International best practice blended learning for disadvantaged and vulnerable VET learners | Melanie Kyle, 2023

International Specialised Skills Institute

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Victorian Skills Authority

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1. Acknowledgments

The Awarding Bodies

The Fellow sincerely thanks the Victorian Skills Authority (VSA) for providing funding support for the ISS Institute and for this Fellowship.

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The Victorian Skills Authority works in partnership with the International Specialised Skills Institute by funding the VET International Practitioner Fellowships. The Fellowship program focuses on developing opportunities within the VET sector to assist in building an Education State in Victoria that produces excellence and reduces the impact of disadvantage. In addition, the program is funded to support the priorities of Skills First, including developing capacity and capability, innovative training practices and increasing teacher quality within the VET sector as well as building industry capability and developing Victoria's current and future workforce.

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Figure 1. Melanie Kyle at the ISSI 30th Anniversary Awards Ceremony on 22 November 2022

2. Executive Summary

The aim of the Fellowship was to identify international best practice in blended learning for disadvantaged VET learners. Specifically, the research focused on strategies to improve engagement, participation, and completion rates for VE students, particularly following the impacts of the COVID-19 pandemic. There has been a rapid shift to blended learning at VET institutions globally which has pushed institutions to strengthen staff capability and skills in this area. The Fellowship research has provided opportunities to gather international examples of successful responses to the transition to blended learning, especially to support disadvantaged and vulnerable VET learners. The report concludes that effective blended learning involves a range of strategies including specific teacher professional development, supporting student digital literacy, use of the blended learning continuum and interactive educational tools such as games, videos, online whiteboards and self-check quizzes. It is also recommended that institutions establish dedicated blended learning mentors or 'champions' for peer-to-peer training and support.

2.1 FELLOWSHIP BACKGROUND AND METHODOLOGY

Studies of the Australian VET sector indicate that an average of 40% of disadvantaged tertiary students complete their studies (National Centre for Vocational Education Research 2019), while a Smith Family Report (2016) reports that 58.9% of all 24-year-old Australians from the most disadvantaged backgrounds are fully engaged in employment or further study compared to 83.1% from the highest socioeconomic backgrounds. According to Kelly, Brown & Goring (2020) - in a report published by the UNEVOC research centre at RMIT University - the education, training and employment impacts due to the challenges of the COVID-19 pandemic have been significant and long-term for young people. In fact, the data suggests that the rapid shift to online and blended learning has amplified the problems of equity, engagement and participation in education and training. The transition to online learning has identified the deficiencies in the Vocational Education (VET) model and has exposed significant digital discrimination among students, which is often referred to as the 'digital divide' (Kelly, Brown & Goring 2020).

The objective of this Fellowship was to combine personal best practice teaching experience in vocational education with applied research to implement short-term to long-term strategies at an institutional level and beyond. The two international institutions: Temasek Polytechnic Singapore and Mauritius Institute of Training and Development (MITD) were chosen as members of the UNESCO-UNEVOC network and due to their success in applying blended learning. For example, both international institutions boast high student completion rates of 80 to 90%. The results from the international research component were subsequently compared with findings gathered at RMIT College of Vocational Education (CoVE) which is also a member of the UNESCO-UNEVOC network and where the Fellow has worked since 2008. The goal of the UNEVOC network is to strengthen and upgrade TVET systems to achieve sustainable development goals, including increasing the

use of blended learning principles and digital technology in education (UNESCO-UNEVOC n.d.). Additionally, both UNEVOC institutions in Singapore and Mauritius follow a Cambridge British education system with English as the main language of instruction, however students come from a range of culturally and linguistically diverse communities. Furthermore, a significant percentage of learners in each of the courses in this study fall into the categories of vulnerable or disadvantaged, including adult learners, those with low prior education attainment, learners with a disability or learners from culturally and linguistically diverse (CALD) backgrounds. To complete this Fellowship research, a total of five teaching staff were interviewed at RMIT CoVE, eight staff were interviewed at Temasek Polytechnic Singapore and eight practitioners at MITD Mauritius. Some observations of synchronous class teaching occurred at both the Singapore and Mauritius institutions.

2.2 ISSI FELLOWSHIP JOURNEY

This Fellowship was awarded in December 2020. However, due to the impacts of the COVID-19 pandemic, the international travel component was not undertaken until April and July 2022. The delay to completing the travel component was challenging but presented the Fellow with an extended period for pre-travel research and for refinement of the research focus.

The flowchart in Figure 2 illustrates the Fellowship journey:

Figure 2. Fellowship journey to complete the ISSI VET Practitioner Fellowship

3. Findings

3.1 DEFINITIONS OF DISADVANTAGED LEARNER AND BLENDED LEARNING

This study has used the following definitions for disadvantaged learners and blended learning. Lamb et.al. (2018) defines disadvantaged or vulnerable learners in a report published by the National Centre for Vocational Education Research (NCVER) as follows:

Indigenous learners, learners with a disability, learners from a culturally and linguistically diverse (CALD) background, people who are unemployed, or have low levels of prior educational attainment (not having attained Year 12 or an Australian Qualifications Framework [AQF] certificate III or above).

While conducting this research a range of definitions for blended learning were found. One of the most relevant definitions comes from Dr Neil Morris, a leading researcher in blended learning and digital technology in education who has stated that blended learning is:

An appropriate mix of face-to-face and online learning activities, using traditional instruction, guided support and independent learning, underpinned by the use of digital technologies designed using strong pedagogical principles, to support learner engagement, flexibility and success (Morris 2022).

