Blended Learning Pedagogical Practices: The Challenges to Cultivate New Ways of Teaching in Higher Education Institutions and Universities

Kung-Teck, Wong, Norazilawati Abdullah, Nurul Ain Hidayah Abas

Abstract: This research is to explain and discusses the challenges of implementing blended learning and cultivate new ways of pedagogical practices among higher education institutions and universities. To meet the current research objectives, the study has randomly interviewed 15 educators over Malaysia higher education institutions and universities. This study has carried out interviews with some predetermined questions that aimed to explore the challenges to cultivate new ways of teaching in higher education institutions and universities. Cultivate blended learning integration in teaching and learning or in particular in this context of higher education institutions is a challenging and time-consuming process. The study has highlighted the importance of infrastructure, institution's management and its support, recognitions and ratings, and training and development program in higher education institutions. On this basis, the findings of this study were in line with the e-learning implementation guidelines issued by the Ministry of Education Malaysia. The study confirmed that the challenges such as infrastructure, institution's management and its support, recognitions and ratings, and training and developing are the main obstacles in the process of introducing blended learning among higher education institutions and universities.

Keywords: Higher Education Institution; Blended Learning; Pedagogical Practices; Information Communication Technology (ICT); Malaysia.

I. INTRODUCTION

In general, most educational systems are designed to be dynamically and malleable such as to be in line with the latest developments in information and communication technology (ICT) [1-3]. For example, in Malaysia, its educational system has continually undergone a series of processes and transformations, especially in its curricula and delivery systems. Since 1982, educational reforms and transformations are continually taking place; for instance, at the primary school level, the New Primary School Curriculum (Kurikulum Baru Sekolah Rendah, KBSR) was replaced by the Standard Primary School Curriculum

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(Kurikulum Standard Sekolah Rendah, KSSR) in 2013. Likewise, at the secondary school level, the New Secondary School Curriculum (Kurikulum Baru Sekolah Menengah, KBSM) was replaced by the Standard Secondary School Curriculum (Kurikulum Standard Sekolah Menengah, KSSM) in the same year. Clearly, such educational reforms were influenced by the latest advancements in ICT, where changes introduced were meant to equip students with the 21st century skills as well as to help students face the impending global challenges with greater confidence. In the educational realm, the developments of ICT would affect not only the instructional process, but also all aspects of school management, such as to improve the efficiency and productivity of the nation's educational system [4]. From the cultural standpoint, Wong et al., (2013) asserts that such a profound change in the world civilization is known as "the third wave in education reforms". Arguably, this profound change in the world civilization is the result of humans' intellectual developments that aims at making humans' lives more vibrant and secure for the next century. Hence, to meet the demands and to face the challenges of 21st century learning, the nation's instructional system needs to improve through effective integration of contents, approaches, and ICT. With improved instructional strategy, the teaching and learning process can be further enhanced, which can help raise the aspirations of the educational philosophy of the nation [5-6].

Taking cognizance of the importance of ICT in the 21st century educational transformation, the Ministry of Education of Malaysia (MOE) has initiated a strategic plan to develop smart schools throughout the nation. In fact, this plan is called the Smart Schools Project, which was implemented in 1999, that aimed to elevate the status of several selected schools to smart schools. Once conferred with such coveted status, the schools were equipped with a proper ICT infrastructure that helped create conducive learning environments in which students would be able to learn more efficiently and productively. To date, through the Malaysia Education Blueprint (PPPM), almost all schools in Malaysia have been provided with ICT facilities through the "1BestariNet" project to help realize the smart school concept. The education system has changed dynamically in line with the changing world that encompasses technological, economic and cultural aspects [7-9]. Therefore, the country's education system requires strategic efforts and measures to enhance its educational capabilities and capabilities to the highest quality.

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The aim is to produce the next generations with capable of leading and survive in the 21st century, challenging environments [10-11]. The recent increase in the number of internet users has changed the landscape of the world education system with the increasing use of online learning. The advantages of educational technologies in teaching and learning or online learning have proven to be a major factor affecting the education system worldwide. Based on the findings of the previous study, online learning has proven can create interesting and active learning classroom activities. Indeed, its advantages have brought many benefits to teaching and learning at both the higher education level and at the school level [12-13]. These digital phenomena have been recognized to have positive effects on the education system such as improving the quality of the delivery system, reducing costs by eliminating concession items, increasing participation and engagement of participants and being able to address usage issues such as time and place constraints; just like its impact on other industries [1, 4, 14, 12].

