

## A Post-Covid comparison of students' usage of an online learning platform

**Robert A. Phillips**

Alliance Manchester Business School, University of Manchester, Manchester, M15 6PB, United Kingdom.

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### ***Abstract***

*This paper explores the differences in the usage by students of an online platform for supplementary resources between a first year and final year entrepreneurship course which are traditionally face-to-face. We found a weak correlation between use of the online resources and higher marks. The average amount of time spent and other habits were identified. We can use this data to improve the online offering element for students at university where supplementary online resources are offered alongside face-to-face teaching.*

**Keywords:** *Enterprise; entrepreneurship education; online resources; online learning.*

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## **1. Introduction**

Covid brought a shock to the education system with a sudden pivot online of university courses that were normally almost exclusively face-to-face. This was a particular challenge for those teaching entrepreneurship where the best learning environment is much more experiential. However, despite the far from ideal rushed nature for most of this challenge, having had time to assess the impact of online Covid teaching (Phillips, 2022), there are benefits of offering elements of online teaching that might help to augment any course and allow students to learn in the most appropriate way for their preferred learning style.

Entrepreneurship is a key factor in economic growth and entrepreneurship education is suggested as a key factor for reducing the fear of failure in potential entrepreneurs (Chapman and Phillips, 2022) and consequently raising the nascent entrepreneurship rate. The Quality Assurance Agency document on Enterprise and Entrepreneurship Education (2018) suggests students should be able to “identify and respond to opportunities using their ideas, knowledge, skills and confidence to create interventions that will address the challenges they meet.” They further suggest there are three types of enterprise education: Learning “about,” learning “for” and learning “through.” Of these, learning “through” is deemed to be the most effective at stimulating students to start a business. There has been considerable research into entrepreneurship education, although metrics for success are not clear cut (Duval-Couetil, 2013; Kuratko, 2005). With Covid reducing teaching interactions to online only, this was clearly a major issue for Entrepreneurship Education.

At the University of Manchester there is a varied approach to entrepreneurship with both on curricular (Papadopoulou and Phillips, 2019; Sanchez-Romaguera and Phillips, 2018) and extracurricular (Phillips, 2010; Phillips, 2017) activities widely used. A range of assessments are used rather than exams - such as consultancy reports, reflective journals (Phillips, 2008), posters, pitches, and feasibility studies. However, online learning as with many other institutions was not a high priority pre-covid. Covid has awakened us to the opportunities of online learning and the benefits it can bring. Ligiori and Winkler (2020) suggest that entrepreneurship education was behind even other subjects with its use of online technology, possibly due to the more active nature of entrepreneurship education with more of a need for face-to-face interaction, groupwork and networking. Covid has allowed us to re-evaluate online learning and to understand the reasons for student's level of engagement with it. For example, the increase in travel expenses means some students prioritise when to come to university attendance and poor scheduling might mean a student deciding not to attend in person if they have just a single session in a day. Some students who are disabled also may choose to prioritise attending only certain days for maximum efficiency, such as interactive seminars over a content-based lecture, and those increasing numbers of students with caring responsibilities or term time employment also might have extensive use of the online material. There are also some students who have always preferred using the podcasts over

lectures. Most units at the university now are face to face again, but have an online site with extra reading, lecture slides, quizzes, and links to podcasts of the lectures. Measuring the interaction with the online sites post-covid by students would be useful to determine how much they are valued and used by students and what their role should be post-covid in a mainly face-to-face course. There has been considerable research into online learning, both where online material such as podcasts are offered as an additional resource to a course that is principally face to face, and also where online learning comprises the entire course. For this paper, of particular interest is research into the former, to help understand how online platforms can augment teaching post-covid, with research suggesting the switch to pure online out of necessity during Covid is quite different to a more considered approach in applying lessons learned to post covid education (Adedoyin & Soykan, 2020, Ferri et al. 2020), although there is a sense that some universities are trying to return to pre-covid without incorporating any of the benefits learned from the sudden switch to online (Watermeyer et al., 2022). Several researchers have attempted to document the shift to online and analysed the strengths and weaknesses of different approaches (e.g., Dhawan, 2020; Adnan & Anwar, 2020). There are conflicting views on whether the availability of online material such as podcasts affects attendance, with purely online courses there have historically been issues with dropout rates (DiRamio & Wolverson, 2006), and indeed whether it affects the marks and satisfaction a student gains from a principally face to face course. Bolliger et al., (2010) suggest that offering podcasts to students is useful as they can repeat sections they do not understand and that the pace of face-to-face lecture might not be optimal for learning or for taking notes. They found 3 separate groups of learners – 1 group focussed on podcasts whilst attending few lectures, group 2 used very little of either, and group 3 made occasional usage of podcasts. Group 1 was found to be the highest in both achievement and satisfaction with the course. Traphagan et al. (2010) found that students who used the lecture podcasts as well as to face-to-face lectures had a similar level of achievement from students who only attended face-to-face lectures. In other studies, students reported lower anxiety when they could take notes from lectures they viewed later on their own without having to worry about missing important information (Owston et al. 2011), and that anxiety was reduced by viewing lectures before exams and tests (Traphagan et al. 2010). In terms of online learning, researchers have referred to the TAM (Technology Acceptance Model) (Davis, 1989) which builds on the Theory of Planned Behaviour (Ajzen, 1980) to predict usage based on the key factors of awareness, perceived usefulness, attitude to using the system, behavioural intention, and actual usage of the system. Since the online environment is an additional resource for the students used asynchronously, perceived usefulness is likely to play an important role.