3.2 OVERVIEW OF FINDINGS FROM THREE UNEVOC TVET INSTITUTIONS

The findings were collected at three VET institutions that are members of the UNESCO-UNEVOC TVET network. Each institution was identified due to successful implementation of blended learning principles and digital tools, particularly following the rapid transition to online and blended learning due to the COVID-19 pandemic. Table 1 provides an overview of each institution involved in this study.

Table 1. Overview of the three VET institutions that formed part of this Fellowship research

Temasek Polytechnic Singapore	Mauritius Institute of Training and Development (MITD)	RMIT College of Vocational Education
Vocational Education was established in 1990 with focus on blended learning starting in the 1990s	Focus on blended learning began in 2020 in response to COVID-19 pandemic	Established 1887 as Working Men's College. Modern-day RMIT created in 1992. Blended learning increased with transition to Canvas LMS in 2018 and in response to COVID-19 in 2020. New blended learning design in LMS launched June 2022.
Total number of VET students: 13,000	Total number of VET students: 4000 students	Total number of VET students: 6000 students
Comprehensive teacher training provided with two accredited year-long qualifications: Certificate in Technology Enhanced Learning (optional) & Certificate in Teaching & Learning for Polytechnic Educators (compulsory)	One day training provided for most staff in using Google Classroom and Microsoft 365/ MS Teams Some staff have not completed any specific training for blended learning.	Webinars, presentations at the RMIT Learning & Teaching conferences and training related to Canvas LMS. Some staff have not completed any specific training for blended learning.
Learning Management System (LMS): Brightspace	Google Classroom (used as LMS), MS Teams, Zoom & WhatsApp School of Information Technology, Electronics and Communication (SITEC) delivers through an LMS created by their industry partner	Learning Management System (LMS): Canvas
Average class size: 20 – 25 students	Average class size: 20 – 24 students	Average class size: between 20 to 120 students depending on the course
Attendance is compulsory for tutorials and laboratory classes. At-risk attendance levels are flagged and discussed at critical junctures like mid-term and final school examination meetings. There is also a "Late" penalty. If a student is late, they will be marked absent.	90% minimum attendance requirement	Attendance not compulsory in VE. Minimum attendance requirements for certain assessment-related activities.

Temasek Polytechnic Singapore	Mauritius Institute of Training and Development (MITD)	RMIT College of Vocational Education
Semester duration: 18 weeks	Semester duration: 20 weeks	Semester duration: 18 weeks
Free laptop program for financially disadvantaged students. This program was established 10 years ago.		
Free internet access is available at the TP library which has 9 floors of resources and study spaces.	Computer lab on campus. Students must purchase own laptop. Free internet is provided via network cable in classrooms. Limited WIFI availability.	Laptop scholarship by application for financially disadvantaged students. Free internet access is available at libraries and in all buildings on campus.
Cost of study: Studies are paid by the Singapore Ministry of Education (MOE). The philosophy of MOE is that every child in Singapore should be able to access quality education.	Cost of study: Paid by the Mauritian government	Cost of study: Government subsidized but students still pay as follows: Cert IV in Education Support - Free TAFE list but other Cert IV programs average cost $700 (concession) - $3,500 Diploma Teacher Education Preparation $4,500 Associate Degree CSP $4,124 to $15,142 per year depending on area of study
Learner digital literacy: Students familiar with the use of an LMS and learn foundation digital skills at secondary school. Adult learners are supported with digital skill upgrade.	Learner digital literacy: Recent graduates from secondary school have high levels of digital literacy. Adult learners are supported with digital skill upgrade.	Learner digital literacy: Varying levels of digital literacy. Recent graduates from secondary school are familiar with digital tools. Adult and CALD learners are supported with digital skill upgrade and orientation to LMS.

3.3 FINDINGS FROM TEMASEK POLYTECHNIC

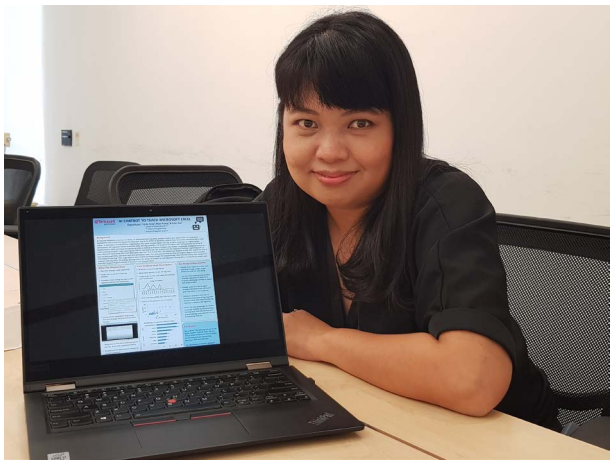


Figure 3. (left) Zhang Huiyu with her self-designed chatbot for Automated Machine Learning

Figure 4. (right) Feng Ping Chee, teacher of Aerospace Engineering with Melanie

Figure 5. (left) Melanie interviewing Irene Chan, School of Business subject leader

Figure 6. (right) Interview with Shirley Joseph, School of Business

Figure 7. Singaporean lunch with Pratima Majal and Shirley Chan

Figure 8. Melanie visiting Tiong Bahru with multicultural mural

Figure 9. Melanie visiting the Indian Heritage Centre in Little India

Temasek Polytechnic (TP) Singapore provides a strong example of best practice due to its dedicated Learning Academy and well-established focus on blended learning. According to Temasek Polytechnic (2022 para. 1), the Learning Academy:

> *...aims to support TP's teaching staff in providing learning experiences that prepare learners for and within the industry. The Learning Academy also develops and conducts professional development programs for staff in areas such as learning-teaching, the use of technology for learning, including e-learning, and learning analytics. In addition, the Learning Academy researches the efficacy of initiatives on students' learning in areas such as self-directed learning, problem-based learning, technology-enhanced learning, and learning analytics.*

