Innovation and Development in Blended Learning Mode in Higher Learning Institutions: Interactive Experiences from OUT's Postgraduate Students and Instructors

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Abstract*: Although blended learning mode of delivery has been found to be an effective and inexpensive way to enhance learning, there is still need to examine how students and tutors perceive it in the presence of the traditional modes. The purpose of the present study was to examine views and perception of both instructors and students on attributes related to processes of BLM implementation and interactions. Data were collected using a structured questionnaire administered to38 postgraduate students and 14 instructors from The Open University of Tanzania. Data were analyzed using descriptive. Crosstabs were used to describe the association between BLM processes and interactions of BLM by both instructors and students. The results revealed that students' and instructors' views on BLM processes, such as ease of use of the web environment, evaluation, face to face environment etc., are varied significantly with perceived BLM interactions. Unlike the relatively younger students, the older generations were found to value more of the BLM interactions than of the BLM implementation processes. This paper will help to inform learning institutions intending to go BLM of the best and effective processes for the blended learning environment.*

Keywords; Blended Learning Mode (BLM), blended learning interactions, BLM implementation processes, Open University of Tanzania

INTRODUCTION

Innovation and development of the blended learning mode has marked the realization of enhancing education opportunity to many people from different backgrounds. The blended characteristic features allow for meeting requirements of heterogeneous groups of learners at affordable cost and time. As noted by Zapata and Sagall (2007), "A combination of face-to face class time and self-study with online workbook is an effective and inexpensive way to enhance learning". Reasons for using blended instruction include: improved pedagogy, easy access to knowledge, more interaction among learners, personal presence, cost effectiveness, and ease of revision of learning content (Singh and Reed, 2001).

To meet high education demands in Tanzania, OUT established the blended learning mode which cuts across various social science disciplines. This process was mostly

facilitated by OUT Management efforts to invest in Moodle which is an online learning platform. Apart from the blended learning, OUT runs various postgraduate courses based on traditional learning mode (evening programmes and executive programmes). OUT's current focus is to ensure that all postgraduate programmes utilize this new innovative approach to meet the needs and demands of stakeholders inside and outside the country.

Much has been written concerning the contribution of the blended mode to higher education. However, little is known about perception of course instructors and students on blended learning mode as regards interactive experiences; and whether generational differences exist especially in Tanzania. According to the researchers' observation, perception of course instructors and students on the efficiency and effectiveness of blended mode interactive experiences; and the generational perceived differences, are the important factors which affect preference to enroll to the progamme. This means that perception of the course instructors and students on the blended learning mode interactive experiences will help to realize best practices for the blended learning.

Muthiah (2013), indicates that one of the benefits of a blended learning platform is preventing the 'lone–learner syndrome'. This can best be facilitated by engaging learners - with different backgrounds and generational differences, in interaction during the learning process. Interaction will help individuals to share their experiences, challenge and establish ways for a friendly leaning environment. According to the existing literature, the involvement of students in the blended learning environment is key to their success in the learning process. Anderson (2006) talks about the possibilities of collaborative, interactive, media-rich and personalized learning bring to blended learning. Attention is needed in the learning process to meet students' and instructor's engagement, challenges and connectivity, refining teaching approaches, focusing on high learning experiences and address issues which can interfere learning environment.

In both online and face-to-face instruction, the learners and instructors interact, share ideas and generally try to support one another throughout the learning cycle (Boyle, 2005). Other levels of interactions which are very crucial are: student to student interaction, student to community, student to materials, and student to technology – all of which are the interest of this study. As noted by Ocker and Yaverbaum (2002), the learners are better able to assimilate new information and solve problems when working in collaboration with others.

The main purpose of this paper is to explore innovation and development of the blended learning mode in higher learning institutions based on the interactive experiences and perceptions of OUT's postgraduate instructors and students. Specific objectives of the paper was:

(i) To investigate overall perception of course instructors and students on blended learning implementation processes and interactive experiences.
(ii) To examine whether generational differences exist in perception of course instructors and students.

THEORETICAL FRAMEWORK

Two theories provided the theoretical framework of this study. The learner-centered theory adopted from 'Person–Centered Learning' developed by the American psychologist Carl Rogers (1951) as a method in counseling psychology; and adult learner theory by Malcolm Knowles (1984). The learner-centered theory acknowledges the fact that learning should encompass the whole person by ensuring that learner is the central focus in learning process. The implication is that, planning of the course, curriculum development, mode of delivery, etc. has to consider learners views. Person-centered education, also known as the learner-centered model of instruction, "focuses on developing real-life skills, such as collaboration, higher-order thinking, and problem-solving skills, and better meets the complex needs of the information age (Yun-Jo, and Reigeluth. 2011-2012)."

