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A photograph of a classroom setting. In the foreground, a smartphone is mounted on a stand. In the background, a man with glasses is looking at a laptop, and a woman is holding a tablet. The scene is dimly lit, suggesting an evening or indoor setting with artificial light.

**THE IMPACT OF BLENDED
LEARNING** at the Uganda
Management Institute



UGANDA MANAGEMENT INSTITUTE

THE IMPACT OF BLENDED LEARNING at the Uganda Management Institute

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Executive Summary

This report evaluates blended learning implementation at the Uganda Management Institute (UMI), Uganda. The study assessed the effectiveness of blended learning (BL) for participants' learning performance and their perceptions about BL. The sample of this study included 7 faculty members and 31 participants who enrolled for 5 blended courses offered during the Fall 2019 term. A convenience sampling method was employed to collect the survey data. For quantitative data analysis, an independent sample *t*-test, a Pearson correlation

coefficient, and a likelihood-ratio test were used. The facilitators' interviews were fully transcribed and cleaned. The transcribed interviews were analysed using the Activity Theory (AT) framework (Engeström, 1987). The results of the learning performance assessment showed a significant difference between the participants' outcomes in the blended and non-blended courses. Participants' overall perception of BL was very positive, and they noted that BL provided them with the flexibility to access the courses anywhere and anytime.





1. Introduction

In the recent years, blended learning has got a lot of attention not only from higher education but also school education and corporate sectors (Drysdale et al., 2019). There are many definitions of BL. For example, Graham (2006) described blended learning as a combination of face-to-face instruction and computer-mediated instruction. BL can also be defined as “the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies” (Garrison & Vaughan, 2008, p. 148). Blended learning is an instructional approach that substitutes online learning for a portion of the traditional face-to-face instructional time (Owston et al., 2013). Staker and Horn (2012) classified blended learning into four different models: (1) the rotation model, participants rotate on a fixed schedule or at the teacher’s discretion between learning modalities, at least one of which is online learning, (2) flex model, participants move on an individually customized, fluid schedule among learning modalities, and the teacher-of-record is on-site, (3) self-blend model, participants choose to take one or more courses

entirely online to supplement their traditional courses and the teacher-of-record is the online teacher and the enriched-virtual model, participants divide their time between attending a brick-and-mortar campus and learning remotely using online delivery of content and instruction.

Previous studies have conducted meta-analysis to investigate the effectiveness of BL. For example, Sitzmann et al., (2006) compared the effectiveness of web-based and classroom instruction. The results showed that web-based instruction was more effective as compared to classroom instruction. In another meta-analysis conducted by Bernard et al. (2014), the researchers found that blended learning is more effective compared to classroom instruction in terms of academic achievement. Therefore, it can be concluded that there is a consensus of the effectiveness of different forms of BL.



2. Research Questions

The present study is both exploratory and evaluative in nature. It was commissioned by COL to understand the following questions in the context of UMI and evaluate the interventions supported by COL. These questions guided the study:

- Is there any significant difference in participants' learning performance between blended courses and non-blended courses?
- Is there any significant relationship between learners' perceptions, motivation, digital literacy, attitude

towards learning and final grade in a blended course?

- How do learners describe the effectiveness of the blended learning environment in their course of study?
- What impact does a training and mentoring programme have on the facilitators' experience of designing and teaching in a blended learning environment?



3. Literature Review

BL as a teaching approach has been employed in different subject domains across different academic levels. Previous studies have shown the effectiveness of BL in terms of participants' learning performance, engagement, and motivation. For example, Singh et al. (2019) examined the effectiveness of BL to teach electric machines. They found that BL approach not only improved participants' learning performance but also engagement as compared to the traditional mode. Riffell and Sibley (2005) found that the participants performed better in BL approach as compared to traditional approach in an undergraduate biology course and also showed better interaction with the instructor. In another study, Bhagat et al. (2016) examined the effectiveness of the flipped classroom across different achievement levels of the participants in mathematics. The results revealed that the flipped classroom improved the learning performance of low-achievers as the participants had the opportunity to discuss their problems. López-Pérez et al. (2011), found a positive effect of BL on participants'

perceptions of their learning outcome. Owston et al. (2013) investigated the relationship between participants' perceptions in a BL environment and their academic achievement. The results showed a significant relationship between participants' perceptions and their final grades. The researchers also found that high achievers were more satisfied in the BL mode than low achievers; the authors concluded that BL might not be suitable for low achievers. A meta-analysis performed by Vo et al. (2017) to gauge the effectiveness of BL for participants' achievement in higher education revealed a significant but small effect size compared with traditional classroom instruction and concluded that BL could result in better learning performance for participants in higher education. BL also helps to understand the complex topics that results in the improvement of participants' learning performance (Cortizo et al., 2010).



