

Evaluation of Face-to-Face and Online Learning for Enterprise and Entrepreneurship Courses

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Abstract

Having moved predominantly online with the UK national lockdown of 2020, a comparison was made of two entrepreneurship courses at The University of Manchester, taught its first online academic year, with the previous year's versions which were face to face. It was found that students generally adapted well to online teaching, feedback and attainment were similar to previous years. However, students felt it was important to have additional access to their lecturers through live sessions, extra assignment help, and need longer time to absorb the material with recorded lectures broken down into smaller videos and activities to aid concentration. They found the live session helpful to meet and work with peers and as part of their studies they want access to both asynchronous and synchronous learning methods. Analysis and recommendations were provided on what the authors consider to be the contributing pedagogic factors of delivering a successful online pedagogic approach in entrepreneurship and make recommendations as to how online learning could be improved.

Keywords: Entrepreneurship and Enterprise Education, Pedagogic Models, Face-to-Face, Online learning, UK

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1. Introduction

Nine out of ten UK universities include entrepreneurship in their curriculum, with 75% of them offering elective modules in enterprise and 98% providing extra-curricular support for enterprise and entrepreneurship (NCEE, 2020). The University of Manchester (UoM) is one of them and has a dedicated centre for delivering enterprise and entrepreneurship education; the Masood Entrepreneurship Centre (MEC) where the courses considered here originate.

In 2020 universities worldwide ran various models of teaching and learning. In the UK most universities transitioned rapidly to a fully online learning (OL) model in March and an online blended learning (OBL) in September of the same year which includes both face-to-face (F2F) and OL aspects. Traditional F2F education also known as brick-and-mortar, is considered the gold standard, however the benefits of OL approach were first in use with distance learning (DL). DL was created for a niche market with a purpose of adapting to individual's needs and motivations.

OL is considered either a new generation of DL, a departure from DL or a new model for teaching and learning. OL is an internet-based, asynchronous type of DL, providing materials and support to learners involved in flexible learning (Power & Morven-Glound, 2011). More recently synchronous sessions are integrated in OL. Maeroff (2003) refers to OL as 'a classroom of one'. The spectrum of the pedagogic model combinations in terms of physical and virtual approaches is vast and is conceptualised by the authors in Figure 1.

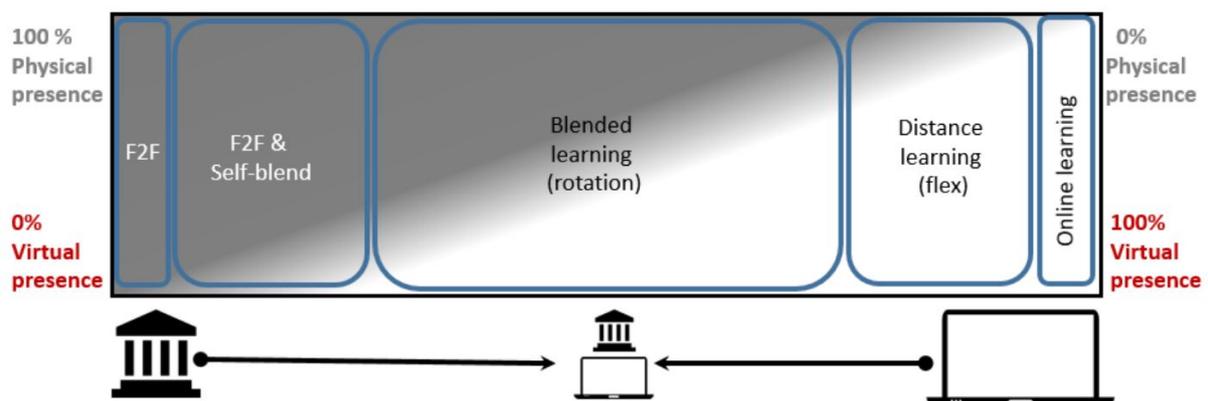


Figure 1: Overall Spectrum of Physical (Brick-and-Mortar) and Virtual (Online) Presence in Higher Education

Higher education institutions have to improve their delivery for a flexible and robust education and pedagogical approach to meet student expectations (Advance Higher Education, 2020a). In UoM, OBL is led and supported by its Faculties and its current teaching model is based on nine principles (The University of Manchester, 2020a), however MEC delivered purely OL courses. Table 1 specifies the models applied to the courses presented in this paper and their main differences. The advantages and disadvantages of each method depend mainly on the need (e.g., level/type of degree) and circumstances of the candidates (usually the geographical location).

MEC offers a number of on and off curricular programmes for undergraduates (Sanchez-Romaguera & Phillips, 2018) and postgraduates (Papadopoulou and Phillips, 2019 & 2020). These, along with many entrepreneurship programmes in general (The University of

Manchester, 2020b) would have elements of practice and teamwork which are not easy to replicate in a virtual environment especially switching to OL at a short notice.

