

COVID - 19 the catalyst for a new paradigm in vocational education and training

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This paper examines the response by a Vocational Education and Training (VET) provider in the Northern Territory (NT) of Australia to the travel and social distancing restrictions brought about by COVID-19. The paper commences with a description of the impact of COVID-19 on the VET sector. The paper then describes the VET regulatory environment prior to February 2020 and the responsibility of VET providers to comply with the requirements of the Australian Skills Quality Authority (ASQA), in the delivery of VET programs to domestic and international students. A discussion of the lack of a specific vocational education pedagogy, the complexity of delivering VET programs online as well as current research findings in this area follows.

A description of the College provides the context to examine the impact of COVID-19 on the delivery of programs in the Northern Territory VET sector. The paper describes how the College, which had a high international student cohort, migrated their courses online in order to remain viable in the highly volatile

and unforeseen circumstances brought about by COVID-19. In order to ascertain the effectiveness of the online delivery of course offerings, a questionnaire and a series of face to face and telephone interviews were conducted with key stakeholders. The mixed method approach employed in this research was consistent with contemporary social and educational research. The paper concludes with the call for a new paradigm and policy shift in Vocational Education and Training post COVID-19.

Keywords: *vocational education and training, online, COVID-19, Northern Territory, international students*

Introduction

COVID-19, the highly infectious respiratory virus was first detected in Wuhan, China in November 2019. The spread of the virus was rapid, extensive and unprecedented. In March 2020, in an attempt to minimise the spread of the virus, Australia's Federal Government implemented wide ranging travel and social distancing restrictions. The education sector was particularly adversely affected by the embargo that closed Australia's borders to international travellers (Go8, 2020). The requirement of people to maintain a physical separation of 1.5 metres also made face to face delivery of educational programs difficult. In a relatively short space of time the post compulsory education sector, comprising Vocational and Higher Education, experienced a significant loss of student enrolments and consequent income. The lucrative international student market that had become, for many education providers, a significant revenue stream diminished almost overnight (Doughney, 2020; IBISWorld, 2020). In order to remain financially viable and to comply with social distancing requirement, many institutions in the post-compulsory education sector embraced online learning as their main mode of delivery (IBISWorld, 2020). This transition from face to face classes to computer mediated instruction was particularly challenging for the Vocational Education and

Training (VET) sector.

Consequently, the key objective of this paper is to ascertain the effectiveness of the online delivery of VET courses in Australia by exploring the experiences of students and staff of a selected College as an exemplar. This was considered in the context of challenges presented by COVID19. The paper explored the following research questions:

1. What is the student perception of online learning?
2. What is the student experience of online learning?
3. What are the views of staff of online learning?

The primary data for this research was collected by using a mixed methods approach. The methodology of combining both quantitative and qualitative data is consistent with contemporary social and educational research as it encompasses multiple perspectives and often results in a more informative, complete, balanced, and useful research results (Onwuegbuzie & Combs, 2011).

Literature review

Vocational Education, as distinct from Higher Education, has customarily focused on the development of practical, work orientated skills (Misko, 2006). Assessment in the VET sector is highly oriented towards demonstrated competence, or the ability to perform work related skills that conform to industry standards (Ewing, 2017; Griffin & Mihelic, 2019; Williams & Batement, 2003). As Griffin and Milelic (2019:10) postulated, “the integrity and ultimate success of the [VET] sector is based on students demonstrating they are competent in skills that can be transferred directly to the workplace”. Consequently, the delivery and assessment of VET qualifications has traditionally been via face to face delivery.

In 2003, research revealed that “....the available statistics show very small numbers undertaking [VET] modules in an

online mode” (Hill et al., 2003). As of 2017 the proportion of VET qualifications conducted online was still relatively small. It was estimated that approximately only 8.6 per cent of all VET program commencements were in courses delivered fully online (Griffin & Mihelic, 2019). Entrenched perceptions of how VET should be delivered and assessed helped to constrain a more significant adoption of online learning (Bound, 2011; Brennan et al., 2003; Griffin & Mihelic, 2019) .

