

## Preliminary exploration of student use of Blackboard Collaborate in fully online courses

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This paper explores *how* students use Blackboard Collaborate (i.e., Collaborate) in fully online courses. It is the initial collection of data for a two-phase study exploring the ‘how’ and ‘why’ of integrating technology into fully online courses from the context of Collaborate. The findings report that despite anecdotal evidence suggesting a decline in student use of Collaborate, surveys results and usage exported from Collaborate via the learning management system (LMS) validate its continued inclusion in the design of fully online courses. Student benefits included interaction/connectedness, support for course content and assessment and the tool itself. Whilst areas in need of improvement were bound to technical issues and structure including purpose of the Collaborate session. Irrespective, the results favour the inclusion of Collaborate as a learning support tool in fully online courses.

Keywords: Blackboard Collaborate, online technology, online learning, student engagement.

### Introduction

Higher education institutions (HEIs) are increasingly embracing online modes of instruction. Recent reports suggest that student retention is highly correlated with innovative and engaging online activities and course design (Leeds et al., 2013). An additional complexity in the online teaching environment is the diversity of the online student population resulting in variation in motivation, engagement and learning capabilities. For example, some students are returning to university after an extended break from learning whereas others have greater university recency. As a result, some students may lack the necessary educational skills that are often mandated by education practitioners in HEIs and likewise be unfamiliar with many areas associated with online learning, such as use of technology (e.g., blackboard, online communication etc.). These factors are likely to influence an online student’s educational experience and their subsequent ability to engage in all learning resources. Most importantly, challenges such as these should drive the teaching pedagogy and instructional style of online courses to ensure the incorporation of new, emerging and engaging e-learning technologies catering for a diversity of students, their prior experiences and their learning needs. Technology is increasingly being used to increase student participation, engagement in classes and student outcomes. In fact, the use of technology to deliver education is gaining increasing attention in the literature, as more wholly online courses are being delivered (e.g., Bower, Kenney, Dalgarno, Lee & Kennedy, 2014). However, this move to online education highlights some challenges that educators need to consider, including student engagement, motivation and ultimately satisfaction within the online learning environment.

Therefore, the purpose of this paper was to report on *how* students use Blackboard Collaborate (i.e., Collaborate); an online virtual classroom tool in fully online courses to overall ascertain its applicability for ‘use’ for online students. This study surveyed students enrolled in the Bachelor of Business Open Universities (OUA) program offered through Griffith University. All students in this program undertake it in a fully online mode of instruction and, as such, students were surveyed online.

### Literature Review

Initially, literature pertaining to student engagement, motivation and satisfaction will be briefly explored. Following this, a comparative discussion of asynchronous and synchronous communication including the use of Blackboard Collaborate will be discussed.

Student engagement is a key concern for educators as it has been positively associated with motivation and educational outcomes (Northey, Bucic, Chylinski & Govind, 2015). Stott (2016) highlights the role of poor student engagement in online courses, and cites the higher drop-out rates of online courses as an indicator of this 'engagement challenge' (Martin, Spolander, Ali & Maas, 2011). Similarly, Kim and Bonk (2006) argue that students withdraw from online courses citing a desire for a '...richer and more engaging online experience'. While it is highly sought after, Kahu (2013) acknowledges that this is often elusive due to the many situational and motivational factors which affect it. In particular, a meta-analysis by Lee and Choi (2011) found that environmental factors which posed a barrier to student engagement were availability of financial and social support from family and friends. In addition, work has been found to be a significant barrier for students engaging more in their online studies (Davis, Hodgson & Macaualy, 2012). In support, Stott (2016) found that lack of experience with online learning and other work commitments contributed to poor student engagement.

Another concern for educators is students' motivation to engage in the learning experience. Motivated and self-regulated learners are more likely to be successful in online learning environments, which are categorised by autonomous offerings (Azevedo, 2005; Dabbagh & Kitsantas, 2004). Students come to online courses with different levels of online experience and exhibit different levels of motivation and self-regulation while learning online. Therefore, it may be necessary to adjust the amount of structure, support, and scaffolding provided during online instruction. Artino and Stephens (2009) recommend developing self-efficacy among students in online settings as a way to increase such motivation.

