

Effective teaching practices and student support services in online VET — support document

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This document was produced by the author(s) based on their research for the report *Effective teaching practices and student support services in online VET*, and is an added resource for further information. The report is available on NCVER's Portal: https://www.ncver.edu.au.

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Previous research

There has been much previous research on the use of online delivery in the vocational education and training (VET) and higher education (HE) sectors. Table 1 summarises the key findings and other points of interest from research published between 2017 and 2022. Note that this list of publications is not exhaustive.

Table 1 Key findings and points of interest from the published literature

Publication	Publication type /methodology (e.g. journal article, qual etc.)	Key findings/ points of interest (such as good practice examples of pedagogy/ student support)	Delivery type (e.g., synch to asynchronous, blended to fully online etc.)	Student cohort (e.g., mature age, Indigenous, NESB etc.)	Training type (incl. FOE, industry, qual level, A&T, assessment etc.)
VET PUBLICATIONS					
A performance profile of learner completion and retention in Australian VET MOOCS (Paton et al 2018)	Journal article Quantitative study	VET MOOC learners retained at higher rate than university MOOCs 8 course design factors contributing to learner retention and completion (for MOOCs): • Short course duration (3-4 hrs, up to max 10 hr per week) • Learning divided into bite size chunks, plus instructional video • Non-compulsory tasks incorporate gamification and interactive activities • Peer discussion opportunities using online channels • instructor involvement to facilitate learning process, peer discussion, positive reinforcement, and timely feedback • Auto-graded assessments • Free, non-verified statements of attendance after successful MOOC completion • Supplementary learning pathways leading from MOOC to formal quals	MOOCs (100% online)	VET and HE students (no equity group comparisons)	MOOCs
Agency, pedagogy and e-learning in TAFE educational development (Linquist 2018)	Thesis. Research based on authors reflective journal (author as research subject).	Thesis argues that educational development pedagogy is a localised assemblage of tactics and strategies enacted as a means of navigating situated and momentary conceptions of personal agency.			
Agile TAFE (Australian Education Union, 2020)	Magazine article	Details innovative pandemic response by TAFEs across Australia Pastoral student support	100% online / mix online and workplace for plumbing apprentices (plumbing apprentices already learning online in classroom pre-COVID).		Hospitality students, plumbing apprentices

ASQA's strategic review of online learning: insights paper no. 1 (ASQA, 2021)	Insights paper Feedback loop webinars	Lists commonly asked questions and information needs of providers around online delivery, including: • How to enhance student interaction and engagement? • Want practical tips and solutions. • How to help students with tech issues? • Guidance on designing and delivering online VET. • How to tailor pedagogy to an online setting. • How to deliver online in an asynchronous environment?		Touches on students with low levels of online learning technology familiarity, remote students, and international students.	
ASQA's strategic review of online learning: insights paper no. 2: student experiences (ASQA, 2021)	Insights paper Student focus groups and interviews	Student experience with shift online due to pandemic. Learning style needs to be considered regardless of delivery mode Consider student and trainer capabilities with technology tools.	Blended and 100% online	School leavers Mature age/ career changers Regional/remote International and English language	
ASQA's strategic review of online learning: insights paper no. 3: provider survey (ASQA, 2022)	Not reviewed as refers to	same survey findings NCVER reported in Hume and Griffin (2022).			
Blended learning as a disruption in a vocational education building program (Colasante & Hall-van den Elsen, 2017)	Conference paper. Evaluated the introduction of blended learning to building students Interviews, focus groups	Study strongly recommends emphasis on teacher presence. Subject layering – interdependence between learning environments Asynchronous learning does not need to be passive More active engagement opportunities with online resources may help less self-directed students prepare better for class Visible teacher presence in online environment Interactivity	Blended learning		Diploma of Building and Construction Dual sector university
Boosting lifelong learning through digital online education: Australian perspectives and practices (Mason & Carr, 2021)	Journal article Synthesis	 Online requires fundamentally different approach than face-to-face. E.g., 10 min videos instead of long live class Vulnerable learners supported by institution wide strategies – wrap around support via phone, online self-help and instructions inlanguage, feedback loops from learners and teachers on implementation of online learning, pre-enrolment interviews and profiling on aptitude for online education. Less teacher-led and more student centric 		Adult education focus (ACE providers) Migrants/older learners less comfortable with tech	
Design principles for applied learning: bringing theory and practice together in an	Journal article Surveys, interviews and focus groups	Learning activities that connect theory and application in authentic contexts Recognise the lived experience of students	100% online	Mature age (inservice VET teachers)	Online VET Teacher education course offered online at a university (bachelor's degree)