II. LITERATURE REVIEW

In regards to the development and encourage the integration of new ways of teaching using educational technologies tools in Malaysia classrooms, the Ministry of Education (MOE), Malaysia has taken the opportunity and is committed to transforming the national education system through the formulation of the Malaysia Education Development Blueprint for Higher Education (2015-2025). Indirectly, the plan enables the achievement of the National e-Learning Policy or DePAN, which is to transform the traditional learning approach to ICT-driven learning from pre-schools to higher institution settings. These changes are aimed at increase the level of access to education for Malaysian, improving the quality of learning, while offering pedagogical practices that is more tailored to the individual needs and interests especially focuses on differentiated instructions.

The main essence of Malaysia Education Development Blueprint for Higher Education (2015-2025) (Fig.1) is to focus on student-centered learning that will be realized through 10 shifts to transform the education system. The Malaysian government is committed to transforming the education system. Having that, the government has set the goal and purpose of the education system is to ensure that the younger generation of Malaysians can grow holistically, possess the values, knowledge, and skills necessary to succeed in a world filled with challenges, competition and change [15]. Surely, such phenomenon introduces new challenges to Malaysia's education system, entailing teachers to conduct quality teaching to help produce future generations of students who would be able to deal with the new global challenges. The needs to produce quality students is underscored by the then Malaysia's Minister of Education, who (in his address of the Malaysia Education Blueprint 2015-2025) said the following: "The government is committed to transforming the nation's educational system in the next 15 years. The main aim of the transformation is to equip every student in our nation with new, essential skills, with which they would be able to seize the opportunities offered by and face the challenges of the 21st century. In our efforts to compete with developed nations globally, our educational system must be able to produce a new generation of students who possess sound knowledge, creative and critical thinking, strong leadership skill, and communication skill, which allows them to function effectively at the global level"[15].

Figure 1. Malaysia Education Blueprint 2015-2025

To this end, MOE has planned and implemented a number of efforts to achieve the aims of educational transformation, such as changes in the curricula, reforms in the direction and methodology of the administration of the educational system, training of teachers, upgrading of ICT infrastructure in almost all schools, and smart schools initiative [15].

As highlighted in the "7th Shift" section of Chapter 6 of PPPM, MOE makes it clear of its intentions to capitalize ICT to help improve the standard of learners' learning performances. In the first phase (from 2013 to 2015), the ministry focused on efforts to introduce basic ICT infrastructure. In this phase, the ministry helped teachers develop basic ICT skills by using existing infrastructure. Such efforts included the following aims: (i) to ensure educators and learners would have adequate rights to use the ICT facilities, (ii) to provide a learning platform and networking facilities that optimally leverages the use of ICT services in schools, and (iii) to develop sound ICT literacy skills of all teachers. Through this phase of the first wave, the 1Bestarinet project was successfully implemented to improve the effectiveness of ICT integration in the learning process.

Currently, PPPM is on the second wave (with a time scale stretching from 2016 to 2020), and this is the important phase in which MOE has earmarked several efforts for the innovative use of ICT in learning. Such efforts are aimed at exploring further avenues to help transform the use of ICT in the classroom. The transformation process also involves efforts to further improve and innovate existing best practices, which had been identified in the phase of the first wave. The efforts that are currently underway include the following: (i) to explore ICT solutions for groups with special needs, which involves re-examining current best practices that can help reap the many benefits of such a learning system, and (ii) to increase the number of critical mass of ICT utilization by reducing the ratio of students to computers to 10:1. In addition, the ministry would continually upgrade its strategies based on the latest empirical findings to further enhance the use of ICT in learning.

In this regards, the Malaysia government has developed a Globalised Online Learning (GOL). Globalised Online Learning has emerged as the ninth move in an effort to stimulate the nation's transnational education system. GOL produces an effective integration of a learning approach (face-to-face teaching combined with ICT-based learning) that is believed to produce a quality learning process by enhancing student engagement and engagement. Indeed, GOL, which is the focus to expand access to education, improve the standard of delivery of lessons while enabling learning to be tailored to the current needs of students. This shifts outlines the key initiatives to improve GOL to improve quality, of course delivery, reducing the cost of delivery, introducing experts Malaysia globally, enhances the branding and prominence of local HEIs and also foster lifelong learning among Malaysians.