Further, student satisfaction as a penultimate measure has been shown to be significantly different with online courses, when compared to traditional face to face delivered courses. Adam and Nel (2009) investigated the antecedents and consequences of blended learning and found that students' satisfaction with wholly online courses was lower than that of face to face and blended courses. Palmer and Holt (2009) found that provision of online support impacted student satisfaction with the online learning experience, whether directly or indirectly related to the actual course itself i.e., general support offered to students enrolled in an online program versus an independent course. Additionally, social presence as a positive indicator has been identified as improving student satisfaction with online learning and performance outcomes (Yamada, 2009).

Not uncommon, students enrolled in distance education have tended to be supported by asynchronous communication, learning activities and resources (e.g., pre-recorded lectures content, discussion boards, digitised readings, pre-set activities etc.) (Bower et al., 2014). Although, asynchronous communication has been found to support student educational outcomes by encouraging critical thinking and deep learning (e.g., Bonk & King, 1998), debate surrounding delayed feedback has commonly been identified as a limitation. Therefore, asynchronous learning methods may not be suitable to meet all students' needs and outcomes. Synchronous discussion, communication and interaction has been shown to facilitate student learning (e.g., Svensson & Forsell Eriksson, 2014) by enabling students to develop working relationships in a 'real time' setting and overcomes the issues often pronounced by asynchronous learning i.e., providing an avenue for immediate feedback (Hines & Pearl, 2004). As such, instructors should consider these issues when making pedagogical decisions on student experience (Artino & Stephens, 2009).

One pedagogical strategy to improve student engagement, motivation and ultimately satisfaction is to introduce more methods for student-staff interaction into a wholly online course. One way to facilitate this interaction and imitate a traditional classroom setting is through the use of synchronous communication tools in virtual classrooms. Blackboard Collaborate is a tool to allow live interaction between instructors and students. Each learning experience on this learning platform allows three way interactivity (between multiple students and the instructor) and is not homogenous. An immediate and positive outcome of integrating Collaborate sessions into a course is that students are given the opportunity to converse, engage and interact synchronously with their instructor and peers. The resulting student experience enables the instructor and students to engage in a similar learning platform to that experienced by face to face students and be part of a virtual learning community. This student centered learning ecosystem thereby creates extra opportunities for students to engage with the course, their instructor and peers.

Recent anecdotal evidence shows that attendance rates at Collaborate sessions have been in decline (i.e., over the previous year) in courses offered through the Bachelor of Business via Open Universities Australia (OUA) at Griffith University. Nonetheless this is juxtapositioned by the consistent student evaluations which show that students particularly enjoy the live Collaborate sessions offered through the online program. Although Blackboard Collaborate has been previously explored within the literature, commonly it has been done so from the perspective of what tools are more effective for online 'real time' collaboration (e.g., Wiki's, Blackboard Collaborate, social media, blogs etc.) (e.g., Bower, Kennedy, Dalgarno, Lee, Kennedy & de Barba, 2012; Hamid, Waycott, Kurnia & Chang, 2015), a comparative examination of the simultaneous integration of synchronous and asynchronous learning tools in a course (e.g., Yamagata, 2014) or use of Blackboard Collaborate through the instructors experience (e.g., Xiaoxia & E-Ling, 2012). This study attempts to provide a holistic and practical understanding of the student experience using Collaborate as a support tool for online

learning across an undergraduate fully online business program. Therefore, broadly, the purpose of this study is to examine student *use* regarding their experience with Blackboard Collaborate sessions. Of particular interest to the researchers is;

- how often do students access the ‘live’ sessions of Collaborate,
- how do students prefer to access and participate in collaborate sessions,
- factors preventing students from attending/participating in the sessions,
- beneficial outcomes and improvements required of the collaborate sessions and;
- what was their experience with blackboard collaborate sessions.

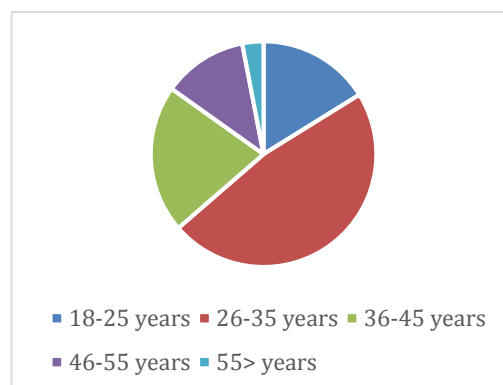
Overall the findings will enable a greater understanding of how students use this type of resource and its perceived value for student learning.