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online VET teacher- education degree (Downing 2017)	Specific to the design of an online VET teacher education course (which is actually a bachelor's degree)	Provide meaningful opportunities for the collaborative construction of knowledge within the learning community Encourage the development of a professional identify through collegial interactions Authentic assessment tasks, reflect use of knowledge in real work settings Increasing level of student ownership of learning		
Emerging trends and imperatives in teaching and learning in Adult Education (Dymke 2022)	Article from The Australian TAFE Teacher	Method of instruction spark learning, not the medium (Fisher 2021) Student centred learning Clearly state expectations and group agreements from beginning Chunk it up, aka micro learning or nano-learning – break up session into sections (max 10 mins talking, lots of group work, mix in YouTube clips, quizzes, activities)	Broad based approach – not specific to a delivery type	
Insights for delivering VET online (Cox 2022)	NCVER publication	Combination of instructional content and participatory learning opportunities Combination of real time and non-real time delivery Adaptable training delivery (no one size fits all) Tech supports training, not drive it Learning content needs to be structured and clear Avoid learning tunnel (tick box exercises) Do not try to replicate in-person training online Carefully consider purpose of live online sessions Video content is well received Human presence Thoughtful educator intro Educators trained on the how and why of tech tools	Broad approach	
Psychological safety in teaching: what, why and how (Sinson 2021)	Article from The Australian TAFE Teacher	Emphasises importance of psychological safety 3 steps to establish and maintain: 1: set the stage – demonstrate importance of what will be learnt and prepare for challenges and uncertainties 2: invite participation – invite questions, ideas, concerns and mistakes, without fear of punishment or humiliation 3: respond productively – respond to students in way that acknowledges, empathises, and promotes learning	Although article briefly mentions online and COVID article is not explicitly about online teaching	
Resisting the digital automation of teaching (Selwyn 2020)	Article from The Australian TAFE Teacher	An opinion piece, and critique of online teaching and EdTech that has emerged in response to COVID.		

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The power of TAFE: the COVID story (TAFE Directors Australia 2020)	Publication from TDA	 Details emergency response by TAFEs to COVID Report of using data and analytics from Canvas to provide targeted learning support to students with low digital activity One TAFE reported 50% of learning could take place virtually without losing focus on practical, hands-on training (similar vision echoed by other metro TAFEs but regional TAFEs noted their communities were keen to see face-to-face return) 			
Understanding fully online teaching in vocational education (Cox & Prestridge 2020)	Journal article Survey of VET teachers	Online educators perceive good pedagogy as student-centred Enacted practice was consistently more teacher-centred than teachers' ideal Workload dominated by marking and administration ahead of student-centred practices	Fully online		
Using technology integration frameworks in vocational education and training (Reich et al 2021)	Journal article Case study	 Article more about practicalities of two different EdTech's as opposed to how to teach well using this EdTech Consider purpose of EdTech and not adopt technology for technology's sake Ensure any technology integration framework accounts for contextual factors of VET pedagogy and VET contexts With the strong work and practice-based approach common in VET pedagogy, lower technology approaches may better facilitate these goals 	Blended delivery (and Technology enhanced learning)		Australian Defence Force (ADF) College
VOOM model: digital learning excellence in VET MOOCs (Paton 2019)	Thesis	MOOC focus, has 12 recommendations (p207) 1: Promote social learning communities and stronger engagement through option social interactivity tools 2: Issue MOOC completion statement, offer skills recognition and pathways 3: Professionally focused course structure with visible job opportunities 4: Visible and accessible instructors 5: Effective and interesting learning materials in Week 1 – reduce early withdrawals and promote ongoing engagement 6: Interactive tasks to maintain interest 7: Condensed study duration and short course timeframes equivalent to publicised hours 8: Include variety of interactive technologies to suit diverse learning styles 9: Systematic content release, but allow for study in own time and at own pace 10: Content located on the same online education platform – enrich retention and reduce confusion	100% online		MOOC focus