The regulation requirements of the Australian Skills Quality Authority (ASQA) also restricted the online delivery of VET qualifications to international students (Australian Skills Quality Authority, 2019). It is important to note that VET providers were compelled to comply with the Education Services for Overseas Students Act 2000 (ESOS Act); the National Code of Practice for Providers of Education and Training to Overseas Students 2018 and the National Vocational Education and Training Regulator Act 2011, which stipulated that international students were required to attend a minimum of 20 scheduled course contact hours per week (Australian Skills Quality Authority, 2019). ASQA also specified that two thirds of the VET units of competency must be provided face to face. This requirement unambiguously excluded online delivery and distance education as the main means of delivery. Consequently, only a few VET providers with a high international student cohort embraced online learning as a mode of delivery. However, in March 2020 ASQA announced that they did not intend to pursue regulatory action against providers that were implementing online learning in response to the COVID-19 travel and social distancing restrictions (Australian Skills Quality Authority, 2020). This announcement changed the landscape of VET delivery overnight.

Vocational education, pedagogy and online delivery

In the delivery of vocational education a range of pedagogies are utilised. Some of these are explicit and embody formative classroom learning. Others are much less so and encompass a range of approaches that include, but are not limited to, work experience, on the job tuition and simulations (Ewing, 2017; Lucas, 2010). Unlike higher education, vocational education includes... learning which is formal and informal, assessed and not assessed and can be experienced in a range of settings and learned in a variety of ways. However, evidence suggests that serious consideration of pedagogy is largely missing in vocational education (Lucas et al., 2012). Consequently, the role and nature of a vocational education specific pedagogy is a much contested topic (BIS, 2010; Lucas et al., 2012). As NCVET stated (2010:9), “Defining VET [pedagogy] is a topic that prudent commentators avoid”.

According to Dickettes (cited in Lucas et al., 2012:23), “There is currently a lack of widely accepted vocational pedagogy, partly because the sector is constantly changing, so the ground rules for vocational education change”. The relaxing of the regulatory environment around the delivery of online education to international students has added another dimension to the complexity of this issue.

A 2019 report commissioned by NCVET, revealed that the online delivery of VET has mixed outcomes (Griffin & Mihelic, 2019). According to the report, VET online is characterised by higher subject withdrawal rates and lower course completion rates (Griffin & Mihelic, 2019). However, the employment outcomes for graduates of online courses were similar to, or slightly better than, those of graduates of courses delivered via other modes. Nonetheless, online delivery and effective vocational education are not mutually exclusive. There are many commonalities between successful online delivery and best practice vocational education and training.

Griffin and Mihelic (2019:3) identified five key factors that contribute to good practice in online course delivery: positive, supportive training providers, students with realistic expectations, well-structured and up-to-date resources catering to a range of learning preferences, effective student support systems, and skilled, empathetic trainers with good problem-solving skills. Lucas et al (2012:117) postulate that effective vocational teaching "... requires a blend of hands-on or first-hand learning with critical reflection, collaboration and feedback in the context of strong relationship between teacher and taught.

As Lucas et al (2012:59) argued:

Perhaps even more importantly than the choice of any specific method is the engagement of the learner in whatever is being learned. This depends fundamentally on the quality of human relationship established between teacher and taught. It requires understanding of the learner's needs. It requires the presence of teachers who model the kinds of behaviours required to produce desirable outcomes. And it requires high levels of trust and the creation of an environment in which mistakes and errors are expected and seen as a source of learning. Drawing on the identified key factors that contribute to good practice in online delivery, a private VET provider in the NT, at the height of the COVID pandemic, migrated its face to face courses to an online platform. The following exploratory study details the student and staff experience of implementing, teaching and studying VET online.

A registered training organisation in the Northern Territory

The College for this study is a private VET provider that delivers courses from its main campus in Darwin, Northern Territory. The College was established in October 2010 and commenced its face to face courses with a modest enrolment

of two domestic students. They initially delivered security courses; first aid; and training and assessment. By end of 2011 they had 15 qualifications on scope. As of 2020 they had scope registration for 28 qualifications. The registration included courses from the Training and Education Training Package, Business Services Training Package and Community Services Training Packages. As of April 2020, the College had 592 students and they employed seven permanent staff and eight part time consultants to assist with the training of their students.

In 2017, the College applied for registration on the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS). The application took 12 months to submit and gain approval. Once registered, the College aggressively marketed its courses to international students. As of January 2020 their enrolment included 145 international students from 45 different countries. International students constituted approximately 24.5 per cent of their total student enrolment. The CRICOS courses they offered include Advanced Diploma of Leadership and Management, Diploma of Leadership and Management, Diploma of Project Management, Certificate IV in Project Management, Certificate III and Diploma of Early Childhood Education and Care, Certificate III in Individual Support and Certificate IV in Ageing Support. They also offered the Diploma of Community Services. Prior to COVID-19 all courses were delivered face to face. As a direct response to the measures mandated by the NT and Federal Government to mitigate the contagion of COVID-19, the College suspended the delivery of all of their face to face programs in March 2020.

