

Effective teaching practices and student support services in online VET

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About the research

Effective teaching practices and student support services in online VET

Sheila Hume, Tabatha Griffin and Upekha Andrahannadi, NCVET

The aim of this research was to identify the teaching practices and student support services that facilitate the successful online delivery of vocational education and training (VET), including in blended delivery.

To achieve this, the research examined the characteristics of teaching approaches and student support services across eight qualifications delivered online, with these qualifications also representing diverse student cohorts (including apprentices and trainees), industry types and Australian Qualifications Framework (AQF) levels.

Using information collected from interviews with 37 registered training organisations (RTOs) who deliver at least one of the eight case-study qualifications, it explored:

- how teaching practices and student support services vary across the diverse VET system (that is, differing RTO type, student cohort, training type and industry) and across delivery mode (that is, blended and fully online delivery, synchronous and asynchronous delivery)
- the elements of VET that are being delivered online, including for apprentices and trainees.

Key messages

When the RTO interviewees were asked to identify best practices in the online delivery of VET in the case-study qualifications delivered by them, the majority of training providers named five features common to all of them:

- simplicity, clarity and consistency
- development of varied and engaging learning material
- communication and engagement
- flexibility
- student support.

The Certificate II in Skills for Work and Vocational Pathways and the Certificate III in Electrotechnology Electrician did not elicit these five themes, meaning that these two qualifications were notable exceptions. These qualifications represent examples of foundation skills and traditional trades qualifications, respectively. Opinions about the suitability of online training delivery, and the extent to which it could be used, were mixed for these qualifications, which may be indicative of the applicability of online delivery for foundation skills and trade qualifications more generally.

In terms of student support, best practice involved proactive provision, while being individualised, flexible and responsive to students' needs.

Simon Walker
Managing Director, NCVET

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Executive summary

A dramatic shift to online delivery in the vocational education and training (VET) sector occurred in response to the COVID-19 pandemic. The experience of this delivery mode created an opportunity for many training providers to consider increasing their use of online delivery, including through blended delivery (offering a blend of online and classroom and/or workplace-based training). Indeed, recent data show that the use of online delivery (including in a blended mode) remains higher than it was pre-pandemic. Now that restrictions have eased, it is timely to assess the teaching practices being used in the online environment and their ongoing suitability for online learning. In addition, to facilitate student completion and to deliver learning outcomes that meet the needs of both students and industry, online students need to be supported by appropriate services and facilities.

Through a series of interviews with registered training organisations (RTOs), this research investigated the teaching practices and student support services associated with training delivery that takes place both wholly and/or partially online, and across the synchronous (live training) to asynchronous (self-paced training) delivery spectrum.

Good training is good training, irrespective of the delivery mode

Good practice online and in-person training share many characteristics, but how they are implemented may differ. Previous research has determined that no single best practice approach applies for online delivery in VET, due to the diversity of training contexts, student cohorts, Australian Qualifications Framework (AQF) levels, and varying industry requirements. For this research, in order to capture the characteristics of online delivery across a diversity of training contexts, eight case-study qualifications were examined: Certificate II in Community Pharmacy; Certificate II in Skills for Work and Vocational Pathways; Certificate III in Fitness; Certificate III in Early Childhood Education and Care; Certificate III in Electrotechnology Electrician; Certificate IV in Real Estate Practice; Certificate IV in Training and Assessment; and Diploma of Accounting.

The RTOs interviewed in this research described many methods for delivering training online, spanning combinations of fully online, blended, synchronous and asynchronous delivery modes. These were tailored to the qualification requirements and the needs of the various student cohorts enrolled in the courses. The variability in the use of online delivery highlights the need for training packages to be flexible enough to enable innovative, but effective, online delivery.

Despite the variability in practice, there were five common elements in their approaches: simplicity, clarity and consistency; development of varied and engaging learning material; communication and engagement; flexibility; and proactive and personalised student support.

Simplicity, clarity, and consistency

In the online environment, especially when a course is self-paced, the opportunity for immediate two-way communication between the student and trainer does not always arise. Thus, it is important that learning tasks, assignments and course navigation are clear. Educators highlighted the importance of:

- user-friendly technology
- provision of relevant information to the student
- clear instructions
- materials that are task-oriented, clear and concise, intuitive and easy to navigate.

Development of varied and engaging learning material

The use of varied and interactive learning materials was considered important for promoting student engagement. An array of learning materials was used by these RTOs, including written content, videos, quizzes, spaces for collaboration (such as breakout rooms), images/diagrams, and practical tasks (such as ‘your turn’, where students take a break and practise what they have learnt).

Developing effective online materials is not easy, with several considerations and challenges being described by interviewees. Five common considerations were:

- ensuring training package and/or legislative requirements are met, as well as the additional industry expectations over and above those requirements
- recognising the different learning styles of students, and their differing language, literacy and numeracy (LLN) levels
- being cognisant of the digital literacy of students, as well as their access to suitable technology
- contextualising learning materials, including through workplace simulation
- providing small ‘bites’ of learning (micro-learning).

While many of these considerations are also applicable to in-person learning, they often need to be addressed differently in online delivery; for example, the requirement to develop materials specifically for online delivery rather than simply shifting in-person materials online.

Communication and engagement

Strong communication and engagement strategies were adopted to combat learner isolation, which can occur in online delivery. Methods of communication and engagement varied, depending on the delivery mode, especially whether training was synchronous or asynchronous.

Communication and engagement strategies used in synchronous online training included: integrating personal stories into training to build rapport; organising regular phone calls and/or video meetings; building relationships through introductions, games and quizzes; and involving students in online sessions by inviting them to provide answers to questions and ‘filling the gaps’ in slides.

Self-paced courses required different communication and engagement strategies and included: introductory phone calls to build the trainer–student relationship; course information provided upfront; information distributed through a variety of channels (such as through the learning management system [LMS] and via email); and contact with the student if they are not engaging with the course.

Flexibility

The interviewees highlighted the different ways by which they ensure flexibility through online delivery, reporting that flexibility is one of the main benefits to students who choose to study via this delivery mode. Trainers described flexibility in:

- scheduling live training sessions to ensure they worked around students’ work schedules and/or personal commitments
- shifting due dates in response to students’ needs
- responding to individual student needs, including providing in-person options (when possible) if challenges arise.

Proactive and personalised student support

The ready availability and provision of student support can be a significant success factor for online VET students and represents an important element of good online training delivery.

Identifying if, and when, a student needs additional support in the online environment can be difficult. The trainers in this research highlighted several ways by which they identify students who may need additional support, including: pre-enrolment/enrolment questionnaires; through the learning management system (LMS); observations through live classes; communication between the trainer and student; and contact with the employer. The LMS was a particularly important source of information for trainers, enabling them to monitor student activity and progress.

Trainers identified two key elements of best practice student support for online students:

- individualised support that is flexible and responsive to the students' individual needs
- proactive contact, by student-preferred means (such as email, or phone).

Trainers described a vast array of ways through which student support is offered and provided to online students. Who provided the support often varied according to the size of the training provider: larger training providers generally had student support officers and/or student services to respond to and delegate support enquiries, whereas student support in smaller training providers tended to be given by the trainers, sometimes with ad hoc assistance also provided by administrative staff.

Divergent views on the suitability of online delivery, especially for some qualifications

Similar to findings reported in the Australian Skills Quality Authority's (ASQA's) strategic review of online delivery (ASQA 2023), this research encountered examples of the opposing views held by some RTOs on whether some qualifications could, or should, be delivered online. Of the eight qualifications examined, the suitability of two being delivered through online delivery was a point of contention.

Certificate II in Skills for Work and Vocational Pathways (and foundation skills more generally)

Most of the interviewed training providers had strong views that online delivery was not suitable for foundation skills training, although some conceded it could play a supporting role due to the digital skills required in many jobs. The reasons for online training being considered unsuitable included: challenges in building rapport with the (often disadvantaged) students; difficulties in monitoring 'work ready' tasks (like wearing work clothes and shoes); inadequate digital literacy skills among students and/or a lack of access to appropriate digital equipment; and trainers being unable to read body language easily.

One training provider did not share these views, however, and had recently launched an online self-paced delivery model. To mitigate some of the challenges in delivering this qualification online, the online course and materials were developed with the particular student cohort in mind, with educators on hand to support students via video, and computers available on campus for student use. Despite some reservations raised by the referring job service providers, the RTO had confidence in the model, since it had successfully provided foundation skills support to remotely based apprentices and trainees.

Certificate III in Electrotechnology Electrician

Training providers displayed a broad spectrum of views on the suitability of online delivery for the Certificate III in Electrotechnology. Although online delivery, including blended delivery, can never replace the workshop and hands-on experience, some of the training providers interviewed delivered the theoretical components of the course online, but on campus and with trainer support.

Two other training providers held opposing views. One believed that online delivery was not suitable for hands-on trades under any circumstance, arguing that most of the learning should link theory to its practical application. The other, who had implemented a fully online self-paced model for theory, conducted practical training and assessment in the workplace. This provider reported that this flexibility enabled the student and employer to determine mutually suitable times for training and this was viewed as a benefit.



VET and online training delivery

Context

The COVID-19 pandemic required many training providers in the VET sector to transition from classroom-based teaching to online delivery. In a recent ASQA–NCVER survey of almost 1500 RTOs, around three-quarters of the RTOs reported transferring at least some training online (Hume & Griffin 2021, 2022a). Although this sizeable move to online delivery was necessitated by a public health emergency, many RTOs reported that they intend to deliver more training via blended delivery modes in the future. Indeed, data show that VET delivered through blended delivery (that is, online in combination with another delivery mode) has experienced sustained growth, from almost 23% of subject enrolments in 2019 to just over 29% in 2021 (Hume & Griffin 2022b).

ASQA’s strategic review of online learning in the VET sector highlighted that, as a consequence of the rapid transition to online learning due to the pandemic, some providers lacked experience in online and/or blended delivery modes. This resulted in them ‘operating in the market with immature risk assessment and self-assurance systems in place to assure quality outcomes’ for those delivery modes (ASQA 2023, p.3). According to the review, the risks related to training and assessment include:

- insufficient digital literacy skills of trainers and assessors
- training and assessment that it is not suitable and/or is not being delivered effectively online
- training and assessment not designed or adapted for online delivery
- online delivery not meeting the requirements of the training product
- insufficient checks and balances in place to assess a learner’s competency or verify the authenticity of the learner (ASQA 2023, p.3).

While the review acknowledged that students appreciated the flexibility of blended delivery, it identified several risks faced by students:

- not being prepared for, and supported to undertake, learning online
- insufficient consideration of the student’s literacy, language, numeracy and digital (LLND) skills
- not taking the student’s learning style into account
- not being equipped to meet the delivery mode’s technological requirements for participation
- students not being informed of, or adequately understanding, the mode of delivery being offered (ASQA 2023).

With many of the restrictions applied during the pandemic having now eased, a more considered approach to online delivery can be taken to ensure that online training is of high quality and the risks identified above minimised.

In addition to good delivery, another important success factor for VET students is the availability and provision of student support. It is therefore timely to investigate how online delivery and student support for online students can work effectively in VET.

Research on the use of online delivery is not new. A list of publications that examine online training in both VET and higher education is presented in the support document to this publication. Key findings and other points of interest related to both teaching practices and student support in the online environment are summarised. The list, which is based on an extensive, although not exhaustive, literature search conducted in mid-2022, illustrates the diverse ways in which online delivery is being used in the post-school education sectors.

Despite the abundance of previous research, questions remain about the suitability of online delivery in VET, especially given its practical nature and the diversity in training contexts, student cohorts, AQF levels and industries. Thus, this research contributes to the knowledge base on effective teaching practices and student support services in online delivery, while taking into consideration the highly diverse nature of VET.

This project

This research aimed to identify the teaching practices and student support services that facilitate the successful online delivery of VET, including in blended delivery.¹ To achieve this, the research examined the characteristics of teaching approaches and student support services across a selection of qualifications delivered online. It explored:

- how these approaches and support services vary across the diverse VET system (that is, according to RTO type, student cohort, training type, and industry) and delivery mode (that is, blended and fully online delivery, synchronous and asynchronous delivery).
- the elements of VET that are being delivered online, including for apprentices and trainees.

Data were collected from interviews with a total of 37 RTOs who deliver at least one of the eight case-study qualifications utilised in this research (table 1). Interviews were held with VET educators, training managers and support staff. The case-study qualifications were selected in consultation with the project sponsor and Project Advisory Committee (PAC) and were chosen according to:

- qualifications with relatively high numbers of enrolments and a reasonably even split between online and classroom-based delivery (although this was not necessarily true for qualifications delivered via apprenticeships and/or traineeships)
- a spread of qualification levels and fields of education/industry areas
- for apprenticeships and traineeships, inclusion of trade and non-trade qualifications.

The qualifications selected represented a diversity of student cohorts (including apprentices and trainees), a range of industry types and a cross-section of AQF levels.

The interviews investigated the teaching practices and student support services associated with training delivery that takes place both wholly and/or partially online, and across the synchronous (live training or assessment) to asynchronous (self-paced training) delivery spectrum. During the interviews, the RTOs described online teaching practices and student support services relevant to their qualifications on scope

¹ 'Online delivery' is a catch-all term that can encompass many different modalities of training delivery, which include an element of being delivered online (via the internet). In this report, online training delivery has been used as an umbrella term to describe training that may be delivered wholly or partially online (such as in blended delivery).

and student cohort(s). It is acknowledged that the experiences of the interviewees may be different for other RTOs and that the findings are not necessarily representative of all VET providers.

More detail on the research methodology is provided in appendix A.

Table 1 Number of interviews for each qualification

Qualification	Number of RTOs
Certificate II in Community Pharmacy	3
Certificate II in Skills for Work and Vocational Pathways	6
Certificate III in Fitness	5
Certificate III in Early Childhood Education and Care	5
Certificate III in Electrotechnology Electrician	5
Certificate IV in Real Estate Practice	3
Certificate IV in Training and Assessment	3
Diploma of Accounting	4
Other	3
Total	37

Notes: 'Other' includes interviews conducted with individuals who did not deliver any of the case-study qualifications but were able to contribute to the knowledge base on teaching practices and student support for online delivery of VET.

Report structure

Based on the information that emerged from the interviews, this report presents:

- good practice online VET: five themes
- the development of online learning materials: challenges and considerations
- how online delivery varies across the eight case-study qualifications
- student support for online VET students
- trainer skills gaps and overcoming them.



Good practice online VET

Online learning is experienced differently from in-person study (ASQA 2023). Students studying online can face specific challenges, such as screen fatigue and poorer levels of engagement (Ernst & Young 2021), meaning that additional factors need to be considered in the development and use of online training resources.

As the VET sector is highly diverse in nature, encompassing different training contexts, student cohorts, AQF levels and industries, there is no single best practice approach to online training delivery in VET (Cox 2022). In this research, the RTOs were asked to identify approaches they considered constituted the best practices in the online delivery of VET for the specific case-study qualifications delivered by them. Despite the variability in practice, there were five common elements in their approaches (figure 1). These themes are categorised loosely into:

- simplicity, clarity and consistency
- development of varied and engaging learning material
- communication and engagement
- flexibility
- student support.

Notably, the Certificate II in Skills for Work and Vocational Pathways and the Certificate III in Electrotechnology Electrician, which represent examples of foundation skills and traditional trades qualifications respectively, were exceptions, in that these five common themes were not identified. Opinion on the suitability of online training delivery, and the extent to which it could be used, were mixed for these qualifications, which may be indicative of the suitability of online delivery for foundation skills and trade qualifications more generally. This is discussed in more detail in the individual qualification sections.