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		11: Integrate competency based assessments, 100% pass mark and unlimited attempts 12: Free tech rich online learning, partially or fully aligned to an accredited course			
HIGHER EDUCATION F	PUBLICATIONS				
A conceptual framework to enhance student online learning and engagement in higher education (Brown et al 2022)	Journal article Mixed methods research project investigating the applicability and efficacy of course analytics and nudging activities	Nudge interventions were found to be a simple and proactive approach to increasing engagement: Concept 1: Expectation management – consistently, explicitly and transparently communicate key info to students Concept 2: Engagement – communicating early engagement expectations; explicitly and strategically promoting resources; tracking and monitoring online engagement; recognising and affirming positive online engagement Concept 3: Nudges – Strategic construction and use of nudges can promote key resources, activities, and engagement behaviours to disengaged students	Generalised online learning environment		Uni students in Nursing, Education and Engineering
'A more personal way to learn during such an isolating time': the value of live lectures in online teaching (Harris et al 2021)	Journal article UK research A reflection and evaluation of the shift online in response to the pandemic (for one module of a bachelor's degree)	Live lectures were reported as instilling a sense of togetherness and personal connectivity Teacher 'presence' is a crucial factor in online teaching Course design needs to be respective of students' circumstances and individual needs as learners	Synchronous Fully online	University students	Final year module of an undergraduate degree (Bachelor of Science Psychology)
An examination of student user experience (UX) and perceptions of remote invigilation during online assessment (Sefcik et al 2022)	Report Online survey of university students	Implications from research for policy or practice: Student experience of remote invigilation can be improved by providing students with the opportunity to practise and become familiar with using assessment software before summative assessment task Administrators should provide clear guidance about the management of student data collected during remotely invigilated tasks.	Asynchronous remote invigilation	Mainly undergraduates in their 1st, 2nd or 3rd year. Students of public health, business, economics, finance, law, human biology and construction management.	Assessment University
Beyond busy work: rethinking the measurement of online student engagement (Dyment et al 2020)	Research paper Qualitative interviews with nine 'highly engaged'	In higher education, online students tend to be from cohorts traditionally underrepresented on campuses, such as those who are first in family to attend HE, low SES, from regional and remote areas, ATSI, and with a disability.	Online generally	Mature age students	School of education third year students Regional university

	online third-year students'	 Due to difference in online and face-to-face cohorts, there will be gaps between expectation and delivery if online cohort is treated the same as on campus students. References Kahu's student engagement framework, this framework views engagements as being influenced not only by the student and institution, but external factors like family and work. Students critical of engagement activities that measured engagement in simplistic ways (e.g., set number of posts per week, mandating peer feedback, ungraded online activities) – particularly when there are no comments or replies to the mandated posts or engagement. Study found student engagement and collaboration was occurring on platforms off the learning management system (LMS), like Facebook, Messenger. 			
Building pathways online: Indigenous Futures Collaboration (Rennie et al 2017)	Report Participants of the Indigenous Futures Collaboration (IFC) project IFC project was a collaboration between a dual sector public education provider (TAFE and HE) Report uses evidence from IFC to examine the extent online can help overcome barriers for ATSI living in regional and remote areas Qualitative data collection, surveys and analysed LMS data Research did not analyse the learning design or pedagogies of the platforms	 Online can help those in regional and remote areas into HE when courses are tailored to meet the needs of specific cohorts ATSI have diverse student support needs For pathways courses, blended delivery may be more successful than fully online delivery Digital exclusion remains a barrier for a significant number of ATSI students in remote areas, and for some in non-remote areas. Students would likely benefit from internet access support (account credit), instruction on platform use, and device provision. 	Online generally	Indigenous students mostly based in remote areas of WA, QLD and the NT Two student cohorts examined – those who were qualified to enter a bachelor's degree course and those who were not.	
Conceptualising and building trust to enhance	Report	Build and sustain trust between students and instructors in online environment	Online generally	Equity group focus	