Person-centered education is characterized by personalized and customized learning, social and emotional support, self-regulation, collaborative and authentic learning experiences, and assessment for learning (*ibid*). As noted by Motschnig-Pitrik and Santos (2006), to ignore the whole person in the process of education is to lose a golden opportunity to fulfill the true meaning of education, which is to enrich people's lives.

> Malcolm developed a field of adult learning termed *andragogy* after studying adult learners for 35 years (Kisamore *et al*., 2008). Texts and teachers play new and secondary. roles in adult education. Knowles's andragogical model is based on several assumptions: (a) the need to know, (b) the learner's self-concept, (c) role of the learner's experiences, (d) readiness to learn, (e) orientation to learning, and (f) motivation. Adult learners are surrounded by various challenges which make their engagement in learning unique. They have many responsibilities to accomplish at the same time such as work, recreation, family life and community life. Adult learners find ways to intervene these situations when needed.
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> Several definitions have been used to describe adult learners. Malcolm Knowles's definition of the adult learner is that - one has arrived at a self-concept of being responsible for one's own life, of being self-directed (Kisamore *et al*., 2008). Some simply look at the age of the learner and define adult learners as anyone over the age of 20, and some feel that the setting defines the adult learner. In other words, if learners are in community college, university, or work setting, they are adult learners. As the population ages and life expectancy lengthens, educators can expect more adult learners (Kisamore *et al*., 2008).
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> A generation is shaped by highly significant events during the coming-of-age experiences between youth and adulthood (Strauss, 2005). These events define a generation and determine the traits and attitudes that distinguish one generation from another. Because of their shared experiences, generations often share values and behaviors as well as bring common approaches and ideas to the workplace and classroom (Lancaster and Stillman, 2002). Andragogy ties in with generational differences as increasingly generations collide in the

classrooms of academia (Howe and Strauss, 2000). The present study will adopt andragogy ties because distinct and different generations are blending in the programmes under study.

EMPIRICALLITERATURE

Blended learning and Higher Learning

Blended learning has been implemented from the past using various approaches such as physical class formats like lectures, labs, books and handouts. In the contemporary society, globalization has improved blended learning through the development of information and technology. Currently blended learning in some higher learning institutions combine face to face classroom methods with the online learning. For example at OUT experience on some postgraduate programmes like Master of Social Work; the blended learning to a traditional approach might mean that class meets for one week at the end of each course (eight weeks) instead of the usual two sessions per week. This allows students to engage in online discussion forums with course facilitators and fellow students. The main goal of the blended learning approach is to mix the traditional approach and online instruction for the aim of enhancing the learning process.

The concept of blended learning is rooted in the idea that learning is not just a one-time event — learning is a continuous process. Blending provides various benefits over using any single learning delivery medium alone (Harvey, 2003). Garrison and Vaughan (2008) define blended learning as "the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies". According to this definition and using George Siemens' concept of innovation, which states that: "Innovation is about being new...doing existing things in a new way, or doing something new in response to changes. Innovation is part evolution and part adaptation (and occasionally, part revolution)," clearly blended learning is an innovation; it involves teaching and learning in a new way, while still adhering to the tenets of higher education[8].

Blended Learning and the Global Trends

Pannekoek (2008) regards the distance, open, and technology enabled learning movement as one of a few movements that show a convergence of interests and knowledge that might be capable of meeting these challenges. Evidence of increasing internationalization is generally manifested in a significant increase in the cross-border activities of higher education institutions. Cross-border higher education is fueled - in part, by the growing worldwide demand for higher education and is characterized by increased mobility of students, courses and programs and increased mobility of institutions across national borders. As stated by UNESCO, cross-border higher education encompasses a wide range of modalities from face-to-face instruction (such as

[8] www.cohere.ca. (assessed on 20.07.2013)

students travelling abroad and campuses abroad) to distance learning (through a range of technologies and including e-learning), (ICDE, 2009).

