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A PROJECTIVE STUDY OF BLENDED SYNCHRONOUS LEARNING FOR PROPERTY EDUCATION IN THE COVID-19 PANDEMIC

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ABSTRACT

The outbreak of COVID-19 has brought serious disruptions worldwide and higher education sector has been at the forefront of this global pandemic which demands innovative responses. This paper explores blended synchronous learning (BSL) as an approach available to cope with the unprecedented pandemic destruction to teaching-learning in higher education sector. To adapt to the "new normal" and try to mitigate physical and social distancing, new technology is valued option to combine face-to-face and remote teaching-learning activities, and BSL forms part of this experiment. This paper presents a review of literature on the BSL and examines its application in property courses in Australia as an example. It illustrates the role and value of BSL as a novel teaching-learning mode valuable during and beyond the pandemic period.

Keywords: Pandemic, Blended synchronous learning, Property education, Pedagogy, Australia.

1. INTRODUCTION

The global pandemic of COVID-19 has brought major disruptions worldwide that affect the fabric of citizens' everyday life in contemporary society. The higher education sector is at the forefront of this global pandemic which has led to a public health crisis around the world and severely affects universities and international and local students. Governments across the world declared the coronavirus state of emergency in response to the pandemic and people were ordered to stay at home with ongoing lockdowns and social distancing measures to prevent COVID outbreaks. Schools and universities are forced to shut down across countries and teaching and learning activities have switched to online teaching platforms. After the outbreak of the pandemic since March 2020, the COVID disruptions had caused the closure of universities that affected 1.6 billion enrolled learners in 185 countries across the world. Among these countries, two third of higher education institutions reported that they had transited from classroom teaching to distance teaching and learning (Marinoni, Land & Jensen, 2020). While the rollout of national vaccination programme has been accelerated across countries, higher education institutions begin to re-commence on-campus learning for fully vaccinated individuals, bringing new hopes towards a more normal way of life. Under such circumstances, educators are exploring novel ways in order to adapt to the "new normal" and blended synchronous learning (BSL) emerges as a "natural" teaching-learning mode in higher education in Australia.

In recent years, BSL has gained increasing popularity among educators (e.g. Bower, Dalgarno, Kennedy, Lee & Kenney, 2015; Hastie, Hung, Chen & Kinshuk, 2010; Szeto, 2015). Backed by rapidly advancing digital technologies, it provides a breeding ground for technology-rich environments in higher education that enables remote learning joining with face-to-face on-campus courses simultaneously (Bower et al., 2015; Szeto, 2015). The literature has described this type of multimodality session interchangeably as multi-access learning (Irvine, Code & Richards, 2013), synchromodal classes (Bell, Sawaya & Cain, 2014), hybrid-flexible course design (Hy-Flex) (Beatty, 2019), or synchronous hybrid learning (Raes, Detienne, Windey & Depaepe, 2020). As a novel pedagogical delivery mode, it is put forth in response to the COVID-19 pandemic that enables the continuity of teaching and learning activities (Soccio, Tregloan & Thompson, 2020). Facing the challenges of the pandemic, the BSL approach is organised by universities to support teaching and learning activities.

This paper explores the initial planning and design of BSL delivery in two property courses at the University of Melbourne, Australia. The objective of this paper is to explore the potential roles and values of BSL during and beyond the pandemic and project students' learning outcome regarding the BSL-enhanced subject design

and delivery in property education. This paper is structured as follows. The next section presents a review of literature on BSL and identifies its benefits and limitations. Subsequently, it explores the context of property and built environment education and highlights the research gaps. The third section introduces the initial planning and design of BSL delivery mode in two postgraduate subjects. The fourth section discusses the potential role of BSL as a novel pedagogical delivery mode to achieve teaching objectives and facilitate learning experiences in property and built environment education. Finally, some conclusive remarks are presented.

2. BLENDED SYNCHRONOUS LEARNING AND THE BUILT ENVIONMENT EDUCATION: A REVIEW OF LITERATURE

2.1. BSL as a delivery mode backed by the new information technology

The revolution in communication technologies has played a crucial role for the transformation in higher education sector in recent years. The physical classroom is no longer the sole learning environment while virtual teaching and learning environment compounded by the development of the information and communication technologies (ICT) becomes prominent. Online and distance learning has now become the fastest growing sector in higher education across the world (Soccio et al., 2020). Despite online learning offers various educational opportunities to students to overcome barriers in geographical location, it cannot easily replace the advantages of face-to-face interaction as asynchronous virtual classroom faces the problems of low participation, delayed feedback and lack of coordination that students would still prefer real-time interaction to feel in sync with their peers and the class (Anderson, 2008; Stewart, Harlow & DeBacco, 2011; Wang, Quek & Hu, 2017). The breakthrough in technological innovations, such as increasing capacity of wireless communication and high-speed internet access, provides alternatives to delivery mode that makes synchronous teaching and learning possible. BSL enables the integration of face-to-face class with online synchronous session where online students can attend face-to-face classes simultaneously with the assistance of rich-media synchronous technologies (Bower et al., 2015; Stewart et al., 2011; Wang et al., 2017).