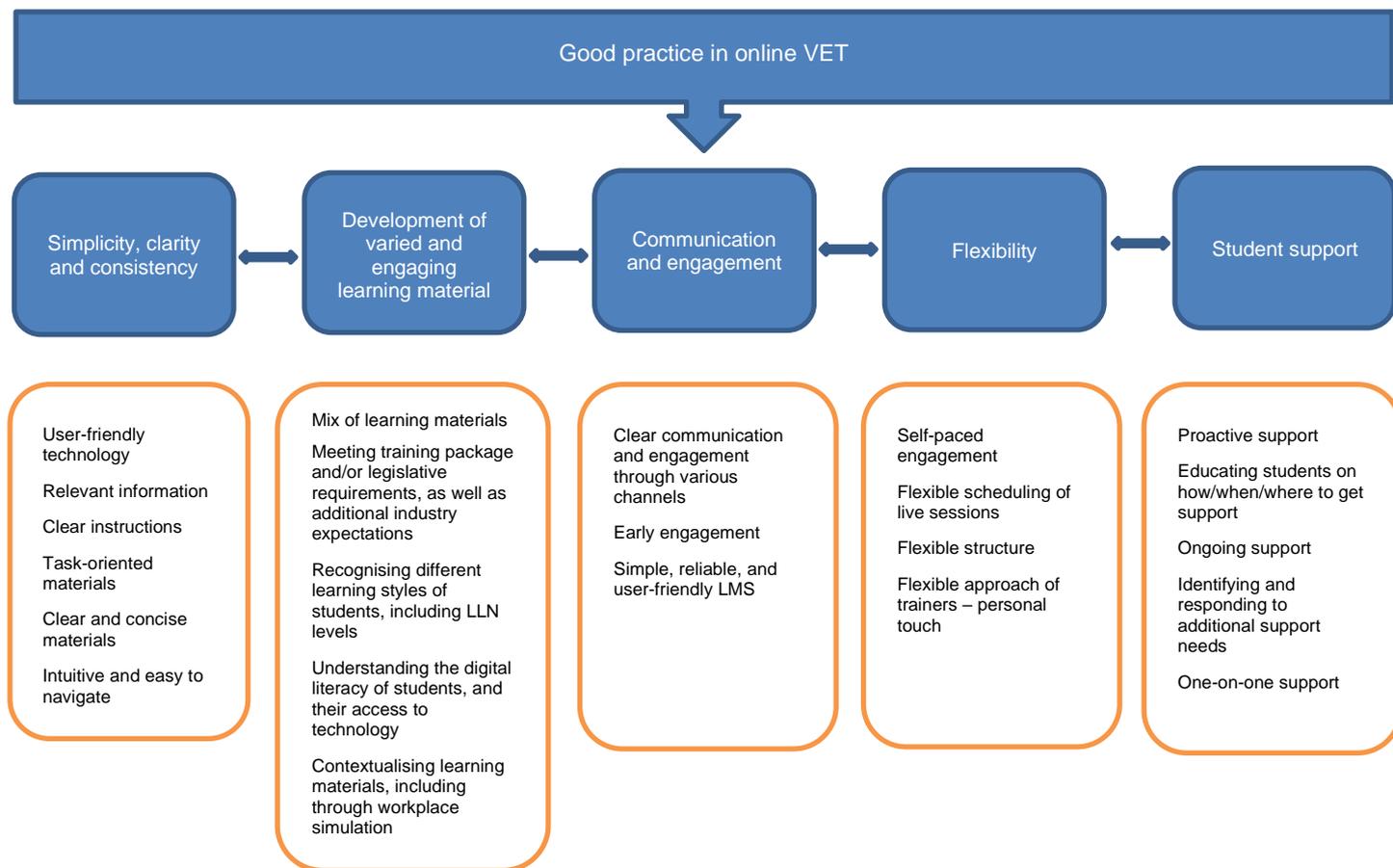
Simplicity, clarity, and consistency

Simplicity, clarity and consistency were the overarching characteristics of good practice in every aspect of online delivery, including in the development of learning materials and in communication and engagement. Educators highlighted the importance of the following:

- user-friendly technology, including easy access to course materials; for example, limiting the number of clicks required to access unit information and learning materials
- pop-ups to prevent the student from losing their place in the learning management system
- the provision of information relevant to the student, explaining the purpose of the unit and learning materials and why they need to know this information
- clear instructions.

In the online environment, particularly in the self-paced model, the opportunity for the immediate two-way flow of communication between students and the educator that would occur in an in-person learning environment is not always available. This means that explaining learning tasks and/or assignments in a clear and simple manner is especially important in online delivery.

Figure 1 Five characteristics of good practice online delivery of VET



Interviewees explained that materials should be developed to match the student cohort (and their literacy level) and be easy for students to navigate. Interviewees described materials that were:

- **task-oriented**

I think you've got to really focus on task orientated in a certain way and be very clear and specific, especially when you don't have a trainer to clarify information like if you're delivering face to face.
(Certificate II in Skills for Work and Vocational Pathways, medium training provider)

- **clear and concise**

Clear instructions, where to go, what to access. Everything needs to be explained and clear. They need that map and how to get through.
(Certificate III in Information Technology, large training provider)

When developing online materials for cert I and II they need to be explicit, and they've got to be very concise.
(Certificate II in Skills for Work and Vocational Pathways, large training provider)

- **intuitive and easy to navigate**

I think a system that's quite intuitive and easy to use, broken down a little bit ... questions are spaced out so that, you know, it's not all overwhelming. On one page there are steps and that they can go through that timeline or that process of 'OK, I've done that, let's hit next'.
(Certificate III in Early Childhood Education and Care, large training provider)

Development of varied and engaging learning materials

Promoting student engagement and learning in online vocational education and training and higher education, as well as MOOCs,² through engaging and interactive materials has been emphasised throughout the literature (Cox 2022; Paton, Scanlan & Fluck 2018; Colasante & Hall-van den Elsen 2017; see the support document for additional publications). Echoing the literature, the training providers in this current study highlighted the importance of providing students with a mix of interactive and engaging learning materials.

The interviewed training providers used a variety of learning materials, such as:

- written content
- videos (including watching videos and students uploading videos)
- YouTube content
- quizzes
- spaces for collaboration, such as breakout rooms
- images and diagrams
- practical tasks, such as ‘your turn’, whereby students take a break and practise what they have learnt.

As well as presenting engaging learning materials, training providers also explained the importance of linking students to external information sources; this assists in promoting lifelong learning, while highlighting places where students can access information after completing their qualification.

The initiatives identified above were common among training providers, irrespective of the specific qualifications they teach, including in terms of AQF level and industry type. They were also common across the different modes of online delivery (100% online or blended) and for synchronous/asynchronous delivery modes.

The rationale for using a variety of training materials included keeping students engaged and exceeding what a student could access from a textbook or learning guide. And, to put it simply, it was about ‘not killing them [with] death by PowerPoint’ (Certificate IV in Training and Assessment, medium training provider) and ‘mak[ing] sure it is not just a mountain of reading’ (Certificate III in Early Childhood Education and Care, medium training provider).

The following chapter contains a fuller consideration of the development of online training materials.

Communication and engagement

Clear communication and student engagement (such as building student rapport and communication lines between the teacher and student) are significant prerequisites for successful online delivery. As emphasised in ASQA’s strategic review (2023), online learning has the potential to create learner isolation and ‘can further isolate those already isolated by distance, socio-economic circumstances and other equitable barriers’ (p.11). Further, the students themselves hold the view that connecting and engaging with the trainers and peers is much easier in person (Ernst & Young 2021). The interviews with the educators in this research highlighted that learning occurs not only through the passive delivery of

2 Massive Open Online Courses (MOOCs).

content, with many of them describing examples of how they communicate and engage with students. That said, some indicated that they believed they could do better in this area. The methods of communication and engagement varied depending on the mode of online delivery (that is, synchronous or asynchronous), as shown in table 2.

Table 2 Communication and engagement in live training vs self-paced study

Training that included live training sessions (synchronous)	Self-paced study (asynchronous)
Educators integrating personal experiences into training through storytelling	Information provided upfront
Regular phone contact/Zoom meetings	Distributing information through different channels, such as emails, announcements in the LMS, discussion board in the LMS
Rapport-building activities through introductions, games, quizzes etc.	Contacting the student if they are inactive/not engaging with the learning materials
Encourage interaction by asking questions 'Fill in the gaps': leaving blank spaces in PowerPoint presentations and 'fill in the gaps' with student input	Introductory phone call to build student-trainer relationship

Reflecting on their own practice, one training provider was critical of the distribution of time between marking and student engagement, emphasising that educators spend approximately 70% of their time on marking and 30% on student engagement. As best practice, they believed this should be split 50-50.

Trainers also need to spend [time] on re-engagement more as compared to marking. If they are marking all the time, they don't have time to re-engage. Students again feel in isolation.

(Diploma of Accounting, large training provider)

This heavy weighting towards marking and administrative tasks in an online VET educator's workload has been described previously by Cox and Prestridge (2020), in which surveyed online educators reported that their administration workload prevented them from focusing on tasks perceived as beneficial for student learning.

Additionally, in the Certificate III in Fitness, there was acknowledgement of the challenges associated with creating an online community in this field, and the belief that fitness, as an industry, is highly social and built around in-person interactions. Although attempts are made to develop a community, for example, through social media groups and chat groups, the dichotomy between increasing student demand for online training and some VET educators being not entirely comfortable in the online environment makes this challenging. These educators acknowledge that for them, building relationships with students is more difficult online, and that in an in-person environment they know their students on a first-name basis.

Although this research did not specifically examine educator workload and student-to-educator ratios in the online environment, these issues did come to the fore during a number of interviews. Some educators from small-to-medium training providers highlighted that low student-to-educator ratios enabled them to foster strong connections with their students. This is simply not possible in some large training providers due to the high number of students enrolled.

Encouraging student engagement and motivation

Student engagement and motivation in online students (that is, maintaining student interest in course materials and content) was one of the main challenges faced by training providers, and addressing this issue has been identified as a skills gap among some VET educators. Students have also raised similar concerns as 'working "alone" can be an isolating experience', where engaging and interacting online can feel 'much more difficult and less organic' (Ernst & Young 2021, p.19). These challenges can result in

students finding it hard to stay motivated, especially if the course is largely self-paced (Ernst & Young 2021). According to students, engaging content and novel styles of online learning, as well as engagement with teachers and peers, are key to improving student engagement with the course (Ernst & Young 2021).

Educators used a range of tools to encourage student engagement and motivation, such as a variety of learning activities; student contact; early engagement; and structured learning (study plans).

Some of the learning activities used by training providers included:

- online quizzes and polls
- break-out rooms
- electronic whiteboards
- use of the chat function, either during live sessions or in an LMS forum
- tasks during live session (such as, seeking specific information from a website).

Reaching out to students through various communication channels (such as email, text message and phone) to follow up inactive students and prompt attendance was also mentioned. SMS reminders were being used by some training providers, while others were planning to implement this.

Early engagement was also recognised as a tool to encourage student engagement and motivation, given that early communication about course expectations can help students to gain an understanding of learning aims, clarity around course content and the relevance of the unit (Brown et al. 2022).

To promote early engagement, one training provider delivering the Certificate III in Fitness uses a strategy that extends over the first four weeks of the students' learning journey. Although this qualification is largely self-paced, this training provider holds a live induction session for newly enrolled students, in which they discuss the course and the students' motivation for enrolment. Students are also booked into an upcoming live workshop, and for the first four weeks the student attends weekly workshops, after which they are encouraged to attend at least monthly.

Also mentioned was 'self-paced structured learning', whereby study plans are developed for students. This approach, which breaks down the qualification into weekly milestones, provides structure to self-paced learning:

For every unit I've developed a weekly study plan. And I make it available through every unit within the learning management system ... So, what I do is I break down the full unit into topics, [a] number of topics. Say for instance if it's [the] financial performance unit, five topics, and we say these five topics can be covered in five weeks. So, you allocate one week to each topic. Don't overwhelm yourself. Go one topic a week, and then if you complete this topic, you should be able to complete assessments.

(Diploma of Accounting, small training provider)

The tools to capture, communicate with, and motivate a student are different and complex in the online environment (for example, text message, phone and email). One educator mentioned that they wished they could sit next to an online student and encourage them with their study:

I said I would love to sit by someone on their couch to say, 'OK, now it's time to study'. Like you would get in a classroom and that is a hurdle in online where, you know, we just have the tools. We have text, phone and e-mail to kind of capture that student, which is hard to do.

(Certificate III in Fitness, small training provider)

Phone calls were highlighted as an effective medium for connecting with students, although this was reliant on the student answering the phone. Another training provider was planning to implement text message communication as a means of connecting with their students (a function available through their LMS).

Although it was not a specific focus of this project, the challenge of engaging and motivating students in regional and remote locations, where issues are often amplified by a lack of local infrastructure (including unreliable internet access) and being isolated geographically, is worthy of mention here. Providing offline accessibility to address internet issues and conducting one-on-one live sessions with regional/remote students are a few ways in which RTOs addressed these challenges.

Flexibility

Flexibility is one of the main drivers for students enrolling in online learning (Stone et al. 2019), an issue reflected in many of the discussions with online educators. These training providers perceived flexibility as an element associated with best practice online training delivery. The meaning of flexibility in the training delivery context varied among these educators, however, and tended to reflect their training delivery context (that is, self-paced or live sessions):

- students able to engage with content at a time that suits them, at their own pace
- flexibility in the scheduling of live sessions, working around the student's work schedule and/or personal commitments
- flexible structure; that is, guidance on due dates, but being able to shift them in response to students' needs
- trainers' flexible approach in responding to students' needs, including providing in-person options in challenging situations (where possible).

Several of these elements demonstrate how trainers place importance on knowing the student cohort and being conscious of their work and personal commitments.

These findings are in line with a shift in what students deem important when selecting a course, as identified by Ernst and Young (2021). Prior to the pandemic, students were more concerned about cost and location when choosing a course. However, 'the pandemic has prompted students to reassess these considerations to some extent', and students have identified flexibility, ability to opt for the ideal study mode and access to student support as the 'new normal considerations' driving their choice (p.15).

Provision of student support

Providing student support was intertwined with best practice online teaching. The interviewed educators were not waiting for students to reach out for support, but rather were proactive in identifying and responding to signs that the student may require additional support. The provision of support for these training providers included:

- maintaining regular phone contact with students to 'check in'
- communicating the availability of support through different communication channels (that is, if the student doesn't answer the phone, send them an email etc.)
- ensuring ongoing trainer support for students, no 'set and forget'
- offering one-on-one support sessions via phone and/or Zoom sessions.

There was also an awareness among some of the need to avoid overwhelming the student with information relating to support. The ideal approach was perceived as a fine balance between the student having access to all necessary learning materials and having more than one way to ask a question, while not ‘bombarding them’ with communication that could potentially have the opposite effect on them seeking support.

Making it clear from the get-go they know how to get support, if they’re in the LMS and struggling they can just click a button to book an appointment ... We want to make sure they know support is there without bombarding them with emails and them thinking it’s more work than it needs to be based on the amount of emails they are getting from us.

(Certificate III in Fitness, large training provider)

Other strategies for student support will be discussed in detail in the chapter ‘Student support for online VET students’ in this report.



The development of online learning materials

In addition to keeping students engaged (as discussed in previous section), other common issues and considerations emerged relating to the development of learning materials for online delivery (table 3), including some that aim to overcome challenges faced by teachers and students in online training. A number of these issues are relevant to all types of delivery modes, while others are more specific to online delivery. The most mentioned considerations are discussed in more detail below.

