Are all blended learning activities created equal?

Evaluating the impact of blended learning activities on engagement

Joanne Martin

MA (short course)

Advancing Pedagogy in Post Compulsory Education and Training

2019

Contents

Abbreviations

F2f	**face to face**
FT	**fulltime**
PT	**part time**
VLE	**virtual learning environment**

Introduction

The push towards a blended learning pedagogy appears to be viewed as a way of reducing staffing costs whilst increasing student numbers.

The aim of the project is to explore different blended learning activities and techniques, engage and assist understanding to the same degree for students studying in different ways. The argument in support for blended learning is that it does not discriminate and allows non-traditional learners, the new generation of tech savvy students, millennials and beyond, to have a way of learning that suits their lifestyle and need for interaction with technology. When conducting educational research taking an institutional case study approach allows for several different cohorts in a single institution to be investigated. This research follows students studying a vocational HE Business programme.

Multi method data collection using, both qualitative and quantitative data, archival data analyses from a Virtual Learning Environment (VLE) alongside self-completed questionnaires, allowed for evaluation of these learning tools. Engagement in such activities contributes towards the formative assessment of sample population whilst at the same time allowing teachers to develop tools that may help engage learners in learning.

The main question for this research is:
Are all blended learning activities created equal?
Objectives: -

- To investigate if blended learning activities engage some students more than others.
- To explore the perception of the activity in aiding understanding of the topic covered.
- To research if the method of delivery influences engagement with the online/digital elements

The findings illustrated that the method, f2f or distance, initially impacts engagement but that when deadlines were close the same things were wanted. To cover the content required as quickly as possible, with the least effort but to a standard that satisfied their achievement level.

Literature Review

The fear of some academics is that if everything can be done online, what role will they play? Will technology replace the traditional way of learning? Or will there always be a need for teachers. Evidence of concern about the impact of technology on teaching can be seen in the late 1990's. Whereby the feeling of not wanting to be left behind contributed to the rapid development of online resources creating tension between management, employees and students, (Nobel, 1998). As technology has developed attention has turned to using the resources available to help with pedagogy and towards student's cognitive development and self-efficacy.

Research conducted for the one laptop one child project (Talbot, D. 2012) implied that children were more than capable of learning by themselves. Later researched commissioned by Inter-American Development Bank (based on the same study), showed that test scores for maths and English saw no change with those that did not have a laptop. But having to learn to use the laptop increased their cognitive skills (Cristia et al 2012). This was supported by Gyamfi & Gyaase (2015) who view the use of technology as a way of improving teaching and learning, and that it should be used to help students develop cognitive and creative skills. Using technology alongside traditional classroom sessions allows for students to have both face to face discussions / teaching whilst having the time to study when they chose. Like the role of the high-street the role of the teacher may change but not disappear.

Distance learning is nothing new, The Open University has been using technology and distance learning for 50 years (Weinbren, 2018). Before online material and MOOCS were created, telephone conference calls were held to keep in touch with students, books, CD's and bundles of work would be sent through the post. So & Bush, cited in Mabed & Koehler (2012) classified this as a first generation distance education approach. Completing these types of programmes relied on motivated, self-regulated learners. Technological advances have increased the opportunity for reaching a wider range of students, in a way that is viewed as a cost-effective option by cash-short colleges and universities.

Blended learning, (3rd generation distance educational approach (Mabed & Koehler 2012) uses traditional classroom setting with use of a digital platform to facilitate learning, best of both worlds! Blended learning can be defined as,

> "*the combination of web and face to face that is necessary to produce a course utilizing the best of both institutional worlds*" Dziuban et al (no date)

Whereas Sharpe et al. (2007) argues that there is no clear definition and institutions interpret and take ownership in a way that suits them and that is the strength of the term. However, they instead offer eight dimensions that can be considered depending on the point of view and context this is alongside three models in how blended teaching is practised. These include the;

- Transmissive / supplementary model: - traditional face to face with some use of technology
- Transformative model: - radical course re-design
- Holistic model: - where by the technology is embedded both inside and outside of the class to combine pedagogical approaches. (Sharpe et al. 2007)

Sharpe et al. when carrying out this research acknowledged that the holistic model needed greater research and clarification of what it entailed and whilst Gyamfi & Gyaase in their 2015

research acknowledges the holistic approaches, it still appears to be an under researched and defined area of study.

Awarding bodies and technology companies are working towards creating unified programmes (Issa et al. 2014). These programmes are designed to achieve specific learning objectives but can then be tailored by the educational institute; helping to create a collaborative blended learning environment.

The interest in blended learning has also encouraged a range of research to be conducted (HEA compendium). Many techniques have been trialled in many different subject areas, restrictions exist in the time teaching staff have to engage with or create the activities required to conducted blended learning. The emphasis is on encouraging students to take responsibility for their own learning. But the activities need to be relevant and engaging enough to motivate the students to participate. If an activity is not directly related to assessment but is related to the required content and encouraging cognitive learning how do you get the students to engage?
Dziuban et al (no date) believe that millennials are not as satisfied or as interactive with a blended learning approach. They go on to suggest that non-traditional learners perhaps have more life experience and so find blended learning more suitable. What is does not acknowledge is whether those non-traditional learners are studying full-time or part time. Whichever type of learner is targeted, the balance between face to face and online activities need to be cohesive. If students do not see what the activity adds to their learning, they are less likely to engage with it. (Learning engagement with interactive value). The activities need to create meaningful engagement that is seamlessly embedded within an appropriate VLE, (virtual learning environment) Ernest & Young (2011).