The literature on BSL shows a general agreement among education researchers on its pedagogical benefits. One of the most significant advantages refers to its flexibility to provide students with greater access to educational opportunities and equitable experiences. Regardless of students' geographical location, BSL enables students to virtually attend the classes in real-time and join teaching and learning activities synchronously with campus students. Its flexible access to learning environments brings great convenience to students that online learners no longer need to physically present in campus but enjoy equivalent learning experience as campus students (Bower et al., 2015; White, Ramirez, Smith & Plonowski, 2010). BSL also enhances students' learning experiences by integrating face-to-face class with online synchronous session. Through synchronous communication technologies, online students can see what happens in the classroom and interact seamlessly with lecturers and campus students. It establishes a stronger connection between and among students and lecturers that supports more collaborative student engagement, co-construction of knowledge, and develops a sense of community (Bower et al., 2015; Butz, Stupnisky, Peterson & Majerus, 2014; Cunningham, 2014; Szeto, 2015).

Despite its educational benefits, there are several challenges to implement BSL in higher education sector. One issue to be overcome is technological issues as previous studies report problems in technological performance hindering a smooth implementation of BSL, such as poor audio transmission and internet connection (e.g. Bell et al., 2014; Bower et al., 2015; Cunningham, 2014). As the teacher's role determines successful delivery of a BSL activity, university support and training are required for teaching staffs to adapt to new technologies (Bower et al., 2015; Kear, Chetwynd, Williams & Donelan, 2012). The combination of two different learning settings also imposes cognitive overload to teachers that they have to manage both physical and virtual classrooms during the course (Kear et al., 2012; Szeto, 2015). From the students' perspective, some studies illustrate that there are differences in learning experience reflected from the cohorts of campus and online students. Szeto (2015) finds that face-to-face students felt being neglected as the instructor spent more time and efforts to online students. Online students reflected they felt isolated during group discussion (Cunningham, 2014). More teaching efforts should be made to encourage interaction and collaboration between them.

In summary, the review of literature shows BSL has gained its prominence as a pedagogical delivery mode in higher education given its range of educational benefits. It also identifies the limitations of BSL that need to be addressed in future practices. This paper will illustrate the attempts of the University of Melbourne to address these issues. Facing the challenges of global pandemic, the application of BSL is regarded as part of the solution to adapt the new normal during and post-pandemic era (Petronzi & Petronzi, 2020; Soccio et al., 2020). We need more researches on the implementation of BSL during the pandemic to develop a better understanding to further validate whether this delivery mode can enhance student learning experience during the transitional period and a time of uncertainty.

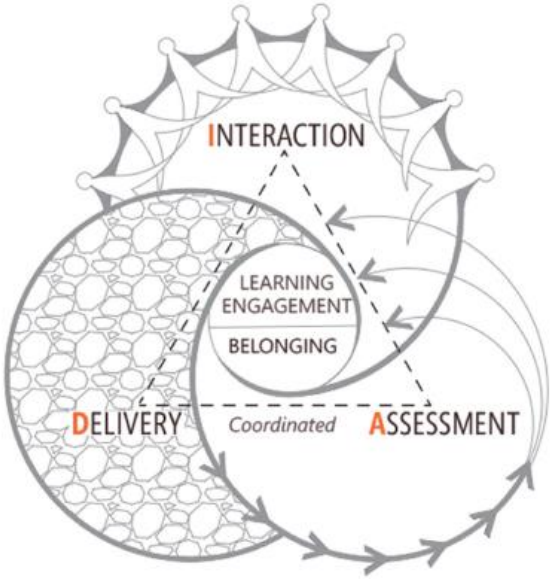
2.2. Analytical lenses for built environment education using BSL