Table 3 Issues relating to the development of online learning materials

Most mentioned	Others
Training package requirements/legislative requirements	Designed specifically for online delivery
Recognising different learning styles and abilities	Consistency between learning materials and assessment
Digital literacy and access to technology	Ease of updating learning materials
Contextualised learning materials, workplace simulation	Feels individualised to the student
Small bites and micro-learning	Providing opportunity for communication and interaction Self-marking opportunities

Training package requirements and/or legislative requirements (and suitability of online delivery)

Some trainers explained that above all else, training package requirements and/or legislative requirements are foremost in the development of learning materials. For online delivery, this sometimes brings additional challenges in determining how these requirements can be met in the online environment. As one interviewee explained:

Yeah, and it does make it hard in those areas like my own areas, the aged care, the disability, the community services. It takes a lot of adjustment from a trainer's perspective to realise that you can actually deliver these things online. Because a lot of people would think you gotta be in the same room or you gotta be able to tap someone on the shoulder if they're feeling sad or, you know, those kinds of things. And it's a totally different way of delivering so that, yeah, that makes it hard. The new, the latest versions of the training packages that are coming out are not considerate of online.

(Certificate IV in Training and Assessment, large training provider)

Some trainers explained that there are doubts about how suitable online delivery is for some topics:

And especially people in those areas like aging and disability, and they wonder how's the student really going to be a good worker, working with people when they've not had that actual contact with them until they do their placement at the end of the course. Of course, they haven't really had that experience. We now know when you did it face to face, you'd probably have a day of practical, you know, let's bring some wheelchairs in, let's practise using them, let's practise helping someone to eat, let's talk about setups of bedrooms and you could do all those things which you can't do very well in the online world. So, I'm not sure that all courses are suitable for online is what I guess I'm saying.

(Certificate IV in Training and Assessment, large training provider)

We're doing cert IV in mental health and at the trainers' request – we've got a couple of different trainers on that course – they believe it should be face-to-face. Especially when they're dealing with suicide and crisis situations and you're trying to educate people on that; you and I could read as much as we like and answer the questions, but do you really understand the situation? I think it brings reality, face-to-face. I'm a big believer in face-to-face.

(Certificate II in Skills for Work and Vocational Pathways, medium training provider)

Similar findings were found in Hume and Griffin (2022a), where trainers reported that it was problematic (and sometimes inappropriate) to deliver sensitive topics, such as family and domestic violence, in an online environment, where it is more difficult to provide a duty of care to ensure students are ok.

Students can also face challenges in fulfilling the practical components of a qualification when completing that qualification online. Several examples of this were provided in relation to the Certificate III in Fitness, whereby students may be unable to find a local gym in which to practise and/or prepare for assessments, and in other qualifications where students have problems finding partners/volunteers with whom to conduct role-playing to film for assessment. As one interviewee explained:

Audio-video assessment, that's the most common issue. They are struggling because they can't find a participant ... other participants are not comfortable in recording their faces, recording their voice, and then they always come and ask us how we can help them. Sometimes for few students, yes, we help, but not for all the ones, they have to find their own participant. They have to do something, they have to actually reach out into their network. That's how they build their network. But that's another area where they really struggle. (Diploma of Accounting, large training provider)

Some training providers suggested these complexities could be overcome by strategies such as assigning trainers to facilitate role plays and encouraging the students to explore innovative ways of finding volunteers (via Zoom, for example). Training providers also suggested that students can visit a city campus, if possible, to complete their assessments.

It can be especially difficult for RTOs when training package or legislative requirements change, meaning that training materials need updating, an exercise that can necessitate significant resourcing:

We've just had major changes to legislation in New South Wales, [and there] have just been major changes in Queensland. So, you know, we've had some long discussions about how we change our materials, the regulations in New South Wales just got updated. And you know, to change that in the materials and all of the agency agreements, it's firstly a trainer nightmare and that then becomes an admin person's nightmare and then our dedicated person to put everything online.

(Certificate IV in Real Estate Practice, large training provider)

As we go into the new industry cluster model, wherever that lands, there is debate about being able to update qualifications around skills and knowledge more regularly. But the cost of building that is enormous and the capability to build it in my view ... ('other' interviewee)

Changes to training package requirements not only have an impact on learning materials but may also have implications for whether some providers can continue delivering online as they have done previously. As one interviewee described:

So early childhood education and education support are the two areas that are currently in transition and that transition ends January next year. The new course talks about needing to have someone from the RTO actually go out into the workplace.

(Certificate III in Early Childhood Education and Care, large training provider)

This RTO currently uses qualified workers in the workplace to witness students' competency; the student also sends videos to the RTO of themselves completing required tasks. But this will no longer be acceptable in the updated training package:

For an online provider who's national, we're really having trouble getting our head around that. I mean, our office is in Brisbane, how do we get someone to assess someone in, you know, Darwin, for example? The cost would just be too great and one of the things that ... my organisation really values is giving everyone the opportunity to study so we keep our price level quite low.

(Certificate III in Early Childhood Education and Care, large training provider)

Industry expectations that go beyond the training package requirements are another challenge faced by training providers in the development of online learning materials, with some being very difficult to meet in the online training environment:

Our reputation with our local providers is that how well trained our students are, they've got that background, with a lot of practical mixed in with it. So, it's not just theory, they're doing practical in their theory, like they can do blood pressure, urine analysis, they can take someone's blood glucose, sugar level. You can't do that in online education. You can't teach them. And they're basic skills [that] they want a Cert III to be able to do when they arrive in the workplace, even though it's not written in the training package. [It's] the workplace industry expectation.

(Certificate II in Skills for Work and Vocational Pathways, medium training provider)

A further challenge is to ensure there are no mismatches between course materials and assessment tasks. This can occur (especially when continuous updating is required) when learning materials and assessment tasks are being developed by different groups, often independently of each other.

Some of the challenges described above, especially those relating to the suitability of online delivery for some topics, are unlikely to be easily overcome. Where online delivery is possible, this should be taken into account in the training package requirements. Likewise, where face-to-face training is necessary, this should also be clear in the requirements.

Recognising different learning styles and abilities

Recognising that students have different learning styles and preferences – such as visual, auditory, reading/writing, as well as physical activity – is an important consideration in the development of teaching materials, irrespective of the delivery mode. Providing a mix of learning materials (as described in the previous chapter) is one way by which interviewees in this research catered to these different learning styles.

And I think probably something that appeals to a range of learning styles. So you've got people that are visual, some auditory. So just having the colours, the sounds and just appealing to all learning styles.

(Certificate III in Early Childhood Education and Care, large training provider)

Consideration of student language, literacy and numeracy (LLN) levels was prioritised by many of the interviewees. For example, one training provider who specialised in delivering training for mining, resources and construction industries had designed their online materials and taught in a way that would be understood by students at the bottom of the LLN range for that course:

You've got to be able to ... deliver it to the lowest common denominator, and that means that the person ... with the lowest LLN limits on the level of course you're delivering has to be able to understand it. And if they can't understand it, then there's something wrong with the delivery design or there's something wrong with the materials.

(Certificate III in Electrotechnology Electrician, medium training provider)

Digital literacy and access to technology

Interviewees in this research indicated that, when developing online materials, they needed to be especially cognisant of the digital literacy of their students.

Extra resources and/or supports are often provided to students to ensure they have the ability to navigate the online training (discussed in more detail in the ‘Student supports’ chapter). Additionally, in terms of developing training materials, one training provider reported that their materials are designed for students who may have lower levels of digital literacy, although they do provide extra resources for those at the higher end of the spectrum.

Access to adequate technology to enable participation in the training was also important. Lack of access to the appropriate technology can increase the risk of a student being unable to meet training and assessment requirements. For example, in areas where there are issues with poor and unreliable internet connectivity, students may not be able to access videos or use the online tools that require high bandwidth.

It’s got to be compatible with the resources that your students have access to. So, you know, a lot of people don’t have high speed NBN to be able to play lots of videos. I’m in a rural area, I experience regular, you know, internet outages, for example. When you’re developing online learning, you must take into account the cohort that you’re delivering to and what they have available to them.

(Diploma of Accounting, large training provider)

Offline accessibility was one approach to help those with limited computer and/or internet access.

And we do also have that feature for our more remote learners. They can go in and download the assessment and print it out themselves if they wish to ... [If] they don’t have access to a computer, you know, they could go to the library and get it printed. Or the workplace can print it and then they’re able to still continue and progress with their studies and then upload it from there.

(Certificate III in Early Childhood Education and Care, large training provider)

The reliability of the LMS is also important.

The other thing I think I should mention is stability in the learning management system. So there’s a number of products out there with lots of bells and whistles, but stability and functionality are incredibly important when you’re delivering online ... We had experience with one of those products where, for example, every time they did an upgrade to the product, it would disconnect all of the assessment submission folders from the units in the back end of the learning management system, which triggered an assessment submission audit.

(Diploma of Accounting, large training provider)

Contextualised learning materials, workplace simulation

Contextualising learning materials, sometimes through workplace simulation, is an important part of VET. Achieving this in the online learning environment may be different from training that occurs in classrooms, workshops, or other training facilities. Contextualisation of materials in the online training environment was discussed across the case-study qualifications. Examples of how materials were contextualised, and workplaces simulated, varied among training providers and included:

- relating a maths concept to the trade being studied (Certificate II in Skills for Work and Vocational Pathways, large training provider)
- filming at a childcare centre to present concepts in a real work environment (Certificate III in Early Childhood Education and Care, large training provider)

- using a simulated childcare centre as part of their learning materials: this simulated centre provides access to policies, procedures and other common workplace documents that a student would need as part of their studies. This was particularly useful for students who were either new to industry and not yet employed, or students who may have trouble accessing these documents from their own workplace. This simulated childcare centre also provided scenarios, which again supported the learning of students who were new to industry and not yet employed (Certificate III in Early Childhood Education and Care, large training provider)
- authentic assessment tasks mimicking work scenarios and organisational hierarchy: assigning students to a role (for example, accounts, admin) where they receive direction from a senior in completing client-related tasks (Diploma of Accounting, large training provider)
- logical sequence of learning materials; for example, life cycle of tenant in property management (Certificate IV in Real Estate Practice, large training provider); how you would tour a new client through a gym (Certificate III in Fitness, small training provider)

In their research on the use of online learning through the COVID-19 pandemic, Ernst and Young (2021) reported that ‘although there was some experience with simulations, students expressed that it simply isn’t the same as doing something in person’ (p.19). Achieving success in simulating the workplace experience is likely to depend heavily on the specific skills being developed (especially on how practical they are or if specialised equipment is required).

A particularly relevant case study in this research was provided by the Certificate III in Electrotechnology (discussed in more detail on page 35). For this qualification, usually delivered as an apprenticeship, the interviewed providers reported that the theoretical material is delivered online through the LMS, either accessed by the students remotely in their own time, or in the classroom with trainer support. The practical components of the training, however, are not conducted online or via simulation, but in the workplace.

Small ‘bites’ and micro-learning

The preference among some training providers to divide learning materials and assessment into short sections accords with the notion of the flexibility more often sought by online students (Stone et al. 2019). As highlighted throughout the literature, micro-learning or short ‘bites’ of learning (Dymke 2022; Mason & Carr 2021; Paton, Scanlan & Fluck 2018) was described by training providers as enabling students to complete short learning or assessment tasks without having to commit to single, extended periods of study. This approach may also help to avoid screen fatigue and improve student engagement with the course. Some training providers achieved this by:

- breaking down the learning materials
 - Module of learning is 1–2 units of competency; in that module there will be chapters, those chapters focus on major components of one or two of those units, then each of those chapters will have multiple sessions. Aim is that each session shouldn’t exceed 30 minutes in length.
(Certificate III in Fitness, large training provider)
- providing assessment tasks throughout the unit
 - The ability to be able to go in and learn, I guess, a bite-size chunk of content, and then jump in and do a particular part of the assessment because it’s structured in a way that they don’t have to do an entire unit’s worth of work before they press submit. They do this bit, submit this bit ... and then it

just falls straight into the marking queue. And we just mark it as it comes in. So, they don't have to have finished the whole unit before they submit.

(Certificate IV in Real Estate Practice, medium training provider)

- consistency and predictability in webinars in terms of how long is spent on a topic

Well let's say that I'm doing a tax [webinar]. And the topic that I might be looking at is companies. I'll do an introduction, then I'll do introduction to companies ... So each one will be fairly sharp 15 minute sessions and broken down that way. And that also helps the students in terms of revision because they might be stuck on a particular area of the assessment and by breaking it down into those chunks, they know exactly where they need to go within the recordings to get the information they want.

(Diploma of Accounting, large training provider)



How does online delivery vary across select qualifications?

The use of online delivery in eight case-study qualifications was investigated. By focusing on the more specific findings emerging from the interviews for each of the qualifications, this chapter illustrates the diversity of online delivery approaches both within and between the qualifications. Details are provided on the delivery modes used, training and assessment practices, challenges experienced in the online delivery of these qualifications, and responses to those challenges.

Certificate II in Community Pharmacy

This qualification was chosen as it has a reasonably even split of online, blended and in-person delivery (table B1, appendix B), and equity group and traineeship representation. The Certificate II in Community Pharmacy is delivered by fewer than 10 training providers across Australia, and the relatively lower numbers of enrolments in this qualification was a limitation when compared with the other qualifications selected for this research. With such a small sample to draw from, recruitment for participation in the interviews was challenging, with fewer interviews conducted than anticipated. The interviews for this qualification were with training providers of a similar size and type, yet delivery mode varied significantly between providers (see table 4).

Two of the three RTOs interviewed for this qualification reported using some form of online delivery. Both differed significantly in how online delivery was applied, however, explaining that this reflected their student cohort. One of these RTOs, which delivers training through twice-weekly live webinars, explained that a large component of their students were career changers (such as carers or retail staff seeking a new career) and were not working in the industry. Although these classes were previously held in person, online is now the only delivery mode offered by this RTO, as it is more easily accessible for students who are juggling training with work. The other RTO delivers training through a blended model, explaining that this approach suited their cohort of students, as many were balancing school, their traineeship and work.

The third RTO, which reported having a high proportion of trainees, does not use online delivery at all, although course materials are emailed to students. This interviewee explained that using an online LMS has been discussed for some time, however, has not yet been implemented.

Concerns about plagiarism were raised by the two RTOs delivering training online, particularly regarding students cutting and pasting answers from their workbooks without clear comprehension of their work context.

Which, you know, look, some of the questions ... yeah, ok, they would be cut and paste comments because it asked you specific things and those things in the learner guide are giving you specific answers. But it's also about your comprehension and understanding of what these things mean to you in community pharmacies. So there is a lot of plagiarism. (Small training provider)

While cutting and pasting information from workbooks into assessments may not be limited to online delivery, these RTOs also spoke about authenticity of assessment (ensuring it is the student doing the work). Situations where students with learning difficulties are getting assistance from family members was highlighted as an example of the difficulties associated with ensuring authenticity and, in this case, balancing it with reasonable adjustments for the student.