4. Methodology

4.1 Research Design and Sample

The present study followed a mixed-methods approach. A total of 70 students (called participants at UMI) enrolled in 5 courses (MBA 7111-Research Methods for Business Decisions, MBA 7112 - Management and Organisational Behaviour, MBA 7113 - Human Resource Management, MBA 7114 - Quantitative Techniques in Business Management, MBA 7115 - Financial Accounting, and MBA 7116 - Operations Management) offered during the Fall 2019 semester. At the end of the course, participants were asked to respond to a questionnaire. The student questionnaire contained 76 closed questions and one open-ended question (see Appendix 1). A convenience sampling method was employed to collect the survey data. A total of 31 respondents (44%) participated voluntarily in the survey. The gender distribution was males = 16 and females = 15. Participants' pre-cumulative grade point average (pre-CGPA) and final grades in the blended and non-blended courses were collected from the UMI's academic records. The qualitative data were comprised of participants' responses to the open-ended question in the questionnaire and teachers' (called facilitators at UMI) responses in the interview with the researchers. The interview questions for facilitators (see Appendix 2) addressed their experience of designing and teaching a blended course. These questions were adopted and modified from the study by Mishra (2017). Seven facilitators participated in the interviews.

4.2 Instruments

Four questionnaires were used to collect the data: Digital Literacy and Access to Technology

(DLAT), Attitude Toward Thinking and Learning (ATTL), Course Interest Survey (CIS), and Blended Learning Course Experience Survey (BLCES). Except for demographic information, all the survey items were measured on a five-point Likert scale.

DLAT included three items, and the overall Cronbach's α for DLAT was 0.879. CIS was designed by Keller (2010). The CIS questionnaire included four subscales and 34 items: an eight-item attention subscale; a nine-item relevance subscale; an eight-item confidence subscale; and a nine-item satisfaction subscale. The four factors in the questionnaire had an adequate reliability (Cronbach's $\alpha = 0.70, 0.77, 0.8$ and 0.76 for attention, relevance, confidence and satisfaction, respectively). The overall Cronbach's α for CIS was 0.91. The ATTL scale was developed by Galotti et al. (1999) and consisted of 20 items. The overall Cronbach's α was 0.90. The BLCES was based on the instrument used by Koneru (2019) to measure participants' BL experience. The three factors of the BLCES had adequate reliability (Cronbach's $\alpha = 0.95, 0.9$ and 0.71 for course design, learning experience and personal factor, respectively). The overall Cronbach's α for BLCES was 0.92.

4.2.1 Data Analysis

For quantitative data analysis, an independent sample *t*-test, a Pearson correlation coefficient, and a likelihood-ratio test were used. The facilitators interviews were fully transcribed and cleaned. The transcribed interviews were analysed using the Activity Theory (AT) framework (Engeström, 1987). All the quantitative analyses were conducted using the Statistical Package for the Social Sciences, version 21 (SPSS 21). The statistical significance level was set at $p < 0.05$.

5. Results

The researcher collapsed a five-point Likert scale (i.e., *strongly agree, agree, neither agree nor disagree, disagree, strongly disagree*) into three categories: agree (i.e., *strongly agree* and *agree*), neutral (i.e., *neither agree nor disagree*) and disagree (i.e., *disagree* and *strongly disagree*). The likelihood-ratio test was employed to check the significant difference between the proportions of agreeing, neutral and disagreeing (Table 1).

For the DLAT scale, the overall score showed a significantly higher proportion of respondents agreeing (93.5%) than neutral (6.4%) in their view.

For the CIS scale, the factor “attention” showed a significantly higher proportion of respondents agreeing (54.8%) than disagreeing (25.8%), but a sizeable number of participants (19.3%) were neutral in their view. The factor “relevance” also showed that significantly more participants agreed (71.7%) than disagreed (19.3%). These

proportions were similar for “confidence,” with significantly more participants agreeing (58.06%) than disagreeing (29.03%), but 12.9% showed a neutral view. Similarly, for “satisfaction” significantly more participants agreed (74.1%) than disagreed (16.1%), but a sizeable number of participants (9.6%) were neutral in their view.

For the ATTL scale, the overall score for connected learners showed a significantly higher proportion of respondents agreeing (87.09%) than disagreeing (3.1%), and the overall score for separated learners also showed a significantly higher proportion of respondents agreeing (70.9%) than disagreeing (12.9%)

For the BLCES scale, in regards to the three-factor course design, the learning experience and the personal factor, more participants agreed with the statements than disagreed, except in the personal factors.