Two courses were considered for this study which ran F2F prior to 2020/21 and switched online for 2020/21 academic year. Advanced Technology Enterprise (ATE) was aimed at 3rd year engineering students with prerecorded lectures of 90 minutes per week, split into 2 x 45 minutes.

Main Characteristic of Learning	Face to Face (F2F)	Online digital/virtual Learning (OL)	Online & Blended Learning (OBL)
Location	Physical classroom (not flexible)	Home / anywhere	Combination of classroom / home, library (flexible)
Learning Methodology	F2F	Online	F2F and online
Learning Time	Fixed timetable (not flexible)	Any time / self-paced (flexible)	Any time / self-paced (flexible)
Technology Usage	Optional use of digital technology (software)	Digital technology is essential (software & hardware)	Digital technology is essential (software & hardware)

Table 1. Comparison of Learning Types (Partially Adapted from Khan *Et Al*, 2012).

There were also 90-minute sessions per week drop-in open Q and A (not recorded). Assignment was given out in week 1 and there was a live ‘assignment instructions’ session in week 1 (recorded). There was one activity/example or case study each week alongside the lecture material online. Enterprise Strategy and Marketing (ESM) is an open-elective unit offered across the university to 3rd and 4th year students, as such the class has students from many subject areas. OL model for this unit included asynchronous lectures with 2 to 4 pre-recorded videos, readings, and activities for each week. Synchronous lectures were 90-minute weekly interactive sessions focused on discussions and group works. Formative and summative assignments were given out in week 1 and students could ask questions via an online discussion board and during the weekly online drop-in sessions. For both units, many students were present in Manchester, but some were in their home countries around the world where timings of live lectures were an issue. Lecturers had to accommodate material for all students around the world. Both units were offered over 11 weeks, see Table 2.

1.1. Aims

The paper is carrying out a generic and fast-response analysis of two of the MEC’s entrepreneurship units to identify the best practice that is applied to enterprise and entrepreneurship education. The description of enterprise and entrepreneurship are described in Advance Higher Education (2020b). Although there was some experience in DL through various UoM programmes, it should be noted that the ‘online’ aspect of teaching and learning is as of 2020 a university-wide led practice, it is a new approach and experience for the majority of academics, hence the paper will draw with suggestions for improvement of best practice in higher education in enterprise and entrepreneurship.

2. Methodology

Primary data was used from the university's sources and is split in quantitative and qualitative aspects. The characteristics of the units are depicted in Table 2. Unit Surveys (US) and other feedback lecturers obtained were collected for both units. The US are part of the university's commitment to its strategic vision to obtain feedback from the students, develop the units further and improve student satisfaction. The US ask students to state how much they agree or disagree with a number of statements (quantitative) and free text responses to questions about the unit and the lecturer (qualitative), (The University of Manchester, 2020c). The standard US used in the academic year 2019/20 was adapted for the OL for the academic year 2020/21, which included online-related questions. These were compared with general findings from Alliance Manchester Business School (AMBS) level of OL delivery.

Feature	Enterprise Strategy and Marketing (ESM)	Advanced Technology Enterprise (ATE)
Level / Credits	UG / 10	UG / 15
Student background	Mixed	Engineers
Type of assessment	100% coursework	100% coursework
Cohort size 19/20 & 20/21	53 & 69	55 & 70
Online platform 20/21	Zoom/Adobe Spark	Blackboard Collaborate
Pre-recorded videos length	10-35 min	20-45 min
Live sessions length	60-90 min	90 min

Table 2. Comparison of Features of ESM and ATE Units Studied.

3. Results and Discussion

A comparison was made for both quantitative survey results and qualitative comments from the students for both units and both years, and a summary of qualitative findings from AMBS, which are presented below.

3.1. Results – Unit Survey Quantitative Section face-to-face and online

The feedback for the two units for F2F (2019/20) and OL (2020/21) are shown in Table 3.

Unit Survey Quantitative Section - how much students agree (5) or disagree (1) with the statements	2019/20 ATE 10% response rate	2020/21 ATE 22% response rate	2019/20 ESM 32% response rate	2020/21 ESM 24% response rate
I would rate this unit as excellent	4.17	4.00	4.59	4.29
Feedback on my work was helpful	4.50	4.47	4.53	4.12
This unit was well organised	3.83	4.20	4.82	4.53
The lecturer's teaching was excellent	4.50	4.47	4.53	4.53
Online learning was delivered	-	3.08	-	4.24

well				
Online assessment was delivered	-	4.07	-	4.29
well				
UoM technical support was	-	4.07	-	3.65
helpful				
(non-US) Average Course Mark	69%	69%	65%	68%

Table 3. Feedback for F2F (2019/20) and Online (2020/21) Teaching.