Table 4 Certificate II in Community Pharmacy training characteristics

Delivery modes	<ul style="list-style-type: none"> • A reasonably even split of online, blended and in-person delivery • Training delivered wholly online through twice-weekly live webinars, plus work experience (no trainees; predominantly fee-for-service) • Blended delivery comprising self-paced LMS and workplace training (high proportion of school-based trainees) • No online delivery, although learning materials are emailed to students (high proportion of trainees; approximately 80% of students are government-funded)
Training delivery and assessment in the blended models	<ul style="list-style-type: none"> • Workbook in LMS • Learner guides, portfolio activities, workplace activities • Journals: the practical skills they're displaying when working inside a pharmacy • Supervisor's evidence report: whether the supervisor feels confident of student's ability to undertake practical activities • Monthly scheduled appointment calls • Verbal assessment over the phone: verbal assessment as direct evidence and supervisor forms and journals as indirect evidence
Online synchronous delivery	<ul style="list-style-type: none"> • One unit per week (12 units delivered over 12 weeks); overall 22 virtual classrooms. Sessions are recorded for students who cannot attend • Work experience component at the end. Will perform in-store observations but do rely heavily on workplace supervisors to be the eyes and ears on the ground • Combine the non-assessable learner guide, assessment section, supervisor's evidence reports and follow up with observations and verbal assessments if necessary
Teaching practices	<ul style="list-style-type: none"> • Good practice online teaching and assessment: <ul style="list-style-type: none"> ○ Flexibility ○ Webinars and tutorials ○ Inclusive and designed for a variety of cohorts such as students with additional learning needs (for example, using different coloured paper for dyslexic students; print learning materials if necessary to facilitate offline access; introduce new technology such as Dictaphone app) • Key considerations when developing online materials included offline accessibility and having orientation sessions • Address challenge of student engagement and motivation by setting deadlines for students; system also changes tasks to read-only if student has not submitted by the due date
Challenges and responses	<ul style="list-style-type: none"> • Student engagement and motivation: setting deadlines for students; system also changes tasks to read-only if student has not submitted by the due date • Difficulties in ensuring authenticity of assessments • Multiple ways of assessing: supervisors' evidence report, portfolio activities, workplace activities, verbal assessments, observations etc.

Certificate II in Skills for Work and Vocational Pathways

The Certificate II in Skills for Work and Vocational Pathways is unique to this report in that it does not feature an even split of online and face-to-face training, with most training being classroom-based (table B2, appendix B). The inclusion of this qualification was guided by an interest in exploring a qualification with a higher equity group representation, and an ongoing interest in the foundation skills case study from an earlier NCVET report investigating online training delivery in response to COVID-19 (Hume & Griffin 2022a).

Keep it in-person

Overwhelmingly, strong and passionate views were expressed about the importance of delivering this training in person (table 5). These views were echoed across a variety of training providers, including a private RTO, community college, and a TAFE (technical and further education) institute. The importance of in-person delivery for this qualification was mainly related to:

- the challenge of building relationships and rapport online

We don't do foundation skills online at all. We've always found working with disadvantaged [students], that face-to-face contact and building relationships with the student is far more important [and] you can't have that same engagement online. (Medium training provider)

Definitely the relationship building, because of, I suppose, the content of the course ... It helps with building their confidence and that they can do things. Whereas in online, well, we have noticed that it's quite difficult to build a rapport to give them helpful advice. (Medium training provider)
- tasks like wearing shoes and dressing appropriately, which are harder to monitor online; this was important for an RTO that focuses on job-readiness and preparatory tasks for job interviews

I suppose the units that we typically work for, job-readiness, so getting people ready to go to work, and that can be quite difficult if you're not looking at them face to face. Some of the stuff that we do isn't in the qualification. So, suppose, it's just if you come into a class, we ask them to dress correctly. We ask them to have shoes on as well so that because when they go for a job interview, that's how they have to go. (Medium training provider)
- inadequate digital literacy skills and/or access to appropriate technologies among this cohort of students
- the importance of body language cues and gestures, and how these can be difficult to pick up in an online environment

So, I guess when we're in the classroom, we rely on a lot of gestures, a lot of interaction, and that's how they learn best because their language is limited, but also because sometimes the digital literacy holds them back. Just access to technology or ability to use it. (Large training provider)

Table 5 Certificate II in Skills for Work and Vocational Pathways training characteristics

Delivery modes	<ul style="list-style-type: none"> • Predominantly, only face-to-face (classroom-based) delivery; use LMS in classroom • A few offer the option of online delivery if unwell or for other genuine reasons for not being able to attend the classroom • One training provider (large training provider) has recently moved to an online self-paced delivery model
Challenges to deliver online	<ul style="list-style-type: none"> • Building relationships and rapport online • Digital literacy, digital poverty, and access to technology • Language issues • Difficulties in observing and evaluating students in an online environment due to the nature of the tasks involved, for example, tasks like wearing shoes and dressing appropriately are harder to monitor online • Not being able to gauge body language cues from students • Resistance from students • Resistance from referring organisations (such as job service providers) due to digital poverty, poor digital literacy skills and a perceived lack of motivation among their clients (to complete this training in an online self-paced environment)
Responses to challenges	<ul style="list-style-type: none"> • Assisting students via Zoom or Teams • Predominantly video-based learning materials to support students' LLND needs • 24/7 Access to computers on campus • Online synchronous delivery • Live one-to-one online sessions (via Zoom or Teams) to facilitate remote apprentices and trainees • Held out of hours to accommodate work schedule

As the details above indicate, it is evident that RTOs find it hard to replicate the more experiential aspects of the qualification when delivered online. While the COVID-19 pandemic pushed these training providers into the online delivery space, this option now tends to be reserved for those who are unwell or have other genuine reasons for not being able to come into the classroom. One training provider also reported that students struggle with this qualification online:

Every student has the option for online. No one has taken it up with us. And when they do say that they'll take it up, they don't actually do anything and they end up coming back within a couple of weeks. And, you know, [say] 'I can't do it at home'. (Medium training provider)

Except when ...

An exception to the above arose, whereby one training provider described this qualification as having recently moved to an online self-paced delivery model. The recency of this transition means they have so far been unable to gauge the success or otherwise of the transition.

Educators have designed the online training materials to be accessible for the cohort of students typically enrolled in this qualification; however, they have encountered resistance to this delivery mode from referring organisations. Job service providers, for example, have voiced their reservations to these educators about the suitability of this mode, citing issues relating to poor digital literacy skills, lack of access to appropriate technology and a perceived lack of motivation among their clients (to complete this training in an online self-paced environment). The training provider responded to these concerns by highlighting that learning materials in the LMS are predominantly videos and reading is not required; that educators are available to assist students via Zoom or Teams; and that computers are available for use on-campus 24/7.

This educator reported that live, one-to-one online sessions (using Zoom or Teams) had been successfully used to provide foundation skills support to remotely based apprentices and trainees. The delivery of these sessions contrasts with the self-paced model introduced for the Certificate II in Skills for Work and Vocational Pathways, as educators had worked with apprentices and trainees individually during one-to-one synchronous sessions, and there was no self-paced content. These educators were flexible and responsive to the needs of the students, with sessions often held out of hours to accommodate the work schedule of apprentices and trainees. Although this model was generally viewed as a success, educators still encountered challenges. These mainly relate to technological issues (such as poor internet connection, which was usually overcome by transitioning to a phone call), not being able to gauge body language cues from students, and student engagement and motivation.

There's no ability to identify gaps in prior knowledge. So when you're teaching face to face, it's really easy to see by body language who doesn't understand the concept, even if they're not willing to ask for help. That's something that you can pick up straight away. (Large training provider)

Although the other RTOs emphasised the unsuitability of online delivery for the Certificate II in Skills for Work and Vocational Pathways, that does not exclude the use of technology in a classroom or to meet a training need. In one RTO, students accessed an LMS to support their learning while in the classroom with their educator present. Another educator recognised that many job-search related tasks are online and it may be beneficial to use online/blended training delivery for these tasks.

Having said that, some of the job stuff these days is online job search. Sometimes you might have an interview by Skype, or you've got to go watch online induction videos. So, I think there's scope for it ... Maybe if you had one online day and did a hybrid model, it could be useful in the future as long as the students are ready for that. So, you wouldn't probably want to start that from day one.

(Large training provider)

This difference in opinion about whether a qualification can (or should) be delivered online was also identified by ASQA (2023):

Analysis of survey responses has identified a belief among some providers that some qualifications ‘cannot’ be facilitated online, even though those same qualifications are being successfully facilitated online by other providers (p.20).

It was suggested that these differing viewpoints might be related to whether providers saw the shift to online through the pandemic as an opportunity to consider new approaches to delivering online or as a temporary necessity during the pandemic and not suitable for long-term training. Other factors, such as the time and resources available to deliver products online, were also considered (ASQA 2023).

In the case of the Certificate II in Skills for Work and Vocational Pathways, an evaluation of how effective online delivery is in the example given above will be of interest.

Certificate III in Fitness

The Certificate III in Fitness, which is highly practical in nature, has been of long-standing interest in the context of online delivery (see Griffin & Mihelic 2019) due to its high proportion of online and blended training delivery (table B3, Appendix B). A mix of small, medium, and large private training providers who deliver this qualification were interviewed for this study. The interviewed training providers described their students as relatively young (in the 25 to 35-year age group), and were mostly sports coaches, personal trainers and school students. Table 6 summarises the training characteristics identified.

Although blended delivery offers flexibility by providing students access to campus equipment for practical components, an increasing demand for (100%) online training by students was identified across the interviews for this qualification. One large training provider highlighted a ‘big swing to individuals opting for [the] online option in training’ and considered this a major growth area for their RTO. This increased demand for online training delivery means that the training provider needs to balance the demands of their students for more flexible training delivery while also ensuring that the students develop the practical skills demanded of this qualification. These demands from the students and those implied by the qualification have led this provider to focus on contextualising the qualification to the online environment, and considering how students can gain the necessary skills without attending in-person training:

Tension between, it is a very practical skill, so there is a certain expectation from the consumer and even from the assessors as well that there needs to be a way to bring those concepts to life online. We have to find a way to do that ... our market is essentially demanding a more flexible approach to their learning. We want to be able to meet them but still present the information in a way that we have confidence, helps them develop their practical skills, which can be a little bit of a challenge. Making the learner feel like they are having their own journey, but bringing those concepts to life, they come off the page, they come out of words in a way that they can conceptualise them in a practical environment if they don’t have access to come and see us on campus.

(Large training provider)

Let’s go on a journey

One training provider’s approach to contextualising training materials takes students on a journey that mimics how they would naturally move through a fitness club or gym with a new client. This pathway includes touchpoints like customer service, a risk check, greeting clients, pre-screening, assessment and

referrals to allied health. To achieve this flow of learning, the training provider has rearranged units of competency and sections to reflect this pathway in the LMS.

So, we've rearranged the units and the sections as you would enter a club. We have the customer service and we've broken it down with pictures and kind of segments. Obviously, you need to get the assessment in there somewhere. So, we usually have learning resource manuals, slides, that kind of stuff, and then a practical section at the bottom. So, each kind of unit is laid out and kind of stepped down as they go ... So you kind of stepped them through as you would with a new person as they enter at a club to say, hey, I want to join.

(Small training provider)

Table 6 Certificate III in Fitness training characteristics

Delivery modes	<ul style="list-style-type: none"> • Online: the main delivery mode • Two providers offered the self-paced model only, while the others offered blended and face-to-face delivery in addition to the self-paced mode • Blended delivery was cited as providing students with the flexibility to attend campus for practical activities and assessment, while completing theory at their own pace online
Training delivery and assessment in the blended models	<ul style="list-style-type: none"> • One large training provider who offers blended delivery, has identified six units of competency to be delivered across three practical face-to-face workshops. These modules are: <ul style="list-style-type: none"> ○ Module 2 SISFFIT032 - Complete pre-exercise screening and service orientation SISFFIT033 - Complete client fitness assessments ○ Module 4 SISFFIT040 - Develop and instruct gym-based exercise programs for individual clients SISFFIT047 - Use anatomy and physiology knowledge to support safe and effective exercise ○ Module 6 SISFFIT035 - Plan group exercise sessions SISFFIT036 - Instruct group exercise sessions • Video submissions • Workplace mentors or co-assessors to provide feedback to the training provider
Teaching practices	<ul style="list-style-type: none"> • Keeping the student engaged and contextualising the learning materials by: <ul style="list-style-type: none"> ○ Adapting a third-party commercial product by writing scenarios and scripts to 'make it more simulated' ○ Developing all the learning materials in house and contextualising these ○ Using a third-party simulated business to access workplace documents ○ Rearranging units of competency to reflect how a new client would navigate through a gym (see 'Let's go on a journey' section) ○ Flexibility ○ Personalised learning: training that is (or appears to be) personalised to the student, and considering the layout, structure, and aesthetics of the LMS
Challenges and responses	<ul style="list-style-type: none"> • Student engagement and motivation <ul style="list-style-type: none"> ○ Self-paced structured learning ○ Early engagement strategies that encourage synchronous learning opportunities early in the student journey • Creating an online community and the belief that fitness as an industry is highly social and built around in-person interactions <ul style="list-style-type: none"> ○ Introducing social media groups and chat groups ○ Phone calls and text messages to connect with students

To support students on their journey, this training provider places an emphasis on making materials as engaging as possible and breaking up theory and assessment into micro-learning tasks. The provider has the LMS laid out in such a way that, when a student logs in, they are greeted with visuals and reminders of 'the end game' to keep them motivated. Having an LMS comparable to Instagram, 'with pretty pictures, easy to use and nice things' was the 'dream end product' for one training provider. This concept was not at the expense of quality training delivery and training package alignment, however, with the interviewee also emphasising the importance of these characteristics.

One small training provider is also a big supporter of their students (who are studying self-paced online) having a mentor able to help with practical activities. The educator will work with students to find a suitable mentor in their local area who can assist the student to access a gym environment. The role of the mentor is multi-faceted: it assists students to fulfil the practical requirements of their qualification in a gym setting, and by doing so, exposes students to real-world gym experience, which provides industry experience and, potentially, employment.

What we do with the students is we get them to identify a mentor that lives in their area or close by to help them with their practical activities. One that gets them into a gym environment. And we see it as a great industry opportunity to potentially get an employee, and also for our students to actually get real experience in a gym with a mentor who's doing it every day and can work with them to get through the clients.

(Small training provider)

It's all about the student: personalised training and support

Flexibility was the main theme identified when educators were asked to describe what they considered constituted best practice online teaching and assessment in the Certificate III in Fitness. This was closely followed by personalisation, training that is (or appears to be) personalised to the student.

Personalisation for these training providers largely related to, firstly, the student journey, and, secondly, student support. For the student journey, it was about the student feeling as if they are having their own experience, with the training being tailored to them. Personalised student support is the student receiving 1:1 assistance/support when needed, such as a phone call or Zoom session, where they receive dedicated assistance with learning materials and/or an assessment task from an educator. More information on the importance of personalised student support can be found in the 'Student support' chapter.

Certificate III in Early Childhood Education and Care

The selection of this qualification was informed by its reasonably even split of online, blended and in-person delivery (table B4, Appendix B), relatively high levels of enrolment, and traineeship representation. A cross-section of training providers were interviewed for this qualification, including two private RTOs (one was a not-for-profit), a community college, and a TAFE institute. For two of the training providers, the update of the Children's Education and Care training package³ was a catalyst to move training online.

Many of the interviewed training providers offered this qualification through blended delivery (table 7). The blended model was described as offering accessibility through the online components but was supplemented through face-to-face activities (in the workplace). With students having access to role models (mentors) and additional support in the workplace, online delivery was viewed as 'a good tool, but it's not a tool on its own for this qualification to be effective'.

I think best practice always has to be supplemented by face-to-face in the workplace. They still need that role modelling in the workplace and they still need that support ... they still need access to additional support services.

(Large training provider)

3 In 2021 the State and Territory Skills Ministers endorsed proposed updates for five qualifications from the Children's Education and Care Training Package, including the Certificate III in Early Childhood Education and Care. <<https://www.skillsiq.com.au/CurrentProjectsandCaseStudies/ChildrensEducationandCareTPD>>

Online or blended delivery was viewed as the most suitable model for students who are: already employed; live far from campuses; younger students who are familiar with technology; and mothers with young children (although one interviewee thought online delivery would be challenging for mothers as they can find it difficult to find time at home). One training provider considered that the development of some online materials was driven by the observation that delivering in-person introductions to the units had not been successful in the workplace due to busy work schedules. As a solution, this training provider added introduction videos for each unit, ‘explaining and unpacking the unit for the student’.

