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Final Report: Modes of Delivery in Higher Education

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Modes of delivery in higher education

PROJECT OVERVIEW

PURPOSE

The purpose of this project is to provide the Department of Education with the evidence to support the Higher Education Standards Panel's (HESP) consideration of the policy and regulatory implications of online and mixed-mode delivery of higher education by Australian providers.

- **What are the current findings surrounding online and mixed-mode delivery in higher education?**
- **What are the key policy issues and implications for quality of delivery?**
- **What does the evidence say regarding the issues that need further consideration or action?**

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- **Scoping review**
- **Trend analysis**

PHASE 2

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- **Mapping to the Higher Education Standards Framework**

PHASE 3

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2. Student interaction and sense of belonging
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5. Quality of teaching and resources
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Executive summary

Purpose

The purpose of this report is to provide the Australian Government Department of Education (the Department) with the evidence to support the Higher Education Standards Panel's (HESP's) consideration of the policy, and regulatory, implications of online and mixed-mode delivery of higher education by Australian providers.

Background

The higher education sector had begun to shift to a greater use of online and mixed-mode delivery before 2020, with some providers specialising in these modes. However, the onset of the COVID-19 pandemic necessitated a rapid shift to a predominance of online course delivery in the short-term. There were advantages, particularly regarding continuing students' educational trajectories. However, the shift did coincide with a notable decline in students favourably rating their educational experience and engagement throughout 2020, as noted by the Department in their original documentation.

The rapid changes to modes of delivery in Australian higher education raised questions about the quality of delivery, the implications for the student experience and the policy and regulatory implications arising from online and mixed-mode delivery. Further, key questions surround the adequacy of the current Higher Education Standards Framework (HESF) in supporting current and future generations of students and maximising their educational outcomes and student experience.

With the new normal remaining uncertain, and to address some of the questions raised during the pandemic, the Department requested the assistance of a consultant to undertake background research and analysis to support the HESP's consideration of the policy, and regulatory, implications of online and mixed-mode delivery of higher education by Australian providers.

Objectives

The Department outlined three objectives that guided the project approach:

1. To present the current findings about the issues related to online and mixed-mode delivery in higher education, by undertaking background research (including gathering current data via desktop research and qualitative information via targeted consultations with relevant stakeholders).
2. To identify key policy issues[1] related to online and mixed-mode delivery in higher education and the implications of these for the quality of delivery.
3. To provide a comprehensive report (this report) as the basis for the HESP to determine which aspects of the issues it wishes to take forward for further consideration and action.

[1] For the purposes this project, policy issues are issues which concern, inform or potentially impact a course of action relating to higher education that could be adopted and/or pursued by the government or the HESP.

Approach

A three-phased process was utilised to address the three project objectives, supported by ongoing consultation and input from the UQ Advisory Group.

Phase 1: Exploration

- **Scoping review:** Firstly, a total of 105 research outputs published in 2020-2021 were read and thematically analysed to identify issues impacting higher education, that had arisen from COVID-19 and the rapid shift to online and mixed-mode delivery from March 2020.
- **Trend analysis:** Secondly, higher education data (enrolment data and QILT[2]) was analysed to understand trends in student enrolment, retention, student perceptions and graduate outcome by mode of study.

Phase 2: Policy translation

- **Policy translation:** Building on the findings from the scoping review and the trend analysis, the key policy issues were identified using a translation structure previously developed by team member A/Professor Jason Lodge as part of the ARC-funded Science of Learning Research Centre.
- **Mapping to the HESF:** To support the transition from identifying the issues to the key policy issues, an exercise was undertaken to map the key policy issues against the clauses of the HESF.

Phase 3: Confirmation and synthesis

- **Targeted stakeholder consultations:** To confirm the issues identified in the earlier phases, and to scope for further issues not already identified, and the associated implications of these, targeted consultations were undertaken with selected subjected matter experts, professional bodies and higher education representatives.
- **Consultation with the HESP, the Department and TEQSA:** After submission and presentation of the draft report, consultation was undertaken with the HESP, the Department and TEQSA on the issues for potential action and the implications for the HESF and regulation. The feedback and discussion during this consultation contributed to the final report.
- **Synthesis:** A synthesis of all project findings was undertaken and presented in a comprehensive report (this report).

2 Quality Indicators for Learning and Teaching (QILT) are a suite of government endorsed surveys for higher education, across the student life cycle from commencement to employment.

Findings:

Key contextual factors

There are two key contextual factors relating to the policy issues and potential implications which are identified in this report.

1. Online and distance learning are not new. Further, many Australian higher education providers (HEPs) have extensive experience in delivering learning through these modes. However, the change in modes necessitated by the COVID-19 pandemic represents a fundamental shift in the ways that educational experiences will be offered to Australian higher education students.
2. With the rapid shift to online and mixed-mode delivery, came substantial innovation and progress in the use of educational technologies in higher education. However, this progress also led to the emergence of significant issues for students, for staff and for HEPs, as outlined in this report. The evidence gathered in this report indicates that carefully designed and delivered online and distance learning and support were not consistently employed during the pandemic.

Opportunities for higher education

Amid the many key issues identified, positive impacts emerged across the three phases of the project. They signal the opportunities for the sector moving forward and are grouped into two themes.

1. **Increased flexibility and student equity:** The flexibility provided by online and mixed-mode delivery may allow students who would otherwise be unable to fit study into their lives to do so, providing opportunities to increase diversity and student equity.
2. **Teaching and learning enhancements:** Stakeholders saw opportunities to improve teaching and learning through online means, including providing more avenues for interaction, more personalised student experiences, and inbuilt tracking and monitoring to assist students' learning.

Key Policy Issues

The exploration, translation and confirmation phases resulted in the identification of 8 key issues of online and mixed-mode delivery relevant to the quality of delivery and outcomes for Australian higher education. These issues concern, or have implications for, the HESF, higher education policy more broadly or regulation.

Stakeholders who were consulted during this project perceived that these issues would be more prevalent unless there was sufficient resourcing, planning, design and development of these deliveries by HEPs themselves. Some scholars, and various other stakeholders, expressed concerns about this, due to the financial pressures within which they work, and the view that online and mixed-mode delivery could be perceived as more economical, contrary to their own perceptions.

Key Issues identified	Selected risks to be mitigated
1. **Student engagement**:	Without sufficient quality of online and mixed-mode offerings, there is a risk that students will not be sufficiently motivated, interested, self-regulated or self-directed to sufficiently participate or be involved in education-related activities or learning in these modalities, impacting their engagement. To minimise the risk to student engagement, online and mixed-mode delivery need careful planning, design and development, with adequate resourcing and infrastructure.
2. Student interaction and sense of belonging:	Commensurate with student engagement is the level of interaction (with peers and educators) and sense of belonging. There is evidence this wasn't achieved during the COVID-19 pandemic with the rapid shift to online learning, jeopardising the overall student experience.
3. Mental health:	Mental health issues among staff and students compromises students' chances of succeeding in their studies. If online and mixed-mode delivery become the new normal, consideration needs to be given to the increased isolation and loneliness that can accompany these modes of delivery, and the additional workload that may be created for educators.
4. International students' experience:	While online and mixed-mode delivery can be more inclusive and accessible, offering opportunities for a wider learning pool, the findings indicate some areas which need to be addressed to minimise risks for international students' higher education experience. Financial implications and living arrangements were commonly evoked challenges and expectations for an on-campus experience resulted in many missed opportunities during the pandemic. Along with risks to the international students' experience, there are serious financial repercussions and reputational risks to the Australian higher education sector.
5. Quality of teaching and resources:	Timely access to quality learning resources and support services is instrumental for achieving quality learning outcomes. There is a risk that HEPs will offer online and mixed-mode deliveries in the future, without ensuring students have access to learning resources and support services that are tailored towards, and respond to their needs associated with the modes being offered.
6. Learning outcomes, professional attributes and accreditation requirements:	The risk to programs that traditionally rely on practical components was magnified during the pandemic. In some cases, this has led to the possibility that graduates are not adequately prepared for professional practice, or academically prepared for the remainder of their higher education.
7. Academic integrity and student privacy:	Reduced academic integrity surfaced across disciplines, related to pre-pandemic trends towards contract cheating, but with new concerns where students were unable to complete on-campus/on-site invigilated assessment tasks (e.g., mainly examination or observed types of practical or performance-based assessment) and security issues with online proctored exams.
8. Student equity:	Despite the opportunity presented to students from equity groups, there is a major risk that a move to near universal offerings of programs reliant on mixed, online or other combinations of external modalities may leave these students behind. This is due to the inequities in availability and access of resources and appropriate support,

	as well as social and cultural capital to optimise engagement in these modes. There is evidence that there have already been declines in equity staffing since the pandemic. Further, there is a risk that the nuanced experiences of equity-group students, including both the drawbacks and benefits of online and mixed-mode delivery are not adequately acknowledged nor understood.