Online delivery at the college

In order to remain financially viable, the College's Chief Executive Officer (CEO) applied for a grant from the NT Government [COVID-19] Small Business Survival Fund, to migrate their term two 2020 courses on to Moodle, an

online learning platform. A local consultant with extensive experience in online curriculum development in the post compulsory education sector, was employed to project manage the design, development and implementation of nine qualifications. All courses had a relatively high international student cohort.

Knowledge and experience of the VET sector enabled the consultant to design a Moodle learning management system that was logical, interactive and vocational education specific. Consistent with best practice instructional design, the online courses embodied a constructivist approach (Davey et al., 2019). The sites also had an applied learning focus.

According to Downing and Herrington (2013):

The term ‘applied learning’ evokes images of learning trade skills with your hands. Theoretically, it is most closely aligned with experiential learning (Dewey, 1938, Kolb, 1984), and is commonly associated with vocational and post-compulsory education. Applied learning pedagogy emphasises connections between what is being learnt and the ‘real world’ of work, focussing on the knowledge and skills that will be required in the discipline.

The online sites utilised both synchronous and asynchronous learning activities. Discussion boards, videos, “live” classrooms, multiple choice quizzes and extensive web and print based resources complemented regular student teacher online interaction. Consequently, the learning sites were media rich, interactive and designed to accommodate a range of learning styles (Davey et al., 2019).

A team based approach was adopted in the development of the sites. Trainers, administration staff, students and the College management collaborated with the developer to produce the online courses that would meet the needs

of multiple stakeholders. This approach enabled the integration of the factors identified by Griffin and Mihelic (2019:3) that were key to the successful delivery of online learning. As Davey, Elliott and Bora (2019:17) posited, collaboration promotes positive outcomes. Therefore a systematic approach was adapted to determine if “...applied learning principles were being enacted successfully within the [online] program and students were satisfied with their experience” (Downing and Herrington, 2013:244).

The migration of nine qualifications on to Moodle enabled the College to meet its term two teaching and learning commitments via an online learning environment. Eight of the qualifications were delivered entirely online and one was delivered in a mixed mode. Eight trainers were based in Darwin and one trainer taught online from New Zealand.

Methodology

Primary data for this research was collected by using a mixed method approach. The mixed methodology is consistent with contemporary social and educational research. Broadly speaking, a mixed analysis involves using quantitative and qualitative data analysis techniques within the same study (Onwuegbuzie & Combs, 2011). It is a synthesis that contains ideas from qualitative and quantitative research and involves mixing or combining quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study (Onwuegbuzie & Combs, 2011). According to Salehi and Golafshani: Quantitative method includes numerical values and measurement which help researchers to describe and determine some patterns, such as human’s social patterns, using deductive logic. Qualitative method deals with interpretation and exploration which guide researchers to understand and explain events and occurrences, such as human phenomenon from the social patterns (2010:187). Although mixed methods research is not a new research paradigm it has, according to Onwuegbuzie, Turner and

Johnson (2007), arisen because of an inherent “tension” between quantitative research and qualitative research methods. Qualitative research, alone, has received criticism in the past with issues based on questions of clarity, methodological transgressions and insufficient justification for the mixing of methodological approaches (Goulding, 1999). However, neither a qualitative nor a quantitative methodological approach has universal applicability (Patton, 1980). Thus, combining both methodologies and interpreting both primary and secondary data, together is expected to be more fruitful. Mixed methods recognise the importance of traditional quantitative and qualitative research but also offer a third paradigm choice that often results in a more informative, complete, balanced, and useful research results (Onwuegbuzie et al., 2007:129).

The advantages of employing mixed research methodology have been well documented (Pole, 2007; Rossman & Wilson, 1985; Sieber, 1973). A widely recognised significant advantage of incorporating both quantitative and qualitative data analysis in a single study is that it can provide for stronger inferences because the data are looked at from multiple perspectives (Onwuegbuzie & Combs, 2011; Pole, 2007). Mixed methods also enable the researcher to simultaneously answer confirmatory and exploratory questions (Pole, 2007); triangulate the research data (Onwuegbuzie & Combs, 2011); and examine processes and experiences along with outcomes (Klassen et al., 2012).