Face-to-face classes were offered by a few of the interviewed training providers, and were often attended by student cohorts such as international students, students whose first language is not English, young school leavers and/or those who are not employed in the sector. Many of these students may need ongoing, one-on-one support or may not yet have established any connections in the industry. If classroom-based students gained employment while studying, they would then transition to a blended model of training.

Similar to the other qualifications investigated, contextualising learning materials was identified as a key consideration when developing materials for the online delivery of the Certificate III in Early Childhood Education and Care. For one training provider, who had recently transitioned online, this meant taking an ‘off the shelf’ product and contextualising it. Another training provider used a simulated childcare centre as part of their learning materials. This simulated centre provides access to policies, procedures and other common workplace documents that a student would need as part of their studies. This approach was particularly useful for students who were either new to the industry and not yet employed, or students who may have trouble accessing these documents from their own workplace.

Table 7 Certificate III in Childhood Education and Care training characteristics

Delivery modes	<ul style="list-style-type: none"> • Mostly blended delivery; was described as suiting students who were working and studying (often with family commitments) • A few also offered face-to-face classes, often attended by students who were not yet employed, new to industry, ESL and/or young school leavers • If a student gained employment during their qualification, they would usually transition to this blended model
Training delivery and assessment in the blended models	<ul style="list-style-type: none"> • Mostly delivered through a combination of self-paced online delivery and workplace training and assessment
Teaching practices	<ul style="list-style-type: none"> • Blended delivery model • Keeping the student engaged and contextualising the learning materials by: <ul style="list-style-type: none"> ○ Having a mix of learning materials (that is, interactive and engaging) ○ Clear, simple, user friendly and contextualised learning materials ○ Considering different learning styles and abilities ○ Offline accessibility
Challenges and responses	<ul style="list-style-type: none"> • Student engagement and motivation <ul style="list-style-type: none"> ○ Ensuring the student has the required information upfront ○ Following up the student if they are non-responsive ○ Providing information through different channels (such as emails, announcements, discussion boards in the LMS) ○ Giving the student only the information they need and ‘no fluff’ • Students attempting assessments before completing learning tasks or reviewing the associated learning materials; this was an ongoing issue for these trainers, without a clear solution among these training providers • Students not having the appropriate technology for learning and/or inadequate digital skills • Trainer resistance to online delivery

One interviewee described online delivery as ‘teaching in a different world to what we learnt in’. They found the shift to online delivery as a ‘big challenge in the beginning as I had a group of trainers that were in the age bracket that resisted technology a bit’ (Certificate III in Early Childhood Education and Care, small training provider). To overcome these challenges, this provider phased in the new platform over a six-month period, allowing the trainers to become accustomed gradually to the different elements as they were added.

Although not directly related to online training delivery, the challenges facing the childcare industry permeated discussions with these providers, with interviewees describing the negative impact these challenges were having on educators and students. Trainers spoke about a lack of staff in the industry, limiting their ability to take students off the floor for learning opportunities, some trainees not having study time at work due to staff shortages, and educator and student burn-out.

Certificate III in Electrotechnology Electrician

Similar to the Certificate II in Skills for Work and Vocational Pathways, this qualification does not display an even split of online and face-to-face training by comparison with the other qualifications examined for this project (table B5, Appendix B). It was selected to provide insight into the suitability of online training delivery for apprenticeships.

Training delivery was very similar for three of the four training providers interviewed for this qualification (table 8). These three RTOs delivered training on campus during block release;⁴ however, theory was often delivered using an LMS in the classroom or computer lab, with trainer support. This mode of delivery could be described as in-person technology-supported learning, a modality of learning where in-person instruction is supported by technology and digital resources (Johnson, Seaman & Poulin 2022).

Of these three RTOs, two expressed an appetite for incorporating additional elements of online delivery into the delivery of this qualification, but how and to what extent, remains open for discussion and likely an area that would benefit from further exploration. The third RTO expressed a strong view, however, that online delivery is not suitable for hands-on trades, arguing that most of the learning is linking theory to practical application, which is reflected in their teaching practice of moving back and forth between the classroom and workshop.

The fourth training provider was quite different in their approach to online delivery. This RTO had moved away from block release training, and now uses an online self-paced model for theory delivery, with practical training and assessment occurring in the workplace. The employer and student were able to find a mutually suitable time to conduct the online learning and this flexibility was seen as a big advantage to using a self-paced online model of learning.

4 Block release is ‘the release of an employee from the workplace for periods of time, usually a week or more, in order to undertake related training in an educational institution. The term applies particularly to apprentices and trainees’ <<https://www.voced.edu.au/content/glossary-term-block-release>>.

One training provider explained that the mode of delivery is ‘more influenced by location than actual type of students’:

So if we’re doing delivery in Melbourne, 99% of our delivery in Melbourne is face-to-face. Then when we’re talking about the Territory, we can have a lot of remote location students, so we’ll try and get an assessor out to them, sometimes ad hoc, but normally like try to get somebody out to them every four to six weeks. But from a theory aspect, obviously it’s pretty hard to go to some of the remote communities to deliver face-to-face training to a handful of people when you’ve got a handful of locations scattered all over the place. (Medium training provider)

Although the theoretical elements of trade apprenticeships, including the Certificate III in Electrotechnology, have traditionally been delivered in the classroom (and mostly still are), the restrictions resulting from the COVID-19 pandemic provided the opportunity to determine whether online delivery could be effective. Ernst and Young (2021) presented a case study of a young apprentice electrician who reported that he preferred this model of delivery as it allows him to work at his own pace. This, and the above example, suggests there is value in exploring a blended model of learning in trade apprenticeships more broadly.

Table 8 Delivery of the Certificate III in Electrotechnology Electrician and perceptions of the suitability of online training delivery

RTO	How training is currently delivered	Suitability of this qualification for blended delivery
Large training provider	<ul style="list-style-type: none"> Block release training Theory delivered in the classroom: combination of trainer and the LMS This training provider investigating the possibility of moving to a self-paced delivery model for theory 	<ul style="list-style-type: none"> This interviewee expressed an interest in increasing the use of blended training delivery for this qualification Early thoughts centred around using a combination of live webinars and self-paced learning. In this, block training would become shorter but more focused on the practical elements of training and assessment
Medium training provider	<ul style="list-style-type: none"> Block release training Theory delivered in the classroom using an online platform (LMS); the content is explained, developed and delivered by the trainer Online content is broken down with check-in points. The LMS guides the student through the theory and then practical application of the concept. The student will move between the classroom and workshop multiple times in the day, putting into practice the theory learnt Assessment is conducted in two parts. Firstly, an online computer-based test, which is done under supervision; part two is a skills-based assessment conducted under supervision in the workshop 	<ul style="list-style-type: none"> This training provider works primarily with disadvantaged cohorts Strong view that online is not suitable for hands-on trades as the majority of learning is linking theory to practical application. Their current delivery model has the student moving between the classroom and workshop multiple times a day, putting into practice the theory they are learning
Large training provider	<ul style="list-style-type: none"> Block release training Theory delivered in the classroom, using a mix of: <ul style="list-style-type: none"> Online learning using a LMS in a computer lab with a floating training to assist students where needed Traditional classroom delivery, written notes, and no LMS. Teachers will use teaching aids like Kahoot! for students to complete short quizzes on their phone Majority of assessments are paper-based (internal student feedback shows a strong student preference for paper-based assessment as opposed to online; believes this is driven by fear of technology failure during assessment) 	<ul style="list-style-type: none"> This interviewee was in favour of increasing blended delivery for this qualification but is restricted by their LMS This educator indicated the LMS currently supported by their IT department had shortcomings. This LMS had limited options for how assessments could be written; an alternative LMS would be needed to transition theory assessments online
Large training provider	<ul style="list-style-type: none"> All theory is delivered online through a self-paced format. Employer and student find mutually suitable time to complete theory learning Observed practical components and observed performance conducted in the workplace where possible Theory assessment conducted online; assessments are password-protected and use rotating banks of questions; no two tests are the same No block release training 	<ul style="list-style-type: none"> Flexibility, student-centric learning, and 24/7 access were some of main reasons why this training provider was in favour of delivering theory to apprentices via the online self-paced model This interviewee highlighted that apprentices build strong relationships with their trainers as one trainer will remain with the student for the life of their apprenticeship.

Certificate IV in Real Estate Practice

Three private training providers were interviewed for this qualification: one delivered nationally, and the other two in the Eastern states. Their students tended to be working and studying, with one provider indicating they had a relatively high proportion of trainees completing the Certificate IV in Real Estate Practice. Table 9 summarises the training characteristics described by these training providers.

The real estate industry in Australia is regulated by Commonwealth-, and state- and territory-specific legislation. Due to legislative differences between jurisdictions, training requirements differ depending on where training is being delivered.⁵

Table 9 Certificate IV in Real Estate Practice training characteristics

Delivery modes	<ul style="list-style-type: none"> All offered a self-paced model Two providers also offered a synchronous delivery option (that is, live webinars through Zoom) One RTO also provided in-person (classroom based) delivery
Training delivery and assessment in the blended models	<ul style="list-style-type: none"> Assessment was usually completed in three parts, multiple-choice questions, followed by short answer questions, and then practical tasks or projects. These practical tasks or projects could include: <ul style="list-style-type: none"> gathering and completing industry-related forms and documents, completing sales or rental contracts role plays and demonstrations case studies research projects The units of competency were clustered in a way such that the five core units required (by NSW) to work in the industry were delivered upfront in the learning sequence
Teaching practices	<ul style="list-style-type: none"> Blended delivery model Keeping the student engaged in learning materials by: <ul style="list-style-type: none"> having a mix of learning materials (that is, interactive and engaging) clear, simple, user-friendly and contextualised learning materials considering different learning styles and abilities up to date with training package and legislative requirements small 'bites' of learning Providing support Setting expectations upfront; early engagement
Challenges	<ul style="list-style-type: none"> Students expecting instant and out-of-hours responses to queries Regulatory requirements associated with the Certificate IV in Real Estate Practice Student engagement and motivation

Ensuring that students' expectations are established upfront and preparing students for study were of high priority for one of the interviewed providers delivering this qualification through self-paced study. This involved several activities:

- providing them with detailed information/documentation and ensuring it has been read

So we obviously start by providing them with some really thorough information. And so that's obviously we make sure that they've gone through and read all of the information that's available on our website, as well as things like our student handbook, our training handbook ... assessment handbooks, and things like that, to get them fully prepared. (Medium training provider)

⁵ For example, to work in real estate in New South Wales, an individual must complete an Assistant Agent Course, which is made up of five core units; this allows a person to work under a licensed real estate agency in sales, property management, marketing and other roles. To work as a real estate agent in NSW a Class 2 Licence is required, which requires the completion of a Certificate IV in Real Estate Practice.

- ‘Meeting’ applicants pre-enrolment and communicating through enrolment

We’ve met all of our applicants. It’s not just a case of you can go online, enrol, pay and off you go. We do things like ensuring that students are employed or certainly at least have access to a real estate agency, whether that be through some formal work placement or whether that be, perhaps, mum or dad’s a real estate agent, or something like that ... We’re backwards and forwards with the emails before their enrolment is finalised and we conduct a verbal at least one, if not multiple phone calls.

(Medium training provider)

- comprehensive induction to set expectations

So before the course commences, we have a very comprehensive phone induction that we do with each of the students, regardless of their funding model, regardless of the course that they’re doing. And yeah, so we really sort of gear them up. You know, this is what your course is gonna look like. This is how your study is gonna go. Obviously, we have all of these support mechanisms available for you, but yeah, you obviously need to be prepared that you’re self-directing your learning.

(Large training provider)

This interviewee believed that these upfront efforts help to reduce potential issues, which leads to students being more satisfied with their training (and hence, very few complaints). Another interviewee highlighted the use of introductory phone calls (which were often lengthy) with all students to start building the teacher–student relationship and build motivation (large training provider).

Recent changes to legislation in the industry, where the Certificate IV in Real Estate Practice is now compulsory for assistant agents to complete within four years of registration, have resulted in an increase of students with low engagement and motivation, according to the RTOs interviewed:

That’s come about since 2020, so anyone who is new to the industry knows, yes, this is what’s expected of me and they’ll do that. Anyone pre that time had been in the industry for years and years and then have been told, you know, after 20 years, you now need to do this certificate four qualification. They’re the ones that generally struggle because they’re forced ... to do it and they’re generally the ones that are a little bit like, they’re doing because they *have* to do it, not because they *want* to do it. So, the attitude towards it is probably quite different. (Medium training provider)

If it’s because it’s a regulatory requirement, there’s a good dose of people, and I would say a good 50% of clients, who don’t want to do the training. ‘I’m a salesperson. I know what I’m doing. Why do I have to do this course?’

(Large training provider)

Given that legislative requirements cannot be changed, they will encourage student engagement and motivation by:

- contacting the student directly. One RTO, which conducts synchronous learning via live webinar sessions, will have their admin team call or email the student the day before course commencement to remind them and resend links, and to confirm attendance. This RTO also plans to introduce SMS reminders. Another RTO, which delivers a self-paced course, conducts regular student support calls, where trainers and assessors call the student at least every couple of months.
- using a variety of learning activities: in live sessions, asking students lots of questions, filling in the blanks on the PowerPoint slide with the class
- capping number of students in virtual classrooms: one RTO limits live sessions to 30 people. Interviewees reported that this allows all students to be heard, and the quieter students are less likely to get lost.

Certificate IV in Training and Assessment

Three private training providers were interviewed for this qualification and included a mix of medium and large RTOs. Two training providers were based in Queensland and delivered nationally, with the other based in Western Australia, with most of their training delivered in Western Australia.

The mode of delivery for this qualification varied between these three training providers (table 10). All three training providers delivered training online. Two providers also offered in-person sessions, although, for one, these were workplace training sessions for large employers with groups of employees who needed to complete the Certificate IV in Training and Assessment. None of the interviewed providers offered a self-paced delivery mode for this qualification, with all using various formats of synchronous delivery. One had offered self-paced training in the past, but this had been discontinued due to poor completion rates. By comparison with the other qualifications examined in the research, the live online sessions were much longer, and ranged from two to three hours per session to full-day sessions.

Table 10 Certificate IV in Training and Assessment training characteristics

Delivery modes	<ul style="list-style-type: none"> • Face-to-face or online synchronous delivery via Teams • Live online classroom-style delivery; delivered over 4 weeks, with full days of online delivery; course is 4 weeks, including placement • 3 delivery modes: 100% online; blended, includes a mix of workplace training and online; and face-to-face delivery in the workplace
Training delivery and assessment in the blended models	<ul style="list-style-type: none"> • All synchronous delivery (no self-paced) • By comparison with the other qualifications examined in the research, the live online sessions were much longer, ranging from 2–3 hours to full-day sessions.
Teaching practices	<ul style="list-style-type: none"> • Keeping the student engaged in learning materials by: <ul style="list-style-type: none"> ○ having a mix of learning materials (that is, interactive and engaging) ○ clear, simple, user-friendly and contextualised learning materials, simulation ○ up to date with training package and legislative requirements ○ small 'bites' of learning ○ orientation sessions ○ having trainers that are engaged and passionate ○ keep live sessions engaging; break them up with 'ice breakers' – rapport-building ○ mix of delivery style encourage group work and the building of peer relationships • Good practice for online delivery considered same as for in-person delivery
Challenges and responses	<ul style="list-style-type: none"> • Technology challenges, including bandwidth issues impacting video and sound clarity during live sessions, and technical malfunctions such as inability to access Zoom sessions. • Orientation and induction sessions to help students with technical issues

With often-long online sessions, novel ways to break up the sessions and increase interest and engagement were described:

Umm yeah, they've got quite a good and thorough PowerPoint that they use, they're interactive ones that they've developed ... They use green screens, so they'll do things like change screens just randomly. You know, students come back from morning tea and they'll be, you know, a picture of big cream bun behind them or they'll be going on an airship or, you know, something. They use all those funny things or every now and again, you know, a little aeroplane will fly across the screen with the trainer sitting in it, waving at them or something, you know, just things to keep that humour in because it can be dry ... to make sure that they're engaged on more than just the level of what they're learning, but that they actually see it as a worthwhile thing to do.