The innovation of educational technology such as Massive Open Online Courses (MOOC) and integrated learning concepts (Blended learning) is the core of these nine shifts. It will be actively implemented and the integrated learning model (Blended learning) will be the key pedagogical approach of all HEIs (Ministry of Education Malaysia, 2015). These learning concepts, incorporating time and mode of learning, community-based online interaction for each learning discipline, can create a more intimate, dynamic, engaging learning experience that enhances the quality of learning [13, 16]. In addition, on the basis of MOHE's commitment to improving the education system of the country, MOHE has proposed a new approach in T&L which is, 21st-century Pedagogical (Ministry of Higher Education [MOHE], 2018). Blended learning has been promoted to be included in the new teaching and learning approach. However, in order to enhance the quality of education, proper planning is needed in implementing a blended learning approach or blended learning with the support of technology tools and students' learning styles. Hence, getting to know the students' tendency will help the instructors to plan the teaching with suitable technology tools. Alongside, it is a challenge for higher education institutions in Malaysia to incorporate a blended learning approach at every level of its learning. Since its implementation, various steps and efforts have been put in place to create new dimensions of learning at higher education institutions and universities.

III. OBJECTIVES OF THE STUDY

Many higher education institutions in Malaysia have structured its educational instructional system by offering a modern learning approach. Referring to the GOL implementation methodology, many institutions have partnered with the MOE to build the capacity of the academic community by designing start up plans and exploring the establishment of e-learning platforms.

In this regard, this paper aims to provide a clear picture of the challenges and its solutions of implementing a blended learning approach at higher education institutions in Malaysia. It is hoped that this paper will be part of the reflections on the implementation of Blended Learning. On this basis, it is a turning point to a more effective plan for designing and implementing the new ways of pedagogical practices in Blended Learning in higher education institutions in Malaysia and 21st century learning system as a whole.

IV. RESEARCH CONTEXT AND METHODOLOGY

To meet the current research objectives, the study randomly interviewed 15 educators over Malaysia higher education institutions and universities. This study has carried out interviews with some predetermined questions that focused to understanding the challenges to cultivate new ways of teaching in Higher Education Institutions. The researchers have designed semi structured interview questions for the data collection purposes. Most of the interview questions were based on literature reviews and underlying theories and models related to the integration of blended learning in higher education institutions and universities in Malaysia setting.

All participating educators are from higher education institutions and their ranged of teaching experiences between 5 to 20 years. They have experience in using blended learning in teaching and learning at least 5 years. Having that, all participating educators have huge experience in using blended learning in their daily lessons.

Drawing on various references from academic staffs, Ministry of Education and related departments, the study successfully identified 25 educators who were considered fulfil the requirements mentioned above. However, out of 25 educators contacted, only 15 of them agreed to take part in this study. All the participating educators are fully voluntary basis and they have been informed that there will be no course credits given. All participants have been acknowledged of the objectives of the research and told of their rights to withdraw as samples anytime they want. All the data collected from the participating educators will be transcribed by the professional transcribers. This is to ensure no biases in the process of transcribing data. Thereafter, the transcribed scripts have sent to the participating educators to check and verified for its validities. Furthermore, focus group interviews with some of the respondents were conducted to classify the depth information to support this writing (refer Fig. 2).

