Meaningfulness of Blended Learning Module Characteristics

Tharma Raj[1] and Revati Ramakrishnan[2]

[1]Lecturer, Faculty of Management, Multimedia University (MMU), Cyberjaya, Selangor, Malaysia

[2]Lecturer, HELP University, Kuala Lumpur, Malaysia

***Abstract*:** *Although the importance of blended learning in education has been well recognized, the content analysis findings exhibiting the characteristics of the blended learning module have been discouraging. This current study provides a theoretical review and framework of the pertinent characteristics of blended learning modules. This content analysis also highlights arguments associated with the conceptualization and theoretical development of practical blended learning module characteristics. By providing a narrative review of the theoretical research, this paper underscores the catalyst characteristics for blended learning modules and provides a synthesis for future research. Discussion of the recommendations for the conceptualization and theoretical development of blended learning module characteristics is also provided.*

Keywords: *education, blended learning, characteristics, experiential learning, meaningfulness, constructivism*

1. Introduction

The revolution of information and communication technology and the evolution of generation Y, Z, and AA have significantly affected the education system as a whole. The process or methodology of learning and teaching has been forced to change in order to match the needs of technology and the present generation. This requires a systemic change in the education system. Currently, many universities are incorporating information with communication technology (ICT) in education. However, there are still a few challenges that need to be addressed before making a paradigm shift from bricks and mortar learning to blended learning to match the revolution in education or generation.

2. Literature Review

Blended learning is not a new concept in education as many institutions have adopted blended learning for the enhancement of education or business oriented purposes. Blended learning has been described as learning that is facilitated by the effective combination of different modes of delivery, models of teaching, and styles of learning, and is founded on transparent communication among all the parties involved with a course [1]. Four different levels of blended learning can be utilized: activity level, course level, programme level, and institutional level. Although numerous studies have been conducted, the literature suggests that while blended learning is well used it is little understood [2]. Most research on blended learning has been conducted in the area of the methodology and infrastructure needed for adopting blended learning in an education setting [3]. There are five key ingredients of blended learning that provide critical answers to the operational part of blended learning [4]. The five ingredients are live events, online content, collaboration, assessment, and reference materials. These five ingredients are needed to have a successful blended learning experience [4]. A comprehensive framework has also been provided to determine the quality of the blended learning sequence involving the online learning process [5]. However, the current research on blended learning is moving towards examining the characteristics or module of blended learning. The research on the methodology, infrastructure, and know-how of blended learning research is considered untrendy. This paper focuses on three important elements – blended learning module characteristics, psychological effect, and student's satisfaction (blended

learning effectiveness). Meaningfulness in blended learning is an important factor for students' knowledge growth [6]. Although it has been mentioned in other research concerning students' satisfaction with blended learning, neither the psychological state nor the measurement was discussed [7]. Based on these critical reviews of blended learning two gaps in the literature or problem statements are identified.

- The blended learning module characteristics are not clearly identified, which could anthropomorphize blended learning creation.
- The need to examine the psychological effect (meaningfulness) of blended learning on the students in order to measure of the effectiveness of blended learning practice.

Another research on the quality of learning achieved using blended learning focused on four critical areas – good e-teaching, good e-resources, appropriate workload, and student interaction – which were found to be appropriate concerning the effectiveness of blended learning. Furthermore, blended learning should also focus on the students' perception of the learning environment [5]. In another research, it was found that there is a significant need for a balanced blended learning methodology for it to be successful [8]. A balanced blended learning module is critical to the success of teaching and learning in which the foundations or technology and learning design need to be of the highest quality possible. This leads to the fact that blended learning requires a comprehensive, meaningful module that focuses on the quality of learning and teaching. This paper provides a conceptual model to support a meaningful blended learning module, which increases the quality of learning and teaching, and, in turn, leads to higher student satisfaction.

3. Model Conceptualization

In order to examine blended learning module characteristics, there is a need to observe some of the critical elements that support the core elements of blended learning. Hence, there should be a model that has well-proven credibility to measure core characteristics. One factor is that blended learning modules should have a combination of multiple variables, such as stability and urgency, touch and cost, and learning resources and experience [9]. Blended learning should be a balanced combination of these three elements to achieve the quality. Other research implied that four important elements are needed for quality blended learning modules [10]: the institutional success factor; focus on the teachers' knowledge, skills and ability; students' knowledge, skills, and ability; and, finally, pedagogical considerations. These four elements will ensure that the blended learning course is effective. Based on the prominent research it can be concluded that there is a requirement to develop a blended learning module that ensures a comprehensive blended learning experience. Based on the deductive method on previous research it explicitly shows that there are a few critical elements needed in blended learning, which mainly involve multiple knowledge and skills with effective interaction.