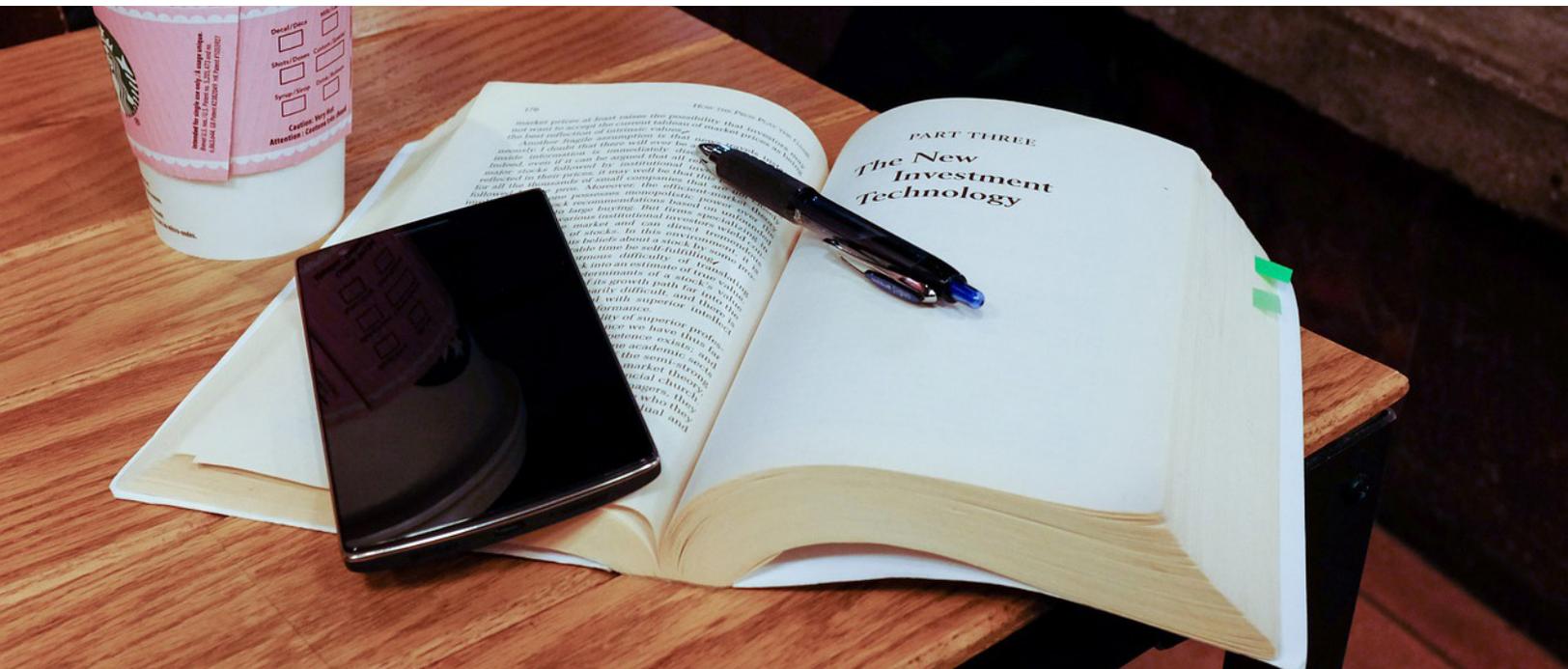


Table 1. Frequency of participant response to categorised questionnaire items (n = 792).

Questionnaire Item	Agree	Neutral	Disagree	χ
Digital Literacy and Access to Technology				
My digital literacy skills (use of MS Office, browse the Web and navigate through the Moodle VLE learning management system) are excellent.	29	2	0	52.5*
My access to and use of digital tools (laptop, smartphone) are excellent.	30	1	0	
My ability to access and use the Moodle VLE learning management system is excellent.	28	3	0	
Combined Score for Items	29	2	0	
Course Interest Survey				
Attention				
The instructor knows how to make us feel enthusiastic about the course's subject matter.	28	3	0	6.65*
This class has very little in it that captures my attention.	10	6	15	
The instructor creates suspense when building up to a point.	9	10	12	
The students in this class seem curious about the subject matter.	24	4	3	
The instructor does unusual or surprising things that are interesting.	16	9	6	
The instructor uses an interesting variety of teaching techniques.	24	3	4	
I often daydream while in this class.	4	11	16	
My curiosity is often stimulated by the questions asked or the problems given on the subject matter in this class.	24	3	4	
Combined Score for Items	17	6	8	

Questionnaire Item	Agree	Neutral	Disagree	χ
Relevance				
The things I am learning in this course will be useful to me.	30	1	0	26.6*
The instructor makes the subject matter of this course seem important.	31	0	0	
I do not see how the content of this course relates to anything I already know.	4	0	27	
In this class, I try to set and achieve high standards of excellence.	30	1	0	
The content of this course relates to my expectations and goals.	28	3	0	
The students actively participate in this class.	27	2	2	
To accomplish my goals, it is important that I do well in this course.	28	2	1	
I do not think I will benefit much from this course.	5	1	25	
The personal benefits of this course are clear to me.	27	3	1	
Combined Score for Items	23	1	6	
Confidence				
I feel confident that I will do well in this course.	30	1	0	10.1*
You have to be lucky to get good grades in this course.	7	3	21	
Whether or not I succeed in this course is up to me.	20	3	8	
The subject matter of this course is just too difficult for me.	3	5	23	
It is difficult to predict what grade the instructor will give my assignments.	14	7	10	
As I am taking this class, I believe that I can succeed if I try hard enough.	30	0	1	
I find the challenge level in this course to be about right: neither too easy not too hard.	24	4	3	
I get enough feedback to know how well I am doing.	17	7	7	
Combined Score for Items	18	4	9	
Satisfaction				
I have to work very hard to succeed in this course.	28	2	1	24.3*
I feel that this course gives me a lot of satisfaction.	27	3	1	
I feel that the grades or other recognition I receive are fair compared to other students.	20	7	4	
I enjoy working for this course.	26	4	1	
I am pleased with the instructor's evaluations of my work compared to how well I think I have done.	24	5	2	
I feel satisfied with what I am getting from this course.	26	3	2	
I feel rather disappointed with this course.	2	4	25	
I feel that I get enough recognition of my work in this course by means of grades, comments or other feedback.	23	5	3	
The amount of work I have to do is appropriate for this type of course.	27	2	2	
Combined Score for Items	23	3	5	