Implications:

Implications for the HESF

Chapter 7 utilises a student lifecycle approach to discuss the implications for HESF arising from the identified policy issues associated with mode of delivery. Doing so maintains a student-focused lens to potential implications and illuminates the main pressure points within each of the 7 HESF domains, summarised as:

HESF Domain	Pressure points
Domain 1: Student participation and attainment	*Admission* *Orientation and progression* *Learning outcomes and assessment*
Domain 2: Learning environment	*Facilities and infrastructure* *Diversity and equity*
Domain 3: Teaching	*Staffing* *Learning resources and educational support*
Domain 4: Research and research training	*Research training*
Domain 5: Institutional quality assurance	*Academic integrity* *Monitoring, review and improvement* *Delivery with other parties*
Domain 6: Governance and accountability	*HEP governance and accountability structures and processes*
Domain 7: Representation, information, and information management	*Representation of mode to students*

Key takeaway message:

The HESF is a principles-based policy framework to guide decisions of HEPs across Australia. The HESF includes threshold standards across 7 domains framed within a student lifecycle model to guide HEPs activities and management of student achievement. Importantly, and in the context of the global pandemic, the standards are mode agnostic – regardless of mode of study, HEPs have to achieve the threshold standards.

Patterns of mode of study were shifting across the sector with the introduction of more sophisticated educational technologies and evidence-informed pedagogies over the past decades. The pandemic upended those patterns on a mass scale. The Australian higher education sector moved online with students and staff working from home.

An overarching question that the work presented in this report was aiming to answer is whether the HESF is still fit for purpose in the 'new normal' that is taking shape following the emergence of COVID-19. The key policy issues in this report were identified from a scoping review of literature on modes of delivery during the pandemic, analysis of higher education data and trends, policy translation process and through an extensive consultation process. Based on what has been identified, there does not appear to be a strong case for changing the threshold standards in the HESF. However, there are numerous places in the standards where there is a possibility that HEPs will need to re-consider whether the practices they have used for online delivery during the pandemic are fit for purpose in the long-term to ensure they meet the standards.

Abbreviations

Abbreviation	Definition
the Department	Australian Government Department of Education
ESS	Employer Satisfaction Survey
GOS	Graduate Outcomes Survey
GOS-L	Graduate Outcomes Survey Longitudinal
HEIs	Higher Education Institutions
HEPs	Higher Education Providers
HESF	Higher Education Standards Framework
HESP	Higher Education Standards Panel
NUHEI	Non-university Higher Education Institution
QILT	Quality Indicators for Learning and Teaching
SES	Student Experience Survey
TEQSA	Tertiary Education Quality and Standards Agency
RUCs	Regional University Centres
UQ	The University of Queensland

List of definitions used in this report

Term	Definition used in this report
Policy Issue	An issue which concerns, informs or potentially impacts a course of action relating to higher education that could be adopted and/or pursued by the government or the HESP.
Learner engagement	A combined measure capturing student interaction, student belonging and student preparedness for study, as collected from the SES.
Student engagement	A multifaceted construct spanning student involvement or participation in education-related activities or learning; emotional investment in education-related activities or learning; and cognitive investment in learning.
Student experience	A term that encompasses all aspects of students experience in higher education, from academic studies to social interactions and campus life. For this report, student experience is segmented into academic vs non-academic experiences.

1. Introduction

The purpose of this project is to provide the Department with the evidence to support the HESP's consideration of the policy, and regulatory, implications of online and mixed-mode delivery of higher education by Australian providers.

This project follows on from the rapid shift to a preponderance of online course delivery because of the COVID-19 pandemic, and the associated decline in students favourably rating their educational experience and engagement throughout 2020.

1.1 Background

While the higher education sector had begun to shift to a greater use of mixed-mode delivery before 2020, the onset of the COVID-19 pandemic necessitated a rapid shift to the predominance of online course delivery in the short-term. The large-scale adoption of online and mixed delivery modes brought advantages, such as many students being able to continue with their educational trajectory, and may have offered some opportunities for innovation. However, it coincided with a notable decline in students favourably reporting their educational experience and engagement throughout 2020, as noted by the Department in their original documentation.

Large-scale adoption of online and mixed-mode delivery during the COVID-19 pandemic also introduced more providers, academics and students to the possibilities such delivery potentially offers in the longer-term. However, the rapid changes to modes of delivery in Australian higher education raised questions around the quality of delivery, the implications for the student experience and the policy, and regulatory, implications arising from online and mixed-mode delivery. Further, key questions surround the adequacy of the current HESF in supporting current and future generations of students and maximising their educational outcomes and student experience.

As a result, the Department requested the assistance of a consultant to undertake background research and analysis to support the HESP'S consideration of the policy, and regulatory, implications of online and mixed-mode delivery of higher education by Australian providers.

1.2 Objectives

The project team were tasked with gathering evidence by undertaking background research on the issues related to online and mixed-mode delivery in higher education, analysing the implications for current and prospective students, providers and the higher education system, and providing a range of issues to the HESP for its consideration.

The key objectives of the project are:

- **Objective 1:** To present the current findings about the issues related to online and mixed-mode delivery in higher education, by undertaking background research (including gathering current data via desktop research and qualitative information via targeted consultations with relevant stakeholders).
- **Objective 2:** To identify key policy issues related to online and mixed-mode delivery in higher education and the implications of these for the quality of delivery.
- **Objective 3:** To provide a comprehensive report (this report) as the basis for the HESP to determine which aspects of the issues it wishes to take forward for further consideration and action.

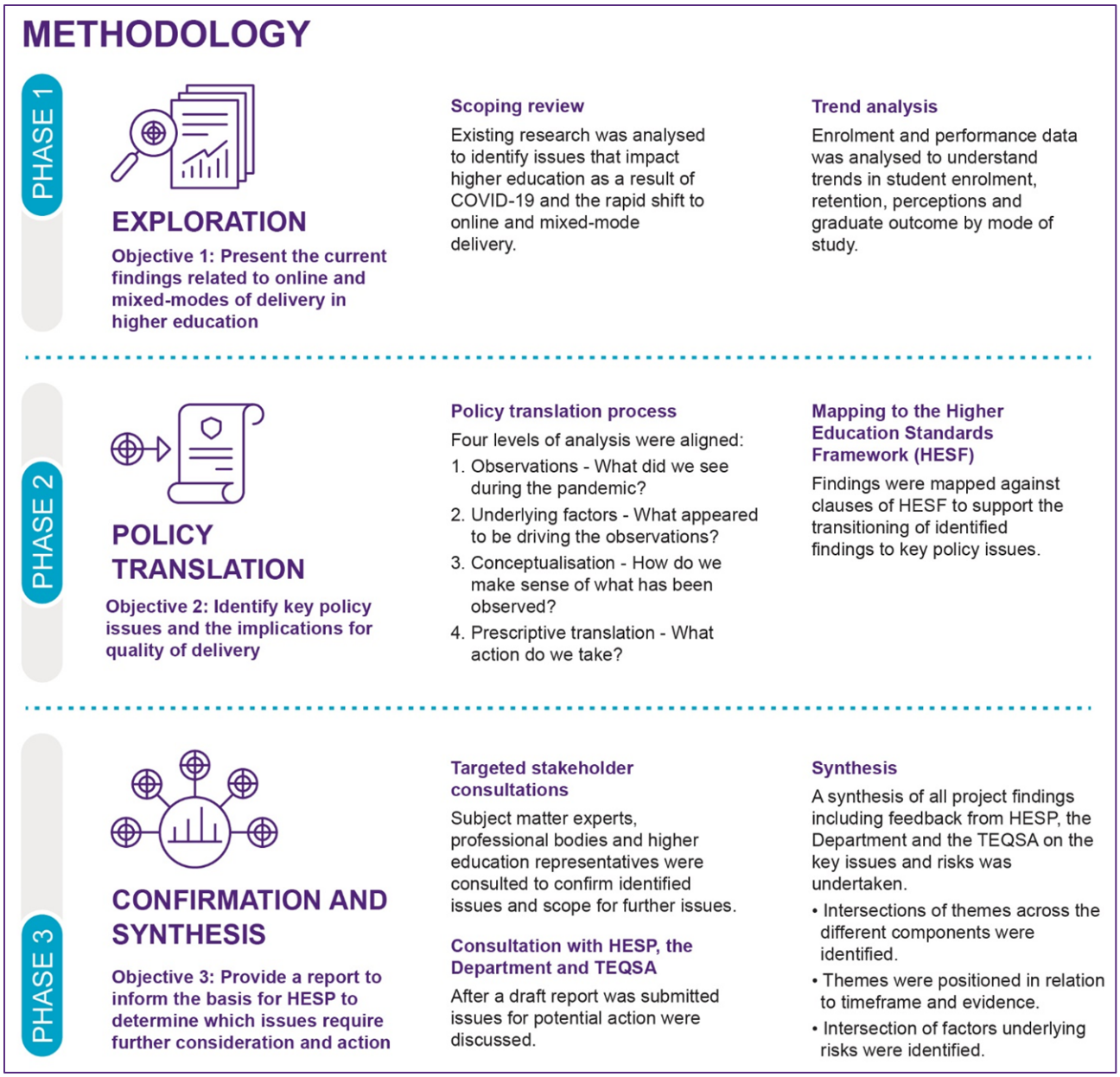
1.3 Outline of report

This report provides a synthesis of all project findings, including feedback from HESP, the department and TEQSA, on the key policy issues and risks, as well as policyimplications related to online and mixed-mode delivery in higher education (in line with Objective 3). Chapter 2 provides an overview of the approach undertaken for the project. Chapter 3 presents a descriptive account of the trends in modes of delivery and student experience leading up to and during the COVID-19 pandemic. Chapter 4 presents the opportunities associated with online and mixed-mode delivery, while Chapter 5 presents the key policy issues related to online and mixed-mode delivery. Chapter 6 presents the underlying factors of these policy issues, while Chapter 7 presents the associated implications of these policy issues.