## Research Design and Sample

As stated, the aim of this study was to gauge an understanding of student *use* of Blackboard Collaborate. This study was based on the development and administration of an online survey. Online surveys are particularly useful when participants reside in geographically dispersed regions which is reflective of the Bachelor of Business OUA program, are less expensive and typically generate higher response rates (Malhotra, Hall, Shaw & Oppenheim, 2008). Specifically, students were asked to report on their (1) frequency of attendance and reasoning for non-attendance, 2) access, (3) frequency of downloading sessions and (4) session schedules. Further, a content analysis was completed on three open-ended questions which enabled students to provide additional feedback on the benefits and possible improvements to the Collaborate sessions, in addition to a general question asking for further information regarding their experiences with Blackboard Collaborate. To validate the use of Collaborate sessions in fully online courses, usage data was exported from Collaborate via the LMS through a data dump. The purpose of this was to enable a comparative analysis of student experience (based on their responses to survey questions) and statistical data derived from the actual LMS for which Blackboard Collaborate is operationalised.

Sample selection was purposive and, subsequently, only those students enrolled in a fully online course offered through Griffith University’s Bachelor of Business program by means of Open Universities Australia (OUA) were analysed. The use of students enrolled in a Griffith University course offered through the Bachelor of Business OUA was deemed appropriate for analysis so as to reduce the extraneous variation and ensure pertinent respondents were used in the collation of data (Eisenhardt, 1989). Fifteen of thirty courses in the Bachelor of Business OUA actively use Blackboard Collaborate across four majors (i.e., marketing, management, human resource management and International hotel management). On average a course ran six collaborate sessions per teaching period (i.e. 13 weeks duration) with first year introductory courses holding 10 sessions and second/third year courses, 3-6 sessions.

Students enrolled in the first teaching period of the 2016 calendar year were sampled. Acknowledging that students may be undertaking several courses during a teaching period, students were asked to choose one course they were enrolled in to respond to the questions asked in the survey i.e., in reference to Blackboard Collaborate. The survey was open for four weeks for which a follow-up email was sent after two weeks to encourage participation. In total, 2361 students were sent the survey, of which, 301 surveys were completed, yielding a 12.7 percent response rate. Demographically, 67 percent of the cohort were females and 33 percent males, with most students aged within the 26-35 year age bracket (refer to Figure 1). Predominately, most students only studied one course (i.e., 50 percent), 39 percent, two courses, 4 percent three to four courses and 3 percent more than four courses.



**Figure 1: Age distribution of Student sample**

## Preliminary Findings

Students were initially asked how often they attended a Collaborate session during a teaching period on a four-point scale ranging from all sessions, most sessions (>5), some sessions (1-4 sessions) to no sessions. Across the four options provided, 75 percent of students attended collaborate sessions (i.e., 25 percent all sessions, 23 percent most sessions and 27 percent some sessions). The remaining 26 percent reflected non-attendance at any Collaborate session. Most students reported that they downloaded the Collaborate session recording (i.e., 51 percent), with 33 percent stating access occurred via a mix of live and downloaded recordings and 16 percent stated they attended live. In line with attendance at Collaborate sessions, most students stated they downloaded the recording throughout a teaching period between one and four times, 30 percent revealed all sessions were downloaded, 20 percent, most sessions (>5) and 12 percent, stated they never downloaded a Collaborate session. To accommodate student-learning needs and allow flexibility, students were asked how often they would like Collaborate sessions to be held. Overwhelmingly, 60 percent of students stated once a week with 25 percent of students stating once every two weeks and the remaining 15 percent affirming either twice a week (i.e., 8 percent), once every three weeks (i.e., 2 percent) or the beginning, middle and end of a teaching period (5 percent).

A content analysis was completed on the final three questions which enabled students to provide feedback on the benefits, improvements and general feedback on their experiences with Blackboard Collaborate. Three key themes emerged concerning the *benefits* of Collaborate being, provides interaction and connectedness, support for course content/assessment and tool use. Table 1 provides examples of reflective comments of the three themes.