Questionnaire Item	Agree	Neutral	Disagree	χ
Attitudes Towards Thinking and Learning				
Connected learners				
In evaluating what someone says, I focus on the quality of their argument, not on the person who's presenting it.	26	5	0	41.9*
I like playing devil's advocate – arguing the opposite of what someone is saying.	24	6	1	
I like to understand where other people are “coming from,” what experiences have led them to feel the way they do.	24	4	3	
The most important part of my education has been learning to understand people who are very different to me.	28	3	0	
I feel that the best way for me to achieve my own identity is to interact with a variety of other people.	27	2	2	
I enjoy hearing the opinions of people who come from backgrounds different to mine – it helps me to understand how the same things can be seen in such different ways.	27	3	1	
I find that I can strengthen my own position through arguing with someone who disagrees with me.	24	5	2	
I am always interested in knowing why people say and believe the things they do.	30	0	1	
I often find myself arguing with the authors of books that I read, trying to logically figure out why they're wrong.	27	1	3	
It's important for me to remain as objective as possible when I analyse something.	28	3	0	
Combined scores	27	3	1	
Separated learners				
I try to think with people instead of against them.	29	1	1	20.5*
I have certain criteria I use in evaluating arguments.	11	6	14	
I'm more likely to try to understand someone else's opinion than to try to evaluate it.	14	5	12	
I try to point out weaknesses in other people's thinking to help them clarify their arguments.	18	7	6	
I tend to put myself in other people's shoes when discussing controversial issues, to see why they think the way they do.	30	1	0	
One could call my way of analysing things “putting them on trial” because I am careful to consider all the evidence.	24	5	2	
I value the use of logic and reason over the incorporation of my own concerns when solving problems.	21	7	3	
I can obtain insight into opinions that differ from mine through empathy.	22	7	2	
When I encounter people whose opinions seem alien to me, I make a deliberate effort to “extend” myself into that person, to try to see how they could have those opinions.	27	3	1	
I spend time figuring out what's “wrong” with things. For example, I'll look for something in a literary interpretation that isn't argued well enough.	21	6	4	
Combined Score for Items	22	5	4	

Questionnaire Item	Agree	Neutral	Disagree	χ
Blended Learning Course Experience Survey				
Course Design				
The description of course objectives, learning activities and assignments in the online course was excellent.	28	1	2	43.4*
The expression of performance expectations for the course (e.g., in online forums, assignments and quizzes) was excellent.	25	3	3	
The instructor's overall organisation of the course was great.	28	1	2	
The continuity between face-to-face class and online learning was good.	27	3	1	
The pace of the course was user friendly.	27	4	0	
The lecturer's interest in my learning was good.	31	0	0	
The lecturer's feedback on my performance in assignments and quizzes and my participation in the forums was very helpful.	24	3	4	
The lecturer's orientation on the use of online resources, activities and the Moodle VLE learning management system was very helpful.	28	3	0	
Overall, the course experience was excellent.	29	2	0	
Combined Score for Items	27	2	1	
Learning Experience				
Multimedia resources on the Moodle VLE learning management system enriched my learning experience.	24	4	3	21.8*
Communicating online with students and the lecturer improved my learning.	25	4	2	
Blended learning improved my time-management skills.	27	3	1	
Blended learning improved my digital literacy.	28	2	1	
Blended learning improved my performance in the mid-semester test and end-of-semester exam.	16	9	6	
Blended learning enabled me to learn at any time and any pace, from anywhere, using any device.	20	7	4	
Using the Moodle Classic mobile app for viewing/reading learning resources; interacting with faculty and peers in forums; and submitting assignments and quizzes were all satisfactory.	16	9	6	
Combined Score for Items	22	5	3	
Personal Factor				
I feel more anxious in this course.	14	4	13	10.52*
I have trouble using the technologies in this course.	3	0	28	
This course required more time and effort.	22	2	7	
Combined Score for Items	13	2	16	

* $p < .05$

The students' overall perception of BL was very positive. They mentioned that BL provided them with the flexibility to access the courses in any place and at any time.

5.1 *Is there any significant difference in participants' learning performance between blended courses and non-blended courses?*

An independent sample *t*-test was conducted to compare the learning performance of the participants in the non-blended and blended groups. There was a significant difference

between mean scores of the non-blended group ($M = 3.92, SD = .44$) compared to the blended group ($M = 4.46, SD = .48$); [$t(60) = 4.58, p < .05$] (see Table 2). The calculated effect size (Cohen's *d*) is 1.17, which is considered a large effect (Cohen, 1988). This result indicated that the participants in the blended mode of learning performed better than the participants in the non-blended mode.