engagement, achievement and feedback-seeking behavior of under- served students: exploring instructor antecedents in online tertiary education (Payne et al 2021)		Students who reported high levels of trust in their instructor achieved higher course grades than those with low trust levels Online learning plays an important role in the participation of historically underrepresented students in HE Equity groups enrolling in online HE at higher proportional rates than in the more traditional on campus modes Lower retention and completion among online student cohorts may be more connected to a lack of understanding and appreciation of the cohort rather than the mode of delivery			
COVID-19 online learning landscapes and CALDMR students: opportunities and challenges (Baker et al 2022)	Report National mixed methods study of students and educators, including online survey, Photovoice exercise, semi structured interviews	While the impact of COVID on CALDMR students was primarily negative, revealing structural problems in online learning that will continue to impact this population into the future, there were also advantages, such as increased flexibility, new possibilities for student engagement, reduced commuting time, and enhanced relationships with lecturers. Student-facing support staff were largely absent from the decision-making process with the rapid shift online, meaning representation and awareness of the needs of CALMDR students, and targeted engagement of resources to support them were likely overlooked. CALDMR students need greater ongoing support to help them navigate the 'new normal' in their tertiary education experience. Findings from this study indicate that institutional equity work needs to consider the specific needs of CALDMR students through practices that can then be reflected in impactful educational development work as universities plan for more online delivery 'post-pandemic' See report for recommendations.	Online in general	CALDMR (Culturally and linguistically diverse migrant and/or refugee)	Higher Education
Creativity in reactivity: application of a 'relationships-first' strategy in the rapid transition to online learning for Indigenous university students during COVID-19 (Bennett et al 2021)	Report Case study written from the perspective of staff within the Indigenous Education Unit who were tasked with maintaining student support initiatives during university's shift to online learning	'Relationships-first' strategy proved effective in retaining students during the shift online in response to COVID (re-orientated focus towards student retention rather than student enrolments and pass rates).	100% online	Indigenous students	University
Digital disruption in the COVID-19 era: the impact on learning and students' ability to	Report STEPS students Mixed methods approach, including	To ensure enabling programs provide for the needs of their cohort, the online delivery of curriculum must include adequate support to assist students in the use of digital technologies, strategies to build and	100% online	STEPS (Skills for Tertiary Education Preparatory Studies) students	Pathway for students to gain entry to and succeed in higher education.

cope with study in an unknown world (James et al 2021)	student survey, data extraction from STEPS database and completion rate analysis	maintain peer and lecturer connections and focussed discussions to help develop their resilience capability • Recognising the importance of the educator in providing high quality teaching and in engaging students online is critical to ensure students learn effectively and that they feel connected and supported in their online learning communities.		
Educating social workers in the midst of COVID-19: the value of a principles- led approach to designing educational experiences during the pandemic (Crisp et al 2021)	Report	Report is more focused on accreditation and regulation around how Social Workers can be educated (at least before COVID), and that moving forward a principles-based and values-led approach is crucial to any future change to a more flexible model of governance and delivery of social work education. It is important to be aware that student factors play a role in whether online methods are successful (Lawrence and Abel, 2013). In particular, the age of students, experience with online environments and family responsibilities have been shown to influence whether online learning leads to positive learning outcomes for social work students (Lawrence and Abel, 2013)	Online in response to COVID	Social work students (University)
Effective feedback in digital learning environments (Ryan 2020)	Discussion paper	Effective feedback is a learner-centred process, in which students "make sense of information about their performance and use it to enhance the quality of their work or learning strategies" (Henderson et al., 2019b, p. 1402). Three principles of learner-centred feedback: Sensemaking, Impact and Agency. Paper provides practical examples of how these three principles can be attained in digital learning environments using a range of digital tools.	Digital learning environments	Higher Education
Enhancing student employability skills through virtual field trips in the hospitality industry (Patiar et al 2019)	Report Literature review, focus groups	The development of the innovative learning and teaching VFT tool supports authentic learning experiences by applying the constructive alignment principle to encourage the learners of today to be more active, as opposed to being passive learners. The integration of the VFT framework with hospitality management curriculum indicates that it increases students' engagement with their program of study, improves their understanding of key hospitality management concepts, and enhances their learning outcomes in terms of satisfaction with their studies and improved grades. Linking learning activities and assessments to working hotels, independent restaurants, and winery food and beverage operations provides opportunities for deeper learning, thus inspiring students to engage in the learning process and supporting active learning pedagogy. Students' learning needs to be authentic, where hospitality industry issues are clearly contextualised and theory is integrated with specific management practices. The use of innovative technology-based	Virtual Field Trips (VFTs) in blended learning	Bachelor of International Tourism and Hotel Management