One of the primary ways that staff are supported is with targeted training through the Certificate in Technology Enhanced Learning (CTEL), an accredited qualification designed and developed by Temasek Polytechnic Learning Academy (refer to Figure 10). Its main purpose is to increase staff

capability in blended learning and digital technology in education. CTEL was originally launched in 2017 but has been adapted and updated since 2020. This 120-hour program is delivered over one year, while staff can take 6 months or up to two years or more to complete it, depending on their workload. It is currently an optional qualification; however, the Learning Academy aims to make the certificate compulsory in future. Teachers who have completed the CTEL have reported achieving stronger results and an increased positive student experience with blended learning. In addition, TP teaching staff receive ongoing training in blended learning in the form of online webinars, asynchronous workshops and facilitated workshops, both baseline and customized. Furthermore, the Learning Academy checks the quality of blended learning and maintains quality targets set by the Singapore Ministry of Education.

Figure 10. Certificate in Technology Enhanced Learning (CTEL) from Temasek Polytechnic 2022, Learning Academy, Temasek Polytechnic viewed 18 April 2022, https://www.tp.edu.sg/learningacademy

Student cohort at Temasek Polytechnic

Most students at Temasek Polytechnic have completed 'O' levels at secondary school, which is equivalent to Australian Year 10; but there are also adult learners who are returning to upgrade their qualifications. Depending on the discipline area there are O level cut off entry requirements such as for the School of Engineering or Business. Students arrive at Temasek Polytechnic already familiar with the use of learning management systems (LMS) and usually have well-developed digital skills due to exposure in secondary school. Adult learners (known as CET learners) with lower digital skills are given training during the orientation week in the use of the LMS, and how to access digital materials. Consequently, students come prepared for and assume there will be a large component of online and blended learning due to their previous studies at secondary school and the Singapore Ministry of Education (MOE) masterplans for vocational education.

Strategies and tools for best practice blended learning

The teachers at Temasek Polytechnic utilize a range of specific strategies and tools for blended learning. For example, all synchronous online lessons as well as many on campus sessions are recorded, while additional videos are created to provide solutions to assessments or upon request by students. Most classes are delivered synchronously (online or on campus) where a range of interactive tools are used including Kahoot quizzes, Classpoint (short answers, word cloud, online polls, random name picker), Mentimeter, Google Jamboard, Slido and Socrative. Teachers explain that these tools increase the opportunities for student participation and measure understanding of the concepts.

Each subject at Temasek Polytechnic is delivered using the blended learning approach with specific activities designed for before, during and after class. For the before class segment, there is self-directed online learning such as short videos to explain concepts followed by mini quizzes to check understanding ('knowledge checks'). Then during the synchronous classes there are interactive and practical exercises using software tools. For practical sessions, teachers toggle between highlighting key points from e-learning videos and software tools. The after-class component is delivered as asynchronous student self-directed work to consolidate learning and encourage students to apply what they have learnt during the synchronous class.

At the conclusion of each synchronous class (lecture/workshop), students are expected to complete a short survey which consists of both perception and diagnostic questions before they attend their tutorials (refer to Appendix 8.2 for an example survey). The data and insights gathered from these surveys enable teachers to understand learning gaps and identify students who may need more support. Also, the teaching team can respond by refining the learning activities for the following sessions. As a result, these intervention strategies help bridge learning gaps effectively through the semester.

Strategies for student engagement, participation, and completion

To increase student engagement, participation, and completion of the subject many teachers point out that interactive and collaboration tools are effective to maintain learner engagement and motivation during the synchronous sessions. Other strategies include sharing case studies and experiences amongst learners, sharing past exemplars of project work, breakout room discussions, icebreaker activities, online polls, self-disclosure and personal stories, the use of authentic examples, experiential activities and reflection, role plays, gamification, peer-to-peer interaction as well as teacher-student interactions, consultation and feedback. Finally, there are assignment checkpoints where students are asked to complete parts of the assignment and submit a screenshot of their work for the teacher to provide formative feedback. This becomes another method to connect with students and offer support where needed.

In addition to harnessing technology to increase engagement and participation, teachers ensure that learning activities are relevant and current. For example, industry examples and authentic materials are used consistently through the semester to help students better understand the subject matter. Resources are adapted to suit the diploma (not higher education) level and learning activities cross various industries where examples are contextualised.

Temasek Polytechnic has also piloted the use of QBot technology in several courses with the aim to further support student engagement. QBot is an application integrated into Microsoft Teams and in addition to being a chatbot which can address students' queries 24/7, it is intended to promote social learning amongst the students as well. One of the teachers interviewed for this research has also built a Chatbot specifically to support their own Automated Machine Learning course.

Digital literacy and technology skills

There is a strong foundation of digital literacy and technology skills at Temasek Polytechnic. Recent graduates of secondary school (known as PET students) are comfortable with a range of digital learning tools and the use of an LMS due to their secondary school experience. On the other hand, adult learners (CET learners) often require more support with digital skills upgrades. For example, in Week 1 of the semester there is a demonstration of the various platforms and how to navigate the LMS. If required, during the second week of classes, teachers offer a face-to-face session to guide students through the various digital tools. Resources for new or subject-specific digital platforms are provided in the form of instruction guides and videos. Through the semester, there is consistent and equitable use of the different platforms so both staff and students were also able to adapt better.