(Large training provider)

Two of the interviewees believed that best practice online delivery is no different from best practice in-person delivery. These interviewees are using the same tools as in a classroom, such as discussion groups, catering for different learning styles, practical based learning, having the students share their screen and give presentations.

I think it's almost treating people like they are actually in the same room as you, not treating it as, you know, a big distance between people. (Large training provider)

It's about the trainer, about the training, the program, how you've got it together. I think you can do exactly the same in both groups. The only thing that's a problem with online is you cannot see my body language as much, body language is lacking. Umm, but if you can, if the teacher can pull the information out of the students, so turn your microphones on instead of having them turned off. OK, let's have that discussion, let's go away in small groups, have those discussions. It works really well.

(Medium-sized RTO)

Although these providers do try to prepare their students for online training, some explained how educators still need to spend time in the first session troubleshooting issues with their students.

Diploma of Accounting

Four private training providers were interviewed for the Diploma of Accounting and included one small and three large RTOs. These training providers were based in the Eastern states and in Western Australia, and all delivered this qualification nationally. Students tended to be working in the industry. Two training providers mentioned that their students are mostly female, with some returning to work after a break (such as after parental leave). Some training providers also offered training to international distance learner student cohorts. Table 11 presents the training characteristics described by these RTOs.

All interviewed training providers delivered the Diploma of Accounting using a self-paced delivery mode, with some offering either live or pre-recorded webinars or tutorials (optional attendance). This delivery mode was seen as the most convenient for the student cohort, with interviewees reporting that synchronous delivery is difficult for students who are employed.

Whenever we try to conduct live webinar, what time, that's the number one issue. What time should we consider, what time they will be free. We have tried so many times, we even have tried lunch time. We run a webinar at lunch time but no one, hardly few students appear. So that's number one challenge. (Large training provider)

One training provider reported that delivering this qualification online is relatively less challenging (and even preferred) compared with other qualifications that require observing students in person in practical assessments:

Personally, I like online training and delivery better than face-to-face, especially for accounting and business. When it comes to other courses, understanding that practical skills cannot be completed in that online learning environment, but for accounting and business, I personally do not face challenges. (Small training provider)

Rather, I found it more interesting, and I see, there are a lot more opportunities here in an online learning environment than face-to-face. There's so much potential for us to develop some more specific case studies ... And develop some more case studies, which are more for a particular group of students, and with those case studies [we] can actually modify it for each different unit.

(Small training provider)

Despite the preference for online delivery, several challenges were described. Student engagement and motivation was the main challenge faced by all training providers. One training provider experienced an uptick in enrolments during the pandemic but found it challenging to keep students in their courses due to the personal challenges students were confronting (such as job loss, time constraints etc.), which prevented them from completing the qualification.

Table 11 Diploma of Accounting training characteristics

Delivery modes	<ul style="list-style-type: none"> • All interviewed training providers delivered the Diploma of Accounting using a self-paced delivery mode, with some offering either live or pre-recorded webinars or tutorials (optional attendance) <ul style="list-style-type: none"> ○ 100% online with weekly live support sessions ○ 100% self-paced online, with recorded lectures ○ 100% online: either self-paced stream, or self-paced with 2 tutorial sessions a week (mini lecture, exploration and discussion session – optional attendance) ○ 100% self-paced online
Training assessment	<ul style="list-style-type: none"> • Case studies, using Zero and MYOB accounting software to record transactions; students use this software to solve problems from case studies and record business transactions • Verbal assessments: where students need to have a conversation and they need to answer questions related to unit competency requirements; these are recorded in Zoom, conducted to replicate how the student might talk to a client • Accounting simulator: have a simulated business that students work with; RTO has developed additional materials for this simulated business • One RTO has assessment overview webinars for each assessment where they try to answer FAQs, and trainers will explain every assessment task and what is expected of the student
Teaching practices	<ul style="list-style-type: none"> • Initial orientation sessions to familiarise students with online delivery • Keeping the student engaged in learning materials by: <ul style="list-style-type: none"> ○ having a mix of learning materials (that is, interactive and engaging) ○ clear, simple, user-friendly and contextualised learning materials (simulation) ○ up to date with training package and legislative requirements ○ small 'bites' of learning ○ reliability of LMS, ease of updating learning materials
Challenges and responses	<ul style="list-style-type: none"> • Communication and engagement with students <ul style="list-style-type: none"> ○ Reaching out to inactive students to determine what help is needed, providing them with ways to contact the trainer, encouraging them to call their trainer and ask for help ○ Reminding students continually that support is available and to reach out if they are having any challenges (study or personal) for support ○ Engaging student early on: one educator would like emails to be sent to students if they haven't logged in after 7 days of enrolling, but currently these emails are sent at the 30-day mark and this educator feels this is too late ○ Setting up study plans for students • Trainer capability: professional development provided

Training providers held the view that students who are already employed benefit from having a study plan, with enforced due dates for assessments, as such initiatives help them to complete the qualification on time.

And then actually they need a different plan customised for them, for diploma students. What I have found they are working and they don't have time basically ... I think due dates are really important for them. And what I have seen so far, they always try to finish their course at the last minute.

(Large training provider)

A lack of engagement with learning materials, whereby students would attempt assessments prior to working through the relevant material, was also described. This particularly related to the employed student cohort, with the interviewees believing that this behaviour is due to the students lacking time because of their work and other commitments, as well as students' attitudes towards learning:

Another is students are already working in industry, so they think that they already know everything, and they are not doing practice activities. And in assessment, when [the] trainer is giving them feedback, they always challenge [the] trainer. (Large training provider)

Training providers stressed the importance of shifting the focus from merely completing the assessments to the learning process to overcome the above challenges.

Simulation to contextualise learning materials and assessment was another important tool in maintaining student engagement in this qualification. Incorporating practical scenarios and case studies was described by one of the providers as giving students an understanding of how a workplace can operate:

Because otherwise in accounting it can be very boring just learning the concepts. If we embed those concepts within scenarios and case studies, it makes it very engaging and that's what we try and do, and then we try and simulate that for our assessment as well. (Small training provider)

Technical difficulties were another challenge, especially given the additional accounting software required in the course. Some providers emphasised challenges associated with both students' and trainers' digital literacy and other software-related issues when delivering online:

Sometimes it's just the technology. For example, I'll be illustrating a software program, and I'll split the screen and I'll have the manual on half and the software on the other half, and I'll be asking students to do that, but they won't know how to use the technology to do that. And so often ... instead of going through course material, you're going through the use of the Windows operating system or the use of software or whatever the case may be. (Large training provider)

To overcome these challenges, the training providers have implemented strategies such as creating 'how to' videos and providing individual training via student services.

What we've got in the introductory page to the course, we've got a series of 'how to' videos. So we've got, for example, how to install MYOB software, how do you use the platform, we've even got a video on how to find the Teams session. So instead of doing it how we've done it today, we copy the link and paste it into their online learning platform. The student can also elect to have student services call them up and take them through the system as well, prior to the training. We do things, just on things like saving files, zipping files, uploading files for their assessments, that that type of thing. (Large training provider)



Student support for online VET students

Recognised as a crucial element of online students' success (Rotar 2022), student support services can involve a range of training-related supports, such as course support, literacy and numeracy support or flexible learning options. Non-training-related support, such as wellbeing support and job search or career-related advice, also fit into the category of student support services (Wibrow 2023).

Related to the various types of student support are two overarching questions that affect the provision of support services:

- At what stage in the learning cycle is student support required and/or offered, noting that different types of support may be required at different stages?
- Are the support services proactive or reactive, or a mix of both; that is, the trainer/RTO offering support to a student identified as needing it, as opposed to the student seeking support.

Regardless of the delivery mode of the training, provision of, and access to, student support services can be important for student success in VET. The availability of support services has become an increasingly significant consideration for students when choosing a course:

For many [students], the pandemic has highlighted the need for ongoing and accessible support from their provider. Whether this be technological, academic, practical or networking support, student choice can be driven by this. (Ernst & Young 2021, p.15)

While this research did not specifically compare the student support needs of students studying online with those studying in a classroom situation, it is possible that support needs might be higher for online students. As one interviewee explained:

All of those [student support] options are still available in face-to-face, but they seem to need it less because they see their trainers two days a week and they're with them all day. They have a lot of face-to-face contact, so they seem to be less reliant on those.

(Certificate III in Early Childhood Education and Care, large training provider)

Ensuring equitable access to support is a vital element, one that could improve the online learning experience for students (Ernst & Young 2021). The increasing shift to the online delivery of VET in Australia therefore warrants an investigation into how student support needs are identified and provided to students studying through this delivery mode.

This chapter of the report considers:

- identifying when student support is needed
- student support strategies
- trainer skills gaps.

Identifying when support is needed

In the rapid shift to online delivery due to the pandemic, students needed an array of different supports at varying stages of adapting to online learning. These included: clear communication from the provider; technological support; wellbeing check-ins; information on the impacts, implications, and alternatives to the change in course delivery; course counselling; opportunities to connect with peers; and engaging

learning methods (Ernst & Young 2021). Even in ‘normal’ circumstances (that is, not in a pandemic) identifying if, and when, a student needs additional support in the online environment can be difficult (ASQA 2020).

The interviewees in this research identified several ways by which they identify students who may need additional support. These included:

- pre-enrolment/enrolment questionnaires
- through the learning management system
- observations through live classes
- communication between student and trainer
- contact with the employer.

The interviewees described a range of indicators for each of the methods used to identify students requiring additional support (table 12). The training providers then use these indicators to trigger internal student support interventions and strategies. It is noteworthy that most of the indicators rely on the trainer being proactive in both identifying and offering additional support; that is, the trainers and RTOs do not rely on students recognising that they need help and seek additional support themselves.

Table 12 Indicators of student support need

Method of identification	Indicator
Pre-enrolment/enrolment questionnaires	Language, literacy and numeracy issues Other identified needs
Learning management system	Student inactivity Lack of engagement with course materials Lack of progression through course materials Unsatisfactory learning and/or assessment outcomes (may also occur outside LMS)
Observations through live classes	Student missing classes or being late Not actively participating in classes
Communication between student and trainer	Lack of engagement with the trainer Direct request for support by student Student continuously rescheduling sessions
Contact with the employer (especially for traineeships/apprenticeships)	Not applying knowledge/skills in the workplace
Other	Peer feedback to trainers

Learning management system

In the online learning environment, the learning management system has become an important source of information for trainers. Many learning management systems collect extensive information on how frequently a student accesses the LMS and their activity within the system. Studies of LMS data have shown a student’s use of the LMS is directly related to their learning success, with analytics providing educators with the information they need to identify and proactively assist students through targeted learning support (Veluvali & Surisetti 2021; TAFE Directors Australia 2020).

The interviewees in this study described several ways that LMS data are used to monitor student activity and progression, including a mix of automated functions, such as the LMS providing alerts (to trainers and/or students) and trainers manually producing reports. Examples included:

- identifying newly enrolled students who have not engaged with the LMS early on

At that point, early on in the intake, we identify those who haven't logged in, so we can pull a report for those who haven't actually logged into the system. And we do phone calls and say 'hey, what's going on? You enrolled but you're not engaging, is something happening?' and so on.

(Certificate III in Early Childhood Education and Care, large training provider)

- the LMS providing alerts to trainers and/or students advising when a student has not logged in for certain amount of time

Yes, we do have alerts and we continue to monitor our learning management system. When the students haven't logged in, our learning management system is then linked to the student management system where they get automated emails.

(Diploma of Accounting, small training provider)

- producing reports on student activity in the system

Look out for missed assessments/inactivity on the LMS. This tells us a lot about the student – weekly and fortnightly and monthly reports for online students about how they are accessing the system, submissions.

(Certificate III in Fitness, large training provider)

The advantage of ... online compared to the written is that in online you can actually see how long they've been spending on units and whether [they are] progress[ing]. I mean the number of times they go, 'OK, I'm getting there' [and I say] 'you haven't even opened it up'.

(Certificate II in Community Pharmacy, small training provider)

- monitoring student progression, including the LMS alerting the training provider when it appears that the student will not complete in time

We look at their progress in 'Accelerate' and we actively track progress. We have a flag in the system, so if a student has fallen [behind and] is sort of looking at not completing in an adequate period ... within the course duration, it actually pops up and advises us that we've got a student at risk.

(Certificate III in Electrotechnology, large training provider)

I log into their portals every couple of weeks, personally, so I oversee all of the e-learning stuff, whether it's Zoom, e-learning or it's the blended learning ... I log into their portals, I track where they're at ... who's logged in, when they were last logged in, what courses they've actually started to do.

(Construction and resources training, medium training provider)

- checking student activity in the LMS a week prior to a workplace visit (to ensure that the student is ready for the workplace visit).

Support strategies

How support is provided to online students

How support was provided to students largely depended on the size of the training provider and the type of support sought. Larger training providers had student support officers and/or student services to respond to and delegate support enquiries, whereas in smaller training providers this tended to be up to the trainers, with ad hoc support by administrative staff. Table 13 shows the variety of ways in which student support was reported as being provided to online students.

Table 13 How support is provided by RTOs to students learning online

Method of support	Comments/examples/observations
Orientation and induction sessions	<ul style="list-style-type: none"> • Orientation videos that explain online learning, the online platform, answer frequently asked questions (FAQs) • Welcome email that provides contact numbers for the student support team, links to the knowledge base and the support ticketing system • One training provider has a short module all students must complete prior to starting their qualification. The module includes a video explaining online learning and provides tips on how to best use the system • Another training provider conducts induction phone calls, where they talk the student through the online portal, learning expectations etc.
Trainer providing support	<ul style="list-style-type: none"> • Learning support provided by trainers via phone, text, email, online meeting platform (e.g. Teams, Zoom) • Educators often the first contact point for all support needs (learning, personal, digital, LLND) • Educators have time set aside for responding to student enquiries • Students have access to educator calendars (with set availability times) and can book in a support session when needed
Support provided by student services, student support officers, administration staff, student engagement officers	<ul style="list-style-type: none"> • Common among larger training providers • Might be managed through a call centre, with the request forwarded to the most appropriate support person • One RTO has an academic hotline, with support provided by the curriculum team if the students' trainer is unavailable • One RTO has a student engagement officer to support students who have disengaged; may provide various types of support
Tutorial and/or webinars	<ul style="list-style-type: none"> • Online students can book in for tutorials either online or on campus (where on campus options are available) • Tutorials held at times that suit the student demographic; for one training provider this was during school hours • Access to pre-recorded webinars for assistance on certain topics • Automatically sign (all) students up for support sessions • Offer drop-in sessions (either online or on campus) at set times during the week for students to seek support
Phone support	<ul style="list-style-type: none"> • Some training organisations encourage their students to call when they need support • Usually only available in 'office hours'
Email support	<ul style="list-style-type: none"> • Specific curriculum email address for training material support • Some RTOs have timeframe in which student can expect response (e.g. 24 hours)
One-to-one video sessions	<ul style="list-style-type: none"> • Teams or Zooms sessions; can share screen with trainer/support staff
Ticketing system/online booking for support	<ul style="list-style-type: none"> • Larger training providers had a ticketing system for students requesting support • Students can book an appointment with a trainer through the LMS
Proactive outbound contact with students	<ul style="list-style-type: none"> • Automated emails when after set periods of inactivity (e.g. if the student has not logged in for one month) • Calling the student if they have become disengaged from their learning • Weekly to fortnightly contact with the student (more common among those delivering to trainees) • Useful to know students' preferred means of contact • May include workplace visits (for trainees/apprentices)
Access to on-campus support	<ul style="list-style-type: none"> • For training providers that also have on-campus facilities, online students can access the same on-campus support and facilities as on-campus students
Link to external support agencies	<ul style="list-style-type: none"> • Connect students with external tutoring and study support agencies • Raising student awareness of external support agencies and providing them with relevant referrals (e.g. some students don't realise they can access additional support for needs such as LLND, dyslexia support, Auslan interpreters, interpreters if they are ESL etc.) • Pausing student enrolment so they can complete an upskill course (e.g. LLND) prior to completing qualification
Peer support	<ul style="list-style-type: none"> • Group assignments (including in-person in the workplace) to encourage peer support • Social media groups tend to be for peer support and connections • LMS discussion forums for both learning material support and peer connections

Good practice student support

Interviewees were invited to describe what they believed good practice student support entails, as well as to provide examples of specific interventions or student support strategies that have had a positive impact on students. The following themes emerged.