Sharpe et al. (2006) noted that there was a lack of evaluation of blended e-learning. They ask the question “what is the impact of e-learning on the student experience?” (Sharpe et al. 2006:39). They go on to acknowledge that more focus is on implementing programmes than evaluating the outcomes of them. But without reflection learning changes cannot be made. Evaluating the benefits of activities embedded within a program of study is difficult to triangulate against actual achievement and cognitive development. If a student has access and participated in an activity they do not necessarily correlate with higher grades, (Sharpe et. al. 2006).

As the use of technology in education continues changes in pedagogical approaches through digital activities and access to digital materials, will need to be implemented and evaluated. There are a variety of tools to help educators towards the anywhere any time learning these include; simulators, games interactive and otherwise, flipped classroom, quizzes, videos, power points, interactive power points, forums, self-assessment questions (SAQ’s) instant or delayed feedback: forums, blogs, workbooks. pod-casts and learning journals (project). With such an array of tools available choosing the correct ones can be a difficult task.

Method

Both the transmissive and holistic models of blended learning (Sharpe et al 2006) were used. This allowed similar activities, both synchronous and asynchronous in delivery, to be implemented by full time and part time students. From the potential eight dimensions of blended learning that could be considered, the pedagogy and technological dimensions (Sharpe et al. 2007) were investigated. This was done by reviewing what digital activities business students engaged with and thought benefited their learning.

Non-random sampling was used. The students chosen because of ease of access as I would be teaching all the students involved. Whilst other students were used in the final survey, the focus was around the new start cohorts. This consisted of a small group of students who were on the blended learning (holistic) designed course and full-time students. To allow for comparison both sets of students were given similar blended learning activities. The time horizon was that of cross-sectional and ran from the September to the April.

The research took a pragmatic multi method approach. Pragmatism allowed for several different philosophises and research strategies to be considered. The main one being a case study based. The case study was on a FE college in the North East of England using HE business students. Other strategies included that of surveys, ethnography and archival research (Saunders et al 2012). Whilst the main data collection technique was based around a survey (appendix 1), informal focus groups and informal conversations were also used. Archival data from VLE reports to check on student participation of activities was also accessed. This allowed for a range of qualitative and quantitative data to be gathered.

Cohort	Number of students	Research methods
HN Full time September start L4	28 at start 16 at end of research (6 female 10 male)	All stated above
HN Full time Feb start L4	8 (4 female 4 male)	All stated above
HN Blended L4	7 as the start 5 at the end of the research (1 male 4 female)	All stated above
HN Full time L5	8 (2 females 6 males)	Final survey
HN Part time L5	13 females	Final survey and informative focus group.

The Transmissive model, (used with the FT students), online activities were used to support the f2f session. The holistic model (used with the blended cohort), has no differentiation when or where the technology is used.

Phase 1 included the completion of a computer skills audit and a survey reviewing homework tasks. Throughout semester one a variety of blended learning activities were incorporated into the first unit Business Environment which was to be delivered 'short and fat'. The activities not exclusively included that of: -

- match games,
- flipped class,
- video arcade style games,
- VLE hosted video
- online links.

Phase 2 Moodle data was downloaded, this allowed engagement with the VLE to be established and to see if there was any difference between grades achieved. The students also completed their first formal survey asking how often and when they accessed the resources.

The final phase and main survey focused on the variety of activities used throughout the programme and whether the students thought they had helped their understanding of topics and the degree of enjoyment. This was also issued to level 5 final year students.

Throughout the eight months classroom observations and informative discussions took place. The core difference between the full time and blended level 4 students was that of access to an externally designed resource. This additional distance learning resource has been trialled, with the current level 5 students. This was an additional reason why the level 5 students were included in the final survey, to see if there was a positive support for this resource.

Illuminated case study

Teaching HE business in a FE setting I have observed first-hand the reduction in the number of HE students choosing to study part-time at college. There are various contributing factors to this and the discussions amongst mangers and seniors' leaders appear to be based on cost effectiveness of running courses and how many people make a course viable. Within these discussions blended learning appears to be the word of the moment. But often deciding to do a programme of study as "blended" the impact on stakeholders is not always considered. The combination of student's motivation and staff self-efficacy is a serious consideration for management.