Equal or equitable?: the role of flexibility within online education (Stone et al 2019)	Report Longitudinal qual study This paper therefore explores this concept of flexibility — what it meant for these students and how they experienced it.	practices can help provide students with an authentic learning experience. The research shows that the use of VFTs promote blended learning and can offer students a real working environment with opportunities to be active learners, as opposed to passive learners. Report discusses how 100% online courses at uni promise flexibility and this why students signed up, but then students experience certain units where lecturers mandate live lectures, very limited times and days to post on discussion boards, treat online the same as face-to-face students – therefore no longer being the flexible course the student signed up for A preference to have learning materials available in advance Students felt they needed more flexibility around extensions of time for assessment tasks There is a strong argument that the circumstances and demographic profile of online students need to be taken into consideration in the application of university policies and practices (Hewson, 2018; Ragusa & Crampton, 2018)	100% online	Regional and rural students Mature age students, in paid employment with family responsibilities	Third year students of an online 4 year initial teaching education degree
		Online students are seeking greater flexibility, not only in terms of when and where they engage with the learning content, teachers and other students, but also in terms of the actual design and delivery of online courses, and in student policies and processes.			
Equalizing and widening access to higher education during a pandemic: lessons learned from a multi-university perspective (Dodd et al 2021)	Report Case study approach	 Argues that the fundamentally necessary shift online created a profound legacy and bears potential to increase accessibility (via diversity and scale), but, simultaneously, that care must be applied if substituting face-to-face engagement with that online. While this article primarily focuses on issues of value to practitioners, it also discusses important implications for academics, support staff, and university executive regarding the access and participation of underrepresented cohorts during times of mass change. Rainford (2020) suggests three distinct dimensions, consonant with the literature on e-learning, that must be considered when shifting WPO online: the pedagogy, technology, and humanistic dimensions. Case studies highlighted programmatic evolutions required and the importance of balance between synchronous and asynchronous activities, particularly when synchronous activities can be heavily biased in favour of certain participants at the expense of others. As with tertiary online education (see Stone, 2017), it became clear that WPO programs designed for face-to-face delivery could not be 	Fully online in response to COVID	Participants of WPO (Widening participation and outreach) programs	Examined university outreach programs — these programs include primary and secondary students, teachers, parents, guardians and carers, and work within a range of low socioeconomic and regional, rural and remote contexts.
		 that WPO programs designed for face-to-face delivery could not be forced into an online ecosystem. It is possible to suggest that online WPO, while valuable in certain respects, cannot wholly nor meaningfully replace traditional face-to-face delivery. 			

Exploring benefits and challenges of online work integrated learning for equity students (Bell et al 2021)	Report This project investigated whether online work integrated learning (WIL) might overcome some of the barriers to WIL reported by students from equity backgrounds Survey and interviews	 Digital access was sometimes difficult, especially for students in remote/rural areas where the internet service was poor. Clearly a major consideration for supporting equity students to access online WIL is the provision of sufficient digital and technology resources. According to our questionnaire, these were the least received supports for students but perhaps for some, the most important. Professional development for educators provided by universities and workplaces should be updated to include online WIL, particularly regarding equity issues related to online WIL. Educators draw on what is known about online learning and use that to improve/develop best practice design for online WIL. This could include the preparation of best practice guide/s on designing successful online WIL experiences focussing on structured interpersonal support. The guides could cover, for example, orienting students to the role, providing and supporting meaningful and high quality work, providing career transition opportunities, overcoming technical challenges, and building teams and relationships online. 	Online WIL	Equity students	
Foundations for good practice: the student experience of online learning in Australian higher education during the COVID-19 pandemic (Martin 2020)	Report TEQSA Reports on outcomes of Phase 1 of a Student Experience of Online Learning Quality Project Study of the impact of the rapid shift to remote teaching and learning Thematic analysis of various surveys submitted to TEQSA by HE providers in Australia	Reports on COVID response, not overly useful for this project. And in its own words 'The summaries submitted by providers are not consistent enough to enable rigorous identification of good practice in online learning to be made at this stage but there are some examples of good practice in the way students have been surveyed and the results analysed in this transition period.'	Fully online in response to COVID		HE in general
Interactivity, connectedness and 'teacher-presence': engaging and retaining students online (Stone & Springer 2019)	Journal article This paper outlines the findings from a recent study with 16 universities	 There is also evidence to indicate that a supportive and engaging online teaching and learning environment, can help to mitigate against these difficulties and lead to increased student retention. Study demonstrated the importance of online 'teacher presence', combined with engaging, inclusive and interactive design, content and delivery. One example is provided of changes implemented in an online unit of study at a regional Australian university, in response to these findings, with positive effects on student engagement. Such changes at the 	100% Online		HE

