

How are vocational institutions innovating, evolving and changing as a result of Covid-19?

A study of practice and perspectives in five countries

June 2021



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Foreword

The British Council is committed to working in partnership to develop high-quality skills systems that help both individuals and economies to prosper and promote stable societies. We share knowledge and good practice and enhance skills systems by encouraging closer links between education, employers and policy makers in the UK and worldwide. We work with skills bodies so that they are equipped to deal with current challenges and adapt and respond to new ones. This work aims to ensure that skills development better meets the needs of individuals and the economy through high quality, relevant and innovative provision.

The Covid-19 pandemic made it clear that as the world becomes increasingly interconnected so do the risks we face. It has affected people's lives and national economies, and education is no exception. The lockdowns in response to Covid-19 have interrupted conventional teaching and learning practices. While remote learning has offered some educational continuity when it comes to academic learning, vocational education and training has been particularly affected by the crisis. Compared to general programmes, technical and vocational programmes suffer a double disadvantage, as social distancing requirements and the closure of enterprises have made practical and work-based learning that are so crucial for the success of vocational education difficult or impossible. Yet, this sector plays a central role in ensuring the alignment between education and work. the successful transition of students into the labour market, and for employment and the economic recovery more generally.

At the same time, Covid-19 has accelerated the transformation and digitalisation of the economy. New industries emerged, creating enormous potential for innovation, creativity and progress. In this context, education systems are increasingly looking towards international experiences to inspire and inform national reforms. The challenges posed by Covid-19 present an enormous opportunity for the Technical and Vocational Education and Training (TVET) sector to innovate and increase its attractiveness. These new approaches can range from experiential virtual training to remote placements with employers and help build bridges across countries and boost the inclusiveness of provision and work experience. The purpose of this research is to support the global effort in tackling the common challenge of Covid-19 by highlighting some of the opportunities for innovation, emerging trends and solutions to boost education systems going forward. While a lot of the measures introduced by institutions worldwide were as an immediate response to the pandemic, when commissioning this research, we were particularly interested to find out how the vocational institutions are adapting and what measures they are undertaking which will be sustained post-Covid-19, as well as what changes need to be introduced for the long term. We hope that the findings of the research will promote debate about approaches and responses to the changing education and work environment.

The British Council would like to thank everyone who contributed to this research and particularly the institutional leaders and practitioners from the study countries who, despite their busy schedules, supported us with their valuable insights and positive outlook for a stronger and more resilient TVET sector in the aftermath of Covid-19.

Chris Cooper Principal Consultant, Skills Systems British Council

The challenges posed by Covid-19 present an enormous opportunity for the (TVET) sector to innovate and increase its attractiveness.

Contents

Executive Summary

- 1. Research objectives and methodology
- 2. Country context and Covid-19

3. The organisation: policy & structures

- A. Summary findings
- B. Leadership & management
- C. Digital and its impact on learning, teaching and qualiD. Financial stability

4. The curriculum: changing demand?

- A. Summary findings
- B. Curriculum developments
- C. A blended learning future
- D. Technology, access, assessment and the rural factor

5. Work-based learning: adapting to Covid-19

- A. Summary findings
- B. Flexibility and innovation
- C. Employers and the value of work-based learning

6. Staff: CPD implications

- A. Summary findings
- B. Confidence with technology
- C. Future skills

7. Students: inclusive practice

- A. Summary findings
- B. Lost learning and welfare
- C. Improving student support & engagement
- 8. Conclusions
- 9. Recommendations
- **10. References and Publications**
- **11. Appendices**

	06
	10
	13
	14
	14
	16
lity assurance	18
	20
	23
	23
	24
	26
or	27
)	32
	32
	33
	35
	38
	38
	39
	40
	44
	44
	46
	47
	50
	54
	56
	57

Executive Summary



As an international problem, Covid-19 requires international cooperation. The social, economic and educational recovery from the pandemic can be enhanced by knowledge transfer and exchange. This research brought together 15 technical and vocational education and training (TVET) institutions from the five countries in the British Council's I-WORK Programme (Improving Work Opportunities - Relaying Knowledge) to explore innovation, evolution and change stemming from the pandemic. TVET practitioners and leaders from Ghana, India, Malaysia, South Africa and the UK were asked to reflect on five key questions:

As an international problem, Covid-19 requires international cooperation.

- 1. How are institutional policy and structures likely to change to reflect the changing situation? Is this different for private institutions?
- 2. What changes are proposed to the curriculum/ occupational areas to reflect the rapidly changing demand and how are they identifying this demand?
- **3.** How will learners get the practical and work-based experience they need and what changes to workbased learning and apprenticeships are needed?
- 4. What changes are needed to the skills and type of staff in the teaching institution?
- How can new delivery models and ways of working promote more inclusive practice?

The research took place as institutions approached almost a year of adapting their teaching, learning and support to localised lockdowns and the restrictions of the pandemic. The national policy context may have been different in each country, but the research findings pointed to a single conclusion: that across the board, the move to digital learning and teaching had brought benefits, opportunities and challenges that might not otherwise have been realised.

TVET institutions showed resilience, creativity and entrepreneurship during the pandemic. They developed new assessment, quality assurance and teaching methods, some of which can no doubt be translated into long-term practice. Staff upskilling on digital tools took place on a significant scale and students become more independent and resourceful in their approach to learning and work experience. For some institutions, these developments were new, creating curriculum opportunities and closer alignment with employers. For others, it was a case of reutilising what was already there and quickening up existing educational principles.

Digital transformation

- Development of new and bespoke learner management systems and VLEs
- Move to flexible and blended curriculum delivery and assessment models

An improved understanding of the benefits of online delivery

New quality assurance systems

Improved staff digital skills and CPD opportunities

New staff appointed, including with digital skills

Improved student digital skills, independent working ability and employability

Better communication within and outwith the college, improved staff teamwork and staff-student engagement

New opportunities

opportunities for TVET institutions

Utilisation of digital marketing in addition to traditional marketing tools

New and greater audiences and student reach through online tools, including social media

Closer alignment with employers

New avenues for engagement with local community partners

Heightened perception and profile of TVET during the pandemic

Policy development and review at organisational level

Student entrepreneurship

Despite the new advantages of the move online, old disadvantages resurfaced during the pandemic. Problems of lost learning, accessibility for students in rural areas and the affordability of technology were exacerbated during Covid-19. Nor was the hands-on experience needed in vocational programmes and work-based learning able to be fully replicated online.

The matrix below summarises the standout findings from across the five areas of this research in respect of three categories – digital transformation; new opportunities and pre-existing challenges.

New curriculum and commercial

Pre-existing challenges

Rural access and connectivity

Gender inclusion in upskilling

Disadvantaged students

Student welfare and mental health

Cost implications of technology

Centralised vs devolved curriculum control

Replication of practical/ vocational assessments online

Importance of in-person attendance in communities where college is a 'home from home'

The I-WORK Programme established a community that can be brought together beyond the life of the programme to keep sharing best practice support on the roadmap out of the pandemic. Indeed, developing communities of practice is a recommendation from this report, one of a set of recommendations for TVET policy-makers and practitioners relating to strategies and themes that can be developed to support TVET institutions, their staff and students.

The report makes three recommendations for TVET policy-makers:

Education policy-makers at a national level should reflect on the degree to which the TVET curriculum should be decentralised in order to respond to labour market changes. Policy-makers should consider the potential for national digital training programmes for staff in TVET institutions. Policy-makers should prioritise the impact on rural communities, disadvantaged communities and women in their post-Covid-19 skills recovery programmes.

and a further nine recommendations for TVET practitioners and leaders:

Institutions should build on good practice during the pandemic and develop a digital learning strategy, where it is not already in place.

TVET institutions should develop a learner engagement strategy, where not already in place, that specifically takes account of access to learning for students in rural or hard-toreach locations.

Institutions should create a digital journey plan for staff so that they can pick up the skills and new ideas they need at the right pace for their practice.

Leadership at every institution should have a business continuity plan for managing emergency situations and risk. This plan should be regularly reviewed.

Institutions should develop an employer engagement strategy if not already in place. The strategy should have a specific strand which focuses on those emerging industries where colleges and employers could work together to replace opportunities that were lost due to Covid-19.

Institutions should ensure that the development of digital skills is embedded in their CPD policy. Institutions should develop an internal communication plan to ensure effective communication with their staff.

Institutions should conduct an audit of their work-based curriculum to identify new opportunities for employer involvement in placements, projects and assessments.

Institutions should incorporate procedures for remote support into their student support and safeguarding policies.



Section 1

Research objectives and methodology

A. Research objectives

The emergency response to the pandemic is well documented. From the onset of Covid-19, analysis quickly emerged to describe the challenges posed to the continuity of education and training by Covid-19 (ILO 2020; Majumdar & Araiztegui 2020; OECD 2020; World Bank Group 2020) and the potential impact on the labour market and rates of unemployment, particularly amongst young people (AoC 2020).

The British Council wished to explore the longer-term approaches and practical steps that TVET institutions have been taking to innovate, evolve and change as a result of the pandemic. It commissioned the UK's Association of Colleges (AoC) to conduct a research piece across a three-month period with TVET institutions from the Partnership strand of its 2018-20 I-WORK Programme (Improving Work Opportunities -Relaying Knowledge). The objective was to identify shared practice and themes amongst institutions whilst recognising and respecting the specific operating context of each. The research examined five key questions:

- I. How are institutional policy and structures likely to change to reflect the changing situation? Is this different for private institutions?
- II. What changes are proposed to the curriculum/ occupational areas to reflect the rapidly changing demand and how are they identifying this demand?
- III. How will learners get the practical and work-based experience they need and what changes to workbased learning and apprenticeships are needed?
- IV. What changes are needed to the skills and type of staff in the teaching institution?
- V. How can new delivery models and ways of working promote more inclusive practice?

These questions are addressed in **Sections 3-7** of this report.