**Table 1: Benefits of Collaborate sessions**

Theme	Student reflective comments
Interaction and connectedness	<p><i>“It provided live chat to ask questions and discuss with others”,</i>  <i>“It’s like a normal classroom and you can see the interaction”,</i>  <i>“Feel connected to the class”,</i>  <i>“Ability to interact with class in addition to facilitator”,</i>  <i>“The feeling of being a part of something and that you are not alone in your studies”</i> and,  <i>“Cross pollination of ideas. More often than not, other students ask a question for something you haven’t even considered yet”.</i></p>
Support course content/assessment	<p><i>“Having clear step by step instructions with explanations”,</i>  <i>“Ability to confirm your understanding of assessment”,</i>  <i>“Real examples about content”</i>  <i>“It expanded on content from the lecture and textbooks. Was a great resource for understanding more complex issues”,</i>  <i>“Very informative and great to condense and have a clear voice explaining content”</i> and,  <i>“Cover topics in more depth”.</i></p>
Tool use	<p><i>“Ease of use”</i> and,  <i>“That the sessions were recorded and that I could access them at a later stage”</i></p>

In terms of improvements, two key themes emerged, being, technical issues and structure including purpose of the Collaborate sessions. Table 2 provides an overview of the reflective comments from students in reference to the key themes identified.

**Table 2: Improvements to Collaborate sessions**

<b>Theme</b>	<b>Student reflective comments</b>
Technical issues	<i>“Teacher dropping out and the rest of the students unable to hear or other similar technical issues”,</i> <i>“Difficult when multiple people leading the discussion as it was disjointed and talking over sometimes”,</i> <i>“Sound clarity”</i>
Structure including purpose of the session	<i>“More structured and depth needed”,</i> <i>“Provide etiquette guidelines for students as often irrelevant chats were going on in the session”,</i> <i>“Less content in the session as it was a bit of an overload”</i> <i>“Don’t just go through assessment and case studies, in some of my other courses, they covered general learning of that week which I preferred or at least taught concepts to align with assessment”</i> <i>“Use the whiteboard to engage students”</i>

Students were also asked to provide feedback on non-attendance at the scheduled Collaborate session. Common themes which emerged from students were timing, *“The sessions has usually started by the time I got off work – time zone differences”*, interferences with work/family commitments, *“The date conflicted with work or prior commitments”*, lack of sessions provided during a teaching period, *“I only had a choice of three to attend”* and value of the session, *“Some were useless as they didn’t cover relevant information”* or *“very tedious and long and get off the point”*

Finally, in terms of the open-ended questions, students were given the opportunity to provide any further general feedback on their experiences with Collaborate in the course they had enrolled in. Typically, students reported that Collaborate is an effective tool, easy to use and provides a good overall experience with a course, much of which was reflective of the benefits of Collaborate (refer to Table 1).

One of the interesting findings of this study was the data which was exported from Collaborate via the LMS. Whilst increasingly students enrolled in a course within the Bachelor of Business OUA are unable to attend the synchronised ‘live’ Collaborate virtual classroom sessions, the results from the data dump indicate that a large proportion of students download the recordings after the session. Given that courses hold sessions multiple times during a teaching period (e.g., week 3, 4 etc.), Table 3 provides an overview of the course; student enrolment numbers per course, an *average* of actual attendance during the synchronised sessions (i.e., live attendance) and an *average* of comparable downloads following the session. Across the 13 courses, on average 17 students attended the ‘live’ sessions and downloaded the recording 42 times following a session<sup>1</sup>.

**Table 3: Overview of reported data generated from LMS on use of Collaborate.**

<b>Course</b>	<b>Student enrolment in course</b>	<b>Attendees at a ‘live’ Collaborate session</b>	<b>Downloaded recording after each session</b>
Business Statistics	287	37	91
Employment Relations	207	17	30
Management Employee Relations	75	23	22
Human Resource Management	141	19	40
Organisational Behaviour	125	7	46
Training and Development	89	7	26
International Food and Beverages Management	7	4	5
Management Concepts	519	59	133
Managing People in the Global Economy	78	2	26

<sup>1</sup> Acknowledgment that number variances do exist across student cohorts. For example, although average attendance was reported at 17 for ‘live’ sessions, some courses had fewer than 10 students enrolled in a course. An average was deemed appropriate to provide insight into ‘live’ attendance across an entire program (i.e., Bachelor of Business OUA).