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		individual unit level can indeed make a positive difference on a small scale; however, institutional commitment to improving the quality of online education is needed to extend such successes to the broader online student population.			
Large qualitative sample and thematic analysis to redefine student dropout and retention strategy in open online education (Greenland & Moore 2022)	Journal article Qualitative study of 200 in-depth interviews, detailed case study investigation of student dropouts at Open Universities Australia (OUA)	The thematic analysis identified three main categories of dropout reasons (personal circumstances, learner context and the institutional/ teaching context). The findings revealed that personal circumstances and learner context account for 90% of non-traditional students' main reason for dropping out. Thus, effective interventions must accommodate these challenges in order to improve retention. Student support/ interventions to prevent dropout: more flexible university policies and procedures, as well as more flexible assessment design, which help to accommodate students' unpredictable study-life challenges.	100% online	Non-traditional students	HE – open online education
Learning together in a global pandemic: practices and principles for teaching and assessing online in uncertain times (Matthews et al 2021)	Report Aim was to investigate and document changes in teaching from the perspective of teaching academics in the initial semester impacted by the COVID-19 global pandemic Survey, case study, interview	Connect pedagogy, assessment and digital technology in curriculum development Ensure pedagogy and assessment are aligned, and connected with digital technologies that enable ongoing development of learning interactions	100% online in response to COVID		HE
Mainstreaming captions for online lectures in higher education in Australia (Kent et al 2017)	Report The project surveyed 56 students enrolled in three key units in the Internet communications degree program in which captions had been mainstreamed for the purpose of the project Determining the usefulness of captioned recorded	 The research attempted to answer the following questions: Do students as a diverse population benefit from personalised learning approaches, and accommodations designed to assist students with disabilities? Do these approaches benefit the entire student cohort, and how do all students utilise captioned lectures as part of a personalised approach to learning? This study has shown that in a cohort of primarily English speaking students without disabilities, over 60% found captions a useful addition to recorded lectures. The literature review confirmed the broad educational benefits of captions and transcripts. Captions and transcripts are important assistive tools for the diverse needs of at risk students, including students with a range of disabilities, students from NESB and older students. Captions and transcripts are also excellent instructional tools for diverse learning styles. Further, with appropriate guidance, 			HE, students of an internet communications degree program

	lectures as a mainstream learning tool	students can use these tools to improve their note taking, revision and general study habits • See p 59 for recommendations			
'My uni experience wasn't completely ruined': the impacts of COVID-19 on the first- year experience (McKay et al 2021)	Report Mixed methods study of 60 new students	Report focused on student wellbeing during COVID Conclusion is drawn based on this group of students, and not specific to online learning Explicit teaching of reflective and reflexive practices may support personal accountability. Monitoring engagement through student management systems (access to learning materials, attendance, assessment, completion, and extension requests) may help to identify those students who need in-time support. Facilitating social networks that encourage student-student groupwork through low-stakes assessment, drop-in sessions with support staff, and providing opportunities for extra-curricular activities that provide purpose and connection to programs of study can be used to build relationships and maintain connection to short-and long-term goals.			HE Undergraduate teacher education program
Older, online and first: recommendations for retention and success (Stone & O'Shea 2018)	Report Study 1: interviews with 151 members of staff across 16 HE institutions Study 2: in-depth interviews and surveys with students who were first in family to attend HE	 Evidence points to the importance of "instructor immediacy in motivating participation" (Kuyini, 2011, p. 11) and "relationship-building strategies" in online teaching to reduce students' "feelings of aloneness and isolation" (Resop Reilly, Gallagher-Lepak & Killion, 2012, p. 104). Quality online provision needs to create an engaged community and provide opportunity for interactivity and communication between student and institution, as well as between students, to reduce the barrier of physical isolation. Amongst the mature-age, first-in-family online cohort, there is a great deal of practical experience and wisdom which these students bring with them into the classroom setting. Through designing learning content that is relevant to their lives as working, responsible adults with extensive life experience, these students are more likely to feel included, and to value their experience and what it can offer to the learning process. Equally, creating contexts where there is opportunity for discussion via both synchronous and asynchronous methods or including assignments that engage learners in genuine dialogue with their fellow learners or colleagues in their professional or personal lives can lessen the isolation of online study. 	Online in general	Older students (aged over 25) and first in family to attend HE	HE
On-campus students moving online during COVID-19 university closures: barriers and enablers (Attree 2020)	Report Semi-structured interviews with 3 students (students that were f2f pre-	Interviewees preferred lectures via Zoom with cameras on as it was the closest to a 'in-person' lecture, easier to read visual clues Students reported feeling less engaged and connected when classes were delivered via other means (e.g., no cameras on and unable to see the lecturer, one way interactions)	Online in response to COVID	Students did not choose to study online, actually chose face-to-face but were forced	HE