It seems the term flipped classroom is the most popular of the blended terms. Reports of teaching staff staying this has worked well, then appears to make management think this will work with all students. In previous years, I too had tried to get the students to read prior to the session so I could do a 'flipped' class, the majority did not do the requested reading. Speaking to others I found it was not only my students who would not do the 'flipped' thing and over the past few years getting the younger students to do any work outside of the class was getting harder. This made me question what activities would work well for HE business students, could I get them engaged? The opportunity to explore and be able to create online blended activities was due to a reduced number on a HE part time course but management wanting to retain the students. Having trialled a package from an external exam board and knowing my limits within the college Moodle VLE I was given 2.5hrs a week and took on the challenge to run a blended learning course, creating the activities that were then also used with the full-time students. Initially I thought 2.5 hrs. would be enough time, but when you need to create the activities from scratch it can be very time consuming and prior to the students coming in I had to have enough activities to keep them engaged for the 4 weeks I planned to have them in the classroom.

Both the FT & blended group went through the basic induction procedure and introduction to the college VLE. Whereas the FT group had teacher led session and then asked to access the VLE to complete a directed task, the blended group had student led sessions in which they had to access and do various activities online both in class and then further activities outside of class. Luckily the campus where I was allowed the students access to computers with ease, but this was not the case for the FT students whereby we were lucky to have four computers in a room. The time in class allowed for the 3rd party software to become available to the students. At the end of the four weeks the 8 students felt confident in using both the VLE and the 3rd party software. This was evidenced with 63% of blended learning students regularly accessing the college VLE and engaging with the externally sourced materials. It should be noted that three individuals who did not engage with the resources had withdrawn by the end of semester one. This reduced the numbers to five. I was happy with the level of engagement and when the first assignment was due the 5 that had engaged achieved merits and distinctions. They were very motivated and wanted to do their best to achieve higher grades. But over the months this gradually became less. Seeing them every 3 weeks I was finding they had not done the activities set and each student was at a different point. This meant that each time I did see them I had to check what they had engaged with. This was both with the work I had created and that of the 3rd party. I then had to adapt my session to accommodate what they should have done and what I needed them to take away from that session. Positively, the students were able to build on what they had done and there was evidence of associative learning occurring.

A joint focus group with the 3rd party provider of the teaching material and myself, uncovered that the students found it useful to work their way through the power points and then carry out the directed work stated. The externally purchased material was been used secondary to my sessions, but the session pointed to the areas of the external material that they should review. Activities they preferred were a mix some like drag and drop where as others didn't because it did not give them a direct answer and they had to "think more about it" the majority of the class basically wanted to cover the most content in the minimum amount of time and found certain activities as time wasting. The 3rd party material was enough to achieve the pass and gave them basic knowledge that they could then build on with the other activities provided.

To these students, communication and access to a member of staff for question and formative feedback was used more frequently and seen as an essential part of their studies. The students were offered 1:1 drop in and catch ups, eating into the time I had been given to create the activities. When creating the activities, I also had to ensure that what I was creating was compatible with the VLE. The students were enjoying the course and they use Watsap to keep in touch with each other encouraging social constructivism. But their work and family commitments were starting to hinder their studies and whilst some of them carried out the wider reading 1 was not engaging and 1 just wanted to do the minimum possible. Monitoring the access to the VLE and the 3rd party material it became evident that those who were engaging were experiencing greater cognitive development and were able to make the links and were achieving higher grades. Proving that engagement with blended learning material was helping their understanding. By the end of the year out of the 8 that started only 4 will be progressing into year 2.

Blended learning may seem like a solution to target more students, but it takes a lot of planning and greater consideration in ensuring that the activities are relevant, and the students are not overloaded. The holistic approach to blended learning has its positives but teaching staff need to be given the time to learn the skills needed to create the activities and the motivation and self-discipline of the students' needs to be of a high enough standard that they commit to the student and manage their time accordingly.

Ethics

Ethical considerations will be carried out with honesty, integrity, trust and in-line with the BERA (2018) ethical guidelines for educational research. Consent from both the sample population and the educational institute where the research was being conducted was gained. Gatekeepers were advised that the research had been funded by EFT, no conflict of interest would occur and that a copy of the final report would be available on request.

Participants were verbally advised that activities on the college VLE would be monitored and used within the research. All participants were over the age of 18 years of age. Students were given the right to withdraw their consent at any time and advised that they could request to see any personal data that may be held, this data was used anonymously within the research findings The self-completed questionnaires reminded the students of what had verbally been communicated and acted as informed consent for the research. No incentives were provided to any participants.

GDPR (2018) requirements were adhered to. For the purpose of the study the research data will be kept on an encrypted key drive and backed up on the cloud. Paper based responses will be stored in a locked filing cabinet although no identifiable information will be on them and the archival research data will be anonymised.

Analysis and Findings

For all the different blended learning activities, whether taught f2f or blended 91% of businesses students engaged with and thought they gained greater understanding from well considered PowerPoint's.