Existing literature shows that there had been a paradigm shift in higher learning education offered by the higher education institutions in the 20th C due to the emergence of the electronic learning (e-learning) globally. Consequently, the adoption of e-learning technologies has impacted the planning, learning design, management and administration of the learning process and delivery of learning content to the students (Namahn, 2010) thereby promoting blended learning. Britain and Liber (2003) point out that over 80% of HEIs in the developed world are actively engaging in the use of e-learning systems for supporting their teaching and learning, with 97% of universities reported to be using one or more forms of Virtual Lerning Environment (VLE).

The situation is different in the developing world due to various social, economic, political and cultural challenges on technological development. As noted by UNESCO (2006), "education in Sub-Saharan Africa are grappling with the continuing economic downturn, high demand for higher education in emerging knowledge-driven economies as well as inadequate availability of experienced and skilled teachers. Universities in Sub-Saharan Africa are also still facing numerous challenges such as high volume of students, limited ICT infrastructure, high illiteracy levels, ineffective computer system maintenance and poor ICT support relative to the implementation of e-learning (Ssekakubo *et al*., 2011; Andersson, 2008). This calls for the government attention if African countries are to realize sustainable development.

ICTs and the blended learning

Blended learning is realized in teaching and learning environments where there is an effective integration of different modes of delivery, models of teaching and styles of learning as a result of adopting a strategic and systematic approach to the use of technology combined with the best features of face-to-face interaction (Krause, 2007). According to Bath and John (2010), blended learning is about effectively integrating ICTs into course design to enhance the teaching and learning experiences for students and teachers by enabling them to engage in ways that would not normally be available or effective in their usual environment, whether it is primarily face-to-face or distance mode.

The innovation and development of the blended learning has been greatly influenced by the integration of the information computer technologies in various programmes. This means that the course facilitators and students have to be well equipped in terms of ICT skills and knowledge. This is because course facilitators will be responsible for preparing online courses and upload extra reading materials online so that respective students can access and proceed with learning as expected. Course facilitators have to participate on the online discussion forums with their students to make the online learning visible throughout. According to (Clark 2003), "adding creative and innovative uses of technology to improve teaching practices have generated new opportunities for learning". This is supported by (Bath and John, 2010) who argue that, "Advances in technology provide new opportunities for teachers to design and deliver their courses in

ways that support and enhance the teachers' role, the students' individual cognitive experiences, as well as the social environment; three key elements in successful learning and teaching." Blended learning technologies can:

- Broaden the spaces and opportunities available for learning;
- Support course management activities (e.g., communication, assessment submission, marking and feedback);
- Support the provision of information and resources to students;
- Engage and motivate students through interactivity and collaboration.

Bath and John added that, it is not just about using technology because it is available; blended learning is about finding better ways of supporting students in achieving the learning objectives and providing them with the best possible learning and teaching experiences, as well as supporting teachers in their role (including the management and administration of courses).

RESEARCH METHODOLOGY

This study involved a cross-sectional survey research design where data were collected using a structured questionnaire administered to purposefully selected 50 postgraduate students and 20 instructors. The survey instrument used a 5-point Likert Scale with choices of strongly agree, agree, not sure, disagree, strongly disagree; very relevant, relevant, don't know, somehow not relevant, very irrelevant; highest level, high level, don't know, low level, lowest level. The survey offers participants specific choices and directions to choose the one that best fits them which help to measure the degree to which the assessment consistently measure the attribute (Hinkle *et al*., 2003).

A total of 52 (74.3%) of the mailed questionnaires were returned dully filled of which 38 were postgraduate students and 14 instructors from The Open University of Tanzania. A purposeful sampling technique was the most ideal because of the respondents' appropriateness and willingness to provide more in-depth understanding of the topic being researched. For this study, instructors who teach face-to-face and teach or have taught at least one academic course online in any department at OUT were selected to participate.

Only postgraduate students enrolled in the blended mode were selected for the purpose of this study. Data on perceptions were arranged in frequency tables. Cross tabulation was done to examine association between BLM processes and interactions of BLM by both instructors and students. Crosstab was also used to assess whether generational differences were related to the respondent's perception on BLM core attributes.

RESULTS AND DISCUSSION

Description of the sampled respondents

Demographic information was requested at the beginning of the survey instrument. Information obtained from those who chose to respond revealed that 57.7% were male and 42.3 were female. The demographic profile for students and instructors participating in the study is represented in Table 1. Students enrolled in postgraduate studies offered

through blended mode represent 75.1% and course instructors participating in blended learning mode 26.9% of the study population. Generational difference was based on age below 40 years (57.7%) and age above 40 years (42.3%).