Table 2. Independent sample *t*-test for the final scores.

Group	<i>N</i>	Mean	<i>SD</i>	<i>t</i> -value
Non-blended	31	3.92	.44	4.58*
Blended	31	4.46	.48	

Note: * $p < .05$; *SD* = standard deviation

5.2 *Is there any significant relationship between learners' perceptions, motivation, digital literacy, attitude towards learning and final grade in a blended course?*

The results showed no significant correlations among final scores, motivational factors, digital literacy, and participants' perceptions towards blended learning. Regarding the relationship between digital literacy and participants' perceptions, there was significant correlations between digital literacy and learning experience

($r = .38, p < .01$). According to Galotti, Clinchy, Ainsworth, Lavin and Mansfield (1999), based on the quality of discourse within the course, a person can be considered as connected knower (CK) or a separate knower (SK). A CK tends to find learning more enjoyable and is often more cooperative, congenial and willing to build on the ideas of others, whereas a SK tends to take a more critical and argumentative stance to learning. The results showed that there was no significant relationship between participants' ATTL and final scores. This may be because of limited discussion among the learners and between the instructors and learners.

Table 3. The intercorrelation among learners' perceptions, motivation, digital literacy and final scores.

	1	2	3	4	5	6	7	8	9	10	11
Final scores (1)	1										
Digital literacy (2)	.07	1									
Course design (3)	.13	.25	1								
Learning experience (4)	.06	.38*	.74**	1							
Personal factors (5)	.07	.09	.24	.23	1						
Attention (6)	.01	.008	.12	.22	.18	1					
Relevance (7)	.07	.18	.73**	.59**	.03	.35*	1				
Confidence (8)	.15	.24	.60**	.32**	.26	.12	.53**	1			
Satisfaction (9)	.13	.31	.65**	.44**	.02	.25	.78**	.52**	1		
Connected learners (10)	.09	.43*	.38**	.29	.23	.20	.59**	.33	.65*	1	
Separate learners (11)	.18	.10	.41**	.27	.08	.59**	.54**	.22	.47*	.42*	1

Note: * $p < .05$; ** $p < .01$

5.3 How do learners describe the effectiveness of the BL environment for their course of study?

There was one open-ended question for the participants in the survey. The responses were divided into three categories: positive, neutral, and negative. Figure 1 shows that most of the participants had great experience with BL mode

Examples of participants' feedback:

Positive: BL is a great initiative. It is flexible. I have good learning experience in BL mode. I can submit my assignment from any place. More scope for the interactions.

Neutral: It would be more interesting if the blended course can incorporate E-Library.

Negative: I struggled to work and access the information because of poor network connectivity. The instructors should give regular feedback on our assignments along with the scores.

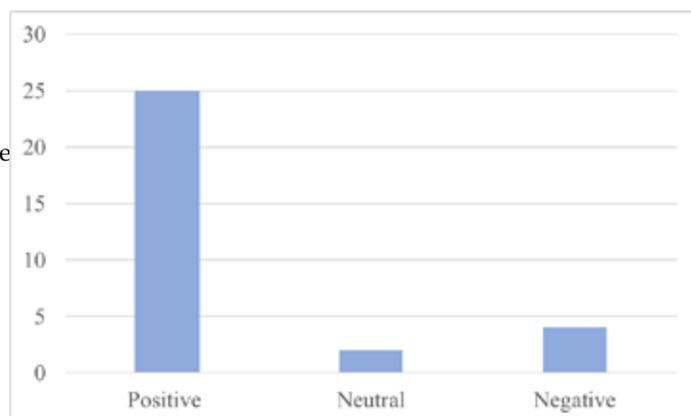


Figure 1. Participants' feedback about their BL experience.

5.4 What impact does a training and mentoring programme have on the facilitators' experience of designing and teaching in a BL environment?

An Activity Theory framework was employed to analyse the in-depth interview data collected from the faculty members who instructed using the BL mode. Based on the instructors' interview results, an activity system was developed (Fig. 2). This model represents instructors' perceptions about the professional training they received and the outcome of this training. The various elements of the developed activity system are subject,

object, tools, rules, community, and division of labour. *Subject* refers to the participants who underwent the training. *Object* refers to the purpose of the professional development training initiatives. *Tools* refers to the Moodle VLE platform used by the instructors to develop and host their blended course and to other ICT tools. *Rules* refers to the TEL policy. In this system, *community* refers to teacher educators (facilitators), trainers, UMI top management, technical staff, the Distance Learning Department, and others who attempted to make this training programme effective and successful. *Division of labour* refers to the challenges faculty members faced when implementing BL. Using the Activity Theory framework, triads were developed to analyse the faculty's interview data.