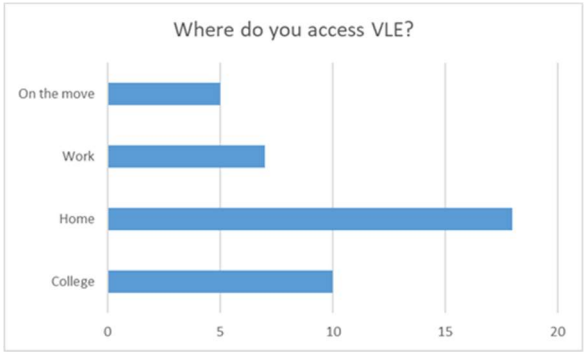
The 'flipped class' is viewed as a way to develop cognitive skills (Rahaman et. al. 2015) but after a failed attempt the September FT were set an easier reading task with questions on the topic read. It was stressed this reading task was directly related to the criteria needed for the unit. Returning to class, students were asked if they completed the homework task, 61% of those in that session said they had completed it. The February group were given this as flipped session and 6 out of 9 students read enough to participate in the discussion to some degree. Qualitative answers for why they completed the homework (Table 1). Illustrates that they wanted to find out more. It would appear, that advising the student's the direct relevance of this reading encouraged engagement.

Completed homework task	**Did not complete homework task**
Read the book to find out information and to get some idea as well	I have read through it an answered a few questions
Read through the booklet to get an idea, although didn't go through it properly. Will be spending extra time on it today	I was so tired
More knowledge	Had to see dad in hospital
Wanted to know more about it	Went to work, didn't have time
Because I want to improve my knowledge	Working late last night
I had to	totally forgot
	As absent from class

Table 1

Using data from the VLE and a short survey an end of semester review was conducted. The students were asked how and when they access Moodle (charts 1 & 2).

Chart 1



(n18)

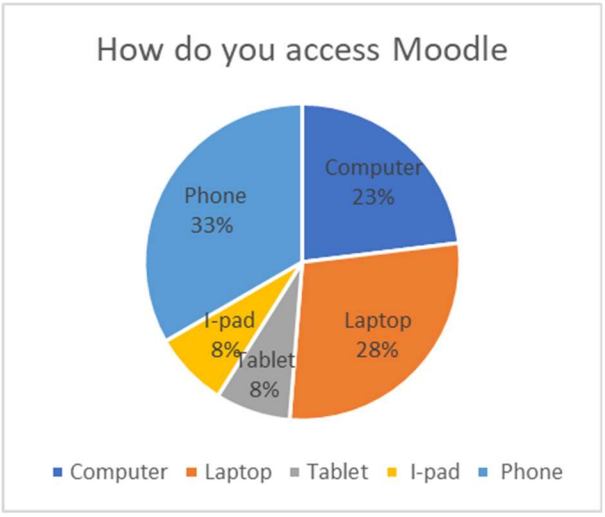
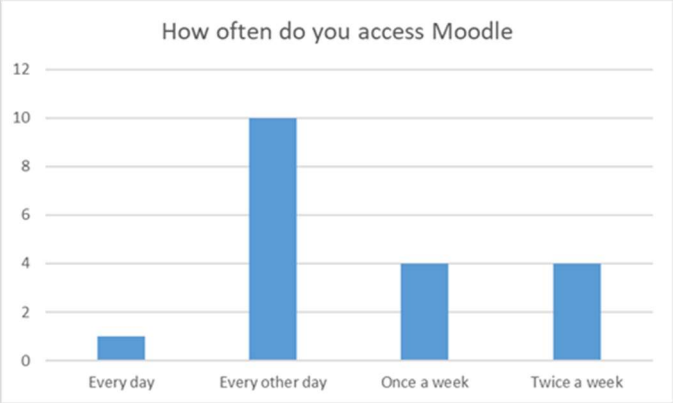


Chart 2

The majority of students accessed the VLE at home or on a phone. When asked how often they accessed Moodle, in January 2019, every other day accounted for 53% of responses

(chart 3) by May this was reduced to 29%. This was consistent with archival data which showed that whilst when the first assessment was due in October the FT students accessed the VLE more than any other time in the academic year (image 1), after this point it reduced. This was also true of the blended group who viewed the VLE a total of 846 times in the October.



(n18) (chart 3)

This peak of engagement may be due to increased motivation at the commencement of a new programme of study; combined with the blended learning activities available, allowing the students to recap what they had done in class. According to Moodle data the most accessed activities were assignment guidance, students posting definitions that could then be used within the assignment and match 4, whereby the students had to put the 4 things that linked together in a row.

Period ending (Week)	Student Views
26 January 2019	263
19 January 2019	392
12 January 2019	539
5 January 2019	69
29 December 2018	26
22 December 2018	295
15 December 2018	239
8 December 2018	516
1 December 2018	523
24 November 2018	419
17 November 2018	543
10 November 2018	400
3 November 2018	576
27 October 2018	300
20 October 2018	686
13 October 2018	1001
6 October 2018	632
29 September 2018	438
22 September 2018	618