Primary data to explore the research questions was collected through a self-reporting questionnaire and in-depth interviews. A short questionnaire was developed to seek the views of students. The survey questions were adapted from a study conducted by Downing and Herrington (2013:244) to determine if “...applied learning principles were being enacted successfully within the [online] program and students were satisfied with their experience”. A five-point Likert scale was used for respondents to express their level of agreement with the statements. The following aspects

of student perception and experience with online learning were highlighted in the questionnaire:

1. Easy access and use of online learning;
2. Logical structure of online learning;
3. Variety and relevance of online learning materials;
4. Opportunity for regular interaction with teaching staff;
5. Opportunity for regular interaction with other students;
6. Opportunity for sharing personal experiences with peers and teaching staff;
7. Learning and assessment tasks linked to a real-world setting;
8. Opportunity to develop academic skills;
9. Meeting personal learning needs;

A self-selected cohort of 30 students across six online courses initially participated in an online survey. An analysis of the student demographics indicated they were representative of students enrolled in the online courses. Twenty-two students complete the survey which indicated a response rate of 66.6 per cent. Approximately 27.3 per cent of survey respondents were enrolled in Certificate III Early Childhood Education and Care, 18.2 per cent were undertaking a Diploma of Early Childhood Education and Care; 18.8 per cent were enrolled in Certificate IV in Ageing Support and the remaining students were enrolled in either the Diploma of Community Service or the Diploma of Leadership and Management. All of the survey respondents were international students studying full time.

A series of face to face and telephone interviews were also conducted with students and staff to collect qualitative data. The self-selected interview participants included students, trainers, key management personal and administration staff. A total of 25 interviews were conducted over the course of four weeks. The interviews were conducted by the principal researcher. In order to enhance the validity and

credibility of the research findings the data was triangulated through interviews, a questionnaire and observations.

Research findings and discussion

Quantitative data: As indicated in Table 1, the student's perception and experience of online learning was generally, very positive. Approximately 73 per cent of survey respondents indicated that their learning needs were met whilst studying online. With the exception of a minority of students, the survey participants found that online learning was easy to access and use, it was logically structured and provided a variety of relevant learning materials. Significantly, the online environment provided opportunities for interaction and collaboration with teaching staff and other students. More than 85 per cent of students indicated that the online material provided relevant, real world learning experiences and assessment tasks. In excess of 68 per cent of respondents indicated they had also developed academic skills in the online environment.

Table 1: *Students perceptions and experience of online line learning*

	% Strongly Disagree	% Disagree	% Neither Agree or Disagree	% Agree	% Strongly Agree
Online learning was easy to access and use	9.09	4.55.	4.55	45.45	36.36
Online learning was logically structured	9.09	4.55	9.09	40.91	36.36
Online learning provided a variety of relevant learning materials	9.09	0.00	9.09	50.00	31.82
Online learning provided an opportunity for regular interaction with teaching staff	4.55	13.64	9.09	31.82	40.91
Online learning provided an opportunity for regular interaction with other students	9.09	27.2	0.00	45.45	18.18
Online learning provided an opportunity for sharing my own experiences with peers and teaching staff	4.55	4.55	13.64	45.4	31.82
Online learning provided learning and assessment tasks that reflect the way knowledge will be used in a real-world setting	4.55	4.55	4.55	63.64	22.73
Online learning provided an opportunity to develop academic skills	4.55	13.64	13.64	45.4	22.73
Met my learning needs	4.55	4.55	18.18	36.36	36.36

Qualitative data:

Despite some initial trepidation on behalf of the trainers, the staff and students adapted quickly to the online environment. The trainers had regular, scheduled live online workshops which promoted a high level of student engagement, interactivity with the learning material and enabled staff to develop a rapport with students.

According to the students comments the benefits of studying online included, “It is more study friendly; It’s an awesome platform for students to connect with trainers in spite of this COVID; [Enables] self-discipline and responsibility; [The material is] Practical.” Students also mentioned the flexibility of studying online– their comments included “Flexible Accessible learning materials, Flexible schedules; More flexibility; More work gets done [because of the flexibility].”

The students description of the online study experience is captured through comments such as:

Great and manageable since instructor is effective and Moodle is easy to use; Fantastic because they still giving us opportunity to interact in the class; Good. Group assignments required us to interact with fellow students; Had no trouble with Moodle platform; It was great experience for me; I’m really loving this online learning.