2. Approach

2.1 Introduction

This project utilised a sequential, mixed-methods research design (Cameron, 2009; Watkins & Gioia, 2015). This design was chosen as mixed-method research lends itself to interdisciplinarity and can provide a more comprehensive account of topic through the convergence of findings (Doyle et al., 2009; Watkins & Gioia, 2015). The sequential design enabled the research findings and outcomes to build upon earlier stages of outputs. In this context, the generation of key policy issues and the design of the stakeholder consultations build upon the background research findings that were generated from the preceding steps (Manzoor, 2020). Further, commencing with a scoping review and trend analysis enabled the research team to commence with a broad lens, to identify all the issues that were apparent, before filtering down to the policy issues. The consultation component facilitated a confirmation of issues, while potentially identifying any other issues that were not already identified. The approach included three main phases.



2.2 Phase 1: Exploration

2.2.1 Scoping review

A scoping review was firstly undertaken to identify issues impacting higher education that had arisen from the rapid shift to online and mixed-mode delivery because of COVID-19. This widely used approach provides a descriptive overview of the field, is useful where other reviews have not been conducted, and where the area of research is emerging (Arksey & O'Malley, 2005; Mays et al., 2001). The Arksey and O'Malley (2005) approach involved a six-step process: a) identifying the research question; b) identifying relevant studies; c) selecting the appropriate studies; d) charting the data; e) collating and reporting results, and f) gathering evidence for a consultation.

The search was guided by the following question: *What is known about the impact of COVID-19 on the higher education sector, particularly in the realm of educational quality, student experience, and institutional responses?* Research outputs were analysed that focused on teaching and learning, broad institutional responses to COVID-19, multiple university responses to pedagogy, curriculum, assessment, and experience of students enrolled in programs.

A total of 105 research outputs were read and thematically analysed (Braun & Clarke, 2006, 2019), through a two-stage process. The first stage was conducted in late 2020 and identified 61 research outputs. An additional 44 research outputs were identified and analysed in early 2022. Appendix A provides the full report from the scoping review.

2.2.2 Trend analysis of higher education data

Data analysis on higher education data was undertaken to analyse trends in student enrolment, student experiences and graduate outcomes related to online and mixed-mode delivery, as well as disruptions in patterns and experience since the start of the COVID-19 pandemic. Analysis was undertaken on enrolment data and data from the Quality Indicators for Learning and Teaching (QILT) suite of surveys - Student Experience Survey (SES), Graduate Outcomes Survey (GOS), Graduate Outcomes Survey – Longitudinal (GOS-L) and Employer Satisfaction Survey (ESS). Appendix B provides the full report from the trend analysis of enrolment and QILT data.

2.3 Phase 2: Policy translation

2.3.1 Translation process

The policy translation process was adapted from a framework developed by Horvath and Lodge (2017). The framework was initially intended for the translation of foundational research on learning, to practice and policy in educational contexts. The adapted version of the translation framework sought to align four levels of analysis:

1. **Observations:** What did we see during the COVID-19 pandemic?
2. **Underlying factors:** What appeared to be driving the observations?
3. **Conceptualisation:** How do we make sense of what was observed?
4. **Prescriptive translation:** What action do we take?

Rather than solely relying on any of these individual levels, the use of this framework allows for analysis of the observations captured during phase 1 of this project (including the scoping review and trend analysis) as well as research around online and mixed-mode delivery in higher education over the longer term. As was evident from the scoping review, there is a critical need to consider the observations made during the pandemic through the lens of the 25 years of research, practice, and policy on educational technologies and

the longer-term history of distance, online, and mixed-mode delivery. The translation framework developed for this project aimed to achieve that.

In an operational sense, the translation across the four levels of analysis occurred in the following steps:

1. The findings from phase 1 were synthesised into a set of core issues.
2. A list of key factors that may not have been represented in review, was compiled.
3. An analysis of core issues identified in review was carried out, to determine related factors.
4. A rapid desktop review of core principles of online/mixed-mode/distance/other mode approaches was completed.
5. A further synthesis of review, mechanisms, and principles was carried out in preparation for policy translation.
6. An integration of synthesis (step 5) with legislative and regulatory instruments was completed.
7. A further analysis of implications of policy translation for HESF, HEPs and associated regulatory implications, was also completed.

Across the four levels of analysis and seven steps of the policy translation process, a preliminary list of key policy issues was analysed with high-level policy implications provided.

2.3.2 Mapping to the HESF

To support the policy translation process, a mapping exercise was conducted. The key undertaking was to map the preliminary issues against all seven domains of the HESF. The mapping exercise focused on the implications of these issues for the standards set by the HESF. The exercise did not identify problems with the standards as they are.

Compared to the more focused translation component, the mapping exercise took a wider view of the policy relevance, by considering all HESF clauses that could be affected by the policy issues.

The mapping approach involved three steps:

1. Each clause of HESF was entered into an Excel file (row).
2. Each line item was considered across four categories (columns):
    a. Key Issues identified by the project team: Guided by the question: *Is the HESF domain/clause related to the 'Key Issue'?* Each clause (or subclause) that was identified as potentially relevant was noted.
    b. Key Issues identified by TEQSA: To compare the project team mapping of identified issues against earlier mapping conducted by TEQSA, two 2020 TEQSA publications on online learning during the COVID-19 pandemic (April 2020; September 2020) (TEQSA, 2020a, 2020c) were analysed. These publications explicitly named HESF domains, sections (and in some case clauses) of relevance. The clauses which were identified in this documentation were noted in our Excel file.
3. Brief notes were included where clauses were identified as relevant, or risks were identified.

The outcomes of the mapping exercise were reviewed as part of the synthesis of all findings.

2.4 Phase 3: Confirmation and synthesis

2.4.1 Targeted stakeholder consultations

Targeted consultations were undertaken with professional bodies and selected experts in higher education learning, and higher education policy and operations. Stakeholder-engaged research covers research where stakeholders provide feedback and/or there is bi-directional communication used in the research process, which can produce more relevant outcomes for those impacted by the research findings (Goodman et al., 2020). For the purposes of this project, stakeholder engagement was seen as important to confirm issues that were previously identified from the earlier phases of the research, but also to potentially build on these issues and to identify any other issues that were not previously identified.

A stakeholder mapping exercise was undertaken in consultation with the department to identify relevant stakeholders with expertise or representative of bodies that may have been affected by online or mixed-mode delivery.

Three rounds of consultation were undertaken across the three areas of expertise. The questions were designed to build upon the key issues and findings identified from the background research in the preceding phases. The questions were deliberately open-ended to maximise the capture of authentic views of these issues, without presenting the stakeholders with the preliminary findings from the project.

The content and sequence of the questions was similar across the three rounds with the question wording slightly tailored to prompt stakeholders in their identified areas of expertise:

Round 1: Student learning and experience

1. What advantages do online or mixed-mode delivery offer over face-to-face delivery for students' learning and/or the student experience?
2. What are the main challenges of online or mixed-mode delivery for students' learning, their experiences, and their chances of succeeding?
3. How do online assessments enhance or reduce the fairness, integrity and effectiveness of assessing learning outcomes?
4. Are there any issues that constitute significant risks for the student experience, the quality or integrity of higher education linked to mode of delivery that need to be addressed in the higher education sector?
5. Do you have suggestions for addressing the issues and risks you identified above? Are there learnings (including from the literature and from other countries) that can be applied in solutions?
6. Is there anything else you would like to share that is related to the student experience or student success and that is linked to online or mixed-mode delivery?