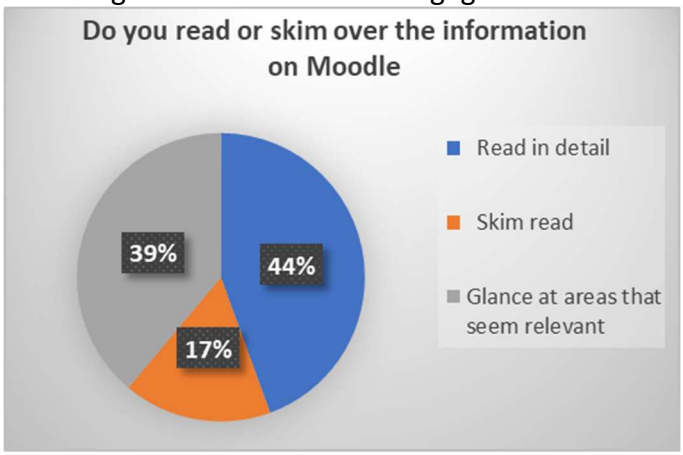
Image 1

Period ending (Month)	Student Views
31 July 2019	218
30 June 2019	164
31 May 2019	172
30 April 2019	322
30 March 2019	183
28 February 2019	289
31 January 2019	224
31 December 2018	234
30 November 2018	440
31 October 2018	846
30 September 2018	175

This first FT unit had been delivered ‘short and fat’, which meant that the students only had that one assignment due. The number and variety of blended learning activities were the greatest in this semester. After this point other assignments became due, this required the

students to be working on four different pieces of work for different subjects; rather than the engagement increasing it decreased. Whereas the blended group were only doing one unit at a time, showing motivation and self-regulation (So & Bush) at the start of a new course may have encouraged greater engagement as this unit saw higher grades achieved than any other point. A review of those who were achieving higher grades uncovered that the average number of times Moodle was accessed was, part time was just over 800 times. In contrast few of the FT students achieved higher grades with some with the highest usage may have not understood the topic and were acceding to try and gain understanding. This is consistent with findings from (Sharpe et al 2006), whereby participation does not necessarily correlate with higher grades.

Whilst 44% said they read in detail, 39% said they glanced at areas that seemed relevant (chart 4). Making the presentation of the activities more explicit in their relevance might have encouraged more students to engage with the activity in greater detail.



(n18) (Chart 4)

A joint focus group with the 3rd party provider of teaching material, blended learning students and myself, uncovered that the students found it useful to work their way through the power-points and then carry out the directed work stated. The externally purchased material was then used secondary to the sessions. Activities they preferred were a mix some like drag and drop activities, whereas others didn't because it did not give them a direct answer and they had to "think more about it". Most of the class basically wanted to cover the most content in the minimum amount of time and found certain activities as time wasting. This was consistent with the FT students' feedback.

Final survey

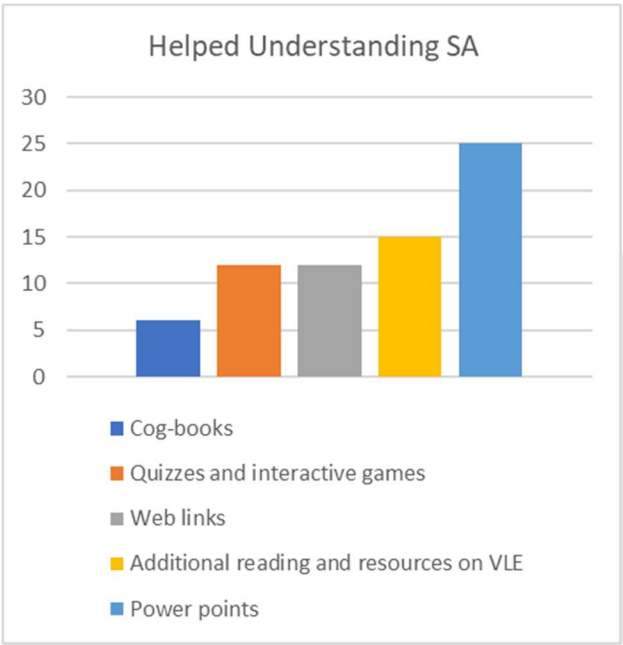
The year continued with a variety of blended activities being made available to students but not as many as in the first unit. At the end of the academic year the VLE statistics were analysed and a survey conducted. Due to a reduction in numbers the final survey was issued to all students on a HN business programme.

Whilst the results of the survey found that students engaged more with you-tube etc. the archival data showed that they were not using the links they had been given. (image 2). There were 23 students studying this topic FT yet only 26% of them accessed the links provided. Similar results were found with the other units.

