

Although regarded as core competencies, professionalism assessment remains a huge challenge in most medical schools. Known barriers include being multi-dimensional constructs, feasibility issues and lacking of feedback practice. In the pursuit of valid holistic assessment, School of Medical Sciences, USM has started a performance based assessment to complement the previous cognitive assessment on professionalism. Simplified Thematic Engagement of Professionalism Scale (STEPS) utilized ‘snapshot concepts’ where students were assessed in multiple short encounters in workplace context by multiple assessors. This assessment which has been running for 1 year has shown good validity and reliability for summative aspects. It was also designed to serve as formative aspects to nurture professionalism growth in students.

Keywords: Professionalism assessment, workplace based assessment, hybrid assessment, Malaysia medical professionalism
Semi-Reality Simulated Patient (SRSP) Assessment Technique in Enhancing Students’ Learning Experience for Medical Nutrition Therapy for Picky-Eater Children with Special Health Care Needs

Nur Hana Hamzaid1, Roslee Rajikan1, Suhaina Sulaiman1, Zahara Abdul Manaf1

1Dietetics Programme, Faculty of Health Sciences, The National University of Malaysia (UKM); hanahamzaid@ukm.edu.my

The Medical Nutrition Therapy course covers principles and dietary management of diseases with consideration of pathophysiology and biochemical changes and medications in several disease conditions including special need children. Part of the course component is therapeutic diets practical session. The semi-reality simulated patient assessment was created to enhance students’ performance on case study relating to children. Children aged 3 to 7 years were invited to participate in the food tasting and they were to give their opinion on the food presented. Students were to practise presenting their cooked food to the children in a professional manner.

Keywords: authentic assessment, medical nutrition therapy, children
SOLO-Based Task to Diagnose Adult Learners’ Statistical Literacy in the 21st Century

Lim Hooi Lian¹, Wun Thiam Yew¹, Chew Cheng Meng¹

¹School of Educational Studies, Universiti Sains Malaysia; hlim@usm.my

The recent previous studies revealed that statistical literacy level of Malaysian adult learners generally is still unsatisfied. Hence, the needs of developing a sound diagnostic tool to systematically identify adult learners’ weaknesses and strengths are crucial. SOLO-based task as a powerful diagnostic tool is proposed for this purpose. It categorizes the structure response with increasing level of abstraction. It does not only provide useful information that enables the educators and adult learners to have a better understanding of their statistical literacy in terms of the point analysis, trend analysis and message analysis, but also lead them to detect easily the strengths and weaknesses.

**Keywords:** SOLO-based task; statistical literacy; diagnostic tool
ABSTRACTS:
TECHNOLOGY-BASED ASSESSMENT

“Students spend considerable time in the online world. Through online devices, it is possible to increase the range of skills and concepts assessed, and the manner and frequency by which these evaluations are undertaken.”

Darrell M. West, 2011
The Assessment of E-Project-based Learning in Developing Skill-based Courses for Massive Online Open Course: "MOOC in MOOC" Technique

Anuar Mohd Yusof

Faculty of Creative Technology and Heritage, Universiti Malaysia Kelantan; anuarmy@umk.edu.my

Implementation of an assessment tool which was adapted from E-Project-based Learning (eProjBL) to assess the students’ capability in four themes such as Character, Teamwork, Artefacts, and Presentation. Each theme consists of sub-themes to help the educator to reuse the item of assessments for their course. The assessment was applied in blended learning environments which integrates skill-based courses in a MOOC. Technique “MOOC in MOOC” was also applied to integrate between theory-based courses and skill-based courses.

Keywords: E-Project-based Learning, skill-based Course, blended Learning, Web 2.0 tools
Easy Marking with “ForAllRubrics”

Annafatmawaty Ismail¹, Norizwana Mohd Johari², Salinda Rosli²

¹Ungku Omar Polytechnic; annafatmawaty@gmail.com
²Sultan Haji Ahmad Shah Polytechnic

In teaching and learning, rubric is among the tools that can be used to evaluate students’ presentation and measure students’ performance. However, with the growing number of students in most classrooms in polytechnics and limited time factor, conducting an effective assessment using the traditional rubric is challenging. To address this issue, easy marking with ForAllRubrics was introduced. It is a tool that helps educators evaluate students’ performance and record scores using desktops, laptops, smartphones or tablets in faster and interesting way. In fact, it could save time, paperless and because of its core features that can provide real-time feedback, it can help to improve students’ learning.