Round 2: Professional graduate attributes

1. What advantages do online or mixed-mode delivery offer over face-to-face delivery in developing employability and professional attributes and skills of students and graduates?
2. What are the main challenges of online or mixed-mode delivery for developing employability and professional attributes and skills of students and graduates?
3. How do online or mixed-mode delivery enhance or reduce professional learning experiences (e.g. placements, work integrated learning)?
4. Are there any issues that constitute significant risks for developing employability or professional attributes and skills when students study in online or mixed-mode that need to be addressed in the higher education sector?

5. Do you have suggestions for addressing the issues and risks you identified above? Are there learnings (including from the literature and from other countries) that can be applied in solutions?
6. Is there anything else you would like to share that is related to attributes of graduates and online or mixed-mode delivery?

Round 3: Higher education sector

1. What advantages do online or mixed-mode delivery offer over face-to-face studies for higher education institutions and the Australian higher education sector?
2. What are the main institutional challenges for successful implementation of online or mixed-modes?
3. Are there any issues that constitute significant risks for the quality of higher education linked to mode of delivery that need to be addressed in the higher education sector?
4. Are there any issues that constitute significant risks for the integrity of higher education linked to mode of delivery that need to be addressed in the higher education sector?
5. Are there any issues that constitute significant risks for the operations of higher education providers or the Australian higher education sector linked to mode of delivery that need to be addressed in the higher education sector?
6. Do you have suggestions for addressing the issues and risks you identified above? (For example, do they require revisions to the Higher Education Standards Framework, new leadership or regulatory actions by TEQSA or effective self-regulation or mitigation strategies by higher education providers?)
7. Is there anything else you would like to share that is related to institutional operations or higher education policy and linked to online or mixed-modes of delivery in higher education?

A total of 69 individuals were invited to participate. The 47 stakeholders who agreed to participate were sent an email on 20 May 2022 that contained a link to an online consultation form, which was specific to the relevant round. Stakeholders were sent a reminder email on 3 June 2022 and the consultations were closed on 10 June 2022.

A total of 37 responses were received. Of these, 34 completed the online form and an additional 3 undertook a phone or Zoom interview, with one researcher conducting the interview and another researcher taking notes. Table 1 presents the breakdown of stakeholder participation across the three rounds. Appendix C presents a more detailed account of the methodology, and a full summary of the findings from the stakeholder consultations.

Table 1. Stakeholder participation according to consultation round

Consultation rounds	Participants
Round 1 – Student learning and experience	14
Round 2 – Professional graduate attributes	5
Round 3 – Higher education sector	18
Total	**37**

[a] One stakeholder completed the online forms for rounds 1 and 3.

2.4.2 Consultation with the HESP, the Department and TEQSA

After submission of the draft report to the Department, two team members presented the project findings to the Department, the HESP and TEQSA. Feedback on the key issues and implications was received and

considered. A second discussion with representatives from the Department, HESP and TEQSA was scheduled approximately one month after the presentation, with a particular focus on discussion of the relevant policy, and regulatory, implications. The outcomes of the discussions were considered and integrated into this final report.

2.4.3 Synthesis

A synthesis of all project findings, including feedback from HESP, the Department and the TEQSA on the key issues and risks, was undertaken in preparation for this final report. It involved the following:

- Identifying intersections of themes across the different project components;
- Positioning of themes:
    - in relation to time frame (pre-COVID-19, COVID-19 peak, potential future; longer-term/general vs short-term), and
    - in relation to evidence (strength of evidence, associated timeframes, areas of application).
- Identifying intersection of factors underlying the issues.

2.5 Consultation with the UQ Advisory Group

Throughout the various steps of the project, the UQ Advisory Group was consulted on the outputs of this project. This included an opportunity to provide feedback on the issues related to modes of delivery during COVID-19, the preliminary list of key policy issues, as well as the draft report. The UQ Advisory group provides representation in the following areas:

- Teacher and learning
- Translation of research to practice
- Equity in higher education, and student pathways/progression
- Assessment, academic integrity, digital ethics, and e-portfolios
- Aboriginal and Torres Strait Islander students' learning and experience in higher education
- Higher education policy development and implementation

3. Trends in modes of delivery

3.1 Mode of delivery definitions

Historically, mode of delivery is discussed as 'mode of study' and as 'mode of attendance'. [1]3 The categories are generally discussed by students and staff as 'internal' and 'external' with 'multi-mode' being a mix of both, as outlined in Table 2. The COVID-19 pandemic has resulted in large-scale adoption of online and mixed-mode delivery, as noted by the Department in their original documentation.

Table 2. Mode of attendance: delivery categories

Internal	External	Multi-mode
• face-to-face in a classroom • supervised on a higher education provider's campus • fast track delivery • intensive delivery • block release	• eLearning (online learning) • distance or independent learning • work placements or internship	• mixed or blended delivery

3.2 History of distance education and modes of delivery in Australia

Due to Australia's large distances and the geographic dispersion of the population, distance education has long been a part of Australia's education history (Reiach et al., 2012; Stacey & Visser, 2005). From the provision of correspondence schooling, reliant on the postal services, to an expansion to correspondence courses for teachers to complete their qualifications, there has been a growth in external enrolment in the higher education sector. By 1975, 6% of students enrolled in higher education were external students and by 1982 the distance education sector was the fastest growing sector in higher education, with 43 institutions offering external studies, mostly in teacher education and business studies (Stacey & Visser, 2005).

Across schools and the higher education sector, new technologies were used as they became available, from the use of mailed paper materials, audio and later video tape recorders, video conferencing (or teleteaching, e.g., live two-way audio and video communication) to more sophisticated online methods (Pregowska et al., 2021; Reiach et al., 2012; Stacey & Visser, 2005; Tennant, 1999).

Analysis of recent higher education data further indicated a growing trend towards external mode, which accelerated with the COVID-19 pandemic. For instance:

- The prevalence of *external study*:
    - declined from 16% in 2001 to 12% in 2010;
    - steadily increased again to 16% in 2019, and
    - further increased to 20% in 2020.
- The proportion of students studying in *internal mode*:
    - was relatively stable at 80/81% between 2001 and 2010;

[3] https://www.teqsa.gov.au/glossary-terms#modestudy

  - declined to 70% by 2019, and
  - further reduced to 61% in 2020.
- The share of students in *multi-mode* study:
  - rose steadily from 6% to 14% between 2010 and 2019, and
  - jumped by 5 percentage points to 19% in 2020.

Thus, the COVID-19 pandemic was associated with increases in students studying externally and multi-modally[4]. There were several, notable gender differences in study patterns for domestic students. For instance:

- Among domestic students over the past 20 years, female students were more likely to study externally and multi-modally than male students. For instance, in 2010, 10% of female domestic students studied multi-modally and 17% externally, compared with 6% of male domestic students studying multi-modally and 13% externally.
- Since 2001, there was a constant decline in internal study mode for domestic female students (from 78% in 2001 to 59% in 2018) and, to a lesser extent, for domestic male students (80% in 2001 to 71% in 2018).
- The gender differences in study mode among domestic students grew to an 11-percentage point internal-study-gap in 2019 (57% female vs 68% male).

Gender differences in study mode were less pronounced among international students, with male and female students more likely to study in internal mode (89% and 87% respectively, in 2019) while multi-mode study became more prevalent than external study from 2010/11 onwards.

From 2020, ‘mode of study’ data becomes unclear. While higher education delivery rapidly changed in 2020, and, in reality, there were small percentages of students enrolled ‘internally’, with national, rolling lockdowns, there are no corresponding enrolment numbers in external or mixed-mode delivery in the corresponding years.

3.3 Emergency remote teaching during the COVID-19 pandemic

Despite decades of experience with and research into online learning, most higher education students and staff were not prepared for online learning caused by COVID-19 in early 2020 (See Appendix A for further details). The unpreparedness of the sector and the rushed translation of planned on-campus activities to online platforms uncovered a number of issues related to online and mixed-mode delivery. This was illustrated by findings from the scoping review analysis, focused on the early stage of the pandemic when on-campus activities largely ceased and the single mode of online enabled HEPs to continue educational activities. The rapid adaption to new learning and assessment technologies, along with new forms of contact (all campus services moved online) meant time to plan and design for online learning was not an option in the early stage. This is a crucial distinction for many scholars between effective online learning and emergency remote teaching [alternatively, emergency online learning or ‘panicgogy’ (Spinks et al., 2021)].

Five emergent categories, with associated subthemes, related to the rapid shift to online learning, were apparent from the scoping review: a) student experience, b) educator experience, c) managing new online assessment approaches and systems, d) the deployment of how-to guides, and e) scholarly comment relating to the future of higher education.

[4] While the mode of study figures for 2020 were affected by inconsistent applications of the mode of study definitions and cannot be taken literally, the reported increase is a reflection of the wide shifts towards remote and online learning that occurred during the pandemic throughout the higher education sector.