B. Research methodology

TVET institutions from the five I-WORK countries – **Ghana**, **India**, **Malaysia**, **South Africa** and **the UK** – were invited to take part in the research. Three institutions in each country were approached, located across city, urban and rural settings. Most colleges were government-funded with a smaller number being privately managed.

Two to three representatives at each institution received a letter inviting them to participate and outlining the objectives and protocols for the research. The representatives were senior leaders and TVET practitioners in roles across curriculum, quality assurance and student services. The research base comprised 43 participants in total.

The research was gathered in four stages by AoC's research team to provide a mix of statistical and qualitative evidence:

- Stage 1 introductory meetings with British Council representatives in each I-WORK country, background reading.
- Stage 2 distribution of a SurveyMonkey questionnaire to the research participants.
- Stage 3 semi-structured 1:1 interviews with the research participants, tailoring their questionnaire responses as a basis for discussion.
- Stage 4 two focus groups with the research participants to share best practice and test the emerging research themes.

Data from the completed questionnaires was collated for the participant group as a whole and are presented throughout this report. In total, 34 questionnaire responses were received. The questionnaire provided summary information on how institutions were adapting to Covid-19 and their longer-term vision for change.

25 semi-structured interviews were conducted. The generic interview question list is provided in **Appendix A**. The interviews provided a mechanism for familiarisation with the context and changes experienced by participants during the pandemic.



A total of 18 participants attended the focus groups, which lasted approximately 80 minutes each. The key questions put to the groups are detailed in **Appendix B**. The focus groups provided a welcome opportunity for institutions to reconvene a year after the end of the I-WORK Programme and with the onset of Covid-19 to share experience and learning. Each focus group involved participants from four to five I-WORK countries and a mix of senior leaders and practitioners. The focus groups were arranged to reflect the original I-WORK partnership clusters.

Interview and focus group data were coded by theme and country by a member of AoC's research team. The iterative process developed a set of emerging themes which were discussed and agreed within the wider researcher team to present this report's findings.



Section 2 Country context and Covid-19

Covid-19 is a global problem and hence a shared problem. Each of the countries featured in this report has undergone local lockdowns, travel restrictions and disruption to business as usual. Around the world, the pandemic slowed down industrial production and whole economic sectors - for example hospitality, retail, aviation and childcare – have been badly affected. Citizens have faced issues such as unemployment and curtailment of their personal freedoms. The impact of Covid-19 has also been felt on gender equality and societal gaps between advantaged and disadvantaged communities.

The Covid-19 pandemic and the resulting government actions to lock down large parts of society have led to the wide-spread closure of education premises for long periods. UNESCO estimate that 205 countries have fully or partially closed school, college and university premises for an average of 27 weeks between March 2020 and March 2021 (UNESCO 2021). Whilst education systems have moved learning online in most instances, this has not fully mitigated against lost learning (AoC 2021; OECD 2021) and may have further entrenched students already disadvantaged in their education compared to their peers both within and between countries (OECD 2021).

The full closure of educational premises in 2020 tended to be longer in countries with the lowest educational performance and this combined with the need for infrastructure, equipment and technical knowledge to deliver effectively online, is likely to have accelerated the social inequality in learning opportunities (OECD 2021). For example, in the UK, it has been estimated that learners in school and college are 1-2 (Department for Education 2021) and 2-4 (AoC 2021) months behind where they would have been without closures, with some emerging findings indicating that school pupils in the more deprived north of the country are further behind.

The model for TVET oversight and ministry responsibility for education varies from country to country and during the pandemic, some countries have provided coronavirus financial stimulus and support packages for education whereas in others, budget spending has been prioritised on healthcare and tackling the pandemic. In Malaysia and the UK for example, national governments provided incentives and new programmes for people to reskill at college.



This report does not look to compare, contrast or comment on how countries have managed Covid-19 spending, policies, or measures. Coronavirus had impacted all the I-WORK institutions that took part in this research and had affected their activities, staff and students. The context in each country and the operating environment of each institution may be different, but TVET plays a fundamental role in the skills infrastructure of all five countries, irrespective of their geography or economic standing. TVET is vital for social and economic advancement.

Having dealt with the initial crisis-management implications of the pandemic, institutions were beginning to innovate and to evolve their thinking for the medium to long term. Innovation was a key theme throughout this research. The two focus group workshops began with a discussion of the definition of innovation, which was proposed as 'bringing in new methods, ideas or products'. Whilst the focus group participants generally agreed with these definitions, it would be unhelpful to try to benchmark the degree to which institutions innovated. The start and end points on the innovation journey were institution-specific and what is more interesting to analyse is the commonality or differentiation in approaches. More importantly in times of Covid-19, as one Indian participant noted, innovation started as a response to survival.

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Section 3

The organisation: policy & structures

A. Summary findings

This research provided the opportunity for TVET leaders and practitioners to reflect on the last year, on what had changed as a result of the pandemic and on their preparedness for extreme scenarios. A key objective of the research was to establish what changes would be maintained for the future, regardless of whether they were introduced as quick fixes or as planned developments. Some research participants described how their institutions had perhaps been 'putting off' innovation and engagement with technology and 'making do' prior to the pandemic. However, Covid-19 very quickly forced them to move out of their comfort zones.

71% of respondents to the research questionnaire said Covid-19 had changed to a high degree how their institution had operated in the last year. 26% responded that Covid had changed their operating practice to some degree. Only 3% said there was no real change:

Figure 1 To what degree has Covid-19 changed the

The 1:1 interviews that followed the research questionnaire explored in more detail the degree of operational change at each institution. Practice and structures in place prior to the pandemic combined with the local severity of the pandemic are likely to have influenced the degree to which each institution had to change. What was clear across the board however was that institutions were not operating in a 'business as usual' environment during the pandemic. Mandatory campus closures for substantial periods of time and the move to online learning were seismic shifts. All respondents confirmed that they had needed to follow and adapt to national or local government policies in relation to education, training and public health measures. 73% of questionnaire responses about the impact of national or local Covid-19 policy showed that restrictions had impacted to a high degree how institutions had been operating:

At times, these measures were fluid as governments and populations alike adapted to the new and evolving situation. Research participants in some countries noted that there were other political or cultural challenges in and around Covid-19 to contend with at the same time as the pandemic, not simply the healthcare emergency itself. Growing vaccine reluctance in South Africa and the emerging impact of the UK's exit from the EU were two such examples, which could be explored in separate studies.

92% of questionnaire respondents said they had changed their institutional policies since the onset of Covid-19. Some policies inevitably had to change as part of the emergency response to Covid-19 and the introduction of new protocols around remote learning or health and safety. A South African institution outlined how their Covid-19 response had meant delivering 100% remote learning during full lockdown, a staggered return to campus and thereafter a model of 50% remote and 50% in-person learning during their winter months. Another college noted how it had had to set up a Covid-19 isolation bay on campus. But to what degree would institutions keep, or need to keep these operational changes post-Covid-19? The key themes that emerged in relation to institutional policy and structural change centred upon three areas that will be explored here. First management and leadership, secondly learning, teaching and quality assurance and lastly finance.



Figure 2 To what degree have national or local government Covid-19 policies and restrictions impacted how your institution has operated this year?







of respondents said they had changed their institutional policies since the onset of Covid-19.

B. Management and Leadership

Management teams were able to make some changes at institutional level although some TVET institutions were part of a larger network of providers with more centralised (and possibly less localised) decisionmaking, for example in Malaysia and India. The guestionnaire asked whether institutions had adapted their organisational structure to reflect the changing situation since Covid. 79% of respondents (27 out of 34 individuals) said yes. A further question probed the extent to which structures had changed:

Figure 3 If you answered yes to Q6, to what extent has the structure changed?



Figure 3 shows that all institutions had changed their structure to some degree. During the 1:1 interviews participants explained what structural change meant in practice. At the time the research was conducted, it did not suggest significant organisational restructure but the introduction of new ways of operating and some changes to institutional culture. One UK participant described their institution's ethos during the pandemic as 'culture eats strategy for breakfast'. It is reasonable to expect that institutions will take further time to review their organisational structures as they emerge from the pandemic. Decisions can then be taken about which changes make sense to retain.

Staffing structures proved extremely resilient with few examples of changes to teaching personnel. One institution had to let go a small percentage of staff because of the pandemic but some relocation of staff or additional hiring or upskilling for digital pedagogy took place, including the appointment of IT staff, teacher experts, enhanced learning technology teams and mentors. The appointment of specialist staff was identified as a clear benefit for the future.

Staff training and upskilling during the pandemic, particularly in relation to digital skills, emerged as a very important theme from this research. This will be explored further in **Section 6** of this report but the move to remote teaching did require the introduction of some new procedures alongside staff training on the digital tools. For example, institutions needed to step up their internal communication tools with staff working remotely during lockdown. An example of this was organising 'town halls' to keep in touch with employees. Remote learning required institutions to place more trust in their staff, but it did not diminish expectations of professional conduct. One institution mentioned it had introduced a code of conduct to make sure that staff did not teach students in their own homes during the pandemic.

In terms of leadership culture, in India one institution's Senior Leadership Team (SLT) developed a management development programme for its staff, led by SLT itself, to support staff engagement during the pandemic. A UK college introduced additional management structures, committees and meetings to manage the pandemic situation, which are described in **Case Study 1**. The management team of the college developed a set of principles to lead the planning process during and post-Covid-19 to ensure the changing needs of learners, staff, communities and employers were taken into account, with particular consideration for students from disadvantaged backgrounds. Having a clear set of principles to guide decision making processes builds the confidence of staff, students and stakeholders in the ability of leadership and management to handle crisis situations in the future.

Whether these structures will be required post-Covid or not, the lesson learned, and highlighted in Case **Study 1**, is that agility of structure, governance and business continuity planning help TVET institutions to respond to challenges that affect their communities and underpin the longer-term stability of the institution.