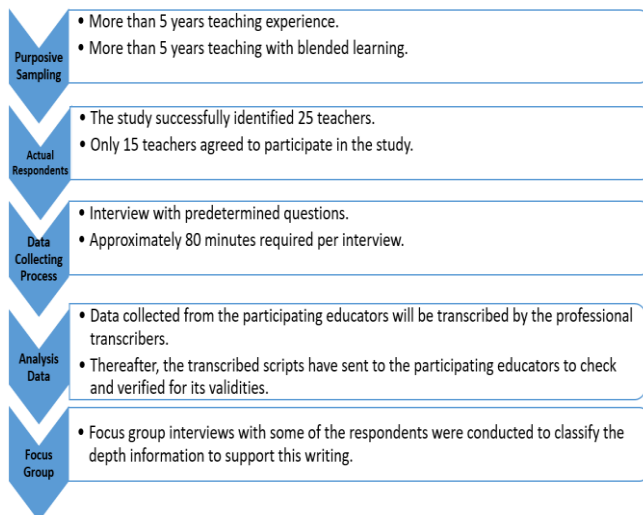### V. THE CHALLENGES OF INTERACTIVE WHITEBOARD IN HIGHER EDUCATION INSTITUTIONS

A. Infrastructure

Infrastructure facilities are an essential element in ensuring that blended learning can be implemented smoothly and efficiently (13, 17]. According to [18], infrastructural facilities, especially related to information communication technology (ICT) are the most important factors in the process of cultivation and encourage the integration of new pedagogical practices of blended learning among educators in higher education institutions and universities.

This includes the effectiveness of using physical hardware such as computers, tablets, smartphones and internet access technology (Wifi). While a good online system and networks are the key elements to ensuring effective implementation of the blended learning pedagogical approach in teaching and learning.

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Purposive Sampling	• More than 5 years teaching experience. • More than 5 years teaching with blended learning.
Actual Respondents	• The study successfully identified 25 teachers. • Only 15 teachers agreed to participate in the study.
Data Collecting Process	• Interview with predetermined questions. • Approximately 80 minutes required per interview.
Analysis Data	• Data collected from the participating educators will be transcribed by the professional transcribers. • Thereafter, the transcribed scripts have sent to the participating educators to check and verified for its validities.
Focus Group	• Focus group interviews with some of the respondents were conducted to classify the depth information to support this writing.

Figure 2. Process of sampling and data analysis of the study

One of the participating educators noted that "… in the university, the use of the latest technology has been practiced through the perfect ICT facilities. The e-learning portal (Learning Management System) has been integrated with the University Integrated Management System (UIMS) for the purposes of administrative management and learning processes. The LMS is a fully open source system (hardware access authorization, operating system and database) through web technology and accessible to all users using their username and password". The participating educators also noted that the LMS in his university designed with many functions to meet the needs of the learning process. The LMS portal delivers a chance for lecturers to develop learning resources and the functionality of uploading these materials into the portal. The lecturers will then be able to monitor the activities and interact with the students through the forum space and response assignments provided. Furthermore, LMS also offers a manual and automatic credit systems for the purpose of assessing student performance. While forum space, file sharing and online surveys are a function of the LMS portal as a collaborative tool. Next, the admin tools in LMS allow educators to manage and review course content to meet varying student requirements. An educator shared her views by commenting that "…LMS in her university has undergone several innovation processes to ensure it is a robust and effective system in the pursuit of learning blended learning". Many interviewed participants agreed that the LMS should include basic features such as; 1. Data integration - as part of the University Integrated Management System (UIMS), LMS is completely combined with other institutions' systems and is available through a log-in method. 2. Electronic Portfolio - allows students to manage their individual portfolios and update their learning evidence. 3. Learning assessment - Online assessment of the educators at the end of each semester. 4. University assessment - evaluation of university programs and infrastructure through student opinion polls. 5. Practical review - assessment of quality of industry training through student opinion survey. 6. Education-based education - building a specific curriculum framework (taking into account aspects of soft skills, Bloom's taxonomy and so on). 7. Video Uploader - allows students to upload video content to the cloud server and share it with the

learning community and 8. E-practices - provides functionality related to practicum courses such as training development, forums, teaching sharing video sharing space and etc. Therefore, the effort to provide a complete infrastructure are the major focus in the development of cultivating the integration of blended learning in higher education institutions and universities in Malaysia setting. Internet network stability, perfect ICT hardware, easy-to-access portals, effective system quality and secure data security are all factors that need to be addressed to ensure that the implementation process is more effective and efficient. The findings were supported by previous studies which have been carried out by [17, 19].

B. Institution's management and its support

In regards to the policy and direction of an institution, it is clear that the institution and university in Malaysia are strongly supports the culture of blended learning [5, 19]. Many interviewed educators noted that regards to the management and innovation components of the innovation, most of the universities have established an effective centralized management to monitor the implementation of integration of blended learning. This centralized monitoring is intended to ensure that the module's functionality and operation are safe. A lecturer shared her views by commenting that "…to promote the culture of blended learning, university management should encourage faculties and students to use the LMS (MyGuru) portal more aggressively and consistently". She added that, "…there are many functions and features of the MyGuru portal that facilitate the university management and monitoring of staff management, students and course content (including; delivery of current university-related information, lecture schedules, lecturer and student details by specialization, assignment instructions, results, projects and so on".