4. Core Job Characteristics

The core Job Characteristics Model (JCM) provides a solid foundation to develop blended learning characteristics. The Job Characteristics Model actually measures the satisfaction of the employee based on five characteristics that affect the psychological state of the employee, and that lead to higher job satisfaction [11]. The core Job Characteristics Model was created by Hackman & Oldham in 1976 and is still being used in teaching HRM courses. Numerous studies have been conducted to ensure the validity of the model, and thus the model has proven credibility [11].

After examining this model, it shows that it has the potential for measuring and creating core characteristics for the blended learning module that will likely affect a student's psychological state for learning. Interestingly, the variables in this existing model (Figure 1) could be suitable for studying the characteristics of blended learning (Figure 2) with some minor modification.
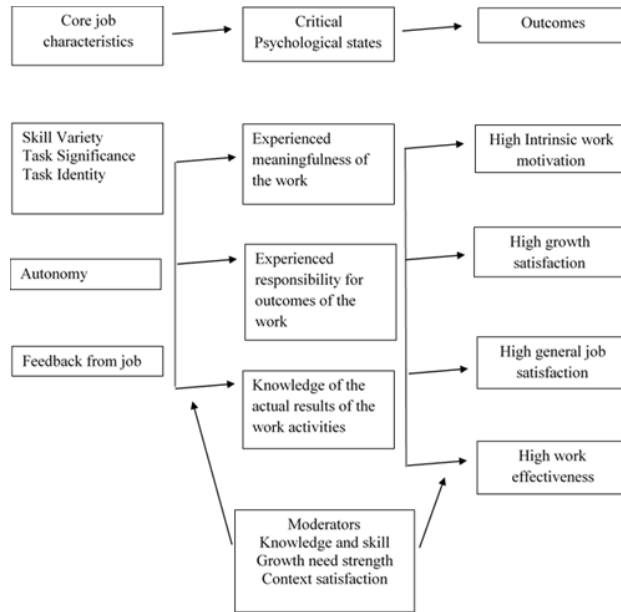
Fig 1: Existing Model of Job Characteristic Model
Source: Hackman and Oldham. Work Redesign (1980 p.90)

5. Blended Learning Module Characteristics.

This model is developed based on the core concepts in Job Satisfaction created by Hackman and Oldman (1976), and is modified to measure the core characteristics of blended learning. The variables in the model can be used to measure the potential components or characteristics of blended learning. The independent variable is the core blended learning characteristics, the dependent variable is the outcome, and the critical psychological state is the mediator.
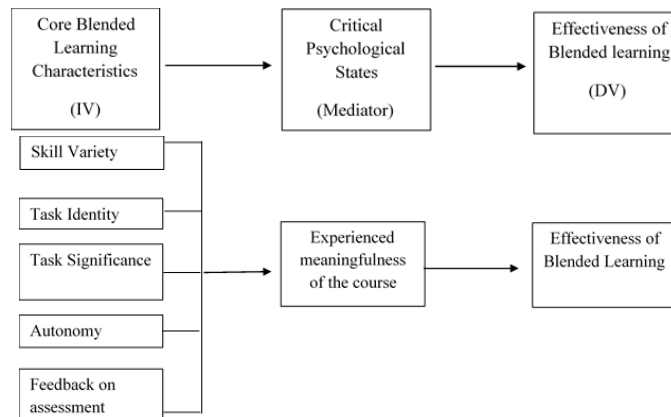

Fig 2: Proposed Model of Core Blended Learning Characteristics to proliferate the acceptance of Blended Learning in University Courses and Modules

6. JCM And Blended Learning Characteristics

6.1. Skill Variety

Skill variety explains the degree to which employees are able to do a number of different takstasks using many different skills, abilities, and talents [12]. Blended learning enables students to use a variety of skills in learning compared to conventional methodologymethodologies. Some skills, such as interpersonal communication, and analytic thinking skills. AcoordingAccording to a research, students' physical, sensory and perceptual skills and abilities, coping strategies, prior knowledge and proficiency in the use of technology may all contribute to the challenges of of blended learning [13]. This not only allows the students to use the skills but also helps them to discover and unearth new skills. Another research also asserted that blended learning or a

powerful learning environment s helps to develop complex higher order skills [14]. Moreover, with the extra skills learned and practiced it will prepare students for working life [14]. Furthermore, a research in Saudi Arabia contented contended that blended learning might contribute to advanced problem solvingproblem-solving skills [15]. These researches indicates that thes skill variety provided provides meaning to learning and it is posited as that this is an important characteristics for the blended learning module.