It is important to acknowledge that the online environment was not the preferred mode of delivery for all students. Some students preferred the face to face learning experience. Adverse student comments included “Sometimes [studying online] is very boring; Many hindrances at home; I prefer face to face lessons; It’s good but I still prefer to go to class.”

From the trainers perspective most interviewees felt that the transition to online learning environment was successful. Comments indicated that although some trainers experienced “...a big learning curve” in adapting to the online teaching environment the benefit to students outweighed their initial misgivings. Trainers acknowledged that whilst it was “...harder to build a rapport with students online” and staff had to “...work hard to keep students engaged” the trainers were “extremely satisfied with the students enthusiasm.”

As indicated in the literature, a trainer's knowledge, attitude and commitment is integral to the successful transition to the online environment (Lucas et al 2012:59). As one trainer reported "[Success] relies on a teacher's perseverance and passion to engage students online". The trainers also reported that "students felt supported [in the online environment]; staff had more contact with individual students. [I was able to provide] individual support through more out-of-class contact".

From an administration and management perspective the introduction of the learning management system precipitated a new and effective business model for the College. According to a key stakeholder responsible for Domestic and International Operations, the online platform enhanced the facilitation and administration of courses including student enrolment, the delivery of learning materials as well as the management of assessment items. The platform also enabled greater visibility of student progress through the tracking of attendance and engagement online. Both staff and senior administration also reported a significant drop in the student attrition rate. The College maintained 100 per cent of their student enrolments when they went online.

Conclusion

In 2020, the travel and social distancing restrictions instituted to mitigate the spread of COVID-19 provided the catalyst for the College, a NT VET provider with a significant domestic and international student cohort, to implement an online learning platform. Prior to COVID-19 the VET regulatory environment restricted online delivery and distance education as the main means of educational delivery. Consequently, the online delivery of VET programs nationwide was relatively small. However, in recognition of the impact of social distancing restrictions on the delivery of post-secondary education, the regulatory regime relaxed the restrictions around online learning in the

VET sector.

In order to remain financially viable and to meet their commitment to their enrolled student cohort, the College engaged the services of a consultant with extensive experience in online curriculum development. In consultation with key stakeholders an online platform was developed that embodied best practice instructional design, curriculum development and applied learning. A total of nine qualifications were migrated online. The courses went live in April 2020.

The findings of this exploratory study indicated that the majority of students and staff adapted quickly to the online environment. Furthermore, the qualitative data indicated, the key to the success of the project was the commitment, passion and knowledge of the trainers; an emphasis on connections between what is being learnt and the 'real world' of work; and a collaborative problem solving approach that sought pedagogical and technical solutions to the challenges encountered (Davey et al., 2019; Downing & Herrington, 2013; Lucas, 2010).

Whilst the findings of this study posit a positive response to studying online, the small cohort involved in the study and the limited scope of the courses involved prohibit a generalisation of the findings to the broader VET sector. Additional research is required to extend this study and to inform the direction of VET online. However, this exploratory paper has highlighted complex and dynamic environment of the VET sector where the nexus of theory and practice is fundamental to the pedagogy of vocational education regardless of the mode of delivery.

For the foreseeable future the educational environment precipitated by COVID-19 will remain volatile and uncertain. The COVID-19 induced extraordinary events caused chaos and uncertainty placing the entire VET sector in a period of massive flux. Registered Training Organizations (RTOs) were forced to review and recalibrate

their course delivery strategies to use and allocate available resources to accommodate this changing environment. Consequently, as VET online becomes the 'new normal' further research in this area is warranted. As evidenced by this study not all students will embrace online learning and not all VET courses will migrate easily into the online environment. However, efficient online delivery is dependent upon many factors including the effectiveness of lecturers to engage students in the online environment, access to reliable internet services, understanding how to use technological tools, and student's capabilities to adjust to a different mode of delivery (Grimmer, Pollard, and Rolls, 2020).

The VET sector in Australia is not immune to challenges. Historically, the VET sector challenges included the reduction of Commonwealth and State funding, deregulation of the VET industry, and the demise of many TAFE institutions. Although the sector has a short-term uphill battle to economic recovery, it can be profitable and sustainable with appropriate changes to course delivery. In the coming years, there will be opportunities for VET providers to regroup and review to deliver services that their domestic and international customers want. However, in order to remain viable, VET practitioners, managers and students will have to incorporate a paradigm that includes effective, engaging online course delivery that meets the needs of all stakeholders.

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