Strategies to support student wellbeing and social connection

A range of strategies are used to support student wellbeing and social connection. Firstly, the Classpoint interactive tool is used at intervals to check if learners are following the class activity. When delivering an online class, teachers ask students to write in the chat box, turn on their webcam and share jokes. In some courses, students are asked to reflect on their weekly learning. Secondly, other support mechanisms include teachers following up with students after class, creating activities for peer-to-peer interaction, peer review, feedback, mini peer tutorials, collaborative online activities, as well as the use of learning analytics to monitor participation, engagement and understanding. Thirdly, during the course revision weeks there is time allocated for consolidating what has been learnt in the previous few weeks, when teachers encourage students to bond by doing group activities after the class. The objective is to apply what students have learnt during the practical sessions, and to build up their confidence.

In some subjects, technology is used to automate certain learning and teaching activities during the lessons, such as students working individually on their online quizzes or learning journeys. Automated feedback is provided to help students assess their own learning as well as formative purposes. While students work individually during these online activities, the teaching team use this available time to reach out on Microsoft Teams to chat with each student to see how they are coping. This strategy assists the teaching team to form a connection with students from the outset of the semester as well as assuring students that they are visible. Therefore, technology is used as an enabler to put the human touch back into the learning and teaching equation in an online and digital learning environment.

Completion of practical learning or assessment

Students complete practical components of the courses in a range of ways. For example, learners undertake individual or group projects where they must demonstrate understanding and competency in the project work. Most practical work is facilitated in synchronous sessions, either online or on campus.

Staff training for blended teaching

The teaching staff interviewed for this research have completed specific training to build their skills for blended teaching. Indeed, training is provided to all teachers in the use of online teaching tools such as the Learning Management System (Brightspace LMS), Microsoft Teams, Classpoint and how to harness the data from learning analytics. Teachers have completed a range of non-accredited training to increase skills and knowledge of blended learning such as YouTube tutorials, peer sharing of technology provide step-by-step guide, and institution-based onboarding sessions for new technology platforms to induct the teaching team. Furthermore, the majority of staff have

completed the Temasek Polytechnic Certificate in Technology-Enhanced Learning (CTEL) while one teacher in this study has completed the Temasek Polytechnic Certificate for Teaching in Higher Education.

3.4 FINDINGS FROM MAURITIUS INSTITUTE OF TRAINING AND DEVELOPMENT (MITD)

Figure 11. Melanie meeting with Mr Manoj Chintamunnee, Ms Beegoo Kosheema Mr Veerasamy Gael Allen and Mr Sam Kuppan at the MITD Phoenix campus