	COVID and did not like online)			online in response to COVID	
Online, but offtrack: 2018 Vision Australia report: barriers to online learning experienced by university students who are blind or have low vision (Vision Australia 2018)	Report Vision Australia conducted a small-scale research project in 2017 to assess the prevalence and nature of barriers to online learning experienced by current and recent university students who are blind or have low vision	 Issues with LMS not being truly accessible Some barriers are "built in" to the environment itself, while others are the result of poor design choices and the use of inaccessible content. An important theme in the responses from participants in this research is that there is insufficient training available, both to staff who provide support and for students themselves to become familiar with university resources and software in the context of adaptive technology. See p30 of report for recommendations. 	Online in general	Vision impaired	HE
Online learning for university students on the autism spectrum: a systematic review and questionnaire study (Adams et al 2019)	Report Study sought to investigate the experiences of students on the autism spectrum studying online at university to gather evidence upon which some key principles of online learning design could be developed	Good practices and principles of online learning environments are applicable to both students on the spectrum and neurotypical students; however, the following three design factors were identified in this study as essential components of effective course design for students on the autism spectrum: (a) curriculum alignment; (b) interaction plans opportunities, processes, and supports; and (c) course site design.	Online in general	Students on the spectrum	HE
Online learning in Australian higher education: opportunities, challenges and transformations (Stone 2019)	Report Compares findings between student experiences of online learning with the perspectives of staff involved in online education Found that students and staff share many of the same perspectives about what is most	Seven key findings re interventions or strategies helping students stay online and succeed (see report for full info): 1. Strategic whole-of-institution approach – online needs to be treated as a core business as opposed to an 'add on' 2. Intervene early, to connect and prepare – staff were clear that connecting with students early, offering orientation and preparation, was vital to their future success 3. The vital role of 'teacher-presence'- importance of lecturer or tutor communication 4. Design for online – by uploading face-to-face lectures for online students as opposed to providing specifically designed online content makes for a disengaging experience	Online in general		HE

	important for online student success	5. Contact and connect along the student journey – regular and targeted institutional communication, and targeted appropriate support as needed 6. The role of learning analytics – strategic use of data on student activity and behaviour within the LMS can inform ways and times to reach out to students with targeted support 7. Collaboration to deliver support at point of need – to deliver above 6 points need high levels of collaboration across various divisions, departments, faculties and schools within institutions.			
Opportunity through online learning: improving student access, participation and success in higher education (Stone 2017)	Report Qualitative interviews with 151 members of academic and professional staff across 16 higher education institutions Includes 10 National Guidelines Follow-up impact report also published Premise is that online education widens access to university study	Key findings (see report for more detail): 1. A strategic whole-of-institution approach is required; recognising online education as 'core business' 2. Early intervention with students to connect, prepare and engage is essential 3. 'Teacher-presence' is vital in building a sense of belonging to the learning community and in improving student retention; however it is time-consuming 4. Content, curriculum and delivery need to be designed specifically for online learning 5. Regular and structured contact between the institution and the student is important in providing connection and direction along the student journey 6. Learning analytics can inform student interventions 7. Collaboration across the institution is required to integrate and embed support; delivering it to students at point of need. Ten National Guidelines are presented (see report for detail, including how to implement): 1. Know who the students are. 2. Develop, implement and regularly review institution-wide quality standards for delivery of online education 3. Intervene early to address student expectations, build skills and engagement. 4. Explicitly value and support the vital role of 'teacher-presence'. 5. Design for online. 6. Engage and support through content and delivery. 7. Build collaboration across campus to offer holistic, integrated and embedded student support. 8. Contact and communicate throughout the student journey. 9. Use learning analytics to target and personalise student interventions. 10. Invest in online education to ensure access and opportunity.	General online delivery	Primarily undergraduate university students. Focus on student equity.	Various
'Plan, prepare and connect: how investing in understanding and tracking the evolving needs of online	Journal article Focuses on student support Survey of perceived barriers/facilitators	 Development of an orientation program to increase student preparedness for online learning and facilitate ongoing support Also presents strategies to support academics when developing online courses The orientation program was divided into three distinct modules: Plan, Prepare, and Connect, consisting of a suite of online resources, 	Fully online	University students	Bachelor of Food and Nutrition