Her view was echoed by another teacher who explained *"…UPSI's committed management team has formulated and developed an e-learning policy to enable the implementation of blended learning since 2008"*. Through this policy, lecturers are encouraged to develop and upload learning materials into the MyGuru portal. Indeed, the innovation of this learning approach is expected to encourage student engagement in the learning process, especially after formal lecture, providing effective communication opportunities for lecturers and students, s aving expenses and time to the university, opening more flexible learning spaces and improving the quality of education in the entire institution and university. It is well documented in the relevant literature that with the advancement of technology and a systematic integrated system of management and monitoring of innovation, the process of managing and monitoring the implementation of blended learning becomes easier and more effective [20]. In addition, in addition to ensuring the planning and goals are successfully achieved, a series of integrated and comprehensive monitoring should be planned in collaboration with external parties such as the Ministry of Education and other public and private educational institutions of higher learning and independent related educational consultants.

C. Recognitions and Ratings

Aspects of recognitions and rating are one of the key components that are believed to be able to encourage and cultivate the culture of blended learning. Giving recognitions and a rating of the Key Performance Index (KPI) to a successful institution or university or will increase the motivation of its members to continue integrate new pedagogical in teaching and learning. Indeed, it will reduce resistance to change among educators toward the changes.

Interviews revealed that, at least in the initial stage of the introduction of the learning practice of Blended Learning in higher education, there are several categories of award proposals that can be introduced to innovative learning activities and active involvement of its members such as; 1. Online content developer awards, 2. Learning innovation awards, 3. Learner-driven Learning Practice awards and 4. Open source software awards. Based on the interviews conducted, all participating lecturers indicated that these ratings should be recognized nationally or internationally by relevant parties to enhance the prestige of a university.

Another concerned lecturer said "Through this process, the process of cultural of blended learning will surely receive the attention of educational practitioners as well as the support of the university management. Adapting a university to a higher level can raise the status of a university in the international arena".

D. Training and developing program

In order to ensure the successful cultivate blended learning culture among lecturers in higher education institutions in Malaysia, quality professional development training for educators, senior coaches and technical support staff should be prioritized. It is well documented and highlighted in the relevant literature that the importance of training in integrating technology into the learning process [21-22].

Professional training programs should include information and activities regards to the issue related how to manage the resistance to the changes of pedagogical practices and how to design and integrate lessons in teaching and learning accordingly. Indeed, frequent monitoring and checking are essential in the process of integration of blended learning in the teaching and learning. A lecturer revealed that the instructors should be well trained on the specific courses or subject. They should also be informed to focus on enhancing teaching and learning techniques while producing effective learning. Alongside, the trained coaches, content developers and technical staff should be equipped with the latest ICT knowledge and skills [23-24]. One of the very experienced lecturer prompted that it is clear that the main challenge in implementing blended learning is to cultivate the practice. "…my university, Sultan Idris Education University (UPSI) has taken proactive steps to encourage the delivery of lectures and specializations through the learning of blended learning". He added that, "Since June 2014, in collaboration with the Department of Human Development and the UPSI Information Communication Technology Center, nearly 90 percent of lecturers have been exposed to courses related to blended learning. Among the courses organized are related to Learning Management System (LMS-MyGuru), in-house training and development regards to the blended learning software (Google Classroom, Google Mail, Google Plus,

Pedlet, Blendspace, Screencast application and etc.)".

Table 1 shows the summary of qualitative data analysis results based on the themes. The data were coded and initially entered into "nodes" within the NVivo program. A range of themes was created as a result of going through the data and coding according to themes within each transcript. Four key emergent themes emanated from the qualitative analysis of data focusing on the challenges to cultivate new ways of teaching in higher education institutions and universities. Based on the overall findings, infrastructure (91.1%) is the most important issue and followed by institution's management and its support (81.6%) for blended learning.