6.2. Task Identity

Task identity is the ability to see a whole piece of work as employees can complete a task from beginning to end with an identifiable outcome [12]. Task identity allows students to understand the subject or the module as a whole piece of work that is related to their Outcome-Based Education (OBE) syllabus. Thus, students can relate the coursework given to the purpose of doing the coursework relating to the OBE. Furthermore, the next generation of blended learning should involve multiple tasks to provide a complete understanding of the subjects taught and learned [16]. Furthermore, other findings indicate that meaning in the tasks performed in the organization is critical for any learning process [17]. The task identity provides the meaning to the learning. Thus, it is posited that task identity is one of the important characteristics of the blended learning module.

6.3. Task Significance

Task significance indicates the importance of the job [12]. It is posited that this task significance characteristic is an important variable, as blended learning should provide significance to the work the student is completing. Rather than focusing on a single source of reference, modules with blended learning tools allow students to find more relevant and complete information in terms of the subject matter. Research also shows that learning becomes more significant when it is enabled or aided by technology [18]. In this scenario, the use of blended learning gives more significance to the student's learning. This ideation is also supported by other research that indicates that one of the challenges for blended learning is finding significance [13]. Hence, the task significance characteristic is vital for the blended learning module as it provides meaning to learning.

6.4. Autonomy

Autonomy is the degree to which employees have control over their work [12]. Blended learning provides ample room for freedom for students and instructors as the learning and teaching process becomes more fluid compared to conventional learning [19]. Students can learn at their own pace with aided blended learning materials, and the instructors have the freedom to deliver their lessons. Autonomy also remains as one of the key variables in any teaching and learning process [20]. Blended leading should provide autonomy as the learning and teaching can take place in any condition or intended purpose of the students and instructors. Furthermore, a blended learning module that gives autonomy also provides meaning to learning because the freedom to learn creates enthusiasm in the students to participate and learn.

6.5. Feedback from the Job / Work

Feedback is the degree to which the job offers information to employees regarding their performance and work outcome [12]. The lack of feedback in the conventional method can be overcome by blended learning as it provides immediate and constant feedback to the learners and instructors [21]. Feedback in blended learning encourages interaction and facilitates contextual learning [22]. Another research suggested that feedback benefits students in multiple ways, especially in identifying errors and mistakes [23]. Furthermore, feedback also provides motivation for students to learn [10]. In addition, feedback identifies room for improvement as individual and group comments enhance the learning points [24]. Feedback also provides satisfaction for the student's learning since they might receive an immediate or a constant response about the work conducted [25]. Furthermore, such feedback is one of the key elements that transforms education [26]. These significant studies point out that feedback is an important characteristic of blended learning as it is provides meaning to the whole process of learning.

6.6. Meaningfulness as Mediator

Meaningfulness is a critical element in any learning. Only meaningful learning contributes significantly and positively to students' knowledge growth [27]. Any blended learning course or module requires a moment of meaningfulness to enhance the student's adoption of the learned material. It is also mentioned that meaningful learning is a combination of cognitive, metacognitive, and affective activities, which are typified by five characteristics: active, cumulative, goal oriented, constructive, and self-regulated [28]. These five characteristics should be present in the learning module to ensure that the learning is meaningful [28]. Moreover, there are two types of learning – meaningful learning and un-meaningful learning [29]. Meaningful learning can be in both directions in which the items learned might have meaning for the learner or the learner creates meaning for the learning [29]. Either way, meaningfulness remains a critical element in learning. Blended learning should provide meaningfulness to the learners as it should be the sole purpose of blended modules. Meaningful learning has a psychological effect on the learners in that blended learning becomes superior to bricks and mortar education [30, 31, 32]. This leads to the critical part of the conceptual model proposed in this paper. As mentioned in JCM, the five characteristics provide meaningfulness for workers or employees. Similarly, since this model is adopted for producing effective blended learning modules, these five elements (skill variety, task significance, task identity, autonomy, and feedback) could provide the much-needed meaningfulness for effective blended learning modules in higher institutions.