3.3.1 Experiences of students: Navigating new online learning and services

The scoping review analysis uncovered impacts upon the experiences of students as they navigated a new (and unexpected) learning experience. This included heightened mental health issues associated with the increased isolation from online learning and worsened from physical distancing and lockdowns. There were additional difficulties with self-motivation; concerns about achieving learning objectives and academic integrity; difficulties building (online) relationships and contributing to class discussions; and heightened distractions from studying at home. Further, it was found that students from identified equity groups experienced additional challenges in terms of access to technology and resources; not being in home environments conducive to learning or assessment; heightened financial insecurity, as well as perceptions that HEPs did not provide sufficient support for them. However, some students appreciated the increased responsibility and control over when and where they could study (see Appendix A for a comprehensive review).

3.3.2 Experiences of educators: Navigating new online teaching and support

The scoping review found the manner in which educators fostered online interaction influenced how students engaged and connected (or not) with others in the online learning environment. A number of lessons – positive and negative – can be learned from the experience of educators during the pandemic. The experience was challenging due to unpreparedness, and exacerbated for educators juggling caring or other responsibilities, and for those in tenuous or contract positions without an academic community to rely upon for support. Educators also felt an additional workload from serving as student support substitutes. Attempting to adhere to or deliver more traditional experiences, particularly those with compulsory practical, clinical or laboratory activities, were near impossible. Despite these challenges, findings from the United Kingdom demonstrated disciplinary differences amongst academics in terms of preparedness and confidence, with those in computer science and education doing better. Given the rapid shift, some academics did not fully embrace nor adopt the pedagogical nuances of ‘online learning’. There was a sense that, to do this, HEPs need to have more substantial infrastructure and investment into online learning training to fulfil pedagogical needs.

3.3.3 Managing new online assessment approaches and systems

Many students and staff had to adjust to new approaches to assessment, with key issues around maintaining integrity and accessibility with new platforms, and devising authentic and continuous assessments. This was particularly challenging in disciplines with competency-based, hands-on practicals, and closed book invigilated types of assessment. Specifically, the scoping review identified issues around balancing the security of assessment against ensuring that all students had the required access to technology, connectivity and conducive conditions for a fair assessment. Online, invigilated exams also raised issues around academic integrity and student privacy.

3.3.4 Deployment of practical how-to guidance

A key lesson from the scoping review was that, for online modes to be effective, there needs to be a shift from on-campus approaches to curriculum development and pedagogy, to new modes of online and mixed-mode approaches. However, the success of developing these new competencies is not solely determined by efforts of the teaching staff. Experts from Switzerland, Spain, Canada, as well as Australia, recognised this responsibility also rests upon HEPs to equip staff with the skills required. While some frameworks for informing online teaching exist, they have shortcomings in addressing the relationships between teacher, student and content, which were highlighted as key issues impacting the student experience during online and mixed-mode delivery.

While many students are familiar with digital technologies, the scoping review identified that this is not always reflected in their digital competency for online learning. Some students require further support for self-regulation and help-seeking as online learning involves greater self-directed learning. The roles that

students and teachers play is also different from on-campus modes, by sharing responsibilities so the teacher is more focused on supervising and facilitating, with the aim of developing and supporting student autonomy. Some students and educators recognised that online learning should include the types of activities that: facilitate self-reflection and peer-to-peer interaction, encourage self-regulation such as problem-solving and creating thinking, and involve collaboration. Similarly, effective online models of delivery need to shift towards more inclusive pedagogical methods, such as embracing facilitatory discourse, student ownership of the learning process, building a virtual community, and flexibility in personalising curriculum and support mechanisms to help students achieve their goals.

3.3.5 Scholarly commentary on the future of higher education

An optimistic perspective of online learning during the COVID-19 pandemic is that it induced a substantial step forward in the professionalisation of academics as teachers, guiding the transformation for pedagogic re-invention in a new digital era. The rapid shift to online learning during COVID-19 demonstrated that the technology can be utilised to accelerate and enhance delivery of core education services.

However, there remain areas still to explore regarding the consequences of an over-commercialised, individualistic, and corporatised system in higher education. From the scoping review, it emerged that the establishment of new policies and regulations that support and encourage best practice in online teaching, assessment, curriculum, and intellectual property is warranted.

Further, with the increased potential of programs going, and staying, online (or mixed-mode delivery) comes the opportunity to engage a new learner pool who can benefit from this approach. Thus, another key pedagogical re-invention is to better embrace internationalisation. The scoping review identified that scholars saw that internalisation is often still implemented in higher education as a set of separate, exclusive activities and focused on a minority of mobile staff and students, and there is an opportunity to make it an integral part of teaching and learning. Increased adoption of internationalisation may include more intercultural learning and professional development activities into institutional culture, and the establishment of cross-fertilisation of ideas in global learning communities.

3.4 New (hybrid) modes of delivery in the future

Currently, new modes of delivery appear to be in a transition state as HEPs operate in the ‘living with COVID-19' stage of the pandemic. The opportunity for HEPs to innovate and name new modes of study or interaction (as opposed to the transmission-centric language of ‘delivery’) is a live topic of debate globally (Irvine, 2020; Matthews et al., 2021). Terms like hybrid, hi-flex, Zoom in the room, dual teaching, live online and live on-campus gained momentum in the past two years and added to the more common, pre-pandemic terms (e.g., blended learning, flipped classrooms, inquiry-based learning, work-integrated learning). The mode of teaching in, and designing for, a single mode, either internal or external, is being called into question as increasingly diverse student cohort expectations shift in the post-pandemic landscape of higher education.

Whether the pandemic experiences herald a ‘new norm’ for higher education remains to be seen (Pregowska et al., 2021). Further, there is much to be learned about new forms of flexibility and what they mean for teaching and learning quality. As is indicated from the stakeholder feedback, and from decades of research into online learning, there is potential for it to be done well, revealing new opportunities, along with areas of concern. However, the extent to which HEPs resource this, remains unclear and needs guidance.

4. Online and mixed-mode delivery opportunities for higher education

4.1 Introduction

This chapter explores the perceived opportunities identified for the higher education sector with online and mixed-mode delivery.

4.2 Flexibility and student equity

The flexibility provided by online and other modes of delivery allows access to students who may otherwise be unable to fit study into their lives (e.g., TEQSA, 2020b). The perceived advantages of online and mixed-mode delivery providing more flexibility and potentially increasing equity, emerged from the scoping review analysis and was a consistently discussed theme from the stakeholder feedback.

As highlighted above, the scoping review found that some students saw online delivery offered increased flexibility and control (Alavi et al., 2022; Almoayad et al., 2020; Tang et al., 2021; TEQSA, 2020b; Uluöz, 2020). For instance, some students appreciated the increased responsibility and control over when and where they could study, and some felt that the increased flexibility and accessibility enhanced aspects including their wellbeing, experiences, grades and engagement (Mercer-Mapstone et al., 2022).

The increased flexibility from online and mixed-mode delivery was consistently discussed by stakeholders across all three rounds of consultation when they were prompted to consider potential advantages of online and mixed-mode delivery. Stakeholders discussed *locational flexibility*, that allowed students to study in various places, reducing travel time and associated costs. Stakeholders also discussed *temporal flexibility,* that allowed students to organise their learning engagement and planning around other commitments. These flexibilities extended to students who were sick or in isolation in the context of the COVID-19 pandemic: online and mixed-mode delivery allowed students in these situations to participate in higher education studies.

Some stakeholders from the higher educator sector argued that the flexibilities with online and mixed-mode delivery could better cater to differences in student learning. For instance, students would have better opportunities to effectively review online lectures and tutorials in their own time if these were recorded (as there would be less need for relying on their own notes). Further, it was pointed out that anonymity in learning contexts (as related to asynchronous delivery) would allow students to learn without perceiving judgement by others and may reduce social anxieties. One stakeholder noted that online delivery allowed immunocompromised people to safely participate in higher education studies, particularly relevant during a pandemic.

The advantages around flexibilities also extended to staff. It was indicated that staff could continue to deliver during periods of isolation (in a pandemic or for other reasons), and have more flexibility in designing and delivering teaching operations. Stakeholders also noted that online and mixed-mode delivery could enable staff to offer more timely support to geographically dispersed students.

Reflecting the focus of stakeholders from round 3, who represented or had expertise in higher education policy and operations, potential benefits that related to increased student flexibilities were commonly expressed in terms of reach, widening markets, and responding to student needs and preferences. These stakeholders also saw opportunities for smaller campuses to offer a larger range of programs delivered online as these became more viable options.

Both types of flexibilities were viewed by stakeholders as opportunities to increase diversity of the student population and equity. Stakeholders saw more opportunities for students: from low socioeconomic status backgrounds, from regional/remote backgrounds and students with: disability, caring responsibilities, employment and/or other commitments to participate in higher education studies:

> *"Online education increases diversity and equity to quality teaching and learning. Not everyone can afford to move to a city or regional centre where universities offer face-to-face tuition".*
>
> **(Consultation feedback from teaching and learning expert)**

One element in students' flexibility in accessing higher education studies online relates to the wider variety of programs now available for students, regardless of their location. However, issues around equity were counterbalanced with challenges that needed to be addressed, particularly around inequities in access to technology and software.