Table 1. Qualitative Data Analysis Coding Results

Main Themes	Extracted Code	Number Of Wordings Mentioned In The Text	Percentage (%) Of Interviewed Educators Commenting On The Theme
Recognitions and Ratings	✓ Quality ✓ Awards ✓ Recognitions ✓ Ratings ✓ Certification	59	78.9%
Training and developing program	✓ Continuous Training ✓ Solution ✓ Reduce anxiety ✓ Strategic training	23	66.4%
Institution's management and its support	✓ Supportive management ✓ Work environment ✓ Understanding staff ✓ Supporting system	54	81.6%
Infrastructure	✓ Internet ✓ Wifi support ✓ ICT tools ✓ LMS ✓ Network system	66	91.1%

Four key emergent themes emanated from the qualitative analysis of data focusing on the challenges to cultivate new ways of teaching in higher education institutions and universities. Based on the overall findings, infrastructure (91.1%) is the most important issue and followed by institution's management and its support (81.6%) for blended learning.
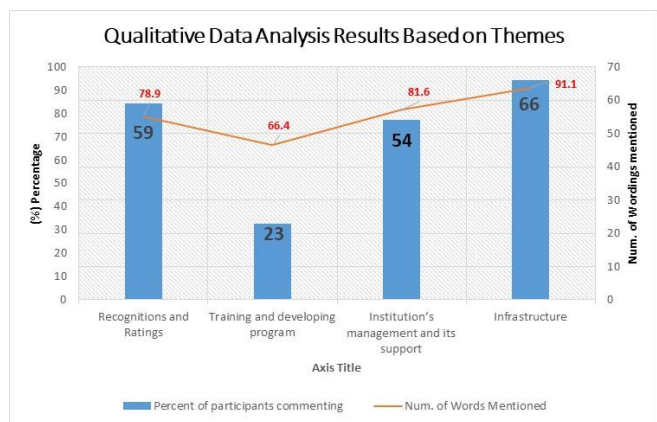

Figure 3 shows the graph based on qualitative data analysis by themes.

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These four themes were examined in detail with passages from interview transcripts substantiated by respondents' quotations to illuminate and strengthen the veracity of each of the themes outlined above. The data display table for coding, categorizing and building themes in the analysis of the adult learners' in-depth interviews is provided in Fig 3.

VI. CONCLUSION

This article, in short, explains and discusses the challenges of implementing blended learning and cultivate new ways of teaching in higher education institutions. Cultivate blended learning integration in teaching and learning or in particular in this context of higher education institutions is a challenging and time-consuming process. This process is crucial in improving the quality of effective practices among the higher education community, enabling greater access to higher education, promoting lifelong learning and increasing the cost effectiveness of course delivery. At the same time, this effort will successfully achieve the ninth Malaysia Education Development Blueprint (Higher Education) 2015-2025 that focuses on student-centered learning and transform the education system as a whole. The study has highlighted the importance of infrastructure, institution's management and its support, recognitions and ratings, and training and developing program in higher education institutions. The results of this research were in line with the blended learning implementation guidelines issued by the Ministry of Education Malaysia.

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Kung-Teck, Wong is an Assoc. Prof at Faculty of Education and Human Develop-ment, Sultan Idris Education University (UPSI), Malaysia. Prior to joining UPSI, he was a senior teacher in government schools. He completed his Ph.D. from University Malaysia Sabah and Post-Doctoral at University of South Australia, Australia (UniSA). He has published extensively in local and international journals. He also serves as reviewer of several local and ISI and SCOPUS indexed journals. In the past five years he has secured many public and private research funding.

Norazilawati Abdullah, Associate Professor, a presentable, self-motivated and confident lecturer with extensive knowledge on education. Possessing excellent counselling, listening and general communication skills, along with the ability to communicate to students in simple ways on matters regarding teaching and learning. Having exceptional multi-tasking and organisational skills, all of which are imperative when working closely with colleagues. file which contains their education details, their publications, research work, membership, achievements, with photo that will be maximum 200-400 words.

Nurul 'Ain Hidayah binti Abas is a senior lecturer and a psychologist at Faculty of Human Development, Sultan Idris Education University (UPSI), Malaysia. She holds a Doctoral degree from the Phillips University of Marburg, Germany and a MS in Psychology from the Uni of Wisconsin-Stout, USA. Her main research areas include individual behavior and emotion, academic leadership, interpersonal mistreatment and ethical issues.

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