7. Theoretical Support and Justification

The proposed core blended learning model (Figure 2) is based on the Constructivism Learning Theories proponent. Construction Learning Theories propose that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge and social interactions, and that motivation affects the construction [33]. Furthermore, educators should focus on making connections between facts and fostering new understanding in students. Instructors also need to tailor their teaching strategies to student responses and encourage students to analyse, interpret, and predict information. Learning should also rely on open-ended questions and promote extensive dialogue among students. Constructivism calls for the elimination of a standardized curriculum. Instead, it promotes using curricula customized to the students' prior knowledge, while emphasizing hands-on problem-solving. Constructivism focuses on how learners construct their own meaning. Learners will ask questions, develop answers, and interact with and interpret the environment. By doing these things, learners incorporate new knowledge with prior knowledge to create new meanings [33].

The model is also supported by Kolb's learning styles, which is known as the Experiential Learning Cycle (ELC). Two components make up the learning experience: perceiving and processing [34], while perceiving refers to the way learners sense and absorb the information around them. Processing refers to the cognitive style, which is the typical way of processing information, especially in thinking, remembering, and problem-solving. Based on the ELC there are four stages that touch all the bases for learning. The concrete experience in which a new experience of a situation is encountered, or a reinterpretation of existing experience. This concrete experience will happen in class when the instructor introduces a module or coursework to students. The second stage is reflective observation in which students start to reflect on the inconsistencies between experience and understanding. This is where blended learning comes into action. Students are required to find the relationships or gaps among the inconsistencies. The next stage is abstract conceptualization in which the reflection gives rise to a new idea or a modification of an existing abstract concept. In this part, blended learning provides assistance to students to search online learning materials to solve or reduce the inconsistencies between their experiences. The final stage is active experimentation, in which students apply the material gathered from previous stages to solve or learn the new or change the experience as part of learning.

These two theories are able to justify the five characteristics that are proposed for blended learning module characteristics. The characteristics provide hands-on experience, constant feedback, and meaningfulness to the course, which is the main proponent of the theories mentioned above.

8. Review Conclusion

The discussion above provides an opportunity to conceptualize these variables and theories into one fundamental researchable framework. It provides opportunities for instructors, especially those considering adopting the blended learning module. These instructors should include these characteristics whenever designing blended learning modules, as they will lead to a meaningful blended learning session that significantly increases the effectiveness of blended learning. Blended learning is the future for education institutions as the current generation of learners have different tastes, expectations, and needs concerning the purpose of education.

9. Acknowledgments

10. References

[1] Boyle, E. A., Duffy, T. & Dunleavy, K. (2003) Learning styles and academic outcome: the validity and utility of Vermunt's Inventory of Learning Styles in a British higher education setting, British Journal of Educational Psychology, 73, 267–390.

[2] Bonk, C. J., and Graham, C. (Eds.). (in press). Handbook of Blended Learning Environments. New York: Jossey-Bass.

[3] Singh, H. (2003). Building Effective Blended Learning Programs. *Educational Technology*, *43*(6), 51–54. https://doi.org/10.1021/es2033229

[4] Carman, J. M. (2005). Blended Learning Design : Five Key Ingredients. *Blended Learning Design: 5 Key Ingredients*, (August), 1–10. https://doi.org/10.1109/CSSE.2008.198

[5] Ginns, P., & Ellis, R. (2007). Quality in blended learning: Exploring the relationships between on-line and face-to-face teaching and learning. *Internet and Higher Education*, *10*(1), 53–64. https://doi.org/10.1016/j.iheduc.2006.10.003

[6] Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education*, *7*(2), 95–105. https://doi.org/10.1016/j.iheduc.2004.02.001

[7] So, H.-J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Comput. Educ.*, *51*(1), 318–336. https://doi.org/10.1016/j.compedu.2007.05.009

[8] Mitchell, A., & Honore, S. (2007). Criteria for successful blended learning. *Industrial and Commercial Training*, *39*(3),

[9] Rossett, a, Douglis, F., & Frazee, R. (2003). Strategies for building blended learning. *Learning Circuits*, *June*, 4–9. Retrieved from http://ablendedmaricopa.pbworks.com/f/Strategies Building Blended Learning.pdf

[10] Stacey, E., & Gerbic, P. (2008). Success factors for blended learning. *Ascilite 2008*, 964–968. Retrieved from http://www.ascilite.org.au/conferences/melbourne08/procs/stacey.pdf

[11] Wall, T. D., Clegg, C. W., & Jackson, P. R. (1978). An evaluation of the Job Characteristics Model. *Journal of Occupational Psychology*, *51*, 183–196. https://doi.org/10.1111/j.2044-8325.1978.tb00413.x

[12] Hackman, J. R., & Oldham, G. R. (1976). 3a_Motivation through the design of work: test of a theory. *Organizational Behavior and Human Performance*, *16*(2), 250–279. https://doi.org/10.1016/0030-5073(76)90016-7