This paper focuses on property and built environment education. Built environment is differentiated from other academic areas as it is designed as "a high industry-focused teaching structure targeting specific skills" (Wilson & Cotgrave, 2020, p. 135). The design of built environment curriculum links the teaching and training activities to the industry practice that students' professional competence is examined by professional accreditation to meet the demand of the industry (Sintusingha & Wu, 2010). To fulfil the pedagogical needs, Wilson and Cotgrave (2020) point out that the built environment students have special preferences and requirements for the design of physical teaching space. The curriculum design and delivery also require fluidity in learning styles at different stages of the learning process, such as from delivering abstract concepts to experiential learning in design studio teaching (Tucker, 2007). As the built environment subjects require specific learning styles, the outbreak of COVID pandemic could potentially have a larger impact on the discipline than other academic disciplines. There is an urgent need to explore an appropriate pedagogical delivery mode in a post-pandemic world.

While BSL has gained increasing prominence, there is a dearth of literature on exploring the implementation of BSL in property and built environment education. Only some studies illustrate the technological advancement in facilitating the teaching-learning activities in the discipline. For instance, Poon (2012; 2014) investigates the use of blended learning in property-related courses and carries out a cross-country analysis to compare the use of blended learning in property education in UK and Australia. Hou and Wu (2020) investigate the implementation of Virtual Reality technology in real estate education to enhance students' learning experience. Although Poon's (2012; 2014) researches working on a blended learning model, they do not explore the synchronous teaching and learning which is a key component of BSL to deliver same learning experience to both campus and online students. Also, most of the researches on BSL focused on teachers' and students' experiences and did not further explore the disciplinary contexts. To fill the research gap, there is a need to work on the implementation of BSL in property and built environment education. This paper aims to explore the potential roles and values of BSL in a post-pandemic world and examine students' learning outcomes regarding the BSL-enhanced subject design and delivery in built environment education.

To achieve the objective, this paper employs analytical lenses of Soccio et al.'s (2020) DIAgram and Garrison, Anderson and Archer's (2000) community of inquiry (CoI) perspective to examine the potential of BSL to achieve a meaningful education experience. Soccio et al. (2020) develop a conceptual framework of a "DIAgram" to examine the specifics of built environment education in response to rapid transition to online learning environments (Figure 1). The DIAgram framework presents a triad model of "Delivery", "Interaction" and "Assessment" as three interrelated tasks to "deliver subject content", to "support interaction" between students and teaching staffs, and to "effectively assess online" (Soccio et al., 2020, p.239). At the centre of the framework, learning engagement and belonging are the primary objectives to be achieved under an effective coordination of delivery, interaction and assessment activities.

Figure 1 The DIAgram framework



Source: Soccio et al. (2020, p.238)

Garrison et al.'s (2000) CoI perspective is applied to examine whether the delivery, interaction and assessment activities in the BSL mode can enhance teaching, social and cognitive presences which are the prerequisites to support a meaningful and successful educational experience. The development of cognitive and social presences is dependent upon an effective presence of a teacher, which involves instructional management and direct instruction for realizing quality learning outcomes (Garrison et al., 2000). The cognitive presence enhances the development of critical thinking skills that refers to "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication", such as information exchange and applying new ideas; while social presence relates to a supportive learning environment for developing "the ability of participants in a community of inquiry to project themselves socially and emotionally, as 'real' people through the medium of communication being used", such as emotion expression and group cohesion (Anderson, 2008; Garrison et al., 2000, p. 89).

In this paper, it incorporates these two perspectives to build an analytical lens to examine how the BSL delivery mode can shape a quality educational experience in the built environment discipline in the post-pandemic era.

3. ARRANGEMENT OF THE BSL DELIVERY MODE: PEDAGOGY DESIGN AND SUBJECT DELIVERY

3.1. Course context of two postgraduate subjects

In 2007, Melbourne School of Design (MSD) emerged as the graduate school of Faculty of Architecture, Building and Planning at the University of Melbourne. The MSD has a range of postgraduate subjects within the field of built environment, including architecture, construction management, landscape architecture, property, urban planning and urban design. In the mid-2018, the Built Environments Learning + Teaching (hereafter BEL+T) team is set up under the Faculty which consists of a group of academics with diverse backgrounds, to support teaching and teaching-related activities and improve learning outcomes for the built environment discipline, such as providing training workshop for teaching staff and innovative learning technologies (Soccio et al., 2020).

This paper focuses on two MSD postgraduate property subjects on their BSL design and projected delivery. The subjects each has a typical enrolment number of 50 students. Their course contents encompass the professional knowledge of property valuation and analysis that are closely linked to the context of Australian industry practices. Each subject comprises 12 weekly sessions. Each contains a two-hours lecture and a one-hour tutorial session.