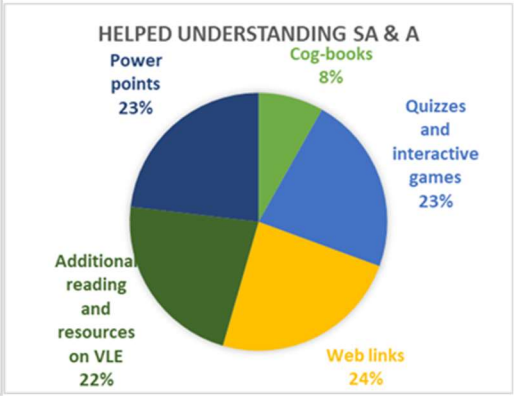
The Tim Ferriss Show	1 by 1 users	-	Wednesday, 27 February 2019, 1:51 PM (81 days 6 hours)
Entrepreneurs On Fire	1 by 1 users	-	Tuesday, 22 January 2019, 9:55 PM (116 days 21 hours)
The Gary Vee Audio Experience	-	-	
StartUp	-	-	
Dragons' Den	1 by 1 users	-	Friday, 17 May 2019, 12:16 PM (2 days 8 hours)
Sahar Hashemi - Coffee Republic	8 by 6 users	-	Sunday, 31 March 2019, 9:42 PM (48 days 23 hours)
Coffee Republic	5 by 3 users	-	Thursday, 21 March 2019, 10:23 AM (59 days 9 hours)
What makes an entrepreneur - Sahar Hashemi	4 by 4 users	-	Thursday, 21 March 2019, 10:24 AM (59 days 9 hours)
Ann English - Create Intrigue	7 by 3 users	-	Wednesday, 20 March 2019, 12:47 PM (60 days 7 hours)
The All in One Company	-	-	
Donna Kerr-Foley - Dragon's Den - No Lippy Boot Camp	1 by 1 users	-	Wednesday, 13 March 2019, 12:04 PM (67 days 7 hours)
The founders of Oatein – John Paul Gardner and Andy Dixon	2 by 1 users	-	Wednesday, 13 March 2019, 12:02 PM (67 days 7 hours)
Dragon's Den Series 16 Episode 14	1 by 1 users	-	Wednesday, 27 February 2019, 2:11 PM (81 days 5 hours)
Andrew and Pete - Interview at Content Marketing World	-	-	

Image 3

The students were asked if they believed that blended learning activities helped their understanding of the topic areas. When adding strongly agree (SA) and agree (A) together the results appear to show similar percentage (Chart 4), reviewing strongly agree 91% (31 out of 34 respondents), believed power points gave the most help. (Chart 5).



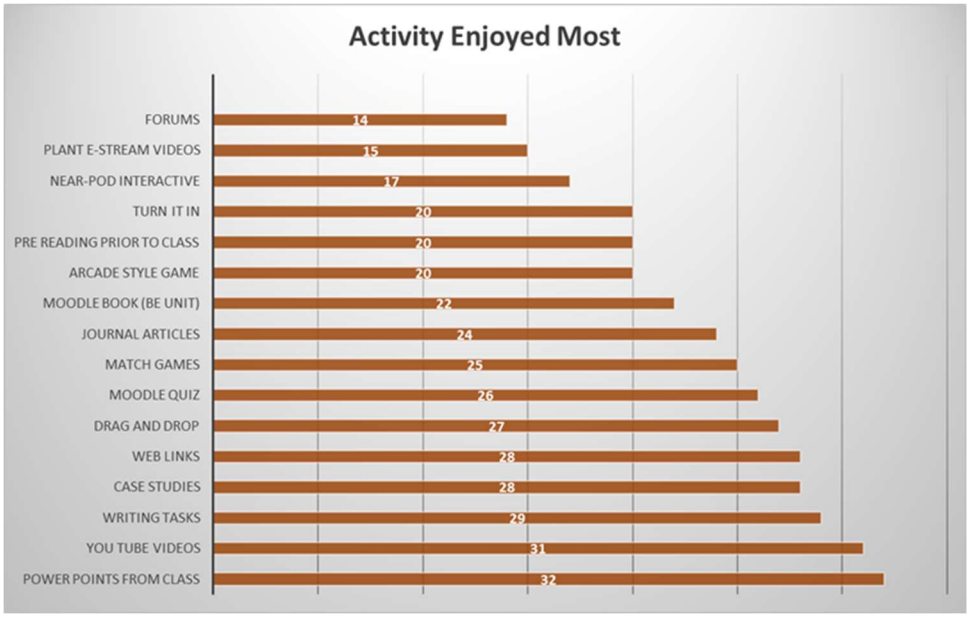
(n34)
Chart 5



(n34)
Chart 4

Interestingly, the overall perception that 3rd party online content, (web links etc) fits with the need for instant answers and whilst it may give them rote learning the cognitive development is perhaps lacking When asked which of all the activities they enjoyed and engaged with,

power-points again came top. Followed by U-tube videos and surprisingly writing tasks. (Chart 6). Implying that certain activities do indeed engage different students in different ways.



(n34)
Chart 6

Qualitative responses imply that students want the easier way to get the information (table 2). Informal discussions uncovered that not all power points were created equal. But those that contained greater detail, additional information and the embedded links that helped. They felt they could reflect on what was covered in class whilst also being able to carry out further study. This in effected negated the need to look at the additional information on the VLE. This is in line with findings from Ernest & Young (2011) whereby the activities need to be seamlessly embedded and create meaningful engagement.