Intercultural Management	113	9	38
Introduction to Marketing	203	21	50
Retail Marketing	75	14	22
Digital and Social Media Marketing	129	4	31

*\*Note: there is a natural attrition of students in OUA courses as a proportion of students enrol purely in courses for government funding; two of the 15 courses which offer Collaborate sessions had no results from their sessions as they were structured as informal student discussion and, subsequently, not recorded. Further, results from the self-reported survey and the LMS data dump were unable to be linked to specific students i.e., Student 'A' survey results could not be linked to the LMS data of that student to validate what the student was inferring and what the data was similarly stating. The results are a holistic perspective of students and their use of Collaborate over a program.*

## Discussion and Implications

The purpose of this study was to identify student use of Blackboard Collaborate. The findings infer that despite anecdotal evidence from convenors within the Bachelor of Business offered through OUA suggesting a decline in the use of Blackboard Collaborate, this contention appears superficial. The findings from this study provide support for the inclusion of Collaborate in fully online courses. The findings infer that over the *duration*<sup>2</sup> of a course, students commonly attended Collaborate sessions and over half the students surveyed, stipulated that they downloaded the recordings after a session. This was similarly confirmed by the systems export data dump whereby attendance at 'live' sessions were occurring but were disproportionately lower than the session downloads. Firstly, this statistic validates that students use of Collaborate sessions may vary from 'live' attendance to session downloads or a combination of both and, therefore, lack of 'live attendance' is not a worthy reason as to not include Blackboard Collaborate sessions in a fully online course. Secondly, that there may be a myriad of reasons why student attendance at Collaborate sessions are varied across a course offering. In fact, students commonly reported work and family commitments as limitations to their engagement with the scheduled Blackboard Collaborate sessions. This supports Davis et al. (2012) where work and other commitments often determine the level and ability of student involvement in online courses.

Interaction, connectedness, support for course content including assessment, in addition, to the actual Collaborate tool itself were consistently provided as reasons in support for Collaborate sessions. This aligns with Bower et al. (2014) who advocate asynchronous learning methods may not meet all student needs and therefore, the inclusion of synchronous communication including activities and resources may heighten student motivation and involvement in an online course. Similarly, Yamada (2009) confirms that social presence enhances student satisfaction and performance outcomes and as such the high rating of weekly sessions may validate the effectiveness and benefit of Collaborate as a support tool for student learning and engagement, a factor advocated by Palmer and Holt (2009). They argued that online support tools largely drive satisfaction with the learning experience. Although technical issues and structure including purpose of a session were highlighted as areas in need of improvement (in holding Collaborate sessions), technical issues irrespective of mode (i.e., face-to-face or online) will ensue and should be seen as discrete issue indirectly related to the design of a course, rather than a reason not to utilise online synchronised classroom tools, such as Blackboard Collaborate. An interesting acknowledgment by students was the way in which Collaborate sessions were operationalised. Student responses infer that online classrooms should build on course content from the perspective of application which may also include applying concepts related to completion of assessment tasks. Students would prefer to see value in attending the session i.e., apply the knowledge learnt together as a cohort (discuss, engage etc.) rather than revise or rehash content. Although timing of the sessions cannot be overlooked, it is an attribute which offers complexities given the nature of the Bachelor of Business Program (offered worldwide) and the inability to address individual student obligations and commitments. The practical insights identified from the results of this study confirm the use of Collaborate in fully online courses yet highlight areas of consideration for instructors as to improve the student experience; areas noted as likely factors encouraging student motivation for and engagement with the Blackboard Collaborate tool.

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<sup>2</sup> Duration equals 13 weeks in a teaching period. This statement is not based on weekly attendance at the Collaborate session.

## Conclusion and Future research

The current paper draws on the initial stage of a two phase study. Whilst the outcomes of this study have provided insight into student 'use' with Blackboard Collaborate in fully online courses, a second sample of students will be surveyed (as a component of phase one) based on the same questions in a consecutive teaching period. This second collection of data will be completed to further validate student behavioural outcomes of using Blackboard Collaborate.

An additional aim of this study is to further explore the *how* and *why* individuals choose to engage in technology systems (Phase two). Originally based on the Theory of Reasoned Action (Ajzen & Fishbein, 1980), the Technology Acceptance Model (Davis, 1989) has been widely applied in educational and workplace settings to predict user acceptance and adoption of technology. This theoretical model suggests that perceived usefulness and perceived ease of use influence a person's behavioural intention and ultimately use behaviours of technology and, as such, these constructs will be tested in Phase two of the larger study.

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**Please cite as:** Bodey, K., Ravaga, V. & Sloan, S. (2016). Preliminary exploration of student behavioural outcomes using Blackboard Collaborate in fully online courses. In S. Barker, S. Dawson, A. Pardo, & C. Colvin (Eds.), *Show Me The Learning. Proceedings ASCILITE 2016 Adelaide* (pp. 49-56).

Note: All published papers are refereed, having undergone a double-blind peer-review process.



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