[13] Draffan, E. A., & Rainger, P. (2006). A model for the identification of challenges to blended learning. *Alt-J*, *14*(1), 55–67. https://doi.org/10.1080/09687760500479787

[14] Thomason, L. M., & Eastmond, D. V. (2004). The Distance Education Evolution: Issues and Case Studies. *The Internet and Higher Education*, *5*(2), 305-308--. https://doi.org/Book Review

[15] Alebaikan, R., & Troudi, S. (2010). Blended learning in Saudi universities: challenges and perspectives. *Alt-J*, *18*(1), 49–59. https://doi.org/10.1080/09687761003657614

[16] Kirkley, B. S. E., & Kirkley, J. R. (2002). Creating Next Generation Blended Learning Environments Using Mixed Reality , Video Games and Simulations, *49*(3), 42–54.

[17] Cole, M. S., Feild, H. S., & Harris, S. G. (2004). Student learning motivation and psychological hardiness: Interactive effects on students' reactions to a management class. *Academy of Management Learning & Education*, *3*(1), 64–85. https://doi.org/10.5465/AMLE.2004.12436819

[18] Wattenberg, T. (2004). Beyond legal compliance: Communities of advocacy that support accessible online learning. *Internet and Higher Education*, *7*(2), 123–139. https://doi.org/10.1016/j.iheduc.2004.03.002

[19] Rovai, A. P. (2004). A constructivist approach to online college learning. *Internet and Higher Education*, *7*(2), 79–93. https://doi.org/10.1016/j.iheduc.2003.10.002

[20] Centre, Q. M. (2013). International Journal of Asian Social Science Innovations In Academic Performance Audit (APA) To Empower Teaching & Learning : The Uniten Experience Zainal Ariffin Ahmad Norsalwati Binti Mohd Razalli, *3*(9), 1952–1961.

[21] Günay Balım, A. (2009). The Effects of Discovery Learning on Students' Success and Inquiry Learning Skills. *Eurasian Journal of Educational Research Egitim Arastirmalari-Eurasian Journal of Educational Research*, *35*(35), 1–20.

[22] Ally, M. (2001). Foundation of Educational , 3–32.

[23] Potì, P., Bartolommei, P., & Saporiti, M. (2003). Author note ., 1–47.

[24] Dalsgaard, C., & Godsk, M. (2007). Transforming traditional lectures into problem-based blended learning: challenges and experiences. *Open Learning: The Journal of Open, Distance and E-Learning*, *22*(1), 29–42. https://doi.org/10.1080/02680510601100143

[25] Ho, C. H., & Swan, K. (2007). Evaluating online conversation in an asynchronous learning environment: An application of Grice's cooperative principle. *Internet and Higher Education*, *10*(1), 3–14. https://doi.org/10.1016/j.iheduc.2006.11.002

[26] Graham, C. R. (2010). The Chronicle of Higher Education. *The Chronicle of Higher Education*, *LVII*(1), A1–A88. https://doi.org/10.2307/4022859

[27] Potter, A. N. (2004). Powerful Learning Environments: Unravelling Basic Components and Dimensions. *The Internet and Higher Education*, *7*(2), 154–157. https://doi.org/10.1016/j.iheduc.2004.03.005

[28] Shuell, T. J. (1986) Cognitive conceptions of learning, Review of Education Research, 56, 411–436.

[29] Ausubel, D. P., J. D. Novak, & H. Hanesian, (1978). Educational psychology: A cognitive view. 2nd edition. New York: Holt, Rinehart, and Winston.

[30] Fletcher, a. (2004). Meaningful Student Involvement, 1–13. Retrievedfrom http://www.soundout.org/MSIIdeaGuide.pdf

[31] Hargreaves, J. (2004). So how do you feel about that? Assessing reflective practice. *Nurse Education Today*, *24*(3), 196–201. https://doi.org/10.1016/j.nedt.2003.11.008

[32] Löfström, E., & Nevgi, A. (2007). From strategic planning to meaningful learning: Diverse perspectives on the development of web-based teaching and learning in higher education. *British Journal of Educational Technology*, *38*(2), 312–324. https://doi.org/10.1111/j.1467-8535.2006.00625.x

[33] Karagiorgi, Y., & Symeou, L. (2005). Translating constructivism into instructional design: Potential and limitations. *Educational Technology and Society*, *8*(1), 17–27. https://doi.org/10.1002/tea.3660320904

[34] Kolb, D. A., (1984) Experiential Learning: Experience as the Source or Learning and Development. NJ: Prentice Hall: Englewood Cliffs.