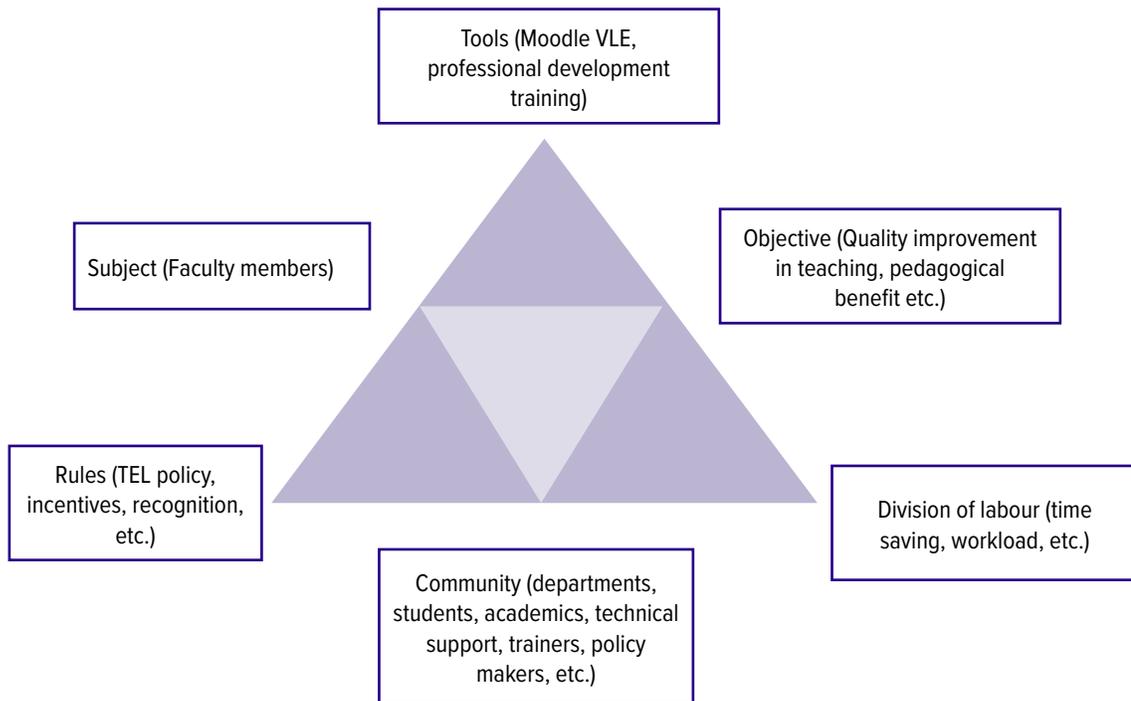


Figure 2. Activity system triangle based on Engeström's (1987) activity system.

5.4.1 Subjects–tools–objects

Overall, the faculty members expressed very high satisfaction with the training provided to them. The training helped the instructors with using different functions of Moodle VLE, which they employed as a platform to deliver their blended course. For example, one instructor responded: “It gave me the requisite skills to be able to engage the blended learning.” Another respondent mentioned: “It helped me to learn how to create discussion forums, how to upload materials, e.g., notes, questions, videos, audios, etc. and how to set and mark assessments online.” In addition, the instructors mentioned that the training helped them to prepare their course, which engage the participants. For example, one instructor mentioned: “It enabled me to deliver much more through engaging the participants.” Another instructor remarked, “The training was very insightful. It enabled me develop the content for the course and the tools for assessment.” However, the faculty members also had some concerns related to the Internet connectivity. One respondent said: “Unreliable access to the Internet and the platforms to be used.” Another instructor mentioned “Poor participation by a few of the participants who may have genuine reasons such as working in remote areas with limited internet access.”

5.4.2 Tools–rules–division of labour

Most of the respondents agreed that UMI already has a policy to support BL. UMI

provided regular training, technical assistance, and ICT tools to develop and run blended courses. One instructor stated: “UMI has developed a platform for the e-learning and ensured that facilitators use the platform to deliver some modules and assessments.” In addition, UMI provide regular trainings and facilitations. With respect to this, one respondent said: “UMI facilitated the initial training. There are IT staffs who always have been available to help and guide.”

5.4.3 Subject–community–objects

Some faculty members pointed out that their colleagues are not very aware of the BL mode. This point to a need for more training programmes. With respect to this, one respondent said: “Not enough training has been conducted. Highlighting the benefits of BL will encourage the use of this approach. Promote blended learning to them.”

5.4.4 Objects–community–division of labour

Most of the instructors agreed that collaboration is very important for developing and improving the quality of their blended courses. With respect to this, one respondent said: “It enhances knowledge sharing as well as sharing of experiences in terms of what has worked elsewhere for purposes of continuous improvement”.



6. Discussion and conclusions

This study attempted to answer four research questions. The first investigated the learning benefits of using BL. The results indicated that the participants in the BL group performed significantly better as compared to the face-to-face mode. This present result is consistent with previous studies showing that BL is effective for improving academic performance (Cortizo et al., 2010; Xu et al., 2019; Yang et al., 2019). This result maybe because participants in the BL get more flexibility to access the course content and learn at their own pace, which is not available in the traditional mode. In BL participants get more opportunity for the problem-solving opportunities. This could have resulted in the better performance of the participants in BL group as compared to the face-to-face mode.