You Tube	Power Points
I like the You Tube videos as they are often clear and easy, simple ways to remember points	Classroom power points
You Tube videos as I found most enjoyable as I thought they were most informative	Power points from class. The tutors taught you through the power points to make your understanding easier
I enjoy learning by watching YouTube video as I find that I gain additional information from them.	Case studies and power points from class, you tube videos because easy to understand
You tube videos because it give the information that I require for my assignment	Power points from class very helpful for assignment. Case studies, gives you better understanding
You-tube videos. Easier to understand and pay attention	Power points, match games are fun
You tube videos less tiring / still retaining information	Power point from class I liked it most so you can ask questions and understand more details
You tube videos	***power points from class is a must activity that I liked because it has enough information to support my understanding about any particular tasks***
You tube videos because they are very informative	Power points help to go over works whilst doing course work

Table 2

When asked what they least engaged with pre reading came back highest, with the comment about having lack of time and struggling to understand. One student said they did enjoy reading prior to class but struggled due to personal circumstances. So whilst it may have a place in certain programmes, encouraging business students meets with resistance.

Conclusion

Full time and part time students are two different beasts. The surveys and VLE data illustrate that there is no one size fits all and some activities are more favoured than others. Whilst well informed power points were important there is no getting away from the need for instant answers. The method of delivery does appear to influence, the blended cohort and the part time level 5 did show signs of cognitive development, increased autonomy and greater self-efficacy with this engagement resulting in higher grades. This was very difficult to replicate with a larger group of full-time students, whom did not appear to engage with or develop cognitive skills to such a degree as those part time. As one full time student said “it is not your fault if we don’t do the work, you have given use everything we need, we just need to do it”

Recommendations

1. During the first few weeks students should be given greater orientation and practical experience of using the VLE and the role it plays in their learning.
2. All Students need to understand and see the relevance of what they are doing in relation to the assessment criteria. This can be assisted by good clear layout of the VLE.
3. The 'flipped class' needs careful introduction with the level of reading / activity starting off lower done on blooms and gradually building up. This encourages self-efficacy needed for cognitive development to happen.
4. Teachers need to be given the time to create the resources.
5. For those students who follow the holistic model, emphasis on the use of electronic communication to help with motivation and direction. With the time given to teaching staff to allow this to happen.
6. Feedback for online activities needs to be timely and responses monitored to ensure feedback is timely.
7. Whilst the VLE software is designed to work on smart phones and laptop, the size of the screen for mobile devices and security permissions are areas the college cannot easily address, although students should be encouraged to bring their devices in to be configured if possible.
8. Future research may want to investigate what content was used within the favoured power points. Potentially an equation for participation could be investigated based on motivation to carry out an activity being dependent on time, ease and relevance of the activity, combined with the student's self-efficacy to carry it out.

Bibliography

British Educational Research Association [BERA]. (2018) **Ethical Guidelines for Educational Research.** forth edition. London.

Cristia, J.P. Ibarrarán, P. Cueto, S. Santiago, A. Severín, E (2012). **Technology and Child Development: Evidence from the One Laptop per Child Program**. [Online] Available at: http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=36706954 accessed 09/01/19

Dziuban, C. Moskal, P. Hartman, J. (no date) **Higher Education, Blended learning and the generations: Knowledge is power-no more**. [online] Available at: http://desarrollodocente.uc.cl/images/Innovación/Flipped/Knowledge_is_power_no_more.pdf
Accessed: 04/01/19 Research Initiative for Teaching Effectiveness

Ernst & Young, (2011) **The digitisation of everything**. [online] Available at: https://www.ey.com/Publication/vwLUAssets/The_digitisation_of_everything_-_How_organisations_must_adapt_to_changing_consumer_behaviour/$FILE/EY_Digitisation_of_everything.pdf Accessed: 04/01/19

Future learning. (no date) **The pedagogy of blended learning** [online] Available at: https://www.futurelearn.com/courses/blended-learning-getting-started/0/steps/7848

Gyamfi, S. A. Gyaase, P. O. (2015) **Students' perception of blended learning environment: A case study of the University of Education, Winneba, Kumasi-Campus, Ghana**. Intentional Journal of Education and Development, Vol11, issue 1 pp 80 -100

Issa, G. El-Ghalayini, H.A. Shubita, A.F. Abu-Arqoub, M.H. (2014) **A framework for Collaborative Networked Learning in Higher Education Design & Analysis**. iJET, Learning in Networks, Volume 9, Issue 8.

Mabed, M. Koehler, T. (2012) **An Instructional Design for Developing an Effective Blended Learning** [online] Environment. EDULEARN12 Conference. Accessed: 16/04/19

Noble, F. (1998**) Digital Diploma Mill: The automation of higher education**. Available at: http://firstmonday.org/ojs/index.php/fm/rt/printerFriendly/569/490 First Monday, Volume 3, Number 1 5 January 1998, [Accessed: 15/10/18]

Rahman et al. (2015) **Significance of Preparedness in Flipped Classroom** [online] Available at: https://www.researchgate.net/publication/280308118_Significance_of_Preparedness_in_Flipped_Classroom Accessed: 30/03/19

Sharpe, R. Befield, G. Roberts, G. Francis, R. (2006) **The undergraduate experience of blended e-learning: a review of UK literature and practice.** The Higher Education Academy [online] Available at:

https://www.heacademy.ac.uk/system/files/sharpe_benfield_roberts_francis_0.pdf Accessed: 30/03/19

Swann, J Pratt, J. (2003) **Educational Research in Practice**. Continuum. London