3.2. Subject delivery and learning environment under COVID

The University of Melbourne had closed its campus due to the COVID pandemic and most of its courses had moved to online teaching from May 2020. Prior to the start of Semester 2 in 2021, there was a slowdown progression of the COVID outbreak in Victoria, Australia, seeing signs of reopening university campuses and resuming face-to-face teaching on campus. Under such circumstance, the University decided to introduce BSL as a delivery mode to facilitate the returning to on-campus learning. The University organised a pilot project to allow selected courses to be taught in on-campus facilities, with capacity of BSL environment. The goal is to provide the same learning experience to all students including both campus students and online students during the pandemic as students are still not able to attend campus due to lockdown, quarantine or travel restrictions (BEL+T, 2021a). The two property subjects were assigned under the BSL pilot scheme. They therefore required initial planning and design for BSL-enhanced delivery, including classroom setting, synchronous technology applications and staff support.

To facilitate a supportive BSL environment, the University has converted the teaching space by upgrading in-room technologies and facilities. In mid-2021, eighteen classrooms were set up and equipped with specific equipment for the BSL delivery. In these BSL classrooms, a new touch control panel was installed to replace the old touch panel. It connects to the in-room technologies including web conferencing via Zoom, a lectern computer (or lecturer's laptop), and supporting visual and audio equipment (University of Melbourne, 2021a). Through the main control panel, it enables the teaching staff to manipulate and adjust the setting of cameras, microphone, displays, and document cameras in the BSL classroom. In-venue cameras help online students observe and involve while attending synchronous session so to gain similar experience as on-campus students. Each BSL classroom has two in-venue cameras to capture the teaching space of presenter and audience area (Figures 2 and 3). For microphone, there are desk microphone, lapel and handheld microphones in classrooms. Lecturer can use lapel microphone when they move around in the classroom. Handheld microphones are available for on-campus students where audience sound can be recorded and/or transmitted to online students. Document camera can capture objects, such as papers and 3-D objects, and display to all students simultaneously. Figure 4 shows the in-room equipment to support the operation of BSL delivery.

Figure 2 Using a control panel to adjust audience camera to capture a preferred view of teaching area

Source: Screen capture of the BSL Reference Guide 2021
https://web.microsoftstream.com/video/d2b1c7ca-64d7-465c-b66d-52340fe87705?list=studio

Figure 3 A preset of presenter camera

Source: https://lms.unimelb.edu.au/staff/guides/dual-delivery-support-resources/using-the-equipment-in-blended-synchronous-learning-spaces-new-touchpanel

Figure 4 In-room equipment for supporting BSL delivery

Source: Modified from a screen capture of BSL Reference Guide 2021 https://web.microsoftstream.com/video/d2b1c7ca-64d7-465c-b66d-52340fe87705?list=studio

For synchronous communication technology, BSL classes are conducted via Zoom as a web conference tool for real-time learning experience. Using web conferencing tool enables online students to join the class in "a shared online space" - a virtual classroom, to interact seamlessly with lecturers and on-campus students (Bower et al., 2014, p.19). Zoom breakout rooms can facilitate group discussion. There are several screens available in BSL classrooms to visualise online students allowing class interaction (Figure 5). Teaching staff can set up a Zoom meeting in the Learning Management System (LMS) and the session can be captured. Meanwhile, the University introduces "BSL LSS+" (live-streamed sessions) which the "plus" refers to classes having both live stream and recording of the lecture as the dual outputs available to students (BEL+T, 2021a). Lecture capture is powered by Echo360 Lecture Capture technology to record audio and visual contents of live-stream sessions and to be saved in the University's cloud storage (University of Melbourne, 2021b) for later access.