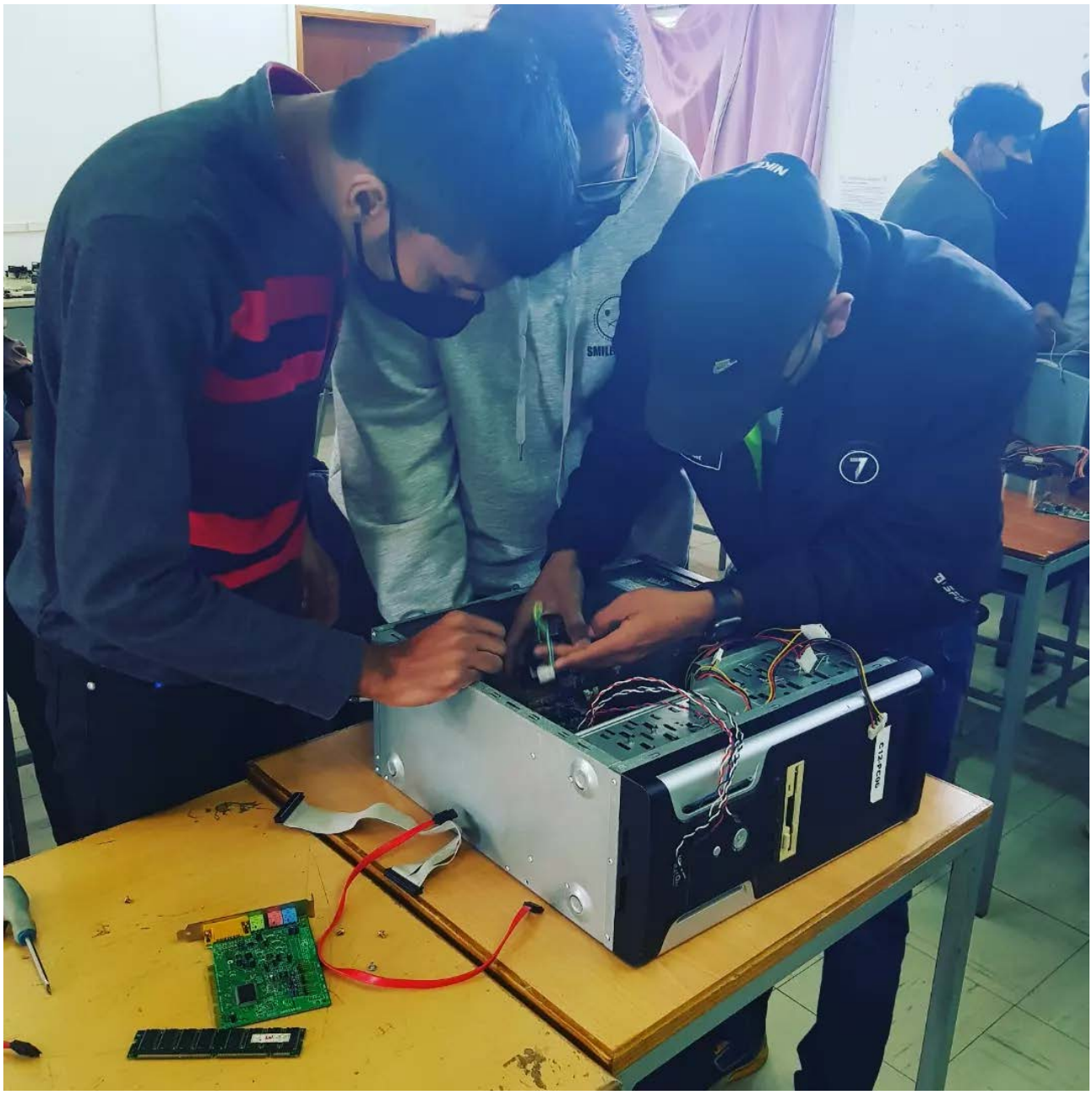


Figure 12. Observation of student workshop at MITD Ebene campus

Figure 13. Beegoo Kosheema demonstrating her YouTube channel and LMS for the School of IT, Electronics & Communication

Blended Learning at MITD

MITD was established as per the Mauritius Institute and Development Act 2009 and came into operation as from November 2009. The use of blended learning was introduced officially in July 2022, when 85 staff were provided a stand-alone training session undertaken at the School of Information Technology, Electronics and Communication (SITEC). The duration of the training was one full day, and the objectives of the training program included: understanding blended learning, planning for blended learning, preparing trainees for online learning and using Google Classroom as an LMS to do the following:

- Post announcements
- Post learning materials online
- Organise assignments
- Assess learners
- Provide feedback to learners

MITD reports that there have been notable challenges for students and teachers to deliver blended learning successfully, such as poor internet connectivity at home, some learners do not have a personal laptop or computer and many students find it difficult to complete self-directed learning without the face-to-face presence of the teacher. Furthermore, MITD teachers have explained that their most common obstacles are requiring more preparation for the development of online/ digital resources, the need to learn the online teaching techniques, lack of physical interaction with learners, that practical work in the online mode is limited and assessment of learners can be difficult.

Student cohort at MITD

MITD students are primarily aged 16 years or above and have completed the Cambridge School Certificate 'O' Levels to enter the national certificate level qualifications on offer. Learners at MITD are focussed on a vocational pathway to gain employment, rather than a pathway to further study.

Strategies and tools for best practice blended learning

MITD teaching staff use accessible and affordable tools to deliver blended learning. Although MITD does not have an institution-wide learning management system, Google Classroom and Microsoft Office 365 applications are used, as well as Zoom to deliver synchronous online sessions. WhatsApp is another tool that some staff choose as a communication tool with students, particularly to send notifications or reminders. The applications within Google Classroom are also utilised for evaluation purposes and to deliver resources online such as videos, PDF documents and PowerPoint slides. All class materials, assignments, and multiple-choice questions (through

Google Forms) are uploaded on Google Classroom for the learners to access before and after the synchronous class. Online synchronous sessions are recorded and made available to students after the class. To support student engagement, quizzes and Google Forms are used for interaction and to measure understanding. As far as possible, practicals are also recorded and posted afterwards.

Another example of innovation at MITD: one of the teaching staff in this study has set up a personal YouTube channel and records demonstration videos to explain complex concepts. Students access these videos before, during and after the synchronous class to support the course work (refer to Figure 13).

Strategies for student engagement, participation, and completion

To support student engagement, participation and completion, teachers use accessible digital tools with the following strategies:

- During synchronous classes, teachers pose questions and summarise concepts at the start and end of each class,
- close monitoring of attendance as there is a minimum attendance requirement at MITD due to the government funding,
- more practical sessions rather than theory or lecture classes,
- oral question and answer in class and practical work that sums up all the topics covered,
- use of online quizzes,
- learners share their work on their laptop or device screen when they require feedback or if they are having issues with exercises,
- shared folders are used to upload learner notes, classwork and homework (such as Microsoft Teams or Google Classroom),
- lecture notes are sent prior to the class, and students are required to write a summary to be submitted by a specific due date with marks given accordingly,
- 15 minutes time provided for informal chats before or after the synchronous class (lecture or workshop); and
- collaborative learning: an example from one of the multimedia courses which focuses on video making, the teacher requires students to create a short film which incorporates the whole concept, starting from the storyboarding, the script, the sound, the shooting perspective and lighting. Then the classmates become a jury panel to select the best movie, best actor and small prizes are given. Through this way the engagement and reinforcement of the topic is enhanced and made more fun.

Digital literacy and technology skills

Teachers report that enrolled students already possess sufficient digital literacy due to being recent graduates of secondary school and digital natives. Technology such as Google Classroom and MS Teams has not presented significant issues, however additional time is given for students experiencing problems such as a computer crashing or poor internet connectivity. Throughout the semester, teachers demonstrate how to use the digital tools and there is peer learning where the learners collaborate among themselves.

Staff training for blended teaching

One of the interviewees had completed a Masters in Computer Mediated Communications and Pedagogies in contrast to two teachers who had not completed any formal training in blended learning and teaching. It was understood that the remaining staff had completed the MITD one day workshop for blended learning. All teachers in this research expressed an interest in receiving support to complete more formal training in blended learning and the use of appropriate digital technologies.

3.5 FINDINGS FROM RMIT UNIVERSITY COLLEGE OF VOCATIONAL EDUCATION, MELBOURNE, AUSTRALIA

Between June to November 2021, when international travel was not possible due to COVID-19 travel restrictions, research was conducted at RMIT College of Vocational Education in Melbourne in three programs which had implemented innovative and successful blended learning principles. Teachers from the Associate Degree in Fashion and Technology, Diploma in in Teacher Education Preparation and the Certificate IV in Education Support were interviewed about delivery mode, digital tools, blended learning strategies, student support and staff training.