Table 1: Demographic description of respondents

Variable	Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Respondent's sex	Male	30	57.7	57.7	57.7
	Female	22	42.3	42.3	100.0
	Total	52	100.0	100.0	
Respondent's status	student	38	73.1	73.1	73.1
	Course instructor	14	26.9	26.9	100.0
	Total	52	100.0	100.0	
Respondent's age	below 40 years	30	57.7	57.7	57.7
	above 40 years	22	42.3	42.3	100.0
	Total	52	100.0	100.0	

Perception on blended learning implementation processes and interactive experiences

To reveal instructors' and students' overall perception on blended learning implementation processes and interactive experiences (the first research); the study established various questions based on expectations of BLM benefits; perception on BML limitations; perception on the implementation processes of the BLM; and anticipated forms of interactions of the BLM. This is clearly indicated in tables presented as appendices 1- 4. The outcome shows that students and instructors favour blended learning and their interactive experience with blended learning is relatively good. From the findings respondents have indicated that they have enough skills necessary for blended learning and they seem comfortable with the structure of the blended learning mode. As far as the respondents' perception on BLM limitation is concerned the findings show that this does not hinder the leaning process because it seems lecturers and students have necessary skills and they manage to access internet. The blended learning implementation processes according to survey participants is good and meets their expectations. The findings revealed that students' and instructors perception on anticipated forms of students' interaction of BLM is of the high level. A student manages to interact with fellow students, course instructors, community, reading material and information technology.

Relationship between Generational differences and respondents perception on selected attributes

The second research objective sought to understand whether generational differences existed in affected perceptions of instructors and students. To answer this question various attributes related to blended learning implementation processes and interactive experiences were established based on 5-point Likert scale analysis as indicated in Table 6 to Table 12. The following attributes were established: perception on BML limitations by age; perception of relevance of various attributes of BLM by respondent's age; perception of interactions expected of BLM by respondent's age group; perception on

benefits expected of BLM by respondent's age.

Perception on BLM limitations and age generational differences

Table 2 shows that generational differences exist based on respondents' perception reflected on different BLM attributes. Findings further indicated that respondents who were above 40 years lacked some necessary computer skills (i.e. lack of keyboarding/typing skills 66.7% and lack of internet browsing skills 87.5%) relevant for the blended learning mode as compared to those who are under 40years (i.e. lack of keyboarding/typing skills 33.3% and lack of internet browsing skills 12.5%). The respondents over 40 years seem to have little concern on the blended learning workload. Only 33.3% indicate that there was too much reading materials and 41.7% agreed that there was too much writing on blended learning mode). As compared to participants below 40,66.7% indicated that there was too much reading whereas 58.3 showed that there was too much writing in the blended learning mode). About 66.7% of respondents aged under 40 years showed that there was inaccessibility of internet connectivity, whereas only 33.3% of the respondents above 40 years indicated that internet connectivity was a problem.

Table 2: Perception on BLM limitations by age

		Respondent's age		Total
		below 40 years	above 40 years	
I lacked keyboarding/typing skills	Strongly Agree	**33.3%**	**66.7%**	100.0%
	Agree	60.0%	40.0%	100.0%
	Disagree	47.8%	52.2%	100.0%
	Strongly disagree	**71.4%**	**28.6%**	100.0%
There was too much reading materials	Strongly agree	**66.7%**	**33.3%**	100.0%
	Agree	78.6%	21.4%	100.0%
	Disagree	46.2%	53.8%	100.0%
	Strongly disagree	**40.0%**	**60.0%**	100.0%
There was too much writing required	Strongly agree	100.0%		100.0%
	Agree	**58.3%**	**41.7%**	100.0%
	Disagree	57.1%	42.9%	100.0%
	Strongly disagree	**44.4%**	**55.6%**	100.0%
I lacked internet browsing skills	Strongly agree	100.0%		100.0%
	Agree	**12.5%**	**87.5%**	100.0%
	Disagree	65.0%	35.0%	100.0%
	Strongly disagree	**63.6%**	**36.4%**	100.0%
Inaccessibility of internet connectivity	Strongly agree	**66.7%**	**33.3%**	100.0%
	Agree	40.0%	60.0%	100.0%
	Disagree	**71.4%**	**28.6%**	100.0%
	Strongly disagree	50.0%	50.0%	100.0%