Case Study 1



INSTITUTION South West College, Northern Ireland, UK

FOCUS

TVET leadership structures for risk management and longerterm stability

The six colleges of Further and Higher Education in Northern Ireland took a decision to suspend all face-to-face delivery due to the Covid-19 pandemic on Friday, 20 March 2020. During the current period of restrictions, one year on from the initial closure, colleges are again delivering distance learning to the maximum extent possible. Only essential face-to-face learning is permitted to take place when it is a necessary and unavoidable part of the course and this is on an extremely limited basis. As such, the College has had to make changes to organisational policy and structures to respond to the new ways or working and learning.

Prior to the March 2020 closure, a dedicated Covid Management Team was implemented. This dedicated team is overseen by the College Governing Body and led by the Chief Executive, Deputy Chief Executive and College Management Team. The team meet on a weekly basis to consider how disruption to learning and College operations can be effectively managed, and to plan short-term adaptions and ensure learner and staff wellbeing is supported. Their role is to strategically manage the whole College recovery plan in line with government guidance and take charge of official updates provided to staff and students, such as announcements of closure or extensions to remote learning.

At the outset of the planning process, the SWC Covid-19 Management Team agreed a set of principles to underpin the planning for the changing needs of learners, staff, communities and employers during and beyond Covid-19. The principles for planning included:

- can plan ahead
- spread of Covid-19
- 5. Longer term stability of College

The Covid-19 Management Team is supported by three working groups; Curriculum, People (Student, Staff, Stakeholder) and Estates and Campus Safety. Each working group has a dedicated Covid-19 workplan with agreed outputs, leadership and membership structures. Their work focuses on the day to day running of the College and managing activities such as guidance for distance learning and remote working, communication plans for staff & students, PPE and social distancing planning and virtual delivery of recruitment and induction events. The College has also appointed a team of Covid-19 Supervisors whose role is to consult with students and staff if they have any Covid-related gueries regarding symptoms, PPE requirements or health and well-being.

Section 3 - The organisation: policy & structures

1. Safety, physical and emotional wellbeing of students and staff 2. Building confidence of staff, students and stakeholders so they

3. Equality and diversity with particular consideration for students from disadvantaged backgrounds

4. Continuing contribution to the efforts and strategy to fight

C. Digital and its impact on learning, teaching and quality assurance

One of the headlines from this research is the move online due to Covid-19. The switch to digital may not seem surprising or novel in itself, but the standout finding is what digital enabled institutions to do next. For example, in the UK a college revisited how it worked with its international partners because of the pandemic. Overseas travel ground to a halt which meant new virtual models of international engagement had to be developed to maintain activity. Perhaps these models will be adopted - even partially - on a longer-term basis and thereby cut travel cost and time, with a positive environmental impact. The pandemic had also prompted a Malaysian institution to change strategy and to look at its use of digital media for marketing, developing a business plan around its use. Increased use of digital platforms and new software caused institutions to think about their overall digital engagement.

Lockdowns and Covid-19 restrictions meant institutions had to adapt their methods and services to cater online or via a blended model for the whole student body. All research participants referenced teaching and support barriers to be overcome, including:

- Reaching students in rural and remote locations
- Student and staff health and wellbeing
- The cost of increased data, software and hardware
- Access to devices

There were many research findings therefore around the development of new and bespoke learner management systems (LMS), virtual learning environments (VLE) and other teaching applications. Their impact on the curriculum will be explored in Section 4 of this report.

The UK institutions had spent significant time prior to the pandemic using digital systems to manage and deliver learning, for example in bad weather scenarios. As such, some UK institutions already had a digital strategy for the organisation with online delivery targets. Even so, UK participants described how colleges were revisiting their learning, teaching and assessment strategy on the back of Covid-19 or how their digital learning education policy had progressed more quickly because of Covid-19. LMS or VLE models were tailored to the institution. In India, one organisation needed a system that was usable by phone. In Malaysia, a virtual learning platform available 24 hours a day was introduced. Another Malaysian institution brought in a new LMS that was responsible for observations, student information, attendance records, teaching plans and resources.

Student records and attendance monitoring systems were changed at other institutions too in response to Covid-19. Ghana and South Africa cited examples of new sign-in systems and platforms to improve attendance and engagement, in addition to new policy ensuring that staff secured student contact details. Student engagement will be discussed in Section 7 of this report, but the pandemic demonstrated the need for up-to-date student records and the advantage of holding these digitally. **Case Study 2** exemplifies how Covid-19 prompted organisations to think about their policy review cycle, thereby ensuring that policies serve the current environment and are regularly checked for relevance and effective implementation.

94%

of respondents will be incorporating an online element in their delivery over the next five years.

Increased use of digital platforms and new software caused institutions to think about their overall digital engagement.





Case Study 2

Prior to Covid-19, lecturers at Northlink were not pre-occupied with capturing the contact details of all their students. They were in daily contact with the full-time students and therefore had little need to access or update these details. The college had a student administration system (ITS) which kept these details centrally and that was deemed sufficient.

INSTITUTION Northlink TVET College, South Africa

FOCUS

The digital impact on institutional learning and teaching policy

to up-to-date information about the students was limited. There are between 15,000 and 20,000 students at Northlink and lecturers found it impossible to find the details they needed. As a direct result of this, a new policy was developed and implemented which ensured that student contact details were secured and updated. The policy states that it is compulsory for all lecturers/facilitators to complete a list of all students in their class and this also includes students' contact details. A soft copy of this information is stored in the lecturer's Portfolio and a hard copy is kept at the lecturer's home.

hard copy is kept at the lecturer's home. Non-adherence to this Policy is viewed as misconduct in terms of poor work performance and managed in terms of the College Disciplinary Policy and Procedure.

However, after the onset of Covid-19, regular contact with students was essential in order to continue teaching and learning as well as maintaining contact with the students at home. It was at this stage that it became apparent that access to up-to-date information about the students was limited. There are between 15,000 and 20,000 students at Northlink and lecturers found it impossible to find the details they needed. Quality assurance was also a recurring theme in the research. New or adapted quality assurance systems had been developed that aligned to digital and blended delivery in all countries and curriculum areas. For example, in Ghana, India and the UK, a greater focus on quality assurance and a greater level of guality assurance were reported by institutions on the back of the pandemic. By contrast, South Africa noted more trust being placed in teaching teams and therefore less quality control needing to take place.

New quality control monitoring tools were developed, including for remote learning, at institutions in India and South Africa. In Malaysia, one institution reported that it was using desk-based quality assurance methods for teaching materials and Zoom observations for teaching delivery. As institutions consider how they will operate post-pandemic, they should review whether quality assurance changes made during the pandemic should stay embedded for the longer term.

D. Financial stability

There is no doubt that Covid-19 was a financial burden, and perhaps particularly so for private institutions. As noted in **Section 2** of this report, Covid-19 financial support was available in some countries but not in others. The pandemic impacted student intake numbers at institutions in Ghana, India and Malaysia yet fixed costs such as payroll still had to be managed whilst teaching continued. To maintain the financial stability of the organisation, research participants described how rent negotiations took place with campus landlords and staff went down to half pay or were only paid when working. These may have been temporary measures simply to offset the additional costs of the pandemic.

Quality assurance was also a recurring theme in the research. New or adapted quality assurance systems had been developed that aligned to digital and blended delivery in all countries and curriculum areas.

The general affordability of the move to digital (equipment, software, data) was also cited, however, the research base recognised that there are major long-term benefits from their investment in online platforms and staff use of them. They could see potential for the future that they could not have envisioned in a world without the pandemic. Institutions expected to be able to increase their reach and student numbers using low-cost and digital learning solutions, for example managing campus space better with fewer staff and students onsite which would help to redefine their business models. However, is there still a risk that the most disadvantaged students will be left behind? This issue will be considered in Section 7.

As institutions consider how they will operate postpandemic, they should review whether quality assurance changes made during the pandemic should stay embedded for the longer term.

The organisation: policy & structures

Summary of key messages

Lessons learned

Readiness of organisational structures, systems and processes to manage emergency and minimise business risk whilst ensuring student and staff safety.

Importance of instilling or developing organisational culture that can embrace change.

Organisational culture and systems that encourage innovation.

Good practice considerations

Agile and adaptable leadership and management structures.

Up-to-date and digitalised student record systems.

New ways of managing quality assurance through digital means.

Continuous review of relevant institutional policies and regular system implementation checks.

A minimum of digital teaching and learning permanently embedded into the curriculum.

Effective internal communication tools to reach and include all staff.

TVET policy themes

The impact of national government Covid-19 and crisis management policy on institutional responsiveness.

The balance between centralised and local decisionmaking to allow flexibility in the system.

Section 3 - The organisation: policy & structures

Need for staff with the appropriate specialist/digital skills.

Effective and transparent internal communication.

Clear and transparent guiding principles that underpin TVET planning processes to build stakeholder, student and staff confidence.

CPD for staff to develop or upgrade their skills.

Evolution of TVET through digital platforms.

The upfront cost of the transition to digital versus the long-term return.

Recommendations



1.

Institutions should build on good practice during the pandemic and develop a digital learning strategy, where it is not already in place.



2.

Leadership at every institution should have a business continuity plan for managing emergency situations and risk. This plan should be regularly reviewed.



3.

Institutions should develop an internal communication plan to ensure effective communication with their staff.

Section 4

The curriculum: changing demand?

A. Summary findings

TVET institutions played their role in supporting the global response to the pandemic. In South Africa and Malaysia, colleges adapted their curriculum facilities to produce face masks and hand sanitizer as part of the public health response. These initiatives highlight the flexibility and responsiveness of the TVET sector TVET institutions play a pivotal role in supporting national need, industry and the local community every day, not just in times of crisis. But returning to the curriculum, how else did it evolve in response to Covid-19?

The research questionnaire asked institutions to what degree Covid-19 had meant they found new ways to innovate the curriculum and its delivery. The responses highlighted that almost all institutions had been innovating and exploring new angles:

Figure 4 To what degree has Covid-19 meant your institution has found new ways to innovate the curriculum and its delivery?