Student cohort at RMIT College of Vocational Education

Students range in age from 17 years up to ‘mature age’ students. At the Certificate IV and Diploma level, students may have completed up to Year 10 (which is equivalent to the ‘O’ levels of Singapore and Mauritius), whereas students in the Associate Degree have completed an Australian Year 12 or equivalent qualification. Many students undertaking these qualifications can be categorised as disadvantaged or vulnerable.

Strategies and tools for best practice blended learning

Several notable blended learning strategies are used in this study group. For example, the delivery mode at the time of this research was block model: Associate Degree in Fashion & Technology subjects were delivered online for the first few weeks and then face to face workshops were delivered on campus. By comparison, the Education Support courses alternated weekly

synchronous classes on campus and online, thus making the course more accessible and flexible for students to fit around existing work and family commitments. Further strategies used to support blended learning include:

- explicit teaching of the digital tools, online etiquette, to turn microphones on, use of breakout rooms for small group work for any online classes
- concurrent delivery of classes (remote and face-to-face) when teaching spaces allow it
- specialised software for drawing and patternmaking plus a digital interactive whiteboard (Miro)
- class recordings made available where possible
- interactive activities such as videos, demonstrations, and auto-correcting quizzes to measure student understanding of concepts
- demonstration videos (both pre-recorded and live)
- before/during/after blended learning continuum
- online polling tools to check students have completed 'before' class activities
- videos and readings have specific deadlines where students are required to post comments on the Discussion boards to be accountable
- use of LMS calendar reminders to 'nudge' students to complete tasks and activities
- synchronous classes delivered in an interactive workshop style
- interactive digital tools such as Mentimeter, Padlet, Kahoot quizzes and other online games are used in the workshops to encourage student engagement, participation and to measure understanding
- the design of the LMS is accessible, readable and consistent with clear headings, student instructions, action words, pictures/images, infographics and videos.

Strategies to support student wellbeing and social connection

The RMIT teachers in this research employ several strategies to support student wellbeing and connection within the blended learning environment. For example, vulnerable students are supported with follow up emails and offered individual consultations. Importantly, regular wellbeing and belonging activities are planned and conducted during class time. Finally, time is allocated at the beginning or end of classes as an opportunity to check in with students and to support wellbeing.

Staff training for blended teaching

Staff have received training in how to use the institution learning management system and associated tools including Canvas LMS, Adobe Creative Cloud, as well as applications such as Mentimeter, H5P and Padlet. Some teachers have completed short courses in LinkedIn Learning, while others have undertaken training with the VET Development Centre (VDC) or other webinars delivered by RMIT CoVE. Nevertheless, some teachers reported they have not undertaken specific training in blended learning.

3.6 RECOMMENDATIONS AND CONSIDERATIONS

The Fellowship research has uncovered valuable examples of successful blended learning and recommends the following strategies:

- Provide comprehensive staff training in blended learning and instructional design such as the Temasek Polytechnic Certificate in Technology Enhanced Learning (CTEL) - ideally delivered by the institution where the staff receive a time allocation as part of their teaching load to complete the training.
- Establish blended learning mentors or champions for peer-to-peer training and support.
- Embed blended learning principles into the LMS design with 'before/during/after' blended learning continuum.
- Encourage and support teachers to use learning analytics and associated tools in the LMS.
- Embed a short perception and understanding survey at end of each class which allows teachers to use analytics to measure engagement and participation of students plus then follow up any gaps in understanding or learning.
- Implement activities to support student wellbeing and social connection.
- Courses where there are high numbers of disadvantaged or vulnerable students, to set reasonable maximum class sizes to better support individual learners (such as the class sizes in Singapore and Mauritius of 20 - 25 students).
- Introduce minimum attendance requirements.
- Set up learning spaces to allow for concurrent or poly-synchronous delivery (both online and on campus) which would enable teachers to record all sessions to provide greater accessibility and flexibility to learners.

4. SWOT Analysis

STRENGTHS	WEAKNESSES
Research from MITD demonstrates that small and less well-resourced institutions can use accessible digital tools instead of an institutional learning management system (LMS). The findings show a consistent pattern across three countries and three institutions that can fill a gap in VE research in this topic area.	This research is limited to three institutions. More research and examples would be beneficial for smaller community-based institutions.
OPPORTUNITIES	**THREATS**
Commencing research in Melbourne in 2021 (due to international travel restrictions) allowed for refining and gaining a deeper understanding of the research topic. That now provides a valuable opportunity to compare the international findings with the Victorian example. Victorian VET institutions need to deliver comprehensive and up to date training for teaching staff in blended learning. Establish learning design which is more engaging, with higher student participation and completion rates.	VET institutions may revert to pre-COVID 'business as usual' delivery of learning. VE teaching staff may not be supported sufficiently with professional training or access to appropriate technology to implement effective blended learning. Strategies from this research may not be disseminated or implemented due to VE teachers already working at capacity or lack of understanding around blended learning principles.

5. Impacts of the Fellowship

5.1 PERSONAL AND PROFESSIONAL IMPACTS

The Fellowship has had a significant positive impact on the Fellow at a personal and professional level. The Fellowship has provided an invaluable opportunity to deepen the Fellow's knowledge, skills in the field of blended learning as well as build confidence as a researcher. The Fellow has established important relationships with international leading experts, including the Learning Academy at Temasek Polytechnic and the Learning & Teaching Innovation and Quality team at RMIT College of Vocational Education.