students informs the development of targeted programs for transition and success' (Horvath et al 2019)	of success (124 students)	 academic video presentations, step-by-step guides, quizzes and interactive, live sessions Particular foci of the program included: setting course & career expectations; student preparedness; organisation and time management for online learning; confidence in technology; and communication and a sense of community. Proposes eight best-practice strategies for higher education online orientation and transition (see pg 11 for more detail): 1) Establish institution-wide policies and procedures around quality online orientation 2) Design, evaluate and continually refine customised online orientation programs 3) Invest in academic, support service, peer presence and industry engagement in online orientation programs. Students value teacher presence meaning some synchronous sessions after business hours may be required. 4) Ensure online orientation programs encompass the full spectrum (not simply technology requirements) of student preparedness needs 5) Implement online orientation programs that mimic the diversity of varied learning resources and technologies students will encounter in the LMS 6) Utilise online orientation as a first opportunity to set expectations of the course and online study and as a first intervention to identify at-risk students (can refer to support services) 			
'Rethinking online learning design to	Journal article Explores sulture as	8) Encompass a career-ready focus in orientation programs for online students with comprehensive information on pathways to further study or employability to improve graduate outcomes • Presented 10 themes of factors influencing (mostly negatively) the experience of Indigenous students online: making connections,	Various modes of online delivery	University Indigenous	Range of disciplines
enhance the experiences of Indigenous higher education students' (Reedy 2019)	Explores culture as a critical element of online learning design Yarning with 19 Indigenous students	establishing relatedness, choice of learning mode, use of institutional LMS, university services, content design, teacher presence, cultural identity, knowledge and skills, and digital inclusion. • Presents 6 design principles based on the findings: design for social connection, facilitate interaction between Indigenous students, nourish interaction t the virtual cultural interface, develop strong teacher presence, integrate Indigenous and diverse perspectives in course content, make learning resources accessible. See pg 144 for details.	3	Indigenous	
'That synching feeling: an exploration of student engagement	Journal article COVID-19 response	Focuses on two categories of student engagement: engagement with learning activities and engagement with learning communities	Skills-based first- year units	University students	units: Interpersonal Skills and Communication

in an online environment' (Kelly & Lock 2021)	Authors/teachers evaluating their own course – questionable objectivity Quantitative: 824 students (2019 faceto-face compared to 2020 online) Qual: 145 student evaluations Students included if they did not withdraw and opened CMS at least once	Student outcomes indicated that individualized support, teacher presence and flexibility are key factors in student success in an online environment Table on pg 51 describes how the courses were redesigned for online delivery, with three main considerations: accessible, flexible & engaging. students liked the asynchronous nature of the units, not having to do 3hr tutorial Students recommended continuous personalised feedback through the LMS Demonstrates that teacher presence does not have to involve synchronous delivery	Predominantly asynchronous		Evidence and Research
'The online student experience: a MAC- ICE thematic structure' (Henry 2021)	Journal article from below PhD thesis	Suggests universities can facilitate quality online experience for students through meaningful interaction with instructors, peers, and course content; flexible, challenging, and relevant curricula; and a reliable, innovative learning environment Most of the 'how' recommendations are based on other studies. SUPPORT – recommends ensuring students are aware of support services and encourage their use. See below			
The online student experience: an exploration of first-year university students' expectations, experiences and outcomes of online education (Henry 2018)	PhD thesis Student perspective of online learning experience Interviewed 43 first-year university students	 Six themes identified to describe student experience: motivation, ability, circumstances, interaction, curriculum, and environment. Students' experiences varied considerably, with no consistent explanation for how all first-year students might experience online education. Students were more satisfied where expectations were met (or exceeded), or they were supported to manage inaccurate expectations. Student outcomes interconnected (retention, academic performance, satisfaction). Discusses importance of support services and how they might differ for online students (see pg 54) Units that are designed with OE at heart can employ rich pedagogy that seeks to actively engage online students, thereby enhancing student success and satisfaction More about understanding student experience than pedagogy and/or support. 	100% online	First-year university students	HE

What is student engagement in online learning and how do I know when it is there? (Kennedy 2020)	Melbourne CSHE discussion paper	Three perspectives of engagement: interaction; interactivity; learning design.	Online (100%? Not specified)	University students	HE
	Discusses the concept of 'engagement' and how it might be promoted	Interaction: student/teacher; student/student; student/content. Suggests fostering all 3 in online environment.			
		 Interactivity: behavioural vs cognitive interactivity (not necessarily linked). Suggests moving beyond simple 'clicking' interactivity to more cognitive interactivity. Does not require sophisticated technologies/tools. 			
		 Learning design: inquiry based, simulation based, peer based (not mutually exclusive). Suggests incorporating these designs into online environment to move beyond direct instruction and passive student activity, at task or subject level. 			
		How to tell if students are engaged? Turning up, visiting & revisiting content (although these are behavioural measures), what they say on discussion boards, how they go in assessment (ie shows if they've engaged with content, so good to have low/no stakes assessment early)			

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