As outlined in **Section 3** of this report, the shift to online had enabled curriculum delivery models, learning and teaching strategies, quality assurance and student engagement to evolve. Demand changed as a result of the pandemic - demand not only for how the curriculum should be delivered but also for what the curriculum should include. However, it is crucially important to recognise that institutions do not always have the autonomy to influence curriculum or how quickly curriculum changes can be made.

Curriculum and/or standards are set at a national level in all the I-WORK countries. In South Africa for example, the TVET curriculum is overseen at government level. In Malaysia, the curriculum is set by a qualifications bureau and external certification is set by industry. In the UK, where colleges have flexibility over what they teach, qualification outcomes must still meet the criteria set by awarding bodies. A determining factor therefore in the response to Covid-19 and subsequent longer-terms plans for the curriculum, is the extent to which curriculum is decided at a central level and how quickly any curriculum or assessment changes can be made. As one college in Ghana described, although it has its own programme advisory board (set up through its I-WORK project) which meets on a quarterly basis with industry to look at current and future demand, Ghana has national sector skills councils. The councils' curriculum review process can take several years. Participants made it very clear that their institutions had limited autonomy to make curriculum changes.

How quickly therefore would countries be able to adapt and respond to changing demand through Covid-19? The key themes that emerged in relation to changing curriculum demand centred upon three areas that will be explored here. First **curriculum developments**, secondly a **blended learning future**, and lastly **technology**, access, assessment and the **rural factor**.

B. Curriculum developments

68% of questionnaire respondents said they planned to introduce curriculum changes because of the impact of Covid-19. Such changes included to the curriculum areas offered, to their content, or to how the curriculum would be delivered. The research participants expected that there would be changes to the job market and hence to demand for training. In Ghana, recruitment to beauty and hairdressing courses had dropped because of social distancing restrictions. One institution was looking to offer electronics courses instead, particularly to target women who had traditionally taken the college's hair and beauty courses. As one UK participant noted, qualifications would need some redesign to cope with the long-term impact of Covid-19. It is still uncertain how long the pandemic may continue to disrupt teaching for and how long social distancing measures or other restrictions may remain in place. Separately to this research, it may be interesting to explore whether pre-pandemic qualifications will fit the post-pandemic world and are appropriate to serve cohorts of students for whom learning has been disrupted.

New opportunities had arisen through Covid-19, including via government job retention schemes such as furlough in the UK. Institutions were working on new curriculum offers or customisation, but those plans were in the early stages of discussion and development. The new subjects or areas that institutions were looking at in response to Covid-19 included:

Ghana

Spa management and cosmetic science (to reduce person-to-person contact)

Jewellery

Self-trained or more portfolio-based courses allowing a much higher percentage of online delivery (e.g. from 40% up to 90%)

South Africa

Curriculum more in line with the expectations of industry

Malaysia

Plastics, in response to the decline in aviation manufacturing

India

Optical studies, following market research that showed 50% of the population needed eye correction; addition of digital marketing and social media use to the curriculum

Greater employer focus on national occupational standards as a response to the crisis, hence becoming more market-led

Augmented realityenhanced courses

finance and solar energy whilst hospitality and retail are closed – new job market opportunities

Micro-entrepreneurship courses, building up capacity and numbers in response to pandemic migration issues

flexible programmes with flexible end dates for advanced students to complete sooner



Shorter courses and more



INSTITUTION 2nd Image International Skills College, Ghana

FOCUS

Thinking outside the box: evolving the TVET curriculum in response to Covid-19

One of the direct consequences of Covid-19 for 2nd Image International Skills College was that admissions dropped by 50%. This decrease led the management team to try to find innovative ways of encouraging people to acquire different skills.

A further consequence of Covid-19 was that people were shying away from skills which involved human contact. Practical sessions meant that students had to work on each other and there was a real fear of contracting the virus. The management team therefore explored courses that required less or no human contact.

Their new curriculum offer now includes Cosmetic Science, Electronics and Jewellery. These subjects were chosen because they are demand driven and required less or no human contact. Cosmetic Science is a thrilling field which provides the opportunity to have an in-depth knowledge of skin and hair care products and also compliments their current hair and beauty courses. As the college owner explained 'the customer base in this field will increase if the products on offer solve problems with less side effects, therefore, a competent person in this field will never be out of business'.

The electronics courses will cover repairing small gadgets, phones and other electronic devices with an aim to help improving people's employment potential and provide a fulfilling experience.

The jewellery course is an addition to the current fashion design courses. Due to the availability of gold and silver within Ghana in its raw form, the course will add value to these minerals. These courses will be available from September 2021.

In limited instances, financial support was externally available to assist curriculum development, raising the question of the degree to which institutions will be able to make effective curriculum changes without financial assistance. For private institutions, it is to be expected that they would need to ensure their course offer was both relevant and financially viable moving forward. Case Study 3 showcases a college that was introducing a new curriculum range in response to Covid-19 social distancing restrictions: curriculum that also links to local demand and the in-country availability of natural resources.

Case Study 3

C. A blended learning future

The research brought out in detail the impact of the move to online learning and teaching. From interviews and focus groups with the participants, the primary and long-lasting effect of the pandemic was the digitalisation of the curriculum, but not – or not quite yet for most institutions – radical change to the curriculum. One Indian institution outlined how prior to the pandemic, it had very little digital activity, everything was still physical.

94% of questionnaire respondents said that Covid-19 had brought about changes to their delivery methods since the pandemic began. Only two institutions responded that the pandemic had not changed their delivery methods. In Ghana, one college had delivered English and Maths entirely online to provide more time face-to-face for other curricula. In Malaysia, it was noted that the national qualifications agency did not usually recognise online learning but had adopted a flexible approach towards online learning during Covid-19.

Online teaching had generated a wealth of benefits including allowing institutions to consider using more 'blended' models in future; models that mixed face-toface with online learning. Some of the positive outcomes from moving delivery online included:

- The ability to grow student numbers against the physical infrastructure.
- The facility to generate new curriculum content.
- The opportunity to offer shorter skills programmes that build up to larger programmes.
- The opportunity to have flexible study periods which can be adapted to the students' needs.
- The generation of new, online quality assessment and verification tools permitting a greater number of staff to observe classes and an opportunity to review training quality centrally.
- Improved staff utilisation at multi-centre institutions where one instructor can reach multiple classes online simultaneously.
- The creation of online repositories of curriculum content for download.
- Upskilling of staff.

The research questionnaire asked respondents to specify the extent to which their delivery would change over the next five years, with a particular emphasis on the balance between face-to-face and online delivery. The results in **Figure 5** show that 94% of respondents will be incorporating an online element in their delivery over the next five years. 38% of respondents plan to offer up to 25% of their delivery online and a further 38% will run up to 50% of their delivery online. 18% of respondents are looking to offer more than 50% of their delivery online. Whilst the extent of change may vary by institution, it is encouraging that the overwhelming majority of institutions were adopting a digital element for the longer term. **Figure 5** To what extent will the proportion of your institution's delivery change in the next five years?



The 1:1 interviews with the research participants discussed the blended learning approaches each institution would be taking. Major changes were expected to continue in pedagogy, moving from face-to-face delivery to a blended learning model – even in heavily practical subjects such as construction and engineering, as one Malaysian institution was planning. The percentage of online delivery would vary by institution and although not necessarily as highly timetabled as it had been during lockdown, an online element would remain – 20% online in the case of one UK institution.

The research showed that time spent face-to-face with teaching staff would be prioritised for practical sessions, discussion and assessments or for students with greater support needs for face-to-face learning. With a 'flipped classroom' model, basic or theoretical knowledge could be delivered online. Some student cohorts at institutions would find in future that their proportion of online delivery became very high, for example higher education students. During the pandemic, institutions had become adept at ensuring that students could still practise their learning despite disruption.

D. Technology, access, assessment and the rural factor

In some countries, TVET institutions evolved in response to pandemic migration issues. India saw huge increases in its rural population as people abandoned cities at the onset of Covid-19. A key finding from this research was the degree to which institutions needed to make their teaching accessible to students in rural communities. Whilst in many ways Covid-19 made learning more accessible - and institutions become more flexible in their timing and methods for teaching, feedback and assessment - some compromises needed to be made due to the learners' ability to connect with their institution.

Interviews with the participants provided detail regarding the myriad of platforms, apps and other technology that institutions used or created to ensure continuity of connection with their students during the pandemic. Across the board, the availability of devices, network access and costs were a challenge. TV stations were paid to broadcast lessons in South Africa. Overall, most students had mobile phones but not all had laptops and in Ghana, WhatsApp became a key service used by colleges to reach students. Lessons also had to be shortened from three hours to 30 minutes to be available for download given data restrictions. There were also issues with website capacity and storing videos for teaching and learning.

In short, institutions went to great lengths to teach their students during Covid-19. In India, one institution arranged outdoor classes in rural areas delivered over speakerphone. Another arranged asynchronous learning to overcome connection difficulties and provide more time for those who needed it to study the content. In Ghana, the families of students and members of the community helped to provide access to phones. One Indian participant noted that speciallyarranged classes for students in remote areas permitted the use of local languages as opposed to the norm of English only.



A key finding from this research was the degree to which institutions needed to make their teaching accessible to students in rural communities.

I-WORK institutions provided a range of other examples relating to how they included technology to ensure continuity of curriculum delivery for the student body and overcome access issues. These examples included:

- Additional resource hired to produce video classes Local celebrities were involved in lessons.
- Tutors conducted demonstrations from home, for example in nail artistry. In some vocational subjects, students practised their skills on family members.
- Video demonstrations were created in college in areas such as welding for students to then watch at home.
- Course submissions were permitted by video.
- Online Q&As were held after classes took place.
- Lecturers used e-portfolios to assess work.

Case Study 4 explores how one Indian institution innovated its curriculum delivery methods to ensure continuity of learning for students via digital means through the pandemic, particularly students in more 'hands-on' subjects. It highlights how TVET institutions need to embed innovation if they are to provide relevant and engaging training for young people that keeps pace with technological change.