Figure 5 A main screen in a BSL classroom showing online students on Zoom

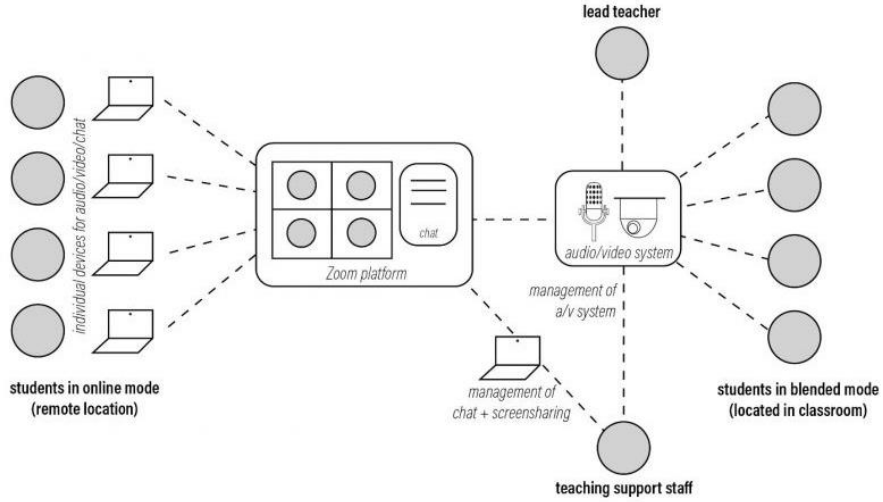
Source: Screen capture of the BSL guide
https://le.unimelb.edu.au/supporting-teaching-learning-assessment/dual-delivery/blended-synchronous-learning-sessions/facilitating-bsl#presenting-to-both-cohorts

While operating BSL-enabled teaching-learning assumes some prior knowledge, technical support and training are provided for teaching staffs. There were a series of online BSL training workshops organised to introduce the basic idea and operation of BSL before the start of the semester. Technical training session is available to provide BSL room inductions to teaching staffs of each subject so that they can get familiar with the procedures of implementing BSL. For the first several BSL classes, the teaching staff can request for a technical staff to provide onsite support during the class. Also, there is funding available for each BSL subject to hire a teaching assistant to facilitate the operation of a BSL activity. Their main responsibility is to assist operation of BSL delivery, such as manipulating in-venue cameras to capture the lecturer, 'in-place' students and teaching materials, and monitoring the situation of online students to see if there are questions raised in the chatbox.

Figure 6 illustrates the operation of a BSL-enhanced subject design in the University of Melbourne. Before the class, the teacher will schedule a Zoom meeting via the Canvas LMS system. During the class, online students can attend the class via Zoom and join collaborative learning activities with campus students. With an upgraded audio and visual system, online students can see what happens in the classroom and audience responses are captured through the audio channel that both cohorts can communicate with each other. In addition, there is a private area designated for on-campus students who prefer not to be video captured. In comparison to previous literature, this case demonstrates a major improvement to the use of BSL. First, there is an upgrade of BSL teaching spaces to support smooth BSL experience solving the technical issues described in the literature. Second, the role of a teaching assistant helps focus lecturer's attention on teaching activities. Figure 7 shows the operation of a BSL session with its key elements including teacher, cohorts of on-campus and online students, as well as in-room physical setting of BSL facilities.[1]

[1] This paper focuses on the initial planning and design of BSL delivery mode for property subjects because the BSL classes were suspended due to the latest Delta outbreak in July 2021.

Figure 6 The operation of a BSL delivery mode



Source: https://msd.unimelb.edu.au/belt/abp-teaching-toolbox/online-teaching-and-learning/guidancetiles/belt-guides/pedagogy/BSL

Figure 7 The situation of a BSL session in a BSL classroom

Source: Screen capture of the BSL guide https://le.unimelb.edu.au/supporting-teaching-learning-assessment/dual-delivery/blended-synchronous-learning-sessions/facilitating-bsl#student-presentations

4. PROJECTED ROLE OF BSL FOR PROPERTY TEACHING-LEARNING

Using the aforementioned analytical lenses of *delivery, interaction and assessment (DIAgram)*, this section discusses projected roles of BSL in property and built environments courses focusing on its delivery, interaction, learning outcome with enhanced teaching, social and cognitive presences. It is of particular importance to facilitate and optimize teaching-learning activities given the rapid and drastic changes brought by the pandemic. The analytic lenses help illustrate how BSL creates a supportive learning environment for teaching and learning activities to achieve deep and meaningful learning experiences characterized by the three presences.

4.1 Delivery activities

For delivery, it is regarded as a "container" in the design of the DIAgram framework that shares learning "objects" with learners, such as lectures, video presentations, studios, fieldwork and reading materials (BEL+T, 2021b). The curriculum design and delivery have its specific learning styles ranging from lecture to studio-based modules. Instructors give subject instructions, deliver content knowledge and demonstrate specific skills to build students' professional competence. The presence of a teacher and coordinator is essential to facilitate students to go through the learning cycle for positive learning experience.