Keywords: rubric, online assessment, marking, student performance
E-Catalogue

Nafisah Harun¹, Kaliyamah A/P Raman¹, Darni Darmin¹

¹Politeknik Sultan Azlan Shah; nafisasaharun@gmail.com

This innovative assessment creates an e-catalogue by using augmented reality application. The main objective of this assessment is students are able to publish an e-catalogue of multimedia products using augmented reality applications from Web 2.0 application (Aurasma Studio). The method to assess this innovative assessment is technology-based assessment. Here, students were required to submit their assessment via Web 2.0 (Blendspace) and send their link/QR code of e-catalogue via email. The Web 2.0 applications that have been used for the assessment are Aurasma Studio and Blendspace. The assessment was then assessed by lecturer through another Web 2.0 application (Padlet) which includes discussion and suggestions.

Keywords: technology-based assessment, Aurasma Studio, Blendspace, Padlet
Gamification is applying the science and psychology of gaming in a non-game context to motivate and reward our learners to perform certain desired behaviors. This study used the concept of gamification to complete learners’ project from (i) proposal, (ii) storyline, (iii) storyboard, (iv) video drafts and summarize them into a completed video with poster and oral presentations to be competed in the EduTechnovation Day.

**Keywords:** presentation-rubric, poster-rubric, video-rubric, story-board, reflection
Redesigning Formative Assessments for Land Law using AR

Puteri Sofia Amiruddin

Taylor’s University Lakeside Campus; puterisofia.amiruddin@taylors.edu.my

Land Law is a module that is very challenging. The assessments for Land Law are conventional, which includes oral presentation, assignment and examination. The answers given by the students during presentation, coursework or in the examination reflects that the students are comfortable in memorizing notes and reiterating the law. A new style of formative assessment was adopted namely the use of augmented reality (AR) in transforming students’ mindset from ‘waiting to be spoon-fed’ to ‘looking forward to the assessment.’ This innovation seeks to reveal that formative assessment for Land Law via AR can stimulate the students’ thinking beyond superficial level.

**Keywords:** augmented reality, formative assessment, new style of assessment, stimulate thinking
QR Code MLC (QR Code Manual Laboratory Card)

Hisyamsani Idris¹, Normawati Abdul Rahman¹, Mohd Effendi@Ewan Mohd Matore²

¹Jabatan Matematik, Sains & Komputer, Politeknik Sultan Azlan Shah; hisyamsani@psas.edu.my
²Fakulti Pendidikan, Universiti Kebangsaan Malaysia; effendi@ukm.edu.my

The QR Code MLC was purposely invented for improving the conventional style of manual lab sheet as continuous assessment for the engineering science course DBS 1012 in polytechnics. This incorporates the latest technology in teaching approach (m-learning) that encourage students to actively participate during laboratory work session. The learning materials embedded in QR codes followed the sequence of laboratory process step by step all in one sheet. The innovation enables a fast, suitable, effective, and user-friendly mode for student to access and utilise mobile learning in conducting laboratory work using QR Code.

Keywords: QR Code MLC, laboratory work, m-learning, polytechnics
MyFIGo - My Fun and Interesting Google Classroom

Roziela Mohamed Sharib¹, Nor Afifah Mohd Ramzi², Siti Noor Othman²

¹Politeknik Sultan Azlan Shah; roziela.sharib@gmail.com

MyFIGo is an integrated application that utilize Google Classroom as the main platform. Educators can customize MyFIGo by using as many tools as possible to create an interesting, fun and beneficial classroom in one go. The assessment method was done by using the formative approach whereby quiz, test, and theoretical exercises were done and graded online. The assessment was developed using various Web 2.0 tools. With this approach, it allows educators and students to reflect and create a continuous improvement plan from any unsatisfactory result.

Keywords: E-learning, formative assessment, Web 2.0 tools, Google Classroom
Implementation of Group Based Assessment in Project Based Learning for Hubungan Etnik Module at Taylor’s University

Serit anak Banyan¹, Haniffa Beevi Abdul Jaleel², Nur Ainif Omar¹

¹Taylor’s University Lakeside Campus

Hubungan Etnik module focuses on the study of the basic concepts of ethics relations. It examines the development of ethnic relations in Malaysia with the aim of creating a society according to Malaysian culture and inter-regions relations as well as taking into account the global challenges in ethnic relations. The implementation of group-based assessment in this module is focused on social learning and student-centered learning. By applying this method of assessment, learning happens naturally via experiences and we managed to assess our students in a holistic way.