4.3 Teaching and learning enhancements

A key theme that emerged from the scoping review was that in the rush to move learning online during a global pandemic, effective online pedagogical practices were not consistently employed. There was insufficient time or pre-planning to reorient learning materials and practices towards a model that effectively fosters student learning and engagement, including student ownership of the learning process, and which effectively facilitates the relationships between educator, student and content. These were highlighted as key issues impacting the student experience during online and mixed-mode delivery (see Appendix A for full details).

However, some stakeholders saw the potential for online and mixed-mode delivery to enhance teaching and learning, provided it was done with adequate resourcing, planning and design. Specifically, some subject matter experts saw that online and mixed-mode delivery could provide opportunities for more interactive styles of teaching and learning, including interacting with a wider diversity of students. This could include interactions outside the virtual classroom across different programs and disciplines.

There were also perceived opportunities to better utilise software to monitor and respond to student learning. For instance, to track students' learning progress through the parameters of their online learning activities or to design digitally enabled personalised student experiences and/or to apply learning analytics to inform timely student supports or teaching adjustments:

> *"Opportunities to do teaching and assessment in a more interactive way that keeps track of students' learning and mastery of content on a continuous basis and responds flexibly and proactively to problems or gaps."*
>
> **(Consultation feedback from higher education policy/operations representative)**

This opportunity for monitoring and responding to student learning through technology was similarly identified in the scoping review. When carefully designed and implemented, the use of technology could facilitate more continuous monitoring of learning through automated feedback and learning analytics data, establishing a model that is timelier and evidence-based in progressing student learning (Rapanta et al., 2020).

There was a diverse range of feedback from the consultations in terms of how online and mixed-mode delivery could enhance learning. For instance, some teaching and learning experts highlighted increased opportunities to recruit and involve experts from around the country, or the world, in the delivery of higher

education studies, without the need for their on-campus presence. Similarly, some representatives from professional associations found it much easier to engage with industry experts, with this method of delivery reducing diary and location challenges. In addition, potential improvements were cited in the design and delivery of curriculum and support services including variety in the length of course segments; the strengthening of staff and student capabilities and ensuring the same communications are provided to all students.

One stakeholder observed that the sudden switch to online and mixed-mode delivery during the COVID-19 pandemic may have developed more self-direction, time management and problem-solving skills and attitudes among their students (e.g., by anticipating and solving technical problems, and by having to plan around times for accessing online materials). However, from the scoping review, this was reported as challenging for students, unless the learning was adequately structured to promote student participation and decision-making with increased choices offered in online and hybrid educational environments.

One caveat to the perceived advantages and potential improvements expressed by stakeholders was the concern that online and mixed-mode delivery was perceived by professional associations, employers, parents and students as inferior, independent of the quality of such deliveries. It was seen that negative perceptions could undermine models of online delivery to the extent that they influence student mode demand.

4.4 Summary

Overall, our research identified some perceived opportunities for higher education with online and mixed-mode delivery. The following themes emerged from the scoping review: improved flexibility for students, improved accessibility and increased reach of learners, as well as teaching and learning enhancements. These were consistently raised and discussed by stakeholders from all three rounds of consultation, who perceived these as opportunities only if the delivery was well-resourced, carefully designed and implemented. As detailed by one stakeholder, as well as the flexibility of delivering both on and offshore, other perceived advantages included:

> *"Ability for students to share screens and interact on whiteboards, polls etc. Face-to-face can be less streamlined when working from one class screen • Potentially easier to have guest speakers join a session such as those from different locations rather than only relying on locals. This is especially helpful in regional locations. • The ability to review recorded sessions- advantageous for students, new educators (i.e., review subject before, they prepare and deliver) • Ability to record student presentations for moderation, and becomes an example "tool" for future students • Increases access to lessons, to times that meets students' needs, schedules, illness etc. • Enables students to review material at their own pace, or until they have reached a level of understanding • Assists students access material/sessions in preparation for exams/reports etc."*
>
> **(Consultation feedback from teaching and learning expert)**

5. Key policy issues around online and mixed-mode delivery

5.1 Introduction

While there were perceived opportunities for the higher education sector with online and mixed-mode delivery (as identified in Chapter 4), key issues also emerged from the scoping review, analysis of higher education trends, and the policy translation component. Detailed in this section is an overview of the key policy issues. The underlying factors for these issues are then discussed in Chapter 6, while the associated implications for the HESF, regulation and for the higher education sector in Australia are discussed in Chapter 7.

5.2 Student experience (non-academic)

Integral to the student experience is student engagement in learning, student interactions and a sense of belonging. Coinciding with the COVID-19 pandemic was a major decline in student ratings of their higher education experience.

This was uncovered by the analysis of higher education data (see Appendix B). The analysis indicated that, while overall ratings on the six main SES measures had been relatively stable over the preceding years prior to the pandemic, in 2020, student ratings for all measures, except the *student services* measure, dropped notably. This included moderate declines in ratings for *skill development* and *teaching quality*, and substantial declines for measures of *learner engagement, learning resources* and the *quality of the entire educational experience* question.

Declines in student perceptions in 2020 were universal – they applied to domestic and international, undergraduate and postgraduate students, commencing and later year students, university and non-university providers, as well as demographic sub-populations, including equity students.

There were variations in the extent to which declines in student ratings occurred – by HEP, field of study and demographic student group. For example:

- **Dentistry and Veterinary Science:** while representing smaller degree programs, students in these fields of study were more likely to be affected by the circumstances in 2020 than students from some other programs / fields of study. This is suggested not only by SES results, but also retrospective course evaluations from graduates in the 2021 GOS.
- **School leavers:** this group in particular, found the transition to online and mixed-mode delivery challenging. This is evidenced by the 2020 SES report, showing a significant decrease in ratings of learning engagement from 2019 to 2020 for students aged under 25 years. A 17-percentage point decline is noted, in comparison to 11 percentage points for students aged 40 years and over.

5.2.1 Student engagement

Student engagement is seen as a complex and multifaceted construct (Tomaszewski et al., 2020). However, it is typically considered by researchers to have three dimensions: behavioural, affective and cognitive (Fredricks et al., 2004; Fredricks et al., 2016). Behavioural engagement encompasses conduct and participation in education-related activities (Finn, 1993), or involvement in learning (e.g., effort, persistence, etc.) (Skinner & Belmont, 1993). Affective engagement is defined as students' emotional reactions in the classroom (e.g., interest, boredom, happiness, etc.) (Connell & Wellborn, 1991). Finally, cognitive engagement is considered an investment in learning, including goal setting or self-regulating (Ames & Archer, 1988; Elliot & McGregor, 2001; Zimmerman, 1990).

Reduced student engagement emerged from the scoping review as a key issue relating to the rapid shift to online and mixed-mode delivery. This was demonstrated issues around student motivation, declines in participation in and contribution to class discussions, and engagement with content (Attree, 2021; Heo et al., 2021; Lloyd et al., 2021; Oliveira et al., 2021; Tang et al., 2021; Uluöz, 2020). While students appreciated that some academics made more dedicated time available for consultation and support (Dodd et al., 2021), it appeared insufficient to overcome the perceived necessity of face-to-face contact in formal, or informal, settings (Attree, 2021; Clark & Post, 2021; TEQSA, 2020b). Absenteeism also received a lot of attention from students (Ozer & Ustun, 2020; Uluöz, 2020), with many noting that several of their peers either failed to engage in or did not show up altogether for classes.

Further, it was found that many Australian students desired a return to traditional learning settings (Dodd et al., 2021). A TEQSA (2020b) study of 118 registered HEPs found that between 33% to 50% of students "did not wish to ever experience [online learning] again" (p. 8).

However, while the scoping review findings suggest that students were dissatisfied with the online experience during COVID-19, declining lecture attendance over the previous decade also suggests that there is a level of dissatisfaction with some aspects of the on-campus experience (Sloan et al., 2019). Further, it should be noted that there are limited measures around engagement with content and class participation in the higher education data to get a clear indication of the extent to which this changed over time.

There is a long history of successful online and distance mode programs being offered by a range of HEPs in Australia dating back decades. However, the kind of online and mixed-mode delivery that students experienced during the COVID-19 pandemic cannot be taken as an indicator of either the kind of online instruction that is possible to engage students, or the level of demand for these modes over the longer term (Sankey, 2022).

Some evidence from the scoping review suggests staff were unprepared and/or too time constrained to engage and direct students in the online world of learning. Further, the way in which these offerings were sometimes designed meant there was more onus on students to make good decisions about how and when to study. Students may not be equipped to do so.