Case Study 4



INSTITUTION Nettur Technical Training Foundation (NTTF), India

FOCUS

Developing cost-effective and sustainable technology solutions to ensure continuity of learning

The vocational sector in India has felt the full impact of months of lockdown. This impact has been especially apparent in skills training for young people where hands-on skills are extremely important. Experts and providers in the field have been forced to seek and develop alternate options of distance learning/remote learning to provide the required practical skills learning in vocational education.

The Nettur Technical Training Foundation (NTTF), a large private skills training institution based in India also had to adapt quickly to ensure there was no interruption to the learning for students. They had the advantage that all of their students had already been provided with tablets and laptops. The focus therefore, was to work on trainer adaptability from white board to broadband. Another area of focus was to gain students' interest and commitment to move to online learning and have them engaged throughout.

NTTF used their existing industry collaboration to establish and incorporate certain modules from industry platforms to support their virtual labs. Students could perform virtual experiments online such Fanuc Robot programming, Festo automation and electronic circuits through Virtual Labs.

Adapting new age technology for vocational education

Whilst it was clear that evolution of new age technologies such as VR and AR would tremendously change the landscape of education. the economic feasibility could have hindered the use of these technologies for some time.

However, NTTF identified a cost-effective solution to deliver distance learning of shop floor experiments live and online through real ware (RW) glasses. These are powerful RW glasses with built-in camera, microphone and program with zoom in and out facility to focus. These RW glasses can be connected directly to MS teams /Zoom meetings.

Going forward

Mr B V Sudharshan, Deputy Manager Director NTTF, commented "Vocational Education must embrace digital interruption, making use of simulation and technology like AR and VR. E-learning and learning management systems will help to a great extent. Institutes must quickly adopt changing circumstances, adapt to new technologies and advance in the areas of skilling. One must be creative, as many processes will get automated, at the same time cohesive to work together along with cognitive skills. Industry collaboration is key in having seamless transition of new technologies and learning methods through shared platforms and Centre of Excellence for technologies". India's growth is intertwined with its ability to create a robust system of youth training to meet the challenges of future global disruptive technologies.

One South African institution noted that the move to online learning encouraged its students to be more solution focused (the impact on students will be discussed in more detail in Section 7). Even where digital solutions were used, there were still issues to address which are likely to remain on the agenda in the short to medium term. For example, the flexible curriculum arrangements that institutions introduced can add significant time to programmes when catch-up learning and assessment mop-up is taken into account. One UK college said it had tried to focus on student achievement during the pandemic, not student retention. However, it was evident that Covid-19 and the changes to learning and teaching that it brought about did have an adverse effect on some aspects of student achievement, as demonstrated in a South African college which reported a 7% drop in the first semester after lockdown.

In terms of assessment to measure achievement, the questionnaire asked respondents about the extent to which their institution had changed its assessment methods since the onset of Covid-19:

Figure 6 To what extent has your institution changed its method of assessment since the onset of COVID 19? Please select up to two responses if necessary.



The table underlines the range of assessment approaches that institutions have been choosing since the onset of Covid-19. 47% of respondents stated that they had made changes that they would continue to use in future. 9% said that they had made major changes to assessment methods that they would adopt in future. Participants made a range of comments around disruption to assessments and course completion during the pandemic. They recorded:

- Delayed or cancelled assessments, especially practicals, due to lockdown.
- Insufficient flexibility around formal assessments; national assessment arrangements versus local restrictions; virus fears preventing student attendance at assessments.
- Students needing extensions or to repeat a trimester or a year of their course due to exam cancellations, sometimes without the sponsorship they might otherwise have had.
- Additional regulations for institutions to follow during Covid-19 and the need for PPE.
- Ensuring students really were studying and learning during lockdown.
- Issues with awarding bodies and vocational practitioners to secure consent on student progression.

Technology was not always a substitute for face-to-face teaching, learning and assessment, but it was critical to minimising lost learning and the impact on students during Covid-19, which will be discussed further in Section 7 of this report.

The curriculum: changing demand

Summary of key messages

Lessons learned

Developing the right organisational culture and system to encourage curriculum innovation. Ensuring accessibility of online learning for rural students.

The flexibility and resilience of TVET institutions is highlighted at times of national crisis.

Creating new ways to manage assessments through digital means.

Good practice considerations

Regular review of curriculum format and duration to bolster student recruitment and retention.

Enable agile and adaptable assessment processes to ensure continuity of learning and teaching.

TVET policy themes

Creating an enabling environment for curriculum innovation.

The ability of the TVET system to respond quickly to changing demand.

A minimum of digital teaching and learning permanently embedded into the curriculum, if online access can be guaranteed for all students.

Consideration of the right

Evolution of TVET through

digital platforms.

making.

balance between centralised

and local curriculum decision-

Measuring the impact of blended learning methods on student achievement outcomes.

Equality of access and of opportunity for rural learners.

Evolution of qualification form and content to meet the needs of the post-Covid labour market.

Recommendations





1.

Education policymakers at a national level should reflect on the degree to which the TVET curriculum should be decentralised in order to respond to labour market changes.

2.

TVET institutions should develop a learner engagement strategy, where not already in place, that specifically takes account of access to learning for students in rural or hard-toreach locations.

Section 5

Work-based learning: adapting to Covid-19

A. Summary findings

Given that traditional ways of assessing TVET courses had to change during the pandemic, what was the effect of Covid-19 on strongly vocational areas such as work-based learning and apprenticeships? The research questionnaire asked about the type of provision where changes to assessment methods had been needed. 97% of respondents said that assessment methods had been changed for vocational/ technical courses. 53% said changes had been needed for apprenticeships and work-based learning:

Figure 7 In what type of provision has your



The questionnaire posed a specific question regarding the impact of the pandemic on institutions' apprenticeship provision. In India for example, employers with over a set number of employees need to take on an apprentice by law but there is often poor retention of them. All respondents for whom the question was applicable replied that their apprenticeship provision had been affected (25 responses). A further question established the extent to which Covid-19 had affected enrolments onto apprenticeships:

Figure 8 If you answered yes to Q15, to what extent has it affected enrolments?



This research found that whilst in some countries a degree of work-based learning (for example in electrical and automotive industries) was able to continue, the majority was paused or disrupted during lockdowns, with a knock-on effect on new enrolments.

That said, I-WORK institutions rose to the challenge of Covid-19 and showed their resilience and adaptability by experimenting with alternatives to in-person work-based learning. 82% of institutions that responded to the research questionnaire confirmed that Covid-19 had impacted their work experience or placement plans. A follow-up question established that of those that saw an impact on their work experience plans, 86% were still able to offer alternatives, and at times highly innovative alternatives, as this section of the report will outline.

The key themes that emerged in relation to workbased learning centred upon three areas that will be explored here. First, flexibility and innovation, secondly the value of apprenticeships and lastly closer relationships with employers.

B. Flexibility and innovation

During the pandemic, institutions have provided flexible learning online and used their facilities and networks to find alternative practical and quasipractical experiences for students who had less industry time. One Indian institution had even decided to remove the concept of semesters and move to a more flexible system.

This research identified at least 10 ways in which institutions had become more flexible around workbased learning delivery, structures and assessments. They had:

- I. Used their alumni and master practitioners as alternative placement hosts.
- II. Brought industry contacts into college for assessments to replace work placements.
- III. Engaged multiple placement providers to make up missing on-the-job hours.
- IV. Created project-based learning experiences and observation opportunities with employers.
- V. Adapted their own facilities to replicate the workplace.
- VI. Facilitated the development of practical skills at home
- VII. Used videos for practical learning.
- VIII. Conducted demonstrations live online (e.g. of hair-cutting techniques).
- IX. Conducted work-based learning assessments online.
- X. Explored simulators for apprenticeship assessments.

Whilst a full return to face-to-face teaching in theory removes the need for such adaptations in future, this research has shown that in practice institutions were seriously considering maintaining some of the programme delivery and assessment changes that they had trialled during Covid-19. All ten of the initiatives cited here could be adopted into the future, even partially or temporarily, although not all may be optimal long-term solutions for the institutions, their staff and students.

Case Study 5 describes an innovative solution developed by Malaysian students and staff to support the continuity of practical-based learning during the pandemic. Incorporating green materials and 3D printing technology, the case study shows the ability of the TVET sector to respond to challenges and integrate Industry 4.0 principles.







INSTITUTION Kolej Kemahiran Tinggi Mara (KKTM), Malaysia

FOCUS

TVET resilience and innovation: harnessing Industry 4.0 and green technology to maintain practical learning

Case Study 5

KKTM is a government funded College offering programmes in automotive engineering technology and material processing engineering technology. Following the outbreak of Covid-19 in Malaysia, the government imposed a Movement Control Order (MCO). However, the government was concerned about the TVET sector and the need for students to carry out practical sessions and so enabled colleges to open after 4 months' closure.

This did present KKTM with a problem of how to adhere to the government's guidance on avoiding the '3 Cs': close-contact settings, crowded places, confined and enclosed spaces. The engineering department highlighted the risk of sharing contaminated objects, such as hand dispensers and set about to find a solution. The lecturers and students designed and manufactured a touchless dispenser using sustainable and environmentally-friendly materials. The entire design and manufacture took place in the college and this can be viewed in the video using this link. The touchless dispenser will be commercialised in the near future.

Across the board, institutional practice focused on trying to bring students into college, particularly for assessments, even if it meant in smaller groups of students than usual. Time and time again, institutions went to great lengths to try to get their students through work-based learning programmes.

In Malaysia, an institution described how it readjusted its assessments. As work placements were optional, the students were exempted from work-based learning and assessed by their trainers instead. In Ghana and South Africa, institutions extended workplace learning to allow time for students to complete assessments, to secure accreditation or simply catch up. In the UK, one provider was exploring options to remove the license to practice assessment for students progressing to higher education.