Keywords: integrated assessments, summative, Ethnic Relations
Development of Technology-Enhanced Three-Tier Diagnostic Test to Assess Pre-University Students’ Understanding Of Scientific Concepts

Rohaida Mohd Saat1, Ahmad Rafi Mohamed Eshaq2, Hidayah Mohd Fadzil1, Farrah Dina Yusop1, Zahrah Ahmad3, Rohayatimah Muhammad Tahir3, Izlina Supa’at2, Faridah Bee Mohamed Ibrahim3, Faridah Sonsudin3, Noorziana Salehuddin3, Nor Azlina Abd. Aziz2, Kamaludin A Rashid3, Kamariah Haron3, Koo Ah Choo3, Faisal Athar Mohd Fadzil2, Natalya Rudina Shamsuar2, Nazirah Mat Sin3, Badrolhisham Hashim2, Khairulanuar Samsudin2

1Faculty of Education, University of Malaya; rohaida@um.edu.my
2Faculty of Creative Multimedia, Multimedia University; rafi@mmu.edu.my
3Center of Foundation in Science, University of Malaya

This study involves the development of an online three-tier diagnostic instrument for pre-university students related to selected science concepts namely cellular respiration, waves and electrochemistry. Three-tier tests are used as assessment tools for lecturers to determine students’ alternative conceptions related to the selected science concepts in biology, chemistry and physical science and their understanding about the concepts. The instrument was developed in five phases: construction of items, pilot study, validation of instrument, transforming the instrument into an online assessment tool, and the administration of the Online Diagnostic Tool (ODiT). The ODiT assessment consists of three tiers: answer and reasoning tiers to measure “content knowledge” and “explanatory knowledge” respectively, and a third tier that measures the level of confidence of pre-university students. Analysis of the students’ responses demonstrated acceptable reliability and validity of the instrument.

Keywords: alternative conception; online diagnostic tool; three-tier diagnostic test
Aplikasi HOT Guru Maya: MOOC as a delivery platform and holistic assessment

Raja Maznah Raja Hussain¹, Aizan Yaacob²

¹Sultan Qaboos University; rajamaznah@squ.edu.om
²School of Education and Modern Languages, Universiti Utara Malaysia; aizan904@uum.edu.my

This paper presents an investigation on holistic assessment using MOOC affordances among postgraduate students at one of the public universities. In this study, students were required to design a MOOC project known as ‘Aplikasi HOT Guru Maya’ and they were given autonomy to design, implement and assess the quality of the project. The progress was monitored holistically through reflection, progress report, as well as online and face-to-face discussions. The findings indicated that when students were given autonomy for their own learning, they learned to become self-directed learners as they worked collaboratively towards the success of the project.

Keywords: MOOC, collaborative learning, learner autonomy, holistic assessment, reflection
Assessment-for-Learning via WhatsApp: A Multimodal and Social Format for Formative Assessment of Student Research Projects and Drafts

Amira Firdaus

Department of Media Studies, Faculty of Arts & Social Sciences, University of Malaya; amira.firdaus@gmail.com

This presentation features my supervisory practice of conducting formative assessment of research students’ projects and thesis drafts, using a social media and texting application, in particular WhatsApp. In this presentation, I describe how my students submit their drafts for me to assess and comment upon via WhatsApp. I also discuss how WhatsApp’s multimodal and archival qualities support assessment-for-learning and embraces ideals of “just-in-time” and “byte/bite-sized” assessment. A challenge in using WhatsApp for learning and assessment is the amount of time it takes to communicate via text and the highly distracting quality of new WhatsApp messages.

Keywords: assessment-for-Learning (AfL), formative assessment, bite-sized assessment, just-in-time feedback, multimodal feedback
Reflection in a Blog: Scaffolding to Formative and Summative Assessment

Rosseni Din¹, Nabilah Othman¹, Mohd Khalid Mohamad Nasir⁰, Umi Azmah Nasran², Fariza Khalid¹, Aidah Abdul Karim²

¹Faculty of Education, Universiti Kebangsaan Malaysia; rosseni@ukm.edu.my
²Institute of Fuel Cell, Universiti Kebangsaan Malaysia; umi.h@ukm.edu.my

Reflections are thoughts or opinions that come to you while you are reflecting. In Educational Technology course, students do weekly reflection as a scaffolding process on a blog as an alternative assessment method. At the same time the blog in which the reflections are done becomes an e-portfolio for the student.