This paper investigates the usage of the course Blackboard site post-covid, to determine how they are now viewed by students from two courses in order to maximise the effectiveness of the supporting services/activities, and to determine whether if there is any linkage between usage of the site and improved academic performance for a subject which is generally

accepted needs to be as hands on as possible. A year 1 and year 3 entrepreneurship course were examined. Both are open electives for students of a range of different subject areas, both sciences and arts (Phillips, 2020), and both are designed with the EntreComp Framework in mind (Bacigalupo, 2016). They also have one piece of course work as the assessment – an individual project – to be completed by the end of the final week of the course (See Table 1).

**Table 1: Similarities and differences between first year and third year course analysed.**

<b>Details</b>	<b>First Year</b>	<b>Third Year</b>
Format	Once session per week of two hours, one hour lecture with one hour class activity (11 weeks)	Once session per week of two hours, lecture with class discussion intermixed (11 weeks)
Assessment	2000 Word Report due at the end of course submitted via the Blackboard Platform	4000 Word Report, due at end of course submitted via the Blackboard Platform
Class size	120	34
Material on Blackboard Site	Lecture Slides, Submission Portal, lecture supplementary material, access to podcast site	Lecture Slides, Submission Portal, lecture supplementary material, access to podcast site

## **2. Methodology**

Quantitative data was collected from the Blackboard software with the first-year course and third year (both semester one 2022) used as case studies. The class of first years was 120 students whilst class 30011 was 34. Data was collected from activation of the site on 15th September and ended on 25<sup>th</sup> January when the final student had submitted coursework. Both courses were chosen for their similarity – both were 100% coursework with a written report required at the end of the course. Both had a mixture of students from both science and arts subjects. It was expected that third years would have a higher average time spent using the site as they have experienced more online learning during lockdown. It was also hypothesized that third years would spend more time using the site as third year counts for a disproportionate amount of the marks for their degree classification and would engage with the material whilst writing their assignments. It was also hypothesized that the highest marks would be obtained by those who spent more time on the platform.

### 3. Results and Discussion

Table 2 shows the number of hours of engagement with the online platform by students of each course and a breakdown by day of the week and average numbers of hours of engagement per student.

**Table 2: The hours of engagement on the Blackboard Platform for each of the courses.**

Day of the Week	First Year Course	Third Year Course
Monday	133.14	183.76***
Tuesday	137.27	50.25
Wednesday	471.86***	56.95
Thursday	148.55	62.64
Friday	126.28	68.77
Saturday	46.71	18.98
Sunday	78.30	46.39
Total Engagement hours	1142.65	487.75
Ave engagement hours per student	8.46	9.20

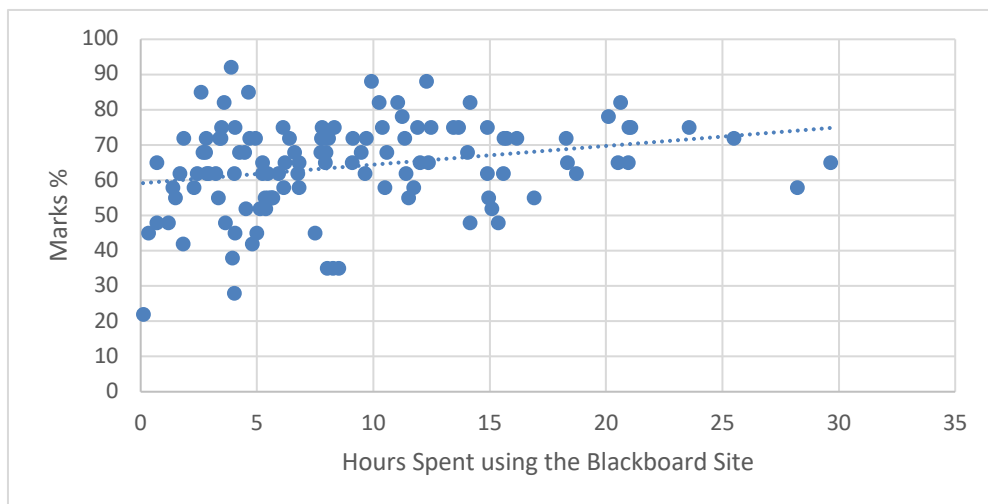
\*\*\* = the course was timetabled on this day.