Additionally, the Fellowship has enabled the Fellow to increase her expertise and professional profile. In fact, the Fellow gained a new role as a Learning Designer within the RMIT College of Vocational Education in June 2022 as a direct result of this Fellowship. As a Learning Designer, the Fellow can implement the findings and deliver professional presentations. Table 2 shows the details of presentations, webinars and other sector engagement that the Fellow has been involved in since 2021. Indeed, the response from peers in the VET sector has been positive, with many practitioners eager to introduce blended learning improvements into their teaching practice, such as increased use of interactive activities, tools, analytics and end-of-class surveys to measure student engagement and understanding.

Table 2. Details about presentations and sector engagement in 2021 and 2022

Date	Organisation or stakeholders	Event	Type of event eg. workshop, presentation, webinar	Project	Key contacts
2023	NCVER and/or VALBEC	Conference presentation	In person presentation	32nd National Vocational Education and Training Research Conference 'No Frills' REFOCUS: Learner Centred Practices	events@ncver.edu.au https://valbec.org.au/Conferences
8/12/22	RMIT University College of Vocational Education (CoVE)	20 minute presentation	In person presentation	RMIT ALiVE in Action Learning & Teaching Showcase	Paula McKenry RMIT L & T Innovation and Quality Team

Date	Organisation or stakeholders	Event	Type of event eg. workshop, presentation, webinar	Project	Key contacts
16/11/22	RMIT University College of Vocational Education (CoVE)	120 minute Professional development workshop	In person presentation & workshop 15 participants	International Education Resilience Fund (IERF) Project	Sally Hirst IERF Project
30/6/22	International Specialised Skills Institute (ISSI) VET Development Centre (VDC)	60 minute presentation and co-hosted workshop with Dr Neil Morris	In person presentation & workshop 300 participants	Illuminate Forum: Blended Learning and Technology in the VET sector	ISSI and VDC
23/6/22	RMIT University College of Vocational Education (CoVE)	60 min presentation - blended learning & supporting at risk students	Webinar (online) 22 participants	RMIT Business & Enterprise	Elyssa McKenzie
3/12/21	RMIT University CoVE	30 minute presentation - examples of best practice blended learning	Webinar	RMIT ALiVE L & T Conference	Paula McKenry RMIT L & T Innovation and Quality Team
7/10/21	VET Development Centre (VDC)	90-minute presentation & workshop	Webinar 450 participants		VDC https://vdc.edu.au/

5.3 BROADER VET SECTOR

It is intended that the learnings acquired through this Fellowship will assist the VET community to implement best practice blended learning and to support staff training. The Fellow aspires to implement three innovations from the research at Temasek Polytechnic Singapore in the short to medium term:

- Establishment of comprehensive and compulsory staff training in best practice blended learning. This type of training would be a significant improvement on the current model of ad hoc or opt in professional development that is currently available at most VET institutions.
- The establishment of peer mentoring programs with blended learning champions and learning designers to provide staff with ongoing training and support.
- Introduction of a short perception and understanding survey at end of classes to measure student understanding, engagement and participation.

5.4 FUTURE PLANS

Looking towards the future, the following dissemination activities are planned:

- Deliver professional development presentations at upcoming conferences.
- Implement best practice instructional design for blended learning in the design of courses within RMIT College of Vocational Education (CoVE) with new role as a Learning Designer.
- Establish a peer mentoring program with blended learning champions and set up support networks between teachers and learning designers.
- Educate and support RMIT VE teachers about the new CoVE blended learning template.
- Lobby for the delivery of staff training with RMIT CoVE Learning & Teaching Innovation & Quality.
- Share findings with contacts at other VET institutions.
- Create a teacher's toolkit for best practice blended learning that can be disseminated across Victorian VET institutions.
- Publish research findings in relevant industry publications.

5.5 CONCLUSION

The findings demonstrate that the blended learning approach is successful when combined with well-planned use of educational technology and teacher instruction. Any suitable digital tools can be used; what is important is the consistent use of the same tools where teachers and students receive sufficient training and digital literacy support. To quote Irene Chan from Temasek Polytechnic, “technology must be built in, not an afterthought and instructional design drives learning”. Similarly, the research indicates that the use of the blended learning continuum, with learning resources available in digital form increases student access to learning materials before, during and after any synchronous sessions with the teacher. That is a fundamental feature of blended learning as it provides learners with the opportunity to access materials at any time, prepare fully before or after class, understand language and/or concepts and be able to quickly access resources to complete assessments. Therefore, the blended learning approach provides valuable accessibility and flexibility to all learners but is particularly important for disadvantaged learners.

6. References

Kelly, P, Brown S & Goring J 2020, *COVID-19 Recovery Scenarios for Young People: Education and Training*, UNEVOC @ RMIT, viewed 26 October 2020, https://unevocrmit.org/2020/10/02/covid-19-recovery-scenarios-for-young-people-education-and-training/

Lamb, S, Maire, Q, Walstab, A, Newman, G, Doecke, E and Davies, M 2018, *Improving participation and success in VET for disadvantaged learners,* NCVER, viewed 7 October 2020, https://www.ncver.edu.au/research-and-statistics/publications/all-publications/improving-participation-and-success-in-vet-for-disadvantaged-learnershttps://www.ncver.edu.au/research-antatistics/pubd-success-in-vet-for-disadvantagerners

Ministry of Education Singapore 2020, *Blended Learning to Enhance Schooling Experience and Further Develop Students into Self-Directed Learners*, Ministry of Education, viewed 20 April 2022, https://www.moe.gov.sg/news/press-releases/20201229-blended-learning-to-enhance-schooling-experience-and-further-develop-students-into-self-directed-learners

Morris, N 2022, *Blended Learning and Technology in the VET sector* [PowerPoint slides], Illuminate Forum VET Blended Learning event, Melbourne.