No one size fits all: individualised support

Individualised support was at the core of the successful interventions and student support strategies described by interviewees. This support is flexible and responsive to the individual student's needs, and often involved proactively making contact with the student (such as by phone, email or text message). Similarly, many training providers believed that good practice student support is based on the concepts of flexibility, responsiveness and individuality.

We have what we refer to as our pastoral care procedures and policies. And part of that is by recognising that each one of our students is an individual. They have environments and study conditions that are specific to them and it's about responding to that.

(Diploma of Accounting, large training provider)

Indeed, Ernst and Young (2021) suggested that offering targeted student support that caters to a variety of needs could be a post-pandemic focus for training providers, as identified in the student-focused research they conducted on behalf of ASQA.

While individualised support is likely to benefit students studying via any delivery mode, determining the needs of online students may be more challenging, highlighting the importance of effective communication.

Proactive contact, by student-preferred means

Proactively contacting the student was identified by many training providers, with some also highlighting the importance of understanding how students prefer to be contacted. For example, a small training provider delivering the Certificate III in Fitness found that emails and text messages were not as effective for their cohort, with phone contact being more effective.

Emails constantly to people or text messages don't seem to work with our cohort. That personal touch of somebody getting on the phone, making contact with them, providing empathy if they're having some personal problems and whatever. Giving them strategies on what they can do, how long they can defer for, or do they need to defer for a month, and provide them with any of those strategies.

(Certificate III in Fitness, small training provider)

Contacting students through phone calls was also highlighted by several other training providers as an effective channel for supporting students, although it was acknowledged that making actual contact – the student answering the phone – can be challenging.

Another training provider reflected on changes they have made to student communication, by moving away from automated emails and reverting to phone calls. There was a sense among many of the interviewees that emails were not an effective two-way communication channel. Text messages tended to be preferred by the training providers with a higher proportion of trainees (Certificate II in Community Pharmacy and Certificate III in Early Childhood Education and Care), and small-to-medium-sized training providers.

Support intervention examples

Support interventions and strategies reported by training providers as having a positive impact on students included:

- *Academic hotline*: an RTO delivering the Certificate III in Early Childhood Education and Care described their academic hotline as a useful tool for online students. The hotline provides students with quick access to learning support during normal business hours.
- *Mentors*: having a workplace mentor was described as important by several training providers, particularly those delivering the Certificate III in Early Childhood Education and Care and the Certificate III in Fitness.
 - *First nations mentors*: an RTO delivering training to First Nations students in the Northern Territory uses mentors or community Elders to speak with and assist in supporting students.
- *Out of hours or additional 1:1 sessions*: one training provider scheduled sessions on a Saturday to support a Diploma of Accounting student to catch up, after their studies had been impacted by a heavy workload. In another provider, an educator spent one day a week at a childcare centre to support a Certificate III in Early Childhood Education and Care student who was at risk of abandoning their studies due to personal stresses.
- *Student intervention plan*: this plan is implemented if a student has been disengaged through late or missed submissions, or is not accessing learning materials. After consulting with the student and identifying their support needs, this large training provider devises a plan with the student; it may include weekly check-ins with the educator, and/or milestones that need to be achieved in order for the student to be successful in their studies. As a part of this plan, the student is asked to sign a form demonstrating they understand the plan and that there will be consequences if they do not follow through.

Technology support for online students

While online students may need the same student support services as non-online students, it is possible, given the nature of the delivery mode, they will require additional technical support. The technological challenges described by the interviewees in this research encompassed: general technical issues; inadequate digital skills among some students; and/or students not having access to the required technology to successfully complete their online learning.

To support students who may lack the necessary digital skills, some training providers used an orientation session or orientation module to step the students through the ‘look’, ‘feel’ and functionality of the LMS. The format of these approaches varied between providers, and included:

- one-on-one session with the student
- introductory page in the LMS with a series of ‘how to’ videos and answers to FAQs
- readiness quiz to help students identify areas where they may struggle, and where to seek assistance
- upfront placement of digital units in the learning sequence (where qualification has digital units).

Students without access to the necessary technology for learning experienced issues such as unreliable and inadequate internet access (more common among remote students), and having to use a mobile phone or tablet for their study (instead of a laptop or desktop computer). To support students with these issues, educators suggested the following solutions:

- building relationships with local libraries to book computer rooms for students to use
- for training providers with a campus, encouraging online students to use on-campus computers
- printing hard copies of the materials for students (although this tended to be a last resort, and was not usually ‘advertised’ to students).

Comments about students lacking the appropriate technology for online training were more prevalent among training providers delivering the Certificate III in Early Childhood Education and Care, the Certificate III in Fitness and the Certificate II in Community Pharmacy.⁶ The Certificate III in Early Childhood Education and Care and the Certificate II in Community Pharmacy were both qualifications where the interviewed training providers had a relatively high number of trainees enrolled.

Measuring student satisfaction with support interventions

Collecting feedback from students via surveys at various points of their learning journey was the most common mechanism training providers used to evaluate student satisfaction with support (and other aspects related to their learning). While there was considerable variation between these training providers in terms of when and how often they surveyed students (table 14), almost all do conduct surveys in addition to the mandatory quality indicator survey.⁷

The National Student Outcomes Survey⁸ also provides information on student satisfaction with support services. The most recent data show relatively high student satisfaction with the support services accessed during online learning, with results ranging from around 75% satisfaction (for qualification part-completers) to 84% (for qualification completers, short course completers and short course part-completers) (table 15). Varying proportions of students experienced at least one challenge with online learning, ranging from 13% (for subject(s) only completers) to 44% (for qualification part-completers). The survey results indicated that the issues for the students included: unreliable internet at home; limited digital skills; and lack of support from trainers/teachers/instructors (NCVER 2022).

6 This was also a common barrier to delivering the Certificate II in Skills for Work and Vocational Pathways online. However, as most of the interviewed training providers were not delivering this qualification online (nor did they intend to), it has not been discussed in the context of challenges with online training.

7 Under the Data Provision Requirements 2020, all registered training organisations registered with ASQA are required to ask their students and employers for feedback. A summary of these responses is sent to ASQA every year. <<https://www.asqa.gov.au/rto/responsibilities/data-collection-and-provision/quality-indicator-annual-summary>>.

8 The National Student Outcomes Survey is an annual survey of students who completed their vocational education and training in Australia during the previous calendar year.

Table 14 Timing of student surveys that gather feedback on support and other aspects of training delivery

Time of the survey	Purpose
Survey at the end of each unit	Satisfaction/feedback surveys
Survey at the beginning and end of each term/semester	Satisfaction/feedback surveys
Surveys at key points in the student journey	<p>Shortly after enrolment to seek student feedback about:</p> <ul style="list-style-type: none"> the onboarding/orientation process how engaged the student is feeling in the course <p>About a quarter of the way through the course to gain student feedback on:</p> <ul style="list-style-type: none"> trainer knowledge if the student knows how to get help if the trainer is making the course fun and interesting if the student has adequate time to learn before assessment if the course is well administered if the student is given appropriate feedback if the student has the correct learning resources available <p>Halfway through the course to measure:</p> <ul style="list-style-type: none"> overall satisfaction with training satisfaction with support services if the training is making the student career-ready <p>A couple months after course completion to measure:</p> <ul style="list-style-type: none"> if the student gained employment if the student felt prepared for employment if the student would recommend the training provider
Quarterly surveys	Includes questions about trainers, visit frequencies (for trainees), if the student feels supported etc.
Survey after an assessment is handed up	A survey is automatically sent to the student when they submit an assessment
Survey after certain interactions with trainers/student support officers	Surveys are triggered after certain events, such as logging a ticket for support, or a phone call with a trainer

Table 15 Experiences and satisfaction with online learning (%)

	Qualification completers	Qualification part-completers	Short course completers	Short course part-completers	Subject(s) only completers
Undertook online learning	77.4	66.6	61.9	59.7	59.9
Satisfied with support services (during online learning)	83.9	74.6	83.9	83.7	81.0
Experienced at least one challenge with online learning	37.6	43.5	17.4	16.9	13.2
Unreliable internet at home	21.2	22.0	19.2	20.7	19.1
Limited digital skills	10.0	10.9	13.5	15.3	11.8
Lack of support from trainers/teachers/instructors	17.3	23.2	12.6	13.1	15.8

Note: in total, 216 162 VET students responded to the survey.

Source: NCVET (2022).



Trainers' skills gaps and overcoming them

Following the transition to online delivery during the COVID-19 pandemic, RTOs described some of the challenges their trainers had faced when adapting to the online training environment (Hume & Griffin 2022a). Similar findings were found in this current study.

RTOs described instances where some trainers were reluctant to move to online training due to a lack of understanding of this delivery mode.

So that's the irony of it. As before he was exposed to it, 'oh I don't want to do that crap, that's too hard', but within two weeks of doing it 'ohh wow, this is the best thing since sliced bread', so getting them to engage is difficult. Once they're engaged, they love it. But it's that change. The change management is very difficult.

(Certificate III in Electrotechnology electrician, medium training provider)

Issues such as this raise the question of potential skills gaps in these trainers. When asked about whether the trainers are appropriately skilled to provide quality support to students learning online, trainers identified the following as skills gaps in their specific RTOs.

Tech knowledge: IT skills and confidence

A key concern related to trainers' lack of expertise and confidence in managing the technology. Several themes emerged:

- adapting to a new way of working

You definitely have to be proficient with computers. We found some staff that haven't worked out, that's been one of their downfalls. You need to be able to multitask and on multiple screens and things like that. (Certificate III in Early Childhood Education and Care, large training provider)

- using the technology as a tool rather than letting it control the training

But what we really realised was it was exactly the same as what we were doing before [online vs face-to-face]. It's just that we needed to actually learn how to use everything on the online system. That was more the process. And yeah, being not scared of using the online system as a tool. It's just another tool. (Certificate III in Electrotechnology electrician, medium training provider)

- relaxing with the use of technology (needing to gain confidence)

Probably another thing [that] the teachers need to learn or be comfortable with is being online, and so you might be comfortable getting up in front of a class, but actually putting your face online. It's something some of our teachers are still to be confident with. They'll have a Zoom session, but they may not have their camera on the whole time. So, we're saying, just put it on. And when some of them are recording videos, they may do it 10 times over because they keep stuttering or they make a mistake. And I say to them, don't worry, if you were in class, you make mistakes, you might stutter or do whatever. It shows that you are human. We don't want to come across as robots. We're not someone just sitting behind the screen being automatic. We need to show that there is a human person on the other side of that computer, so it's getting our teachers used to that and that sort of methodology as well.

(Certificate III in Early Childhood Education and Care, large training provider)

- understanding of LMS functions and capabilities

All [learning management systems] are slightly different, it's a case-by-case basis. Most frustration is from trainers who find the LMS isn't doing what they want.

(Certificate III in Early Childhood Education and Care, medium training provider)

It was also noted that older and more traditional trainers found it challenging to adapt to the online environment. In addition, they found it difficult to communicate with the (often) younger cohorts in online delivery due to their lack of technology savviness.

Our other more traditional trainers who have been in the industry for a long time, they might not meet the needs of this demographic. [The] younger training team are more fluid, and youth are more responsive to them. [The] younger team moves with the times.

(Certificate II in Skills for Work and Vocational Pathways, medium training provider)

Learner engagement and motivating students

Engaging students and keeping them motivated in learning is a significant challenge in an online environment, particularly in asynchronous delivery (as discussed earlier). This was identified as a trainer skills gap by the interviewees.

I would say probably skill gaps in the way of how to get the students more inclined to actually join and attend a session. So what is the carrot that we can give to the student to do so, and there's so many different things you can do. (Certificate III in Fitness, large training provider)

It was noted that trainers tended to need more support with asynchronous delivery as they are generally more familiar with synchronous delivery, given it is more similar to in-person delivery.

Mental health supports to students

Students' wellbeing, particularly around mental health, was a key challenge during the pandemic (Forrest 2022). Several training providers in this current study reported that they've noticed an increase in students who are struggling with anxiety and depression, more so than in previous years. As was discussed previously, identifying and providing such support can be more challenging in the online learning environment. Indeed, some VET educators indicated that providing the right type of support to students with mental health issues was a skill gap for themselves, and/or others in their organisations.

I guess the gap that I keep hearing about is about students who have mental health issues and how they can manage that component because it's out of their control. It's not a technical thing but they still need to be able to support their students through whatever is happening. So, we've done programs like accidental counsellor. We've got trainers doing the mental health first-aid to hopefully get them up to speed with some tools that they can use and to help support them.

(Certificate III in Early Childhood Education and Care, medium training provider)

Support for trainers

Providers described a variety of resources put in place to support trainers in upskilling their proficiency in online training delivery. Common strategies adopted included:

- professional development (PD) sessions, often conducted internally, fortnightly or monthly, online or face to face. These PD sessions might include addressing the frequent troubleshooting questions that students contact head office about, LMS support and coaching (Certificate III in Early Childhood Education and Care, large training provider).

- assigning designated teams (such as an LMS support team, for example)

We are forever running professional development sessions with the staff, and we fund some of their external professional development, where perhaps they might attend webinars or they might attend industry events, where best practice for online learning based types of things [are presented].

(Certificate IV in Real Estate Practice, medium training provider)

So we had regular study sessions, training sessions available so they could log in to as many as they wanted to until they felt confident. Also, the compliance team created instruction sheets on nearly everything they needed to know, really basic instruction sheet set those out. We're still doing training. We haven't stopped.

(Certificate III in Early Childhood Education and Care, large training provider)

We have a quality team that delivers teacher training. So they're little short sessions, about half an hour to 45 minutes, can be done during lunch breaks.

(Certificate III in Early Childhood Education and Care, large training provider)

Communication, collaboration and mentoring sessions (both formal and informal) with the experts in their own teams or organisations were also identified by several educators as a response to help in minimising skills gaps. Training providers described various strategies to improve collaboration among their trainers, such as:

- allowing trainers to observe senior trainers (Certificate IV in Training and Assessment, medium training provider)
- attending conferences on online training delivery and assessment and relaying the information back to the teams (Certificate IV in Real Estate Practice, medium training provider)
- regular online team catch-ups with all the trainers, irrespective of the subjects they teach, including trainers in different states (Certificate III in Early Childhood Education and Care, large training provider).

Additional support mechanisms, such as online forums and digital toolboxes (with 'how to' videos, tips and tricks) have also been developed to help trainers.

Given the increasing use of online delivery, including in blended learning environments, some interviewees believed that the Certificate IV in Training and Assessment should provide more information on online delivery, suggesting there would be particular value in including a subject on online training and assessment in this qualification.