In contrast to face-to-face class delivery, online learning creates a virtual learning environment where curriculum activities are realised by digital technologies which demands extra teaching effort in a partially-virtual environment. Anderson (2008) contends that an excellent e-teacher should be equipped with a pedagogical understanding of learning processes, and sufficient technical skill to deliver subject knowledge and conduct learning activities effectively in online learning environments. This poses challenges to create and sustain teacher's effective presence and leadership, particularly in asynchronous delivery. Literature suggests the importance of blended synchronicity to allow a responsible and effective teaching presence for the quality of learning (Akyol & Garrison, 2011; Wang et al., 2017).

As BSL delivery combines the physical and cyber classrooms, the lecturer now faces multiple roles as teacher-coordinator in physical classroom and online synchronous session in BSL-enhanced subject (Szeto, 2015). While most property subjects expect strong presence of teacher, BSL becomes critical to deliver professional knowledge to both cohorts because it enables online students to receive similar learning experience as on-campus students. Practical demonstration can be carried out in real-time to teach students applied skills linking theory with practice in learning processes. Virtual site visit can be arranged for students' exposure to real life examples (BEL+T, 2021b). Also, the presence of industry professionals and experts is prominent to provide up-to-date knowledge and share their valuable experience to build in-depth understanding in the field. BSL can support synchronous communication between speaker and students to proceed critical discussion and collaborative engagement. In this regard, BSL provides a favourable learning environment to create and sustain an effective presence of teaching leadership for property-related course delivery, as well as enhancing social and cognitive presence to achieve intended learning outcomes.

4.2 Interactive activities

For interaction, it focuses on collaborative learning activities and exchange of ideas among students with their peers and instructors to enhance learning engagement and sense of belonging (BEL+T, 2021b). In property and built environment education, the development of students' professional knowledge requires collaborative experiences with "enculturation into professional, industry-specific and student communities" (Tregloan, Thompson, Soccio & Song, 2020).

Traditional learning environment facilitates interactive activities through face-to-face communication. Garrison et al. (2000, p.90) suggest a stronger social presence is established through face-face oral communication as it is a rich medium that is "fast-paced, spontaneous, fleeting" with socio-emotional interaction and support. In an online context, interactive activities can only be carried out with the assistance of computer-mediated technologies. It poses challenges to build a supportive learning environment for social presence as there is an absence of physical presence. In particular, for subjects only available to asynchronous online environment, such as pre-recorded lectures and subject discussion board, there is a lack of visual cues and delay in expression of opinion and discussion with peers and instructors (Garrison et al., 2000). BSL session is of significance to enhance social and cognitive presence through real-time educational interaction and collaborative activities.

While interactive communication is critical for built environment students to develop professional competence, BSL can facilitate collaborative learning activities such as group discussion, student project presentations and workshop activities. Sintusingha and Wu (2010) argue significance of studio teaching model as it facilitates strong student, teacher, practitioner interaction and encourages creativity 'in place'. BSL extends (enhances) these engagements in critical interaction by combining face-to-face session at campus and synchronous cyber classroom. It extends the scope of the "learning community". Due to technical barrier, previous studies found the two cohorts had little interaction. Visual and audio upgrade in BSL mode reduces communication barrier to allow more effective interactions between them.

4.3 Assessment activities

For assessment, there should be clear and effective strategies to guide student learning by designing assessment and feedback (BEL+T, 2021b). In traditional learning environment, student learning is assessed with direct communication between lecturer and students with feedbacks such as class group participation and project presentation. For online teaching, assessment and feedback depend on tools available to lecturer. For instance,

asynchronous online mode requires students to post comments on subject discussion board and feedback often provided online asynchronously (Anderson, 2008). However, it is difficult to proceed online assessment for studio-based subjects due to its format to give "desk crits" and design review on the quality of students' project and their presentation (Tregloan et al., 2020). It poses challenges to enhance teaching presence in assessments, as well as social interaction and critical skills development. BSL session is conducive to provide real-time review on students' submission and give critical and timely feedback.

With campus and synchronous cyber classrooms, BSL provides more assessment opportunities to facilitate processes and feedback efficiency. In studio teaching subjects, group work is important to create a vibrant learning environment to build social capital as students can learn from each other and receive constant support and criticism during group discussion and collaboration with their peers (Sintusingha & Wu, 2010). BSL supports group assignment such as presentation and in-class debate. In particular, it overcomes geographical barriers between different cohorts of students to work with each other that promotes interaction. The teacher's presence is enhanced to facilitate group discussion between both cohorts and give prompt feedback to students. It also enables the involvement of industry practitioners to participate in student project presentations and give critical constructive comments to support their development of professional skills and creativity.