Keywords: scaffolding, reflection, e-portfolio, blog
The Effectiveness of eAssessments to Encourage Learning among the Gen Z Students in an MPU Class

Teh Ya Yee¹, Viloshini Baskaran¹

¹Sunway College Kuala Lumpur; yayeet@sunway.edu.my

An action research was carried out to test the implications of using an eAssessment format for student learning. The eAssessment format was carried out over a series of lessons in the Entrepreneurial Skills (ES) class, a MOHE compulsory general studies subject. Participants of this action research are second and third year students of the Bachelor of Business—Victoria University Twinning Programme at Sunway College, who took this subject in 2017 as a programme requirement. Having identified the different learning needs of the Generation Z students, this teaching approach of the eAssessment format was used as an initiative to promote interactive and effective learning for more rewarding learning outcomes.

Keywords: eAssessments, flexible learning, Generation Z learners
ABSTRACTS:
PORTFOLIO-BASED ASSESSMENT

“Portfolio assessment allows for evaluation of student achievement through a repository of student-created artifacts that are gathered over an extended period of time.”

The State Educational Technology Directors Association (SETDA), 2008
Patchwork: An Assessment FOR Learning

Angela Rumina Leo

Faculty of Education & Social Sciences, Management & Science University; angelarumina@gmail.com

The “Patchwork” is a form of innovative assessment for learning; in line with the positive shift towards holistic learning in the academic arena, which thrives to cater to the demands of the increasingly volatile, uncertain, complex, and ambiguous world. This incredible emancipatory assessment draws attention on experiential learning where inclusivity and student-ownership within the real-world context hail as the central focus in ensuring the occurrence of deep learning by roping in continuous reflection and feedback practices through self and peer assessments.

Keywords: continuous reflection, deep learning, feedback, inclusivity, student-ownership
The Implementation of E-Portfolio Assessment in Higher Education Institutions: From Curator to Creator

Syamsul Nor Azlan Mohamad, Sharipah Ruzaina Syed Aris, Wan Aida Wan Yahaya, Wan Abdul Rahim Wan Isa, Jurina Jaafar, Noraini Seman

1Universiti Teknologi MARA; Syams9211@salam.uitm.edu.my

Since the 1990s, e-Portfolios have been used gradually and significantly in higher education institutions. Two reasons why e-Portfolio has been chosen is because of the constructive approach to education which emphasizes learning by experience and the potential of computer technology in education to support the facilitator and learner. Meeus, W., Questier, F., & Derks (2006) defined a portfolio as a pieces of artwork collection as a method for demonstrating or showing a person’s best work. The learners have kept portfolios for a certain time and period with the intent to exhibit the efforts, work experience, and life achievement or evidences (Barrett, 2007; Rodriguez-Donaire & Amante Garcia, 2011; Rogers, 2003; Zheng, Wang, Liu, & Zhao, 2009). However, Barrett (2007) went further in defining that portfolio should prioritize on the learning and reflection to enable learners to exchange the idea and feedback (Lorenzo, G., & Ittelson, 2005). Hence, with the help of e-Portfolio as an innovation of instructional tool, facilitator is able to evaluate learners’ reflection to develop higher order thinking skills (Clark, J.E. and Eynon, 2009). As to conclude, e-Portfolio is a collection of authentic and dynamic (Mergendoller & Thomas, 2001) documentation of a learner’s progress which includes learning, assessment and reflection (Moon, J. A., 2004; R.C. Sharma and Mishra, 2006; Li & Wang, 2010) to support formal, informal and non-formal learning (Balaban, E. Mu, 2012) anywhere and anytime (Gardner, 2011).

Keywords: project-based, e-Portfolio assessment, authentic assessment
An Alternative Way in Assessing Portfolios Based on Saaty’s Analytic Hierarchy Process (AHP)

Sheila Cheng¹, Heng Loke Siow¹

¹Asia e University; sheila.cheng@aeu.edu.my

Among the popular ways to assess an experiential portfolio are rubric, weightage and scores. Here, we would like to propose an alternative way in assessing portfolio through a qualitative approach. It is adopted and adapted from Saaty’s (1980 & 1990) analytic hierarchy process (AHP) approach. Of late, AHP has been extensively studied and refined (Mathivathanan, Govinda, & Haq (2017), Deng (2017), Mir & Padma (2017)). In this study, the standard nine-point scale of the pairwise comparison in AHP was adopted and extended to a ten-point scale to evaluate a candidate’s experiential portfolio against the course learning outcomes (CLOs). The experiential portfolio consisted of formal, informal and non-formal learning.