3.2. Results – Unit Survey Qualitative Section for online cohort

Overall, there was a concern indirectly related to online delivery teaching, deadlines that worked well in previous years, in an online setting students felt they needed more time to absorb the information and write the assignment.

Students appreciated the synchronous question and answer sessions, some preferred asking questions by voice, some preferred to type in the chat box: *“I feel it's a lot easier to have a question seen/heard and answered with the synchronous sessions than in-person and explanation is easy for typing out things that are hard to say as is the case with some technical details and notation”*.

Assignment support was also singled out: *“I found that his online sessions where we could ask questions was especially helpful”*.

“There was a lot of feedback for assignments and being able to send parts of our reports for preliminary feedback was very helpful. There was an abundance of helpful online resources and examples, and the teaching pace was very good. The professor put in a lot of their personal time to helping students even up to the deadline, it makes learning a unit that's a bit left-field a thousand times easier”.

However, one student did feel this could be taken even further: *“A more interactive platform would be great because this unit type is unfamiliar for engineering students”*.

Students appreciated having pre-recorded lecture materials and the opportunity for regular interaction with staff and their peers: *“I found the pre-lecture work we needed to do, and then discussing in class most helpful”*.

“Although we had to go over lecture material by ourselves before the corresponding online session, she kept it interesting by incorporating activities to further our knowledge and keep us engaged. In the live sessions, she made sure we understood the week's content and went over the activities with us. I found this a very effective method of learning and really appreciated her classes”.

“I enjoyed having the pre-lecture activities to do beforehand, meaning we could have a more interactive session during the live lecture. I enjoyed both staying as one class to discuss and being put into breakout rooms, as long as everyone in the breakout room is prepared”.

Having cameras on had a positive impact on the interactivity of the session, but only a small number of students were happy to do so: *“I am quite happy having my camera on during the sessions as it feels more interactive, whereas others seem very reluctant to turn theirs on.*

Maybe a bigger push for people to have their cameras on would improve what was already a very enjoyable course”.

Students appreciated the support provided for online assessment: *“There was lots of guidance available and she was always very speedy in responding to emails and discussion board questions”.*

3.3. Results – Alliance Manchester Business School results

The findings of the two units are in line with the general findings from AMBS, which stated likewise that effective online teaching has specific factors which are highlighted here. Courses need to be *well organised with well-structured course materials* that allow students to navigate learning material easily. Lecturers need to provide a clear roadmap that guides students through the content, this can be done in *Blackboard* or *Adobe Spark*. *Breaking up videos* into shorter chunks helps. *Regular interaction with staff* is important and lecturers can *invite their students to ask questions during taught sessions*. Students find *summative feedback on assignments* important as well as using *polling during online sessions* to pose questions that students can answer to check their understanding. *Drop-in* and well managed *student-to-student interaction in live sessions via break out rooms* helps students to get to know and interact with each other (Alliance Manchester Business School, 2021).

4. Conclusions

The data shows that in terms of marks achieved, students performed as well with OL as previous years F2F. The feedback showed students were contented with the teaching, with similar scores to previous years. Recorded lectures were popular with many students accessing material from different parts of the world. Students in general were not completely new to OL, as in some cases during the F2F course delivery students opted for watching recorded podcasts. Students enjoy the pre-recorded lectures and found them very convenient, but they are not sufficient. Students still want the synchronous interaction as it helps with their learning and meeting their peers. This is in line with studies showing that interacting in a virtual environment and even the mere belief one is interacting with another person leads to superior learning (Okita, Bailenson, & Schwartz, 2007). According to Rice, Moraczewski and Redcay (2016) one component of successful social interaction is the creation of a shared psychological state between partners, which is what students can achieve through synchronous sessions.

However, there were some qualitative comments which can be used to improve the OL offering for future years. Students need more time to absorb material, as the pre-recorded lectures are of a faster pace than F2F. As lecturers pre-record the taught material, run live sessions and provide other support for students (quizzes, additional reading etc.) this can lead to an excess workload for students, lecturers need to balance the course credits with the analogous effort of learning hours and need to match the learning outcomes of courses. Students also preferred simplicity and clarity. Lecturers need to have an early conversation were possible with the students/student-reps to find out what communication channels exists and get a feel for the class, such as their geographical location.

It is important for MEC and UoM to find the right balance to adapt Educational technology (EdTech) and keeping the human element of learning and development of social brain in higher education. Overall the delivery of lectures is being very well managed, however, it is

still difficult to replicate the organic aspect of interaction in classrooms and the facilitation of groups/workshops and spontaneity of thought development, sharing and collaboration.

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