Given that practical learning has been delivered in a number of different ways during the pandemic restrictions, the methods tested above by institutions could provide flexible teaching and learning practices for the future, if they are shown to be effective. The research questionnaire asked participants whether the way in which institutions offered apprenticeships and work-based learning had changed for the future. The results showed that the changes introduced were temporary for 50% of respondents but into the medium term for 29% of respondents. It can be deduced that the extent of change and the durability of change will be tailored to individual institutions:

Figure 9 Has the way in which you offer apprenticeships and work-based learning changed?



However, even where institutions and employers had extended study or placement times for students, some students will inevitably complete their courses having had less on-the-job training than expected. One UK institute expressed concern about its apprenticeship cohorts hit by the pandemic and whether they would really be able to enter the job market fully trained and job-ready. More flexible delivery methods may help institutions to grow their provision or to mitigate risks to work-based learning. For example, one UK participant said that Covid-19 had meant a reduction in the number of overseas placements it could offer to its students and it was resorting to virtual mobilities. As a Ghanaian institution noted, apprenticeships may have become more informal because of Covid-19.

A greater degree of work-based learning flexibility could also help institutions to tailor provision according to student need. For example, those who have experienced less lost learning could be taught using the new, alternative practical learning described above. Those who have experienced higher learning loss would be taught using more traditional means. Some alternative methods may prove more effective than others and this can be measured over time.

C. Employers and the value of workbased learning

This research found that the reputation of work-based learning has been enhanced during Covid-19. For Ghana, there had been a general shift in the perceived value of education and for India, an appreciation of the effectiveness of apprentices who continued working throughout lockdown. South African institutions said that the contributions college staff and students made towards reducing virus transmission had been recognised externally. Colleges were valued for the innovation that they had shown and viewed less as the poor relation to universities. In the UK, catering students ran a takeaway service. Entrepreneurship flourished with students working from home and even setting up their own companies, as one Ghanaian institute noted. However, for Ghana it was also mentioned that the pandemic appeared to have increased competition for work placements as attitudes towards work and study changed.

Institutions noted that they had built better relationships with their employer network during the pandemic. Whilst some employers had been unable to take on work-based learning students during lockdown, other employers played new or enhanced roles, for example where student assessment took place in industry instead of in college to avoid holding up certification for longer than was necessary. There was variation by country in terms of the role played by the college and that of the employer in providing summative versus formative assessments. Successful partnerships between TVET institutions and their employer networks will be critical to the post-Covid economic recovery, but good working links between institutions and employers are equally important in non-Covid times.

Work-based learning: adapting to Covid-19

Summary of key messages

Lessons learned

Employer relationships can be enhanced by involving them in work-based learning assessments and placements.

Having the right systems in place to ensure institutional preparedness for disruption to work-based learning and achievement.

Disruption to practical learning can lead to innovative delivery methods.

Good practice considerations

Develop agile and adaptable work experience plans.

Effective employer engagement strategies.

A minimum of digital teaching and learning permanently embedded into the work-based learning curriculum.

TVET policy themes

The recognition of TVET institutions as anchors in their communities and the local and national economy.

Addressing lost learning and work-readiness post Covid-19. Aligning employers, industry and TVET institutions to deliver successful work-based learning outcomes.

Considering and measuring the effectiveness of practical TVET learning through digital platforms.

Recommendations





Institutions should develop an employer engagement strategy, if not already in place. The strategy should have a specific strand which focuses on those emerging industries where colleges and employers could work together to replace opportunities that were lost due to Covid-19.



2.

Institutions should conduct an audit of their work-based curriculum to identify new opportunities for employer involvement in placements, projects and assessments.

Section 6 Staff: CPD implications

A. Summary findings

As one of the research participants described, teaching staff had to move out of their comfort zone and become 'actors' during the pandemic, with a new role on camera. The shift to online teaching and learning required staff training and development but was generally embraced with commitment and goodwill, even though there was some resistance to change. The research participants complimented TVET staff on adapting, coming together in teams and showing their best side during the pandemic.

Pre-Covid-19, the extent to which TVET institutions and their staff were familiar with digital teaching was institution specific, as an institution may have had no employees with responsibility for e-learning. This reflected existing teaching practice and to some degree, the availability of devices. The research questionnaire asked institutions to consider how access to technology was affecting the ability of their teachers to engage with online delivery:

One South African institution described how it was able to secure laptops for staff through bursary funds. Whilst access to devices for teaching was a practical issue, confidence and experience in using the systems were a training issue. Even for institutions that had advanced digital strategies in place prior to the pandemic, the lockdown transition to online teaching was abrupt, allowing little preparation or training time. As outlined in **Section 3** of this report, whilst some institutions did hire new staff with technology expertise during the pandemic, this was on a limited basis. The bigger story was around upskilling existing staff - specifically teaching staff. The key themes that emerged in relation to TVET staff and CPD centred upon two areas that will be explored here. First confidence with technology and secondly future skills.



Whilst access to devices for teaching was a practical issue, confidence and experience in using the systems were a training issue.

B. Confidence with technology

Covid-19 placed new pressures on everybody and exacerbated existing ones. For TVET teaching staff, they were grappling with the sudden switch to mostly online teaching whilst working from home. They may also have had health and safety concerns and in some cases, worries about job security. As mentioned in **Section 3** of this report, some staff saw reduced pay during the pandemic as their employers tried to balance budgets whilst retaining personnel. Workshop-based staff were particularly unfamiliar with teaching online as were staff in older age groups. The likelihood of students needing catch-up time might also require staff to start working more hours than usual.

Teaching online brought many benefits to the institution, as this report has already discussed. However, it also brought additional burdens for staff in the way of uploading sessions, adapting and condensing materials to fit with the digital format. The research questionnaire asked participants about additional mental health and wellbeing support for staff as a result of Covid-19 disruption and college shutdowns. 85% said additional support for staff had been needed. In the UK, colleges tried to help staff to balance the demands on their time by stopping meetings over lunchtime or only holding meetings during a set time window in the day. Virtual social events and wellbeing engagements were also set up to support them. In South Africa, communication from the institution to its staff was highlighted as important to provide reassurance around job security. Staff WhatsApp groups were also set up for staff to support each other.





- internet, laptops or computers
- Slightly. Most teachers have access to laptops or computer
- None. All teachers have access to laptops or computers

This leads to the question of how comfortable teaching staff were with online delivery when this research was undertaken. The questionnaire surveyed this:



The 1:1 research interviews and focus groups brought out very clearly how all institutions invested in the digital skills of large numbers of staff to address skills gaps and build confidence. Time spent on training ranged from a week to five months and from short 'pick and mix' courses to a whole college training programme. Familiarisation took place with key platforms, apps and services and was delivered by external suppliers, learning technologists and in-house expert practitioners, including via train-the-trainer models. TVET staff moved from a low digital skills base at the start of the pandemic to some having received training in augmented reality teaching methods. Most training was directed at digital skills however there was evidence, as reported in **Section 3** of this report, that other training needs were met during lockdown including management training and Covid-19 protocol familiarisation.

C. Future skills

The questionnaire asked participants about the extent to which their institution would need to change its continuing professional development (CPD) policy over the next five years. Only 9% of respondents felt that their institution's CPD policy already met the needs of a 5-year plan. The clear majority expected CPD policy to change:

Figure 12 To what extent will your institution need



- Not at all. Our CPD policy meets the needs of our 5-year plan
- It will require slight change
- It will require significant change
- There will be slight change in the longer term
- There will be significant change in the longer term



For I-WORK institutions to review staff adaptation to digital teaching and to map future CPD needs, they need to consider:

- What skills did staff possess before the pandemic?
- What skills have staff gained?
- What skill gaps remain?
- What skills are likely to be needed in the future?

This research indicated that TVET institutions of the future are expecting to operate in new ways that will affect how staff work and the skills they need. Examples of future practice included:

- In India, needing only 'online teachers' for new digital courses and holding staff meetings online.
- In South Africa, paperless teaching, a more flexible approach to staffing and building personal confidence using advanced technology.
- In Malaysia, introducing flexible timetabling for staff to develop their own timetables.
- In the UK, engaging existing staff in developing packages for online delivery rather than outsourcing.

The benefits of digital teaching and learning were apparent to institutions, coupled with the enhanced skillset of their staff. Some teaching may be exclusively online where that is effective, but most institutions will progress a blended learning approach, as outlined in **Section 4** of this report.

Blended learning requires staff to be skilled in both physical and online teaching practices. It is to be expected therefore that there will be changes to CPD, more CPD or different types of CPD than prior to the pandemic. New teachers in particular will need excellent digital pedagogical skills and need to be versed in blended learning practices to secure employment in a competitive selection process. These will need to form large parts of training programmes. In return, staff should expect some additional flexibilities, support and protections so that they have the time to do their work.

Case Study 6 describes how Covid-19 accelerated an important change to the delivery of staff training and increased the take-up of internal CPD.



Case Study 6



Cardiff and Vale College

Digitalising CPD – flexible

training to develop staff

skills and engagement

INSTITUTION

FOCUS

(CAVC), Wales, UK

Prior to Covid-19 at Cardiff and Vale College (CAVC), staff training was delivered face-to-face during training days at 3 points throughout the year. However, this is one size fits all approach to CPD was neither flexible nor fit for purpose, especially with the onset of Covid-19.

CAVC decided to change this approach and introduced a more flexible programme. They started promoting the use of self-led sessions on the Microsoft Educator Centre which can be completed in an individual's own time and there are pathways and digital badges to recognise achievement. On the back of this, CAVC further developed Technology Enhanced Learning (TEL) Journeys for distinct roles in the college, including Lecturers, Business Support and Leaders. These were in the form of infographics, so it was clear what needed to be completed for each role. They incorporated Microsoft Educator Centre Pathways which are internationally recognised, supply kudos to the skills developed and gamify the training process. As a result, more staff are taking part in online self-led training.

Staff training has become completely online over the last year using MS Teams with a social space for staff to socialise whilst remote working. Staff were given points at the end of each training session - the top 5 staff members receiving a gift voucher. These online training days have had higher attendance than normal face to face ones, as they are more flexible, and staff can attend all sessions if they want either live or catch-up.