It was expected that third years would spend considerably longer on the platform on average as third years the marks more important for final degree classification. Interestingly, for both courses, engagement was three-fold higher on the day of the lecture which could be explained by the observation that many students take a laptop to class and follow the lecture using the online slides. Despite the assignment deadline being on a Friday, there was no particular spike in usage for either course at that time, this could be explained by students being more prepared as draft versions of their assignment were given formative feedback during the course, this hopefully meant fewer students leaving work until the last minute. There was a fairly similar profile for both courses with Saturday unsurprisingly the day of least usage.

**Table 3: The percentage of time spent on each area of the Blackboard Platform.**

Area of the Platform	First Year Course	Third Year Course
Course Content	64.50	80.18
Course Information	7.88	2.95
Podcasts	3.15	0.76
Coursework Submission Area	20.47	3.35

The data in Table 3 shows that the first-year students spend considerably more time on the submission area for the coursework than the third years, this could be because the online submission system is new to them and they are more careful to read instructions and get the submission correct (as failure to submit has big penalties for students' marks). Figures 1 and 2 plot marks obtained by the students against time spent on the online platform. The trendline for each is strikingly similar, with an approximate 15% increase in mark between students with the lowest engagement and the highest. There is however clearly a wide spread of datapoints with some very high marks gained by some students who had little engagement – this could perhaps be explained by those students being keen attenders of the face-to-face sessions having little need to catch up online.



*Figure 1. Marks obtained vs Hours spent using the Blackboard site for the First Year course.*

#### **4. Conclusions and further work**

Although the trendline for both courses show a correlation between increased usage of the site and higher marks, the distribution of data points on graphs 1 and 2 suggest the relationship between use of the online platform as a supplementary resource and achievement of high marks is complex. This work can be expanded to a larger study where online habits of students can be established with more courses and a bigger sample size. Due to the individual nature of students preferred learning styles, qualitative research examining in more depth the usage of the site and how it might correspond to lecture attendance (for this instance it was not possible to do) can also be undertaken. It would also be useful to know if students were using the platform out of choice or because they were unable to attend lectures due to an understandable reason such as doing paid work or caring responsibilities. It might also be of interest to distinguish any differences between, for example, arts and sciences students.

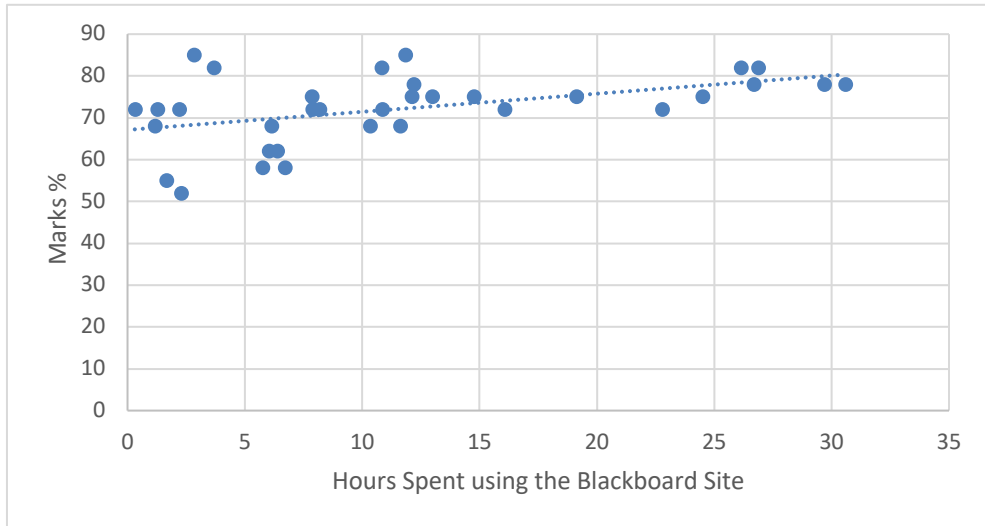


Figure 2. Marks obtained vs Hours spent using the Blackboard site for the Third Year course.

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