Keywords: portfolio assessment, informal learning, non-formal learning, qualitative approach
Multi-dimensional Assessment Design for Building Pathology Undergraduate Course

Zahiruddin Fitri Abu Hassan

Department of Building Surveying, Faculty of Built Environment, University of Malaya; zahiruddin@um.edu.my

Building pathology is the study of defects in building. Prior to the building pathology course, students have undertaken courses in building construction technology and also building design. These courses help prepare the students to understand this subject better. Learning building pathology builds upon this knowledge and augments it with the understanding of interaction between the building material and the environment they are situated in and how this induces degradation. As these students will graduate as building professionals, they also have to demonstrate their competency and confidence in communicating the subject with their clients. Therefore, assessment of learning is done to reflect these skills that they are developing in preparation to be a building professional. Due to the need to view the defect from a multi-dimensional approach, learning and assessment have to be varied to enable the learning attained by the student to be showcased as multi-dimensional too, reflecting on the journey that they have undertaken throughout the course. Confidence of the students in investigating and interpreting signs of defects grows with each passing level.

Keywords: video portfolio, game creation, fieldwork
ABSTRACTS:
SELF ASSESSMENT

“Self-assessment is a process of formative assessment during which students reflect on and evaluate the quality of their work and their learning, judge the degree to which they reflect explicitly stated goals or criteria, identify strengths and weaknesses in their work, and revise accordingly.”

Andrade & Du, 2007
Cartoon Stripes: Can They Be Used as Assessment?

Renuka V. Sathasivam

Department of Mathematics and Science Education, Faculty of Education, University Malaya; renukasivam@um.edu.my

Students were given a group assignment where they had to choose a learning theorist of their choice and relate his/her theory to student learning. They had to present their findings using self-designed cartoon stripes. Cartoon stripes can promote engagement and enhance communicative competences. Peer assessment was also conducted where selected groups were asked to co-assess with the lecturer. The peer assessors were asked to assess the cartoon stripe presentations via a rubric. Three assessment processes occurred in this assignment: the preparation of high quality task, soft skills acquisition among students and the implementation of peer assessment.

Keywords: peer assessment, authentic assessment, cartoon stripes
An Adaptive Self-Assessment Approach for Engaging Massive Open Online Course (MOOC) Learning

Hasmaini Hashim¹, Sazilah Salam², Siti Nurul Mahfuzah Mohamad³

¹Faculty of Information and Communications Technology, Universiti Teknikal Malaysia Melaka; hasmainie76@gmail.com

Massive Open Online Course (MOOC) provides an effective learning platform with various high quality educational materials accessible to learners from all over the world. However, there are still problems and challenges including assessment and lack of engagement. This paper analyses an adaptive self-assessment approach for engaging Massive Open Online Course (MOOC) learning in the second language course.

Keywords: MOOC, assessment, perception, performance

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Engaging Authentic Literacy Tasks to Enhance Students' Active Participation in 21st Century Learning

D'oria Islamiah Rosli¹, Alina Shamsuddin², Hamizah Safuan³

¹Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia; doria@uthm.edu.my

²Faculty of Technology Management, Universiti Tun Hussein Onn Malaysia; alina@uthm.edu.my

³Faculty of Applied Science and Technology, Universiti Tun Hussein Onn Malaysia; hamizahs@uthm.edu.my

Learning is a process that involves an interpretation of information that students perceive, and react upon the information through their conscious or unconscious minds. The acquisition of knowledge depends on students’ experiences to assess information that are meaningful to them. In fact, students with necessary knowledge and skills normally demonstrate consistent performance to achieve the course goals. In line with 21st century learning, educational system also has been evolving in terms of learning strategies and approaches due to the rapid changes in Information Technology (IT). To date, this study had investigated engaging authentic literacy tasks as to enhance active student participation in 21st century learning.

Keywords: authentic assessment, alternative assessment, formative assessment.

Acknowledgements: This research project is supported by the Centre of Academic Development, Faculty of Technical and Vocational Education and Universiti Tun Hussein Onn Malaysia.
What Does Self-Reflection Have Anything to do with My Professionalism?