The outcome is that staff now engage in training throughout the year when they can fit it in around their workload, and training days are more engaging with improved attendance due to the changes that we have made to the process. As a result, more staff are using TEL in their Teaching and Learning. The transition to remote delivery was smooth as staff were confident in using the tools already. In addition, all of the training we offer is mapped to the Digital Teaching Standards that Welsh Government and Jisc have published.

Staff: CPD implications

Summary of key messages

Lessons learned

The importance of staff goodwill and commitment to navigate challenges successfully.

Requirement to ensure older and workshop-based staff are included in digital training and developments. Need for staff with the appropriate specialist/digital skills.

Consider additional staff workload generated by online teaching.

The challenge of managing learning and teaching in extreme situations without a digital teaching infrastructure in place (e.g. networks, systems, training and device access).

Good practice considerations

Flexible and digital staff CPD programmes, ideally externally benchmarked.

Develop internal communication protocols to give staff reflection time and social interaction opportunities. A minimum of digital teaching permanently embedded into curriculum delivery to maintain staff skills for blended learning.

Consider additional staff workload generated by online teaching. Best practice exchange amongst staff to minimise additional time demands created by online teaching and assessment.

TVET policy themes

The potential for national digital training standards and programmes for TVET staff.

The mental health impact of Covid-19 on TVET staff.

The application of blended learning methodology to TVET.

Recommendations







1.

Institutions should create a digital journey plan for staff so that they can pick up the skills and new ideas they need at the right pace for their practice.

2.

Institutions should ensure that the development of digital skills is embedded in their CPD policy.

3.

Policy-makers should consider the potential for national digital training programmes for staff in TVET institutions.

Section 7 Students: inclusive practice

A. Summary findings

This research explored how TVET institutions are embracing technology for the long term. In the same way that institutions invested time and resource in digital skills for staff, they invested in digital skills for students, as seen in **Sections 4 and 5** of this report. On the back of the pandemic, a generation of students have improved or acquired digital skills which they can take into the workforce. But did the benefits of online learning reach the whole student body, and if not, who was left behind, and what steps need to be taken to ensure they are included?

Responses to the research questionnaire reiterated the extent to which I-WORK institutions plan to increase their engagement with technology: **Figure 13** To what extent does your institution plan to engage more with technology on a permanent basis?







Institutions had identified a clear set of potential benefits from adopting a blended learning and teaching model in future. However, for this model to succeed, device and network access for students remained an issue to overcome, as **Figure 14** clearly shows:

Figure 14 To what extent is access to technology affecting student learning and progression?



None. All students have access to the internet, laptops, computers or a mobile phone

45

As outlined in **Sections 4 and 5** of this report where curriculum delivery and work-based learning were discussed, institutions had gone the extra mile to accommodate students, yet some research participants still expressed anxiety at not feeling fully able to support students online during the pandemic. In parallel, they had also been prompted to think about widening participation, access for students in rural areas, and student welfare and emotional wellbeing. 91% of questionnaire respondents said they had needed to provide additional support to students during the pandemic.

Two key themes emerged in relation to students and inclusive practice that will be explored here. First, **lost learning and welfare** and secondly **improving student support and engagement**. The notion of inclusion builds on a key theme from the original I-WORK Partnership strand.

91%

of respondents said they had needed to provide additional support to students during the pandemic.



B. Lost learning and welfare

Digital poverty, in all countries, came out strongly in this research. Access to devices, connectivity problems (especially in rural areas) and data costs were all challenges that institutions looked to address by:

- Involving staff to deliver equipment to students (UK).
- Providing digital access to college library resources (UK).
- WiFi-sharing with other educational institutions in the network (Malaysia).
- Using WhatsApp instead of more data-heavy platforms (Ghana).
- Setting up a call centre for students (South Africa).
- Training students on Microsoft Teams and Google Classroom (South Africa).
- Providing catch-up teaching (India).

Lost learning due to access issues poses a real threat to progression and to the employability of students and apprentices. It has already been discussed in this report how training periods and courses were extended to take account of missed learning, assessments, and work placements. The impact of remote learning on student grades will no doubt be examined by institutions. But there were other reasons why some students missed out on their education during the pandemic.

As one research participant described, college is a home from home for some students. Whilst some I-WORK institutions had residential students, the pandemic meant many students spent much more time at their own homes, where parents may have lost their jobs. One Ghanaian college described how it spread out course payments and reduced student transport costs to support its students. It dropped the number of days per week students needed to come to college when it was able to open. Institutions also cited student use of food schemes. Even though some students were reluctant to learn online, as one South African institution stated, it was much more difficult to provide student support digitally than to provide learning and teaching digitally. The impact of Covid-19 on student welfare is arguably as important as its impact on student learning, and there is an opportunity for institutions to share best practice in this area for as long as the effects of the pandemic continue to be felt.

Safeguarding and mental health were key concerns. A UK college explained how not seeing students in college made it more difficult to track those with safeguarding issues or hidden safeguarding issues. Concerns about the spread of Covid-19 also prevented some students from coming into the institution to complete assessments. Gender equality was another issue. It was noted that in rural settings there was less participation by women in training and that opportunities needed to be made more accessible to women. Whilst the scope of this research did not cover detailed investigation of this important area, gender equality in TVET during the pandemic is a valuable topic for further study.

C. Improving student support and engagement

One research participant shared that their institution was caught off guard on student support by Covid-19. All institutions had to up their game on student welfare and whilst issues remained, there was a sense that student engagement had evolved and that mindsets had changed. In some senses, engagement had improved but in others it had been made harder through the pandemic without face-to-face contact. A Ghanaian institution felt student engagement improved because students had to work more independently, faster and become more resourceful in response to a job market hit by the pandemic. Other examples of enhanced student engagement included:

- Using online means to reach students with physical challenges more easily.
- Using social media to prepare new student intakes.
- Setting up student companies to reskill college staff.
- Using students to run the staff IT helpdesk.
- Improving student record and contact processes.
- Sending lecturers to visit students in rural areas.
- Organising games for locked-down residential students.
- Conducting enhanced student surveys.
- Improved interaction between staff and students.

It was also noted that relationships with external support networks had become very important during the pandemic, for example with health and social care trusts, counsellors, support officers, homestay hosts, local doctors, spiritual forums and municipalities.

One UK institution noted that whilst student feedback about remote learning was generally good, students did not always like remote learning but knew it was necessary. It is difficult now to imagine rowing back from an element of remote learning. It is reasonable therefore to assume that the key to preparing learners for the future will be blended learning models that take account of both curriculum and student support needs. The impact of Covid-19 on student welfare is arguably as important as its impact on student learning and there is an opportunity for institutions to share best practice in this area for as long as the effects of the pandemic continue to be felt.



Students: inclusive practice

Summary of key messages

Lessons learned

Difficulty for students to engage in online learning without a digital support infrastructure in place, providing access to devices, systems and training. Organisational ability and preparedness to provide student support and safeguarding remotely. Requirement to improve accessibility of opportunities for female TVET learners, particularly in rural settings.

Good practice considerations

A minimum of online learning to be permanently embedded into curriculum delivery to develop students' digital skills. Ensuring that an equality and diversity policy is embedded at the institution.

avible student

Developing a student support network with local community providers.

Offering flexible student payment methods.

TVET policy themes

Addressing the lost learning and work-readiness post Covid-19.

Equality of access and of opportunity for rural learners.

Ways of measuring the effectiveness of support to TVET students through digital platforms.

Equality of access and of opportunity for female TVET learners.

Covid-19 and its long-term impact on the mental health and welfare of young people.

Recommendations









Institutions should incorporate procedures for remote support into their student support and safeguarding policies.

2.

Consideration should be given to a further study that explores the student experience during Covid-19. It should engage the student voice from TVET institutions around the world.

3.

Policy-makers should prioritise the impact on rural communities, disadvantaged communities and women in their post-Covid-19 skills recovery programmes.

Section 8 Conclusions



The efficiency, sustainability and legacy of the changes brought about by Covid-19 suggest that a complete return to pre-pandemic TVET policy and practice is unlikely. There are few positives to emerge from the pandemic, but Covid-19 was a digital wake-up call for TVET institutions. In the last year, they have innovated and evolved, changing their teaching, learning and support practices.

Whilst at first, change was in emergency response to the pandemic, it began to generate a range of tangible and in many cases sustainable benefits. Innovation may have started as a response to survival, but as one research participant observed, 'if you're solutionfocused, everything can be overcome'.

The headline story from this research is what the move to remote learning and the adoption of technology has enabled institutions to do; particularly what they had not done or been able to do previously. During the pandemic, the institutions in this study made the best of a bad, immediate situation and took the opportunity to experiment and innovate. As a result, only 6% will maintain pure face-to-face teaching delivery and 47% had made changes to assessment methods that they would continue to use in future. The next step is for TVET institutions to review and evaluate these changes and to decide which to embed firmly into their organisational practice for the long term. At the same time, they are managing the mid-term response i.e. 'measures that could be taken in TVET institutions to be effectively prepared for any future similar situation and to gradually prepare for any post-pandemic disturbances or opportunities that arise' (Majumdar & Araiztegui 2020).

This report signposts key themes for national policymakers to support TVET reform and systems review. The research findings describe the evolution of areas such as assessments and work placements, the adoption of blended learning and the upskilling of teaching staff. Digital tools brought college communities together, improved communication and showed the resilience and creativity of staff and students but did not solve pre-existing challenges in TVET structures and policy. Issues remain such as access for rural students, centralised control of the curriculum, financial sustainability and the degree to which vocational learning and practical experience can ever be fully digitalised. The matrix opposite summarises the standout findings from across the five areas of this research:



Digital transformation

Development of new and bespoke learner management systems and VLEs

Move to flexible and blended curriculum delivery and assessment models

An improved understanding of the benefits of online delivery

New quality assurance systems

Improved staff digital skills and CPD opportunities

New staff appointed, including with digital skills

Improved student digital skills, independent working ability and employability

Better communication within and outwith the college, improved staff teamwork and staff-student engagement

New opportunities

opportunities for TVET institutions

Utilisation of digital marketing in addition to traditional marketing tools

New and greater audiences and student reach through online tools, including social media

Closer alignment with employers

New avenues for engagement with local community partners

Heightened perception and profile of TVET during the pandemic

at organisational level

Student entrepreneurship

The efficiency, sustainability and legacy of the changes brought about by Covid-19 suggest that a complete return to pre-pandemic TVET policy and practice is unlikely. This research concludes with a case study that captures the impact of the pandemic intersections between technology, staff, students, employers and the curriculum and that highlights the widespread benefits of digital transformation in TVET.