To be successful, online and mixed-mode delivery are designed in a way that usually require students to be more self-directed and self-regulated than on-campus learning where there are more opportunities for teaching staff to respond and intervene (Lodge et al., 2021). Longer term trends indicate that online and external offerings consistently yield a higher dropout rate (as described in Appendix B). This trend is mostly attributed to competing priorities related to the reasons why students opted for the flexibility offered by online study in the first place (Stone & O'Shea, 2019). However, a recent qualitative study by Greenland and Moore (2022) using in-depth interviews with 226 Australian students, showed competing priorities are an issue, but may not have been if they were adequately prepared for their study online. These data reinforce the point that students often find online and mixed-mode delivery foreign and difficult, as was apparent in the scoping review.

The quality of the offerings made available by Australian HEPs hinges on providing students with an engaging learning experience, that will ultimately lead them to successfully complete their studies. High quality online and mixed-mode delivery takes time and investment to design and implement. Unless HEPs have the resourcing and capacity for staff to carefully develop and implement quality offerings specific to the delivery mode, there is a risk that the proliferation of these online and mixed-mode offerings will result in an increase in students accumulating debt and missing opportunities to improve their employment prospects. This is due to the students not being adequately prepared for learning in a modality unfamiliar to them. As a result, there is a risk to the reputation of the Australian higher education sector should the market for courses in online and mixed-mode delivery be flooded with HEPs ill-equipped to support, design, and deliver high-quality offerings in these modes (TEQSA, 2021).

5.2.2 Student interaction and sense of belonging

Commensurate with a student's level of participation and integration into academic culture are student interactions and a sense of belonging (Krause & Armitage, 2014; Tinto, 2005). A lack of student engagement and reduced interactions with peers and staff can negatively affect learning outcomes and the overall student experience.

At the core of student experience is the extent to which they engage and type of interaction that students engage in (Hawes et al., 2021). The impacts upon student interaction and sense of belonging, due to changes to mode of delivery through the COVID-19 pandemic emerged as key issues from the trend analysis of higher education data and the scoping review.

The trend analysis showed a universal decline since the COVID-19 pandemic in ratings on the combined measure of student interaction and sense of belonging and preparedness. Ratings on this combined measure dropped from 60% to 44% for domestic students, and 59% to 49% for international students from 2019 to 2020, coinciding with the onset of COVID-19 and the rapid preponderance of online and mixed-mode delivery.

Notably, ratings on this combined measure have typically been lower for students enrolled externally: only 24% for undergraduate students studying externally in 2019. From the trend analysis of SES data, it emerged that many students were unprepared for this change during the COVID-19 pandemic. Internally enrolled students, who (often) had no choice than to move to new modes to continue their studies, reported a 16-percentage point decline in student perceptions between 2019 and 2020. In addition, younger students (school leavers) who traditionally preferred internal studies to remote learning, also had a drop of 17-percentage points in their overall perceptions between 2019 and 2020.

The scoping review identified challenges in relationship building in online and mixed-mode delivery. This led to losses in interactions with students, teachers and services, and subsequently motivation and a reduced sense of belonging (Attree, 2021; Gamage et al., 2020; Rudolph et al., 2021). Technologies can be depersonalising, present additional barriers to developing and maintaining relationships and difficulties in asking questions and obtaining feedback from teachers and peers (Lloyd et al., 2021; Oliveira et al., 2021; Uluöz, 2020). While students recognised the additional efforts made by academics during the pandemic, it was generally perceived as insufficient in comparison to face-to-face contact in formal or informal settings. Students regretted the loss of informal social interactions, engagement with classmates and lecturers and the feeling of belonging that comes with being on campus (Attree, 2021; Clark & Post, 2021; TEQSA, 2020b).

The scoping review identified that effective online models require a shift from traditional curriculum development and pedological approaches to those which: are more student-centred, more inclusive and facilitate peer-to-peer interaction. In the rush to keep the virtual doors open during the COVID-19 pandemic, carefully designed, evidence-informed opportunities for online interaction often gave way to hurriedly arranged webinars and other approaches that resembled a broadcast, rather than an opportunity for students to learn together and interact with their educators.

There is a long history of research demonstrating the key role interaction plays in supporting learning (e.g., Lodge et al., 2021). SES report data shows that scores on the measure of learner engagement (comprised of questions on interaction, belonging and preparedness) dropped 16 percentage points from 2019 to 2020 in internal and mixed-mode, while it increased 9 percentage points for external students. School leavers, in particular, found the transition to online and mixed-mode delivery challenging, also evidenced by the 2020 SES report. Without the level of interaction and active learning opportunities needed for optimal student learning, the scoping review report showed it can be more difficult for students to remain engaged and motivated to study. Without engagement, it is more difficult for students to succeed. Without some level of success, it is difficult for students to persist in their studies. Thus, interaction and engagement are core foundations, necessary for students to persist in, and ultimately graduate from, higher education programs.

5.2.3 Mental health

Student mental health during the COVID-19 pandemic emerged as a concern from the scoping review, and to a lesser extent from the stakeholder feedback, relating to the difficulties described in the first two subsections (Section 5.2.1 and 5.2.2). Mental health issues among student cohorts in Australian higher education is not a new issue and was amplified during the pandemic (Kumar & Nayar, 2021).

The scoping review identified concerns around mental health issues for students, such as anxiety and depression, which were exacerbated by physical distancing and lockdown measures (Badri et al., 2021; Bolumole, 2020; George-Levi et al., 2021; Jandrić et al., 2021; Lloyd et al., 2021; Mercer-Mapstone et al., 2022; O'Shea et al., 2021; TEQSA, 2020b; Uluöz, 2020). The increased isolation and sense of loneliness that may result from online learning and which contribute to mental health issues, are key considerations should there be more permanent shifts to online and mixed-mode delivery. For instance, a survey with approximately 1000 higher education students aged 18-42 years (and including both domestic and international students) found that 42% had negative feelings towards studying alone, and approximately half considered quitting and struggled when they study alone (Studiosity, 2018). There was acknowledgement by some stakeholders that support for student mental health was needed and should be considered when designing and developing online and mixed-mode delivery.

While the findings from the scoping review were clear that the COVID-19 pandemic was linked to mental health issues for students, the higher education sector lacks data collection instruments that can be used to reliably monitor mental health among students in the higher education sector (Browne et al., 2017). At present, there is no representative evidence to which extent such issues have increased over the past two years or how mental health has been associated with different modes of study.

However, young people in Australia are, generally, more likely to experience heightened anxiety and depression, making the student population particularly at risk following complex social, economic and environmental issues impacting upon the population (Australian Bureau of Statistics, 2021; Baik et al., 2019; Kessler et al., 2005). Further, the National Tertiary Student Wellbeing Survey provided some evidence of heightened mental health concerns for students (Headspace National Youth Mental Health Foundation and the National Union of Students, 2016). Conducted in the second half of 2016 with 3303 students from 40 universities and 30 TAFEs, it was found that for 16-25 year old Australian students (n=2637), 67% rated their mental health as fair or poor, and 65% reported very high psychological distress. For 26-50+ year old students (n=652), the figures were 59% and 53% respectively.

In addition, the often highly structured nature of tertiary study needs to include considerations of the support required by students with mental health issues. Assessment deadlines, census dates, and other administrative structures may contribute to some students feeling there are insurmountable barriers to them successfully progressing in their studies. Observations of a reduction in self-efficacy and motivation experienced by students during the COVID-19 pandemic (Attree, 2021; Heo et al., 2021; Tang et al., 2021; TEQSA, 2020b; Uluöz, 2020) suggest that this situation was made substantially worse. However, there is an opportunity to reframe the approach to student mental health in Australian higher education to ensure any acute disruption in future will have less of a negative impact on students.

Relatedly, the scoping review identified an exacerbation of mental health issues for staff, as the COVID-19 pandemic intensified the pressures on academic and professional members of staff. This was due to both personal circumstances and the additional demands placed on them by the need to ‘pivot’ to online and mixed-mode delivery. These modes of delivery require more up-front investment to carefully design learning activities. Many staff reported greatly increased stress in managing learning in these new modes by needing to do it quickly and with little background knowledge. This may have been exacerbated by the job losses across the Australian higher education sector (Larkins, 2022), which resulted in the remaining staff needing to take on an additional workload beyond shifting their teaching to online modes in short timeframes. As highlighted above, should online and mixed-mode delivery become a new normal, consideration needs to be

given by HEPs to invest in careful design of learning activities and provide adequate support for staff to design and execute them.