The above discussion shows BSL as a valued pedagogical model in property and built environment education. Before the pandemic, the advent of digital technologies creates novel forms of teaching-learning opportunities as asynchronous online learning and blended synchronous modalities. The global pandemic has led to dramatic decrease in face-to-face communication and interaction. There is an eminent need to substitute the traditional teaching-learning in response to pandemic destruction. During the pandemic, online learning is undertaken as a dominant delivery mode to continue teaching and learning activities. With the rollout of vaccination programme, higher education institutions are planning for gradual restart of on-campus activities. It is predicted that BSL will be a popular delivery mode at least at start of post-pandemic era due to its flexibility and capacity.

5. CONCLUSIVE REMARK

This paper examines the potential of BSL as a pedagogical delivery mode to achieve quality learning outcomes in property and built environment discipline in a post-pandemic world. Using the case of University of Melbourne, it explores the initial planning and design of BSL in property subjects and illustrates its potential role and value to enhance teaching and learning experience to adapt the "new normal". Several conclusive thoughts emerge from the discussion. First and foremost, the provision of adequate resources, including physical infrastructure and staff support, is the key factor for a successful implementation of BSL in higher education. The property subject cases show an upgrade of physical teaching facilities to create a supportive learning environment. There is provision of a series of BSL training to teaching staffs, as well as an additional funding to hire a teaching assistant. Previous literature had raised concerns over technical and labour barriers to implement BSL. The cases show latest response to the problem. It shows that despite the COVID disruption, there is improvement in pedagogical practices to explore novel strategies to cope with teaching-learning. From this perspective, the pandemic might accelerate the adoption of BSL.

Given the uncertainty wreaked by the pandemic, one projection is that BSL may become a prominent delivery mode in higher education for the post-pandemic new norm. This paper illustrates its flexibility to enable students having more choices to select their preferred learning environment to attend campus classrooms or online synchronous sessions based on their individual circumstances. It also discusses the potential of BSL to enhance student learning experience in disciplines that have special pedagogical requirements. As currently perceives, although the pandemic has substantially reduced global population mobility, it reduces the cost of receiving overseas education as BSL provides more options to meet attendance needs and therefore international students can save on travel and living costs. The role of BSL can be of strategic importance as it allows education of a quality comparable to face-to-face classroom mode while being flexible for student needs. The prospect of BSL will depend on the state of domestic and international population mobility and the progress of vaccination.

As the pandemic is still an ongoing event, this paper presents a preliminary study of an early planning of BSL in property subjects in an Australian higher education institution. An empirical study to explore the impact of

BSL on teaching and learning experience during the pandemic will be the next step. There are several suggestions for future researches. The first is to conduct researches to explore the use of BSL in facilitating the delivery of different subjects during the pandemic time. Another research area is to conduct cross-country and institution comparisons of the BSL implementation to scrutinise impacts of technological change on teaching-learning in different contexts.

Reference list

Akyol, Z., & Garrison, D. R. (2011). Understanding cognitive presence in an online and blended community of inquiry: Assessing outcomes and processes for deep approaches to learning. *British Journal of Educational Technology*, 42(2), 233-250.

Anderson, T. (2008). Teaching in an online learning context. In T. Anderson (Ed.), *The Theory and Practice of Online Learning* (pp. 273-294). Edmonton: AU Press.

Beatty, B. J. (2019). *Hybrid-flexible Course Design: Implementing Student-directed Hybrid Classes*. EdTech Books. https://edtechbooks.org/hyflex

Bell, J., Sawaya, S., & Cain, W. (2014). Synchromodal classes: Designing for shared learning experiences between face-to-face and online students. *International Journal of Designs for Learning*, 5(1), 68-82.

BEL+T. (2021a). *Blended Synchronous Learning (BSL) Taxonomy*. https://msd.unimelb.edu.au/belt/abp-teaching-toolbox/online-teaching-and-learning/guidancetiles/belts-guides/pedagogy/dual-delivery/BSL

BEL+T. (2021b). *Guidance for Dual Delivery Subject Coordination*. https://msd.unimelb.edu.au/belt/abp-teaching-toolbox/online-teaching-and-learning/guidancetiles/belt-guides/pedagogy/dual-delivery

Bower, M., Dalgarno, B., Kennedy, G. E., Lee, M. J., & Kenney, J. (2015). Design and implementation factors in blended synchronous learning environments: Outcomes from a cross-case analysis. *Computers & Education*, 86, 1-17.