Perception on relevance of various attributes of BLM by respondent's age

Perception on relevance of various attributes on BLM was examined based on respondent's age to explore whether or not generational differences exist. The findings in Table 3 show that various attributes of the BLM are perceived to be very relevant/relevant by the two generations. Some differences are noted among the two generations in some attributes. The results indicate that 69.1% of respondents below 40 years perceive use of web and internet sources environment as relevant whereas only 39.1% of respondents above 40 years show same perception. The findings show that

65% of respondents below 40 years perceive online forum discussions as very relevant as compared to 35% of respondents above 40 years. 62.1% of respondents below 40years perceive content of the subject matter in a course as relevant and only 37.9% of the respondents above 40% showed same perception. Face-to-Face sessions are perceived as being very relevant by 60.7% of respondents below 40% as compared to 39.3% of respondents over 40 years. There is no significant difference on the relevance of blended learning method and relevance of access to the library print reading materials as results show that 51.7% of respondents below 40 years perceived these as relevant as compared to 48.3% of respondents above 40 years.

Table 3: Perception on relevance of various attributes of BLM by respondent's age

		Respondent's age		Respondent's age
		below 40 years	**Above 40 years**	
Relevance of ease of use of web and internet sources environment	Very relevant	53.8%	46.2%	100.0%
	Relevant	60.9%	39.1%	100.0%
	Somehow not relevant	100.0%		100.0%
Relevance of online forum discussions	very relevant	65.0%	35.0%	100.0%
	Relevant	50.0%	50.0%	100.0%
	Somehow not relevant	100.0%		100.0%
Relevance of content of the subject matter in a course	Very relevant	55.6%	44.4%	100.0%
	relevant	62.1%	37.9%	100.0%
	Don't know	66.7%	33.3%	100.0%
Relevance of Face-to-Face sessions	very relevant	60.7%	39.3%	100.0%
	Relevant	52.4%	47.6%	100.0%
	Somehow irrelevant	100.0%		100.0%
Relevance of blended learning method	very relevant	55.6%	44.4%	100.0%
	Relevant	51.7%	48.3%	100.0%
	Somehow not relevant	100.0%		100.0%
Relevance of access to the library print reading materials	Very relevant	75.0%	25.0%	100.0%
	Relevant	40.9%	59.1%	100.0%
	Don't know	55.6%	44.4%	100.0%
	Somehow not relevant	66.7%	33.3%	100.0%

***Perception on level of interactions expected of BLM by respondent's age gro*up**

Examining perception on level of interactions expected of BLM by respondents based on age groups was important as far as generational difference is concerned. Table 4 shows that some important differences exist across generations. 66.7% of participants below 40 years show that there was highest level student-to-student interaction as compared to only 33.3% of respondents above 40 years. 90.9% of respondents below 40 years indicate highest interaction of student-to-instructors whereas only 9.1% of respondents above 40 years show similar perception. 88.9% of respondents below 40 years show that student-to-community interaction was experienced at the highest level and only 11.1% of respondents above 40 years show similar perception. Student-to-reading material interaction was perceived by 64.3% of participants below 40 years to be of the highest level as compared to 35.7% of participants above 40 years. The

findings have revealed that 80% of participants below 40 years perceive student-to-information technology interaction as of the highest level as compared to 20% of participants above 40 years.

Table 4: Perception on level of interactions expected of BLM by respondent's age group

		Respondent's age		Total
		below 40 years	above 40 years	
Student-to-student interaction	Highest level	**66.7%**	**33.3%**	100.0%
	High level	54.8%	45.2%	100.0%
	low level	50.0%	50.0%	100.0%
Student-to-instructor interaction	Highest level	**90.9%**	**9.1%**	100.0%
	High level	**44.8%**	**55.2%**	100.0%
	Don't know	50.0%	50.0%	100.0%
	Low level	**60.0%**	**40.0%**	100.0%
Student-to-community interaction	Highest level	**88.9%**	**11.1%**	100.0%
	High level	42.1%	57.9%	100.0%
	Low level	**75.0%**	**25.0%**	100.0%
	Lowest level	100.0%		100.0%
Student-to-reading material interaction	Highest level	**64.3%**	**35.7%**	100.0%
	High level	57.6%	42.4%	100.0%
	Don't know	50.0%	50.0%	100.0%
	Low level	33.3%	66.7%	100.0%
Student-to-information technology interaction	Highest level	**80.0%**	**20.0%**	100.0%
	High level	54.3%	45.7%	100.0%
	Low level	40.0%	60.0%	100.0%