NCVER 2022, *Latest VET Statistics*, NCVER, viewed 30 October 2022, https://www.ncver.edu.au/research-and-statistics/visualisation-gallery/latest-vet-statistics

Temasek Polytechnic 2022, *Learning Academy*, Temasek Polytechnic viewed 18 April 2022, https://www.tp.edu.sg/learningacademy

The Smith Family 2016, *Improving the educational outcomes of disadvantaged young Australians: The Learning for Life program*, The Smith Family Research Report, viewed 7 October 2020, https://www.thesmithfamily.com.au/-/media/files/research/reports/research-disadvantaged-young-australians-learning-for-life.pdf

UNESCO-UNEVOC n.d, *The UNEVOC Network,* UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, viewed 23 June 2022, https://unevoc.unesco.org/home/

7. Appendices

8.1 THE INTERNATIONAL FELLOWSHIP EXPERIENCE

Travel dates and country	Organisation	Events attended	Key Contacts	Achievements, collegial relationships and future sharing of findings
18/4/2022 – 22/4/2022 Singapore	Temasek Polytechnic	Campus visits Interviews x 8 Lunch with Director & Assistant Director I Learning Academy 21 April delivered a 60-minute webinar about research into best practice blended learning to an audience of 60 Temasek Polytechnic teachers Visits to Indian Heritage Centre & Singapore National Museum	Dr Pratima MAJAL Assistant Director I Learning Academy I Temasek Polytechnic	Interviews and observation of teaching with seven Senior Academic Mentors who are specialists in blended learning at TP Interview with Assistant Director I Learning Academy Sharing of best practice between RMIT University and Temasek Polytechnic Established valuable friendship and professional relationship with Dr Pratima Majal Received invitation to return in 2023 to deliver another presentation about final findings with publication of Fellowship report All participants expressed interest in receiving a copy of the final Fellowship report

Travel dates and country	Organisation	Events attended	Key Contacts	Achievements, collegial relationships and future sharing of findings
19/7/2022 – 22/7/2022 Mauritius	Mauritius Institute of Training and Development (MITD) http://www.mitd.mu	Campus visits, questionnaires x 8 Observation of teaching on campus Delivered presentation about blended learning to 15 MITD teaching staff & coordinators Visited Apravasi Ghat World Heritage site, Le Morne UNESCO World Heritage Site and other important sites in Port Louis	Mr Sayadaly Maudarbocus Director & UNEVOC representative Mr.M.Chintamuee training coordinator at the MITD	

8.2 SAMPLE STUDENT SURVEY TEMASEK POLYTECHNIC

22
Responses

01:32
Average time to complete

Active
Status

View results

Open in Excel

1. I would give Ms Joseph ___ for today's lesson.

More Details Insights

22
Responses

★★★★★
4.95 Average Rating

2. I would give this rating because _____ (please do not type NIL)

22 Responses

ID ↑	Name	Responses
1		this lessons is fun and engaging.
2		she made the lesson more engaging and she is very enthusiastic during her lesson.
3		the lesson was engaging enough and gives us a brief but effective introduction of workplace communication
4		she is engaging and gets everyone involved in the discussion
5		she is very interactive
6		She makes the lessons very engaging and enjoyable
7		shes engaging and fun

2. I would give this rating because _____ (please do not type NIL)

22 Responses

14		She's very engaging and her lessons are very interesting and every student is given the respect
15		She was very engaging and encouraging
16		ms joseph was really engaging and got everyone involved, i felt that that really showed her willingness to teach
17		very engaging
18		It was very fun and I am inform in what the subject is about.
19		Class was entertaining
20		she was very engaging and she made sure nobody falls asleep in class

3. I was most engaged when ...

22 Responses

ID ↑	Name	Responses
1		the activities assigned to me.
2		doing the activities
3		doing the activities
4		seeing how my classmates react when put to carry the meeting for 5mins
5		we were going through the importance of each role when having a group meeting
6		We had the meeting activity
7		i had to answer qns

8		She carries out class activities in a lively manner
9		She called me to answer
10		she told us to little activities
11		The lesson is interesting
12		we had to host the meetings for something that was given on the spot
13		Doing classpoint
14		I listened to her talk
15		She asked questions

4. I was least engaged when...

22 Responses

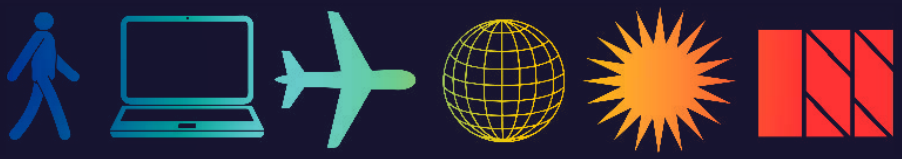
ID ↑	Name	Responses
1		she is explaining some basic concepts.
2		-
3		the end of the lesson
4		-
5		other groups were sharing
6		She was discussing on the subject overview
7		during the admin things
8		nil

9		Towards the end
10		i saw the last video she showed us. i felt that the video was to messy and visuals werent perfect
11		The lesson is too long
12		not too sure
13		going through admin stuff
14		I had to answer questions coz I'm scared
15		She was showing the video
16		it was class discussion
17		not really disengaged
18		The teacher talked about assignments.
19		None
20		never, she makes me want to pay attention
21		Na
22		I went to the toilet

5. To enhance my learning, one thing I would like Ms Joseph to know about me is .....

22 Responses

ID ↑	Name	Responses
1		I love to work hard to get good grades.
2		i am quiet
3		I enjoy f2f lessons
4		our personality
5		-
6		I don't know lol
7		i wna communicate well



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