The correlation analysis was conducted to examine the associations between learners' perceptions; motivation, digital literacy, and final grade were calculated using correlation. It was found that the final score was not associated with participants' perception, motivation, and digital literacy. This result is inconsistent with the previous study conducted by Bhagat (2020).

Most of the participants showed positive response towards the implementation of BL. They feel more comfortable to post their questions on Moodle VLE. They found Moodle VLE user friendly to access the content and submit the assignments. This result is consistent with previous study showing that participants show positive perception if they feel comfortable in the teaching and learning process (Manwaring et al., 2017).

AT was employed to investigate how professional training affected facilitators'

experience of BL. The instructors mentioned that professional training facilitated them to design their blended course and to use Moodle VLE during their course. They used the Moodle VLE to regulate group discussions and administer the course. The participants found the BL courses more engaging and interactive. Overall, the instructors showed very positive response towards BL implementation.

6.1 Recommendations

Based on the above findings, this study offers the following recommendations:

- a) *Improve the Internet connection:* The faculty members and participants faced problems to upload and submit the assignments. Majority of the participants and instructors believe that the poor Internet connectivity is one of the major issues, which need to be resolved in order to conduct the BL courses hassle free.
- b) *Provide professional training:* The instructors believe that regular training programmes will definitely help them to improve their BL course preparation and delivery. The training will also improve their skills to use Moodle VLE. While COL has supported training on Moodle and blended learning over the last 2 years, it would be good to facilitate local just-in-time training for lecturers involved in course design and delivery. Some lecturers suggested off-site training programmes so that the instructors will fully devote themselves.

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Appendix 1

Blended Learning Student Survey Questionnaire

Demographic Data					
Name					
Age					
Gender					
Student registration no.					
Previous CGPA score					
Blended Learning Course Information					
Online course title (dropdown list)					
Programme of study (dropdown list)					
Year & semester of study (dropdown list)					
Campus (dropdown list)					
Name of blended learning course faculty (dropdown list)					
Digital Literacy and Access to Technology					
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
My digital literacy skills (use of MS Office, browse the Web and navigate through the Moodle VLE learning management system) are excellent.					
My access to and use of digital tools (laptop, smartphone) are excellent.					
My ability to access and use the Moodle VLE learning management system is excellent.					

Blended Learning Course Experience Survey

Course Design

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The description of course objectives, learning activities and assignments in the online course was excellent.					
The expression of performance expectations for the course (e.g., in online forums, assignments and quizzes) was excellent.					
The instructor's overall organisation of the course was great.					
The continuity between face-to-face class and online learning was good.					
The pace of the course was user friendly.					
The lecturer's interest in my learning was good.					
The lecturer's feedback on my performance in assignments and quizzes and my participation in the forums was very helpful.					
The lecturer's orientation on the use of online resources, activities and the Moodle VLE learning management system was very helpful.					
Overall, the course experience was excellent.					

Learning Experience

Multimedia resources on the Moodle VLE learning management system enriched my learning experience.					
Communicating online with students and the lecturer improved my learning.					
Blended learning improved my time-management skills.					
Blended learning improved my digital literacy.					
Blended learning improved my performance in the mid-semester test and end-of-semester exam.					

Blended learning enabled me to learn at any time and any pace, from anywhere, using any device.					
Using the Moodle Classic mobile app for viewing/reading learning resources; interacting with faculty and peers in forums; and submitting assignments and quizzes were all satisfactory.					
<i>Personal Factor</i>					
I feel more anxious in this course.					
I have trouble using the technologies in this course.					
This course required more time and effort.					
Course Interest Survey					
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<i>Attention</i>					
The instructor knows how to make us feel enthusiastic about the course's subject matter.					
This class has very little in it that captures my attention.					
The instructor creates suspense when building up to a point.					
The students in this class seem curious about the subject matter.					
The instructor does unusual or surprising things that are interesting.					
The instructor uses an interesting variety of teaching techniques.					
I often daydream while in this class.					
My curiosity is often stimulated by the questions asked or the problems given on the subject matter in this class.					
<i>Relevance</i>					
The things I am learning in this course will be useful to me.					
The instructor makes the subject matter of this course seem important.					

I do not see how the content of this course relates to anything I already know.					
In this class, I try to set and achieve high standards of excellence.					
The content of this course relates to my expectations and goals.					
The students actively participate in this class.					
To accomplish my goals, it is important that I do well in this course.					
I do not think I will benefit much from this course.					
The personal benefits of this course are clear to me.					
Confidence					
I feel confident that I will do well in this course.					
You have to be lucky to get good grades in this course.					
Whether or not I succeed in this course is up to me.					
The subject matter of this course is just too difficult for me.					
It is difficult to predict what grade the instructor will give my assignments.					
As I am taking this class, I believe that I can succeed if I try hard enough.					
I find the challenge level in this course to be about right: neither too easy not too hard.					
I get enough feedback to know how well I am doing.					
Satisfaction					
I have to work very hard to succeed in this course.					
I feel that this course gives me a lot of satisfaction.					
I feel that the grades or other recognition I receive are fair compared to other students.					
I enjoy working on this course.					
I am pleased with the instructor's evaluations of my work compared to how well I think I have done.					