New curriculum and commercial

Policy development and review

Pre-existing challenges

Rural access and connectivity

Gender inclusion in upskilling

Disadvantaged students

Student welfare and mental health

Cost implications of technology

Centralised vs devolved curriculum control

Replication of practical/ vocational assessments online

Importance of in-person attendance in communities where college is a 'home from home'

Case Study 7



INSTITUTION

Kuala Langat National Youth Skills Institute, Malaysia

FOCUS

Turning challenges into opportunities: digital marketing and support to employers and vulnerable groups

Following the enforcement of the Movement Control Order (MCO) in Malaysia on 16 March 2020, all educational institutions were ordered to close and all types of face -to -face activities were cancelled. Rather than lamenting these challenges, the management team at Kuala Langat National Youth Skills Institute realised the need to turn challenges into opportunities. One of the initiatives designed was to introduce a **digital marketing** strategy to promote the products and services offered by this

To ensure that this digital marketing initiative achieved its target of reaching as many potential customers as possible, three target groups were identified:

Industrial Partners

Industrial partners play an important role in the sustainability of the institute's output. Apart from being potential employers to students, industrial partners are also actively involved in providing input to the quality of institute skills training contents. In addition, industry partners also contribute to the institute's revenue through several joint venture projects. To ensure that the relationship between institute and industry partners is always maintained, communication regarding products and services have been sent online to industry partners.

Future students

Under normal circumstances the recruitment of new students was conducted manually and face to face. Whilst some digital marketing methods were carried. the entire process is now fully digital. The Student Affairs Division has created a platform for direct interaction with the community who wish to inquire about the programs offered. Through this initiative, the institute has succeeded in creating a database of potential prospective students.

Vulnerable groups

One of the key aims of digital marketing was to ensure that we reached vulnerable groups. This includes groups of people with disabilities, rural residents and disadvantaged youth. Through the digital marketing initiative, the focus is on community leaders and non-governmental organizations (NGOs) as information delivery agents. The institute has established digital communication team to collaborate with these leaders to constantly deliver the opportunities created to these disadvantaged groups. This initiative is designed to address the digital divide that may exist in these groups of people.

There are numerous positive outcomes from this strategy. Savings of thousands of Ringgits have been made possible mainly from the production of various digital innovations and utilising internal resources. Moreover, the online approach was able to reduce some of the operational budget such as logistics costs.

It has led to improved productivity and increased market connectivity in certain operational segments. This is because data analysis can be obtained directly and quickly. At the same time the amalgamation of various functions has been able to reduce bureaucracy in the institute's operations.

It has also had a direct impact on increasing the level of digital competency among staff and students. This has facilitated the transition of the institute's operations to the era of digital education and facilitated the adaptation to the 4th industrial revolution (IR4.0)

It is undeniable that the presence of Covid-19 has brought various challenges to the rest of the world. The need to balance safety and health aspects with livelihood has required drastic transformation. For the Kuala Langat National Youth Skills Institute, the adaptation of digital marketing as one of the institute's digitalization strategies has resulted in positives outcomes.



Above Engagement session with the local community to promote our online programs and services during Movement Control Order

Right Free online course on interior design by the Civil Technology Department in our social media platform



Section 9 Recommendations



This research explored the practical ways in which TVET institutions are innovating, evolving and changing as a result of Covid-19. There are always recommendations that can be made where budget, time, or resources are unlimited. However, it is prudent to focus on recommendations that are both practical and feasible, and that will benefit policymakers and TVET institutions, their staff and students.

This report did not set out to recommend changes to education policy at a country level. However, the British Council is well placed, given its global reach and remit, to support TVET policy dialogue as the world turns its focus to the economic and educational recovery following the pandemic.

One of the key observations from this research is how valuable it was to bring together leaders and practitioners from different institutions, in different countries. As the world emerges from the pandemic, there is much value in continuing the conversations and collaborations that started as a product of this research, and that began when the I-WORK Programme first launched in 2018. As one South African college neatly summarised, it developed its own plan during Covid-19, but was unaware how well it was doing against the plan until it shared it with others. It is the opportunity to connect that makes the difference.

First therefore, an overarching recommendation from this research is that TVET institutions such as those that participated in the focus groups could form self-supporting communities of practice. International networks are particularly useful to drive innovation. The British Council and other organisations such as the AoC can play an important role in enabling and facilitating conversations. From these communities of practice there are opportunities to develop a repository of good practice across different TVET thematic areas.

Secondly, this report makes three recommendations for TVET policy-makers

Education policy-makers at a national level should reflect on the degree to which the TVET curriculum should be decentralised in order to respond to labour market changes.

Policy-makers should consider the potential for national digital training programmes for staff in TVET institutions.

Thirdly, this report makes nine recommendations for TVET practitioners and leaders:

Institutions should build on good practice during the pandemic and develop a digital learning strategy, where it is not already in place.

TVET institutions should develop a learner engagement strategy, where not already in place, that specifically takes account of access to learning for students in rural or hard-toreach locations.

Institutions should develop an employer engagement strategy if not already in place. The strategy should have a specific strand which focuses on those emerging industries where colleges and employers could work together to replace opportunities that were lost due to Covid-19.

Institutions should create a digital journey plan for staff so that they can pick up the skills and new ideas they need at the right pace for their practice.

Institutions should ensure that the development of digital skills is embedded in their CPD policy.

Finally, there are opportunities for further TVET policy research following on from the findings in this report. It would be particularly interesting to commission a further study that explores the student experience during Covid-19, engaging the student voice from TVET institutions around the world. Other areas for future research include:

A study of the impact of digital assessment in workbased learning and low-cost and practical solutions for training.

An analysis of the volume of lost learning along with solutions to fill knowledge and skills gaps in individuals.

An investigation into the effectiveness of alternative work-based learning practices so that policy makers and college leaders can design high quality programmes.

An analysis of how TVET qualifications need to remain fit for purpose in the post-Covid world.

Policy-makers should prioritise the impact on rural communities, disadvantaged communities and women in their post-Covid-19 skills recovery programmes.

Leadership at every institution should have a business continuity plan for managing emergency situations and risk. This plan should be regularly reviewed.

Institutions should develop an internal communication plan to ensure effective communication with their staff.

Institutions should conduct an audit of their work-based curriculum to identify new opportunities for employer involvement in placements. projects and assessments.

Institutions should incorporate procedures for remote support into their student support and safeguarding policies.

The impact of blended delivery on the student experience and the development of a TVET best practice standard.

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Appendix A

Research Participant Interview Questions

Institutional policy and structure

- · How has your institution changed the way it operates?
- To what extent will these changes be reflected in your 5-year plan? Can you give examples of any policy changes and intended impact?
- Explain how your institution changed its structure to reflect the changes and how these changes will be reflected in your 5-year plan.

Curriculum offer and delivery

- Explain how delivery methods have changed since the onset of COVID. What innovative ways have you found for this delivery and how will these changes be reflected in future plans?
- Can you give examples of curriculum areas where this has taken place? Do these changes make your offer more/less inclusive? Can you give examples?
- Opportunities in some industries may have disappeared or severely reduced not just because of COVID but because of the impending recession and the increased pace of changes that were happening anyway. If a large part of the curriculum is in a sector that has shrunk what are you going to do about it?
- Has it forced you to review the labour market more actively or are you too preoccupied with other major issues to be able to concentrate on this? If so, how are you going about it?
- Some industries are disappearing but new are emerging (for example drones operations and maintenance etc.). How have you been working with the employers in this period to determine where/ what the next demand is?

Assessment and exams

- Explain how assessment methods have changed since the onset of COVID and the extent to which these will be implemented longer term.
- Can you give examples of curriculum areas where this has happened?
- Can you give examples of alternatives that were put in place when you were unable to carry out your usual assessments? Will this make your assessments more/less inclusive? Can you give examples?
- Do any of the emerging models and practices pose an issue in terms of Quality Assurance, what problems in this respect do you envisage, if any, and what the solutions might be?

Apprenticeships and work-based learning

- · How has your institution responded to COVID's impact on work experience/placements and what alternatives were you able to offer? To what extent will these changes be implemented in the future?
- The labour market has changed so quickly, how have you helped students adapt / or what they are planning to do

Staff and students

- In light of COVID, what changes to CPD have you made in your five-year plan?
- How does your institution plan to engage more with technology on a permanent basis?
- · How will you address difficulties with staff digital teaching skills? What are the barriers?
- To what extent do you feel that COVID-related changes have led to more inclusive practice?
- Can you give examples of innovative practice that were a direct result of having to change curriculum planning/delivery due to COVID?
- Do you have examples of good practice where a particular challenge was overcome?
- · What are your plans for student and staff support following the disruptions to study and shutdowns?

Appendix B

Focus Group Key Questions

- 1. What has 'innovation' meant for you in your job role and at your institution during Covid-19?
- 2. Can you share examples of any new opportunities or initiatives that have emerged at your institution for staff, students or in the curriculum as a direct consequence of Covid?
- **3.** Can you share examples of how you or your institution has adapted student support during Covid?
- **4.** Covid has been challenging for everyone, all over the world. What has been your biggest challenge in managing changes to how the curriculum (vocational subjects) is delivered in your institution?
- 5. What lessons do you feel you and your institution can take from the pandemic to share with others?

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