To enhance the purpose of this study perception on benefits expected of BLM by respondent's age was examined. Table 5 shows that 63.3% of participants below 40 years agree that there was a friendliness of Moodle platform, instructors and students as compared to 36.7% of participants above 40 years. 71.4% of respondents below 40 years indicated that they strongly agree that they do not like sitting in a class for long due to their positions in society as compared to 28.6% of respondents above 40 years. 71.4% of respondents below 40 years strongly agree that they had an opportunity to air out their points with ease during forum discussions whereas only 28.6% of respondents above 40 years showed similar perception. 83.3% of respondents below 40 years strongly agree that time fits well with their employment obligations unlike other learning mode as compared to 16.7% of respondents above 40 years. 85% of respondents below 40 years strongly agree that time fits well with their family and social commitments whereas 15% of respondents above 40 years had similar perception. The findings show that 71.4% strongly agree that they I can learn from anywhere and anytime of the day as compared to 28.6% of respondents above 40 years.

Table 5: Perception on benefits expected of BLM by respondent's age

		Respondent's age		Total
		below 40 years	above 40 years	
Friendliness of moodle platform, instructors and students	Strongly agree	50.0%	50.0%	100.0%
	Agree	63.3%	36.7%	100.0%
	Disagree	33.3%	66.7%	100.0%
	Strongly disagree	100.0%		100.0%
I don't like sitting in a class for long due to my position in society	Strongly agree	71.4%	28.6%	100.0%
	Agree	57.9%	42.1%	100.0%
	Disagree	58.3%	41.7%	100.0%
	Strongly disagree	44.4%	55.6%	100.0%
I had opportunity to air out my points with ease during forum discussions	Strongly agree	71.4%	28.6%	100.0%
	Agree	41.9%	58.1%	100.0%
	Disagree	100.0%		100.0%
Time fits well with my employment obligations unlike other learning modes	Strongly agree	83.3%	16.7%	100.0%
	Agree	50.0%	50.0%	100.0%
	Disagree	25.0%	75.0%	100.0%
	Strongly disagree		100.0%	100.0%
Time fits well with my family and social commitments	Strongly agree	85.0%	15.0%	100.0%
	Agree	48.0%	52.0%	100.0%
	Disagree		100.0%	100.0%
I can learn from anywhere and anytime of the day	Strongly agree	71.4%	28.6%	100.0%
	Agree	42.1%	57.9%	100.0%
	Disagree		100.0%	100.0%
	Strongly disagree		100.0%	100.0%

CONCLUSION

The current study has come up with some interesting findings to inform developers of academic programmes that involve blended mode of learning. The findings imply that in order to make the students to highly engage in their own learning and take the time to be better students, it is necessary to shift into a different paradigm of learning. It is important to create an educational setting that allows students to explore and engage in multiple levels of learning. The perceptions by students at OUT has indicated that though BLM could be the best to fit their time both at work and at home, still face to face sessions are important. This implies that conventional physical integrations between instructors and students need to complement the online modes of learning. To create this type of student engagement in the online world, students should have five very highly interactive experiences; student-to-student, student-to-teacher, student-to-community, student-to- material, and student-to-technology. If an online program/class is able to build this type of learning environment, the students will have one of the most exciting and memorable encounters of their educational experience.

Combining the real-world resources, activities, and online experiences are some of the most valuable lessons students can do. All students, whether high achieving or low level, old or young can master key interactive fundamentals if given the chance. This study has indicated that the generational differences were not that diverse between old and young students. Access to the print materials library is also crucial in complementing BLM because the print material library environment (Vs digital library) is an important part of interactive, distance education to ask students to do real-world

activities to more fully master the content. When students must mentally, emotionally, and physically touch the reading material, they learn the authentic skills they will be able to use as they advance into their academic and real-world future. If students must use all of the academic disciplines to do their work and produce a product that has to be viewed, reviewed, and restructured, they are forced to learn a wide variety of skills they will use later in their lives. This calls for instructors in BLM to create more interactive hands on assignments to improve on students' interaction with the community, which was perceived low by majority.