Bower, M., Kennedy, G., Dalgarno, B., Lee, M. J., & Kenney, J. (2014). *Blended Synchronous Learning: A Handbook for Educators*. Australian Government Office for Learning and Teaching. https://ltr.edu.au/resources/ID11_1931_Bower_Report_handbook_2014.pdf

Butz, N. T., Stupnisky, R. H., Peterson, E. S., & Majerus, M. M. (2014). Motivation in synchronous hybrid graduate business programs: A self-determination approach to contrasting online and on-campus students. *Journal of Online Learning & Teaching*, 10(2), 211-227.

Cunningham, U. (2014). Teaching the disembodied: Othering and activity systems in a blended synchronous learning situation. *International Review of Research in Open and Distributed Learning*, 15(6), 33-51.

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.

Hastie, M., Hung, I. C., Chen, N. S., & Kinshuk (2010). A blended synchronous learning model for educational international collaboration. *Innovations in Education and Teaching International*, 47(1), 9-24.

Hou, H. C., & Wu, H. (2020). Technology for real estate education and practice: A VR technology perspective. *Property Management*, 38(2), 311-324.

Irvine, V., Code, J., & Richards, L. (2013). Realigning higher education for the 21st century learner through multi-access learning. *Journal of Online Learning and Teaching*, 9(2), 172-186.

Kear, K., Chetwynd, F., Williams, J., & Donelan, H. (2012). Web conferencing for synchronous online tutorials: Perspectives of tutors using a new medium. *Computers & Education*, 58(3), 953-963.

Marinoni, G., Land, H., & Jensen, T. (2020). *The Impact of Covid-19 on Higher Education around the World: IAU (International Association of Universities) Global Survey Report.* https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf

Petronzi, R., & Petronzi, D. (2020). The online and campus (OaC) model as a sustainable blended approach to teaching and learning in higher education: A response to COVID-19. *Journal of Pedagogical Research*, 4(4), 498-507.

Poon, J. (2012). Use of blended learning to enhance the student learning experience and engagement in property education. *Property Management*, 30(2), 129-156.

Poon, J. (2014). A cross-country comparison on the use of blended learning in property education. *Property Management*, 32(2), 154-175.

Raes, A., Detienne, L., Windey, I., & Depaepe, F. (2020). A systematic literature review on synchronous hybrid learning: Gaps identified. *Learning Environments Research*, 23(3), 269-290.

Sintusingha, S., & Wu, H. (2010). *Studio Teaching for the Property Discipline*. The 17th Annual European Real Estate Society Conference, Milan, Italy.

https://www.propertyfinance.it/sitoeres/contents/papers/eres2010_249_Wu_STUDIO_TEACHING_FOR_.pdf

Soccio, P., Tregloan, K., & Thompson, J. (2020). Well-coordinated: Learner-focused coordination tactics beyond the pandemergency. *Archnet-IJAR: International Journal of Architectural Research*, 15(1), 237-251.

Stewart, A. R., Harlow, D. B., & DeBacco, K. (2011). Students' experience of synchronous learning in distributed environments. *Distance Education*, 32(3), 357-381.

Szeto, E. (2015). Community of Inquiry as an instructional approach: What effects of teaching, social and cognitive presences are there in blended synchronous learning and teaching?. *Computers & Education*, 81, 191-201.

Tregloan, K., Thompson, J., Soccio, P., & Song, H. (2020). *BEL+T designs a DIAgram… a relational framework for teaching online*. https://distancedesigneducation.com/2020/08/20/belt-designs-a-diagram-a-relational-framework-for-teaching-online/

Tucker, R. (2007). Southern drift: The learning styles of first-and third-year students of the built environment. *Architectural Science Review*, 50(3), 246-255.

University of Melbourne. (2021a). *Using the equipment in blended synchronous learning spaces (new touchpanel)*. https://lms.unimelb.edu.au/staff/guides/dual-delivery-support-resources/using-the-equipment-in-blended-synchronous-learning-spaces-new-touchpanel

University of Melbourne. (2021b). *Lecture capture.* https://lecture.unimelb.edu.au/

Wang, Q., Quek, C. L., & Hu, X. (2017). Designing and improving a blended synchronous learning environment: An educational design research. *The International Review of Research in Open and Distributed Learning*, 18(3), 99-118.

White, C., Ramirez, R., Smith, J., & Plonowski, L. (2010). Simultaneous delivery of a face-to-face course to on-campus and remote off-campus students. *TechTrends*, 54(4), 34-40.

Wilson, H. K., & Cotgrave, A. J. (2020). Learning space design: The presentation of a framework for the built environment discipline. *International Journal of Construction Education and Research*, 16(2), 132-148.

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