I feel satisfied with what I am getting from this course.					
I feel rather disappointed with this course.					
I feel that I get enough recognition of my work in this course by means of grades, comments or other feedback.					
The amount of work I have to do is appropriate for this type of course.					
Attitudes Towards Thinking and Learning					
I like to understand where other people are “coming from,” what experiences have led them to feel the way they do.					
The most important part of my education has been learning to understand people who are very different to me.					
I feel that the best way for me to achieve my own identity is to interact with a variety of other people.					
I enjoy hearing the opinions of people who come from backgrounds different to mine – it helps me to understand how the same things can be seen in such different ways.					
I am always interested in knowing why people say and believe the things they do.					
I try to think with people instead of against them.					
I’m more likely to try to understand someone else’s opinion than to try to evaluate it.					
I tend to put myself in other people’s shoes when discussing controversial issues, to see why they think the way they do.					
Through empathy, I can obtain insight into opinions that differ from mine.					
When I encounter people whose opinions seem alien to me, I make a deliberate effort to “extend” myself into that person, to try to see how they could have those opinions.					
In evaluating what someone says, I focus on the quality of their argument, not on the person who’s presenting it.					

I like playing devil's advocate – arguing the opposite of what someone is saying.					
I find that I can strengthen my own position through arguing with someone who disagrees with me.					
I often find myself arguing, in my head, with the authors of books that I read, trying to logically figure out why they're wrong.					
It's important for me to remain as objective as possible when I analyse something.					
I have certain criteria I use in evaluating arguments.					
I try to point out weaknesses in other people's thinking to help them clarify their arguments.					
One could call my way of analysing things "putting them on trial" because I am careful to consider all the evidence.					
I value the use of logic and reason over the incorporation of my own concerns when solving problems.					
I spend time figuring out what's "wrong" with things. For example, I'll look for something in a literary interpretation that isn't argued well enough.					

Please share any additional comments or suggestions about this course.

Appendix 2

Faculty Interview Questions

What is your name? _____

What is your discipline? _____

What is your rank/title? _____

What is the highest degree you possess? _____

How many years of teaching experience do you have? _____

How would you describe your technology skills? _____

Where do you access the Internet? _____

What type(s) of devices do you use to access the Internet? _____

Are you comfortable with using any ICT tool in your teaching? _____

Do you think technology supports your teaching? If yes/no, why? _____

How did you use the Moodle VLE to teach your course? Please describe some important highlights (both positive and negative) of your experience. _____

Have you received training on the use of the Moodle LMS? Yes/No _____

If yes:

How did the training contribute to the delivery of the blended course you taught? _____

For all:

What goals or benefits are you seeking through the use of blended learning in your teaching or course delivery? _____

What are your views about the use of blended learning? How is it relevant as a pedagogical practice? _____

Have you developed any blended learning course before this at your university? _____

If no:

Any specific reasons? _____

If yes:

What tools, platforms, software, etc. did you use to develop the blended course? _____

For all:

What is the significance of blended learning in your teaching profession? _____

What is your view/perception of blended learning? _____

What barriers do you face in the development of blended courses? _____

Did you use any OER during your blended course? _____

Did you have a knowledge of copyright with respect to educational materials before the development of this blended course? If yes/no, please explain. _____

Do you think this blended course has changed the way you teach?

To what extent has the blended learning approach changed your teaching practice?

How has your blended approach impacted your participants' learning experiences?

Did your participants like this approach? If yes/no, why? _____

Are there policies/regulations supporting blended learning at UMI?

How is blended learning supported by UMI?

As an academic, you have multiple roles, such as teaching, research, administration and social responsibility. Which role is the most important for you, and why? _____

To what extent are your colleagues aware of blended learning?

Does your discipline align with the blended learning approach? _____

How does the culture in your department and/or institution influence your decisions around blended learning use and development? _____

To what extent are you concerned about the time it takes to develop a blended course? _____

Do you feel it is part of your role to contribute blended courses? _____

Does your institute/department provide necessary support for the development of blended courses?

Do you think collaboration is important for the development of blended learning courses? If yes/no, why? _____

What is the Centre for eLearning's contribution in promoting blended learning at UMI? _____

To what extent are you concerned about the way others may reuse your course? _____

To what extent are you concerned about the quality of your course? _____

What are the challenges for blended courses at UMI? _____

Can you think of any other obstacles to the development and implementation of blended courses at UMI? _____

Can you think of any mechanism(s) that might encourage other instructors to use the blended learning approach? _____

Do you feel you now have enough skills to develop and use the blended learning approach? _____

Would you like to motivate your colleagues to adopt blended learning? If yes/no, why and how? _____

Do you have anything else you would like to share about blended learning? _____

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