Nurul Atira Khairul Anhar Holder¹, Chan Choong Foong¹

¹Medical Education and Research Development Unit (MERDU), Faculty of Medicine, University of Malaya; nurul_atira@um.edu.my

Lectures can be given to teach professionalism and it is most likely that medical students are able to perform well in knowledge tests. However, there are better ways to teach and assess professionalism. Here, we describe an attempt using self-reflection in remediating and assessing students who had repeated misbehaviors. Interactive mini lectures and discussions were used to help students link between self-reflection and their professionalism. Students also wrote to describe their findings, feelings and reflections after completing their fieldwork experience.

Keywords: student professionalism, self-reflection, fieldwork
Students Acceptance towards the Self-Assessment during the Feedback in Mini Clinical Evaluation Exercise (Mini-CEX) Assessment

Mohd Nasri Awang Besar

1Department of Medical Education, The National University of Malaysia; drmohdnasri@gmail.com

Self-assessment (SSA) is one of the feedback strategies that requires the students to make judgement particularly about their achievements and the outcomes of their learning. Literature widely supports the role of SSA of encouraging student-centeredness in feedback. However, while most focus had been paid on the SSA in feedback, students’ acceptance of the SSA had not been given sufficient attention. This study aims to identify the students’ acceptance towards SSA and to explore reasons behind disagreement with the SSA. A semi-structured interview involving 33 final-year medical students at the National University of Malaysia were adopted. Self-rating received the largest percentage of disagreement with 69.7 percent. Meanwhile, self-reflection and students’ plan for improvement contributed 37.5 percent and 41.2 percent to the disagreement. Further qualitative analysis identified four reasons why the students disagreed with SSA in feedback. Identification of four reasons of disagreement is a crucial step in order to identify the strategies to improve the level of acceptance among students towards lecturers’ feedback.
Wiki as an Online Reflection Tool in Pre-service Teachers’ Teaching Practicum

Farrah Dina Yusop¹, Siti Mariam Muhammad Abdul Basar²

¹Department of Curriculum and Instructional Technology, Faculty of Education, University of Malaya; farah@um.edu.my
²Faculty of Education, University of Malaya; smariambasar@yahoo.com

Wiki is a web-based technology tool that can be applied into the educational field as a self-reflection tool and repository of lesson plan. Through Wiki, not only students can write their weekly progress but also interact with their peers and course instructor directly in Wiki. Course instructor too, can leave immediate feedback and monitor students’ progress through Wiki without having to wait until the end of the practicum period.

**Keywords:** Self-reflection, Wiki, repository, lesson plan, practicum, portfolio

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Professional Behaviour Among Dental Students: Comparing Self and Peer vs. Teacher Assessment in Improving Student Performance

Jacob John¹, Roslan Saub², Shani Ann Mani³, Norasmatul Akma Ahmad¹

¹Dept of Restorative Dentistry, Faculty of Dentistry, University of Malaya; drjacob@um.edu.my
²Dept of Community Oral Health & Clinical Prevention, Faculty of Dentistry, University of Malaya; roslans@um.edu.my
³Dept of Pediatric Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya; shani@um.edu.my

Professional behaviour was assessed using a standardized 15-item scale that measures 3 dimensions namely work habits, interpersonal attributes and a global score on professionalism. A total of 45 year 4 dental students and four teachers participated in this study. The survey was conducted using e-SPECTRUM in two phases. The participants were divided into 8 groups, each comprising of 5-6 members. In phase 1, students evaluated their own professional behaviour and the peers of their group. They were also assessed by their teachers. In phase 2, the evaluation of the professional behaviour exercise was repeated.

In phase 1, students reported positively towards peer’s attitudes and willingness to encourage each other during clinical sessions. A general opinion was noted on the way collective teamwork can positively influence each other. In comparison under phase 2, it was noted that the scores increased significantly for the “work habit”. The “interpersonal attributes” and “global item” did not exhibit much difference between the two phases by any of the assessors. Teachers’ scores were lower than the self, partner and peer scores. Also, the “work habit” item showed a significant variation between the two phases. On the other hand, the “interpersonal attributes” and “global item” has no difference so we need to confirm the validity of the “work habit” assessment.

Our efforts are directed at providing consolidated ground on how peer and self-assessment help increase variety and interest, activity and interactivity, identification and bonding, self-confidence, and empathy for others among the students. We intend to develop better teamwork skills and promote active rather than passive learning. Also, to help improvising verbal communication skills, negotiation skills, and diplomacy among the students.

Keywords: professionalism, hidden curriculum, peer assessment, self-assessment, outcome