Various studies related to the blended learning have been conducted for the purposes of enhancing efficiency and effectiveness. For faculty members, blended learning has to be seen as providing more opportunities for teacher –student interaction, increased student engagement in learning, added flexibility in the teaching and learning environment, and opportunities for continuous improvement. The area of student perceptions of online and blended learning environments as also noted by Shaw (2010) and Wu *et al*. (2008) is often overlooked. It is important not to forget that students are the ones embracing or "fleeing" from these methods of delivery (El Mansour and Mupinga, 2007). What students perceive about the learning environment remains important for implementing new methods of delivery in the academic and training and development areas.

Institutions which adopt BLM should note that students spend considerable time and money, as well as exerting substantial effort in obtaining a quality education and should perceive educational experiences as being of high value (Knox, Lindsay, & Kolb, 1993). Many factors which influence students' perception on various areas such as instructor, technology, interactivity, interest, course management and instruction have to be monitored in the learning process. Student learning style, course structure, expectations, communication, and collaboration are the variables in the BLM hence instructors must address in an effort to increase students' satisfaction levels. Comprehending these essential variables can provide great management insights into developing effective strategies that will allow universities going BLM to create new opportunities and value for their students and instructors.

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Appendices

Appendix 1: Respondent's general experience of their use of BLM (N = 52, figures in %)

	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
I can easily understand new information by reading it on my own	28.8	53.8	15.4	0.0	1.9
I consider myself to be highly organized	17.7	73.1	17.3	0.0	0.0
I learn better if I listen to a lecture online than if I read a textbook on my own	30.8	36.5	13.5	7.7	7.7
Sometimes I need help to understand reading digital materials.	42.0	38.5	3.8	10.0	4.0
I have strong time-management skills.	9.6	55.8	30.8	1.9	1.9
I need to be reminded about upcoming assignments and due dates	28.0	36.0	4.0	26.0	6.0
I usually complete the textbook reading assignments	10.9	43.5	4.0	26.0	6.0
The blended course component was designed to help me be an active learner.	54.0	36.0	8.0	0.0	2.0
I understood what was expected of me	28.0	62.0	10.0	0.0	0.0
I experienced intellectual growth in the course of learning	46.0	52.0	2.0	0.0	0.0
I consider myself in a group of the best 5 highest performers in our cohort	38.1	26.2	33.3	2.4	0.0

Appendix 2: Respondent's perception on BML limitations (N = 52, figures in %)

	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
I lacked the keyboarding/typing skills	5.8	9.6	0.0	44.2	40.4
There was too much reading materials	17.3	26.3	11.5	25.0	19.2
There was too much writing required	3.9	23.5	13.7	41.2	17.6
I got behind and could not catch up	0.0	7.7	11.5	57.7	23.1
The course was too unstructured for me	2.0	5.9	5.9	51.0	35.3
I experienced difficulty with Blackboard	5.8	5.8	7.7	50.0	30.8
I lacked internet browsing skills	1.9	15.4	1.9	38.5	42.3
Inaccessibility of internet connectivity	17.3	28.8	1.9	40.4	11.5

Appendix 3: Respondent's perception on the implementation processes of the BLM (N = 52, figures in %)

	Very relevant	Relevant	Don't know	Somehow not relevant	Very irrelevant
Ease of use of Web and internet sources Environment	50.0	44.2	3.8	1.9	0.0
Online forum discussions	30.5	46.2	9.6	5.8	0.0
Content of the subject matter in a course	35.3	56.9	5.9	2.0	0.0
Face-to-face sessions	53.8	40.4	1.9	5.9	0.0
Course Evaluation by student	34.6	51.9	13.5	0.0	0.0
Blended Learning Method	34.6	55.8	5.8	7.8	0.0
Course assessment (tests and exams)	35.3	51.0	5.9	7.8	0.0
Readability of electronic/digital materials	25.0	67.3	1.9	5.8	0.0
Access to the library print reading materials	15.4	42.3	17.3	17.3	7.7

Appendix 4: Respondent's perception on the anticipated forms of student interactions of BLM (N = 52, figures in %)

	Highest level	High level	Don't know	Low level	Lowest level
Student-to-student interaction	28.8	59.6	0.0	11.5	0.0
Student-to-Instructor interaction	21.2	55.8	3.8	19.2	0.0
Student-to-Community interaction	17.3	36.5	28.8	15.4	1.9
Student-to-Reading Material interaction	26.9	63.5	3.8	5.8	0.0
Student-to-Information Technology interaction	19.2	67.3	3.8	9.6	0.0