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Appendix A – Methodology

Project approach

The characteristics of teaching approaches and student support services in online delivery were examined through interviews, with a total of 37 RTOs who deliver at least one of the eight case-study qualifications identified for this research (table A1). Details on the methodology are provided below.

Selection of case-study qualifications

- The selection of qualifications was based on:
 - qualifications with relatively high numbers of enrolments and a reasonably even split between online and classroom-based delivery (although not necessarily applicable to apprenticeships and traineeships)
 - a spread of qualification levels and fields of education/industry areas
 - for apprenticeships and traineeships, inclusion of trade and non-trade qualifications
 - consultation with project sponsor and project advisory committee.

Additional notes for certain case-study qualifications

- *Certificate II in Community Pharmacy*: although enrolment numbers are not high by comparison with other qualifications, it has a reasonably even split of online and face-to-face delivery for a certificate II; high traineeship representation.
- *Certificate II in Skills for Work & Vocational Pathways*: does *not* have an even split of online and face-to-face training by comparison with other case-study qualifications (less online delivery). This qualification was included as the PAC and sponsor expressed an interest in exploring a qualification with higher equity group representation, and an interest in the foundation skills case study in Hume and Griffin (2022).
- *Certificate III in Electrotechnology Electrician*: does *not* have an even split of online and face-to-face training by comparison with other case-study qualifications (less online delivery). This qualification was included to provide insight into the suitability of online training delivery in apprenticeships.

Who we spoke with

- RTOs that deliver at least one of the case-study qualifications via face-to-face and online delivery were identified and invited to participate in the study. Several additional RTOs were recruited through referrals and recommendations.
- Interviewees included trainers and assessors, training managers, team leaders, education managers, and similar.
- RTOs were predominantly medium and large, with a few small RTOs.
- RTOs were located across Australia but concentrated in the Eastern states.

Table A1 Qualitative interviews

Qualification	No. of interviews	No. of RTOs	No. of interviewees
Certificate II in Community Pharmacy	2	3	4
Certificate II in Skills for Work and Vocational Pathways	6	6	6
Certificate III in Early Childhood Education and Care	5	5	6
Certificate III in Electrotechnology Electrician	4	5	5
Certificate III in Fitness	5	5	6
Certificate IV in Real Estate Practice	3	3	4
Certificate IV in Training and Assessment	3	3	3
Diploma of Accounting	4	4	4
Other	3	3	3
Total	5	37	41

Notes: 'Other' includes interviews conducted with individuals who did not deliver any of the case-study qualifications but were able to contribute to the knowledge base around teaching practices and student support for online delivery of VET.

Interviews and data analysis

- Interviews were conducted between July and September 2022.
- Most interviews were conducted by video (Microsoft Teams) and a small number by phone. They were 45–60 minutes in duration.
- Interview transcripts were imported in NVivo (a qualitative data analysis software package). NVivo was used as a data-management tool and for analysing the interview transcripts.
- Interviews were semi-structured with no preconceived ideas of the teaching practices and support services used for online delivery. Interviewees were asked to describe what they thought constituted good practice in online delivery and student support (including the characteristics of these) and probed with further questions to elicit additional detail/information where appropriate. NVivo was used to code the concepts in each transcript, followed by an iterative process to identify the themes emerging from the interview data.

Challenges and limitations

- Recruitment challenges:
 - Consultation fatigue: RTOs are the focus of many research projects.
 - Only a small number of RTOs deliver the Certificate II in Community Pharmacy.
- The case-study qualifications in this qualitative study are not intended to be representative of all VET qualifications.
- The small number of interviews per case-study qualification means that these examples are not necessarily representative of how all RTOs deliver these qualifications.
- The student perspective on good practice online teaching and student support was not in scope for this project. This would be worthy of future research.



Appendix B – Delivery of subjects associated with case-study qualifications

Table B1 Subject enrolments in the Certificate II Community Pharmacy, 2019–21¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	2 344	45.60	1 953	33.15	1 718	28.54
Online only	1 543	30.02	2 557	43.40	2 412	40.07
Online in combination with another mode (blended) ³	1 219	23.72	1 381	23.44	1 866	31.00
Not applicable (RPL or credit transfer)	34	0.66	1	0.02	24	0.40
Gender						
Males	387	7.53	465	7.89	580	9.63
Females	4 563	88.77	5 410	91.82	5 438	90.33
Other	0	0.00	0	0.00	0	0.00
Not known	190	3.70	17	0.29	2	0.03
Indigenous status						
Indigenous	415	8.07	308	5.23	313	5.20
Non-Indigenous	4 316	83.97	5 320	90.29	5 444	90.43
Not known	409	7.96	264	4.48	263	4.37
Disability status						
With a disability	562	10.93	595	10.10	547	9.09
Without a disability	3 992	77.67	4 892	83.03	5 145	85.47
Not known	586	11.40	405	6.87	328	5.45
English-speaking background (based on country of birth)						
English-speaking background countries	3 804	74.01	4 773	81.01	4 818	80.03
Non-English-speaking background countries	865	16.83	823	13.97	1 032	17.14
Not known	471	9.16	296	5.02	170	2.82
Total	5 140	100.00	5 892	100.00	6 020	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B2 Subject enrolments in the Certificate II in Skills for Work and Vocational Pathways, 2019–23¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	377 961	92.24	389 307	87.54	409 722	88.54
Online only	20 130	4.91	30 333	6.82	31 212	6.74
Online in combination with another mode (blended) ³	10 540	2.57	23 232	5.22	21 043	4.55
Not applicable (RPL or credit transfer)	1 137	0.28	1 836	0.41	786	0.17
Gender						
Males	207 154	50.55	236 851	53.26	246 155	53.19
Females	180 193	43.97	206 741	46.49	214 610	46.38
Other	224	0.05	233	0.05	692	0.15
Not known	22 197	5.42	883	0.20	1 306	0.28
Indigenous status						
Indigenous	44 345	10.82	47 400	10.66	52 311	11.30
Non-Indigenous	309 094	75.43	365 182	82.12	383 699	82.91
Not known	56 329	13.75	32 126	7.22	26 753	5.78
Disability status						
With a disability	34 970	8.53	32 564	7.32	37 111	8.02
Without a disability	330 080	80.55	370 500	83.31	391 451	84.59
Not known	44 718	10.91	41 644	9.36	34 201	7.39
English-speaking background (based on country of birth)						
English-speaking background countries	348 571	85.07	392 618	88.29	412 178	89.07
Non-English-speaking background countries	24 655	6.02	22 088	4.97	22 250	4.81
Not known	36 542	8.92	30 002	6.75	28 335	6.12
Total	409 768	100.00	444 708	100.00	462 763	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B3 Subject enrolments in the Certificate III in Fitness, 2019–23¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	124 695	38.68	137 566	37.91	75 617	18.00
Online only	76 638	23.77	84 089	23.18	139 640	33.23
Online in combination with another mode (blended) ³	115 518	35.83	136 687	37.67	199 621	47.51
Not applicable (RPL or credit transfer)	5 566	1.73	4 491	1.24	5 315	1.26
Gender						
Males	166 761	51.72	190 118	52.40	221 105	52.62
Females	152 096	47.17	171 789	47.35	197 730	47.06
Other	123	0.04	71	0.02	403	0.10
Not known	3 437	1.07	855	0.24	955	0.23
Indigenous status						
Indigenous	322 417	100.00	362 833	100.00	420 193	100.00
Non-Indigenous	260 840	80.90	322 213	88.80	376 059	89.50
Not known	47 454	14.72	26 176	7.21	27 675	6.59
Disability status						
With a disability	13 043	4.05	15 004	4.14	18 245	4.34
Without a disability	256 754	79.63	317 555	87.52	371 031	88.30
Not known	52 620	16.32	30 274	8.34	30 917	7.36
English-speaking background (based on country of birth)						
English-speaking background countries	260 954	80.94	310 092	85.46	359 197	85.48
Non-English-speaking background countries	25 218	7.82	27 942	7.70	33 469	7.97
Not known	36 245	11.24	24 799	6.83	27 527	6.55
Total	322 417	100.00	362 833	100.00	420 193	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B4 Subject enrolments in the Certificate III in Early Childhood Education and Care, 2019–23¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	291 351	59.24	239 511	48.48	279 659	48.52
Online only	77 490	15.76	96 258	19.48	102 219	17.73
Online in combination with another mode (blended) ³	121 014	24.61	156 545	31.68	191 718	33.26
Not applicable (RPL or credit transfer)	1 968	0.40	1 758	0.36	2 833	0.49
Gender						
Males	20 781	4.23	20 789	4.21	23 180	4.02
Females	465 434	94.63	471 985	95.53	551 375	95.65
Other	47	0.01	53	0.01	140	0.02
Not known	5 561	1.13	1 245	0.25	1 734	0.30
Indigenous status						
Indigenous	31 925	6.49	29 757	6.02	30 801	5.34
Non-Indigenous	434 868	88.42	443 043	89.67	521 683	90.50
Not known	25 030	5.09	21 272	4.31	23 945	4.15
Disability status						
With a disability	40 743	8.28	41 122	8.32	46 831	8.12
Without a disability	411 002	83.57	415 513	84.10	485 903	84.30
Not known	40 078	8.15	37 437	7.58	43 695	7.58
English-speaking background (based on country of birth)						
English-speaking background countries	324 831	66.05	334 211	67.64	385 096	66.81
Non-English-speaking background countries	140 549	28.58	136 804	27.69	164 111	28.47
Not known	26 443	5.38	23 057	4.67	27 222	4.72
Total	491 823	100.00	494 072	100.00	576 429	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B5 Subject enrolments in the Certificate III Electrotechnology (Electrician), 2019–21¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	145 682	65.89	145 169	64.12	166 864	64.46
Online only	1 590	0.72	566	0.25	305	0.12
Online in combination with another mode (blended) ³	66 953	30.28	69 609	30.75	76 706	29.63
Not applicable (RPL or credit transfer)	6 890	3.12	11 048	4.88	14 972	5.78
Gender						
Males	212 625	96.16	216 647	95.70	247 240	95.52
Females	7 985	3.61	9 212	4.07	11 095	4.29
Other	0	0.00	4	0.00	133	0.05
Not known	505	0.23	529	0.23	379	0.15
Indigenous status						
Indigenous	6 949	3.14	7 079	3.13	8 291	3.20
Non-Indigenous	208 737	94.40	213 415	94.27	242 612	93.73
Not known	5 429	2.46	5 898	2.61	7 944	3.07
Disability status						
With a disability	5 394	2.44	5 318	2.35	6 243	2.41
Without a disability	207 410	93.80	214 045	94.55	242 427	93.66
Not known	8 311	3.76	7 029	3.10	10 177	3.93
English-speaking background (based on country of birth)						
English-speaking background countries	199 280	90.13	204 563	90.36	233 776	90.31
Non-English-speaking background countries	16 223	7.34	18 011	7.96	21 557	8.33
Not known	5 612	2.54	3 818	1.69	3 514	1.36
Total	221 115	100.00	226 392	100.00	258 847	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B6 Subject enrolments in the Certificate IV Real Estate, 2019–23¹

	2019 ²		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ³	-	-	3 084	8.21	29 670	15.59
Online only	-	-	18 469	49.16	107 729	56.61
Online in combination with another mode (blended) ⁴	-	-	10 679	28.43	42 886	22.54
Not applicable (RPL or credit transfer)	-	-	5 335	14.20	10 004	5.26
Gender						
Males	-	-	16 835	44.81	83 958	44.12
Females	-	-	20 038	53.34	101 571	53.38
Other	-	-	90	0.24	192	0.10
Not known	-	-	604	1.61	4 568	2.40
Indigenous status						
Indigenous	-	-	592	1.58	5 523	2.90
Non-Indigenous	-	-	33 397	88.90	163 880	86.12
Not known	-	-	3 578	9.52	20 886	10.98
Disability status						
With a disability	-	-	869	2.31	5 538	2.91
Without a disability	-	-	34 352	91.44	155 208	81.56
Not known	-	-	2 346	6.24	29 543	15.53
English-speaking background (based on country of birth)						
English-speaking background countries	-	-	24 275	64.62	129 412	68.01
Non-English-speaking background countries	-	-	8 883	23.65	44 726	23.50
Not known	-	-	4 409	11.74	16 151	8.49
Total	-	-	37 567	100.00	190 289	100.00

Notes: 1. Table includes domestic students only.
 2. No enrolments were recorded in 2019 as this qualification superseded several older qualifications that were not equivalent.
 3. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.
 4. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B7 Subject enrolments in the Certificate IV Training and Assessment, 2019–23¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	110 092	35.70	90 012	35.76	82 276	30.94
Online only	57 204	18.55	65 164	25.89	67 018	25.20
Online in combination with another mode (blended) ³	117 306	38.04	85 853	34.11	106 207	39.94
Not applicable (RPL or credit transfer)	23 783	7.71	10 671	4.24	10 420	3.92
Gender						
Males	152 330	49.40	115 917	46.05	121 771	45.79
Females	147 929	47.97	129 821	51.58	141 013	53.03
Other	70	0.02	73	0.03	160	0.06
Not known	8 056	2.61	5 889	2.34	2 977	1.12
Indigenous status						
Indigenous	7 998	2.59	5 941	2.36	7 237	2.72
Non-Indigenous	263 150	85.33	210 129	83.48	235 000	88.37
Not known	37 237	12.07	35 630	14.16	23 684	8.91
Disability status						
With a disability	10 712	3.47	9 644	3.83	11 275	4.24
Without a disability	260 148	84.36	212 256	84.33	225 092	84.65
Not known	37 525	12.17	29 800	11.84	29 554	11.11
English-speaking background (based on country of birth)						
English-speaking background countries	243 953	79.11	183 805	73.03	203 335	76.46
Non-English-speaking background countries	33 598	10.89	31 426	12.49	40 748	15.32
Not known	30 834	10.00	36 469	14.49	21 838	8.21
Total	308 385	100.00	251 700	100.00	265 921	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.

Table B8 Subject enrolments in the Diploma of Accounting, 2019–23¹

	2019		2020		2021	
	N	%	N	%	N	%
Delivery mode						
No online delivery ²	5 014	57.64	4 328	37.16	2 733	24.29
Online only	2 277	26.18	5 033	43.21	5 975	53.11
Online in combination with another mode (blended) ³	1 184	13.61	1 864	16.00	2 448	21.76
Not applicable (RPL or credit transfer)	224	2.58	423	3.63	95	0.84
Gender						
Males	2 406	27.66	3 370	28.93	2 753	24.47
Females	6 254	71.89	8 258	70.90	8 381	74.49
Other	10	0.11	1	0.01	3	0.03
Not known	29	0.33	19	0.16	114	1.01
Indigenous status						
Indigenous	117	1.34	221	1.90	210	1.87
Non-Indigenous	8 272	95.09	10 880	93.41	10 205	90.70
Not known	310	3.56	547	4.70	836	7.43
Disability status						
With a disability	607	6.98	830	7.13	807	7.17
Without a disability	7 632	87.73	10 257	88.06	9 466	84.13
Not known	460	5.29	561	4.82	978	8.69
English-speaking background (based on country of birth)						
English-speaking background countries	5 007	57.56	6 751	57.96	6 760	60.08
Non-English-speaking background countries	3 630	41.73	4 568	39.22	4 047	35.97
Not known	62	0.71	329	2.82	444	3.95
Total	8 699	100.00	11 648	100.00	11 251	100.00

Notes: 1. Table includes domestic students only.

2. The category 'no online delivery' combines the delivery modes of internal only, workplace-based only, and combination of internal and workplace-based.

3. The category 'online in combination with another delivery mode' includes the delivery modes of combination of internal and external, combination of external and workplace-based, and combination of all modes.

Source: NCVET Total VET Students and Courses, 2019–21.



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