Talbot, D. (2012) **Given Tablets but No Teachers, Ethiopian Children Teach Themselves**. [Online] Available at: https://www.technologyreview.com/s/506466/given-tablets-but-no-teachers-ethiopian-children-teach-themselves/ [Accessed on: 06/02/19]

The Higher Education Academy, (2015) **Compendium of effective practice in directed independent learning**. [online] Available at: https://www.heacademy.ac.uk/knowledge-hub/compendium-effective-practice-directed-independent-learning Accessed: 30/03/19

Weinbren, D. (2018) **50 objects for 50 years. No 37. Conferencing software**. [online] Available at: http://www.open.ac.uk/blogs/History-of-the-OU/Accessed: 21/02/19

Wooster, M.M. (2018) **The Spectacular Failure of One Laptop Per Child** [online] available at: https://capitalresearch.org/article/the-spectacular-failure-of-one-laptop-per-child/ [Accessed: 09/01/19]

Appendix 1 Computer skills audit

Name:	
Gender:	
Date of Birth:	

Ranking system

3 = can do confidently without thinking/could help a friend
2 = can do with some thought
1 = cannot do/do not understand
0 = did not even know this existed/was possible to do

General computer use

Start up computer and log on if required	
Know how to use a mouse	
Save and access files on different drives: *eg hard, CD, datastick, etc*	
Copy/move/delete files	
Cut/copy and paste, drag and drop within and between applications	
Print using different print settings	
Scroll a document up and down on a screen	
Connect devices: *eg printer, datastick, camera, mobile phone etc*	
Take screenshots and paste into documents, etc	
Know how to access Moodle	
Get on the internet	
Select devices for input/output: *eg scanner/printer etc*	
Scan documents/images	
Know how to use college printers	
Manipulate windows and switch between applications	
Total:	**0**

Word-processing,

Enter and revise text	
Select/delete/move text	
Change size/font/attributes of text	
Centre/justify/indent text	
Check spelling	
Use tables	
Use bullets and numbered lines	
Use boxes/frames to position items on the page	
Import sound clips	
Add images	
Customise/alter graphics	
Create drop-lists/fields	
Use page numbers, running headers/footers	
Change page set-up	
Create templates *e.g. for newsletters, reports etc.*	
Total:	**0**

Communication

Open and read emails	
Send emails	
Reply to emails	
Send and read attachments	
Forward emails	
Transfer emails to named folders	
Access college emails	
Total:	**0**

Spreadsheets

Enter text and number data into cells	
Edit cell contents, draw conclusions from	
Enter formulae	
Format cells: *eg borders, shading, font size/colour/style, number type, etc*	
Hide and protect cell contents	
Produce and format graphs	
Conditionally format cells	
Use 'goal seek' facility	
Total:	**0**

Presentation skills

Create a presentation using a template/wizard	
Run a presentation for an audience	
Create a presentation from scratch	
Utilise animations, sounds effects and transitions	
Create handouts for a presentation	
Total:	**0**

Research skills

Find information using menus/links/indexes	
Find information using simple searches	
Find information using search engine with complex keyword searches	
Use bookmarks & history features to retrieve pages	
Create simple set of linked hypertext/web	
Select, copy and save text, pictures and sound files from web resources	
Total:	**0**

Appendix 2 Final survey

As you are aware, I am conducting research as part of a MA short course. I am investigating your perception of the different types of online activities that you are requested to complete **outside of class room.** By completing this survey, you are giving consent that I may use the data gathered, not only this survey, but the previous questionnaire and informal focus groups held. If you wish to withdraw your consent you may do so by request. No identifiable information will be requested or used.

Please circle,

1. Are you:- Male
Female
Prefer not to say

2. Age:- 18 – 21 22 – 26 26 – 30 31 – 35 36 - 45 45+

3. Are you studying:-
Full time
Part time
Blended

4. How often do you access Moodle:
Once a week
Twice a week
Every other day
Every day
Only when an assessment is due
Less often

5. Please indicate how you felt the activities below helped with your understanding of topic areas covered in class.

	Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
The quizzes and interactive games were very helpful in understanding topic areas					
Cog-books was very helpful in helping to understand topic areas					
Web links were very helpful in helping to understand topic areas					
Power points were very helpful in helping to understand topic areas					
Additional reading and resources on Moodle are very helpful in helping to understand topic areas					

P.T.O.

6. Using the scale below please indicate your <u>degree of enjoyment</u> from each of the activities listed.

I enjoy this activity	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	N/A
Moodle Quiz						
Near-pod interactive						
Cog-books						
Moodle book (BE unit)						
Arcade style game						
Drag and drop						
You tube videos						
Plant e-stream videos						
Power points from class						
Case studies						
Writing tasks						
Pre reading prior to class						
Forums						
Match games						
Turn it in						
Web links						
Journal articles						

7. Which of the above activities did you like the best? (You can pick more than one)

Please say why you liked it.

8. Which of the above activities did you like the least?

Please say why you disliked it.

9. Are there is any other types of activity or interactive tool that would have engaged and helped with your study? Please state below.

Thank you for taking the time to complete this questionnaire.