5.2.4 International students

There is a great volume of research and scholarship devoted to the issues that international students face studying in Australia (e.g., Bianchi, 2013; Gribble, 2014; Khawaja & Dempsey, 2008). It has been documented that international students experience additional challenges including having left one's home country to study in a different culture, English language competency, 'soft skills', and limited local social networks. As was identified in the scoping review, there was an ongoing perception in some quarters that students are perceived as 'cash cows' to Australian HEPs (Hogan et al., 2021, p572). The reality is far more complex, with international students making significant contributions to local communities and to institutions far beyond the payment of course fees.

The analysis of higher education trend data demonstrated that international students were more likely to be impacted by living arrangements and financial circumstances in 2020 than domestic students. Further, financial and fee difficulties played a larger role for considering premature departure from higher education studies in 2020 for them (as indicated by the SES results).

There are opportunities for online and mixed-mode delivery to increase accessibility to international students. However, there are also challenges to overcome to maximise the experience for international students. During the COVID-19 pandemic, international students experienced isolation and increased workplace exploitation (Farbenblum & Berg, 2020; Nguyen & Balakrishnan, 2020) and increased racism ('The Chinese virus') (Mittelmeier & Cockayne, 2022). There is also a risk that these students may be more affected by decreased interactions and the limited face-to-face support with teachers, with online and mixed-mode learning. Further, stakeholders saw a risk for international students who come to Australia with expectations for an on-campus experience integrating study and local life. Changes to delivery mode need to address how these functionalities can be maintained, or adapted, for both onshore and offshore international students.

5.3 Student experience (academic)

Interrelated with the student experience were issues relating to the academic component of higher education, including the quality of teaching and resources, academic integrity and the extent to which students are meeting their learning objectives and achieving the graduate outcomes required for a professional career.

5.3.1 Quality of teaching and resources

Overall, the infrastructure and expertise required to develop, design, deliver and administer high-quality online and mixed-mode delivery differs from that of traditional face-to-face higher education. As highlighted in the project scoping review report, excluding providers who had specialised in these modes of delivery for some time, many involved in the teaching of Australian higher education students did not have the expertise and skill to design and deliver high-quality offerings in these modes. Indeed, many in the higher education sector had never experienced online or mixed-mode delivery as students themselves or as teachers before the COVID-19 pandemic. Without this knowledge and experience, the onus of engagement and direction was largely left to students.

In order to help with the lack of expertise and skill, how-to guides and other resources were developed rapidly during 2020. Institutions also placed an additional emphasis on learning designers and other 'third space' professionals (as per Whitchurch, 2008) to assist with the 'pivot' online (Xie et al., 2021). However, the involvement of this group of professionals did not necessarily facilitate interaction and engagement, and the responsibility to execute lesson plans and designs often remained with the academic staff members. Learning designers have undoubtedly been pivotal during the COVID-19 pandemic. However, the skill of the

teacher at the interface between the design and delivery of the material to the students is where the system often breaks down. Facilitating active and interactive learning in a physical classroom requires much skill, even more so in unfamiliar digital environments The stakeholder feedback also illuminated the risks associated with poor quality, or inadequate access to technical infrastructure or learning resources, as well as insufficient digital capability or time for staff to design and develop materials.

Notably, our data trend analysis demonstrated a decline in student ratings of quality in the domain of learning resources. It appears that these results were based on inability to access physical campuses with many items related to physical infrastructure: e.g., the *quality of teaching spaces, student spaces, laboratory* or *studio equipment.* Other items indicated a decline in student ratings of the quality of online resources: e.g., *online learning materials, computing and IT resources, library resources and facilities*. It may be that as students relied more heavily on these resources than before, the shortages became apparent, particularly as HEPs may have been unprepared for the impacts of the COVID-19 pandemic. Regarding teaching quality, there were moderate declines in student ratings of *perceptions on the study as well structured and focused*, and whether *teachers actively engaged* the survey respondent in learning. A decline was also noted in the general perceptions about the *quality of teaching* and the *quality of the entire educational experience*. Student perceptions on their studies as being relevant, as well as on various (other) teacher behaviours (re *intellectual stimulation, providing clear explanations, demonstrating concern, commenting in helpful ways, being helpful and approachable, setting assessment tasks that challenge to learn*), were less affected by declines in student ratings.

As with teaching, shifting student services originally developed for and primarily carried out in physical settings to an online or mixed-mode delivery is challenging, particularly during a global pandemic. While HEPs have adapted the delivery of services to students during the COVID-19 pandemic, there is no evidence to ascertain the degree to which they have met the changing needs of students during that time. There were little changes in student ratings on *support services* in the 2020 SES data, compared to previous years. However, the SES questions focused on received *student services* rather than any changes to the support needs of the student population.

5.3.2 Learning outcomes, professional attributes and accreditation requirements

Another key issue which emerged for higher education during the rapid shift to online learning was the achievement of learning outcomes, particularly where professional standards need to be met, and accreditation requirements.

The scoping review identified that students expressed concern that some learning objectives were unachievable using online modes (Almoayad et al., 2020; Heo et al., 2021; Longhurst et al., 2020), particularly in programs requiring practical activities (Gamage et al., 2020; Olivares et al., 2021), or those who lacked available online learning materials (Alavi et al., 2022; Ozer & Ustun, 2020). This has led to concerns regarding future professional accreditation requirements; especially in disciplines with accreditations requiring unpaid work placements (TEQSA, 2020b). It also raises concerns for students in the latter part of their degrees who have struggled to achieve learning outcomes in the commencing years. This means they may be potentially unprepared academically for later years of study.

Related to this, the analysis of data on longer-term higher education trends, suggests that students studying via online or mixed-mode delivery, develop fewer skills in some areas. Specifically, the analysis of trends from the 2020 and 2021 ESS surveys showed that graduates who had been internally enrolled received higher scores by employers than graduates who had been enrolled externally. This applied to all six key measures that capture graduate attributes and employer satisfaction in the ESS: *foundation skills, adaptive skills, collaborative skills, technical skills, employability,* and *overall satisfaction*. The largest deficit between external and other graduates, as rated by their employers, was in relation to *collaborative skills* (91% for internal students vs 82% for externally enrolled students, in 2021).

Since the COVID-19 pandemic, there was a notable drop in student ratings about developing an *ability to work effectively with others* in the 2020 SES, and developing *spoken communication skills*. This was the case regardless of how many years they had been at the HEP. Students not feeling prepared in terms of their ability to communicate and work with others could potentially impact their preparation for ongoing study, as well as employment.

There were minor declines in ratings for more traditional academic attributes at the overall student population level, including: *critical thinking*, *confidence to learn independently*, the *ability to solve complex problems* and *knowledge of the field of study*, but also the *development of work-related knowledge or skills*, and *written communication skills*.

The stakeholder feedback raised similar concerns around the challenges for developing some professional skills, including both 'hard' and 'soft' skills, through online and mixed-mode delivery. This included challenges from not having the ability to practice skills (counselling skills, clinical skills, listening and observation skills, therapist qualities) observe, or support active participation. Stakeholders discussed the need and associated challenges in developing the professional skills that have traditionally relied on proximity to people, animals or physical materials, such as emotional intelligence or understanding relationship dynamics (in the context of becoming a counsellor). Notably, there was no evidence from the data trends analysis that employers' views on attributes of recent graduates notably changed when they were surveyed in the ESS in 2020 and 2021.

5.3.3 Academic integrity and student privacy

Issues also emerged around assessment through online delivery. The scoping review found that, given that it is not possible to set up the traditional exam room or hall through online means, many providers opted for other forms of digitally mediated invigilated examinations. This included options such as remote proctoring of examination sessions. However, the scoping review also identified that some students expressed integrity concerns over issues such as cheating and privacy with online proctoring software which affected their learning experience (Alavi et al., 2022; Gudiño Paredes et al., 2021; TEQSA, 2020b; Uluöz, 2020). Similarly, staff also identified that maintaining academic integrity during the 'pivot' to online learning was particularly challenging. The scoping review found that various innovations were trialled during online deliveries to minimise academic dishonesty, maintain equity, while also helping students' engagement with the learning outcomes. There were mixed experiences with this. Generally, HEPs' quick fixes to assessment exposed a range of challenges and trade-offs, and there was a belief that online assessment could not fully achieve desired competencies in disciplines with heavy practical components. However, the scoping review also highlighted some opportunities in transforming assessments to provide an authentic assessment of skills and content knowledge, and the application of new technologies offered additional, transferable competencies for future employability.

There were various views from stakeholders regarding online assessments. Some thought cheating or the identity of the student are always and equally an issue, regardless of the delivery mode. Some feedback suggested that technologies offer improved ways to minimise and disincentivise cheating.

Other stakeholders saw an increased risk to integrity when delivering online or remotely. A small number of stakeholders felt integrity is always at risk with an online offering (with the potential for hacking, stealing, manipulating, data loss). Some offered solutions to combatting integrity concerns, including: actively monitoring academic misconduct, addressing the causes by fostering appropriate pastoral relationships with students (especially school leavers and international students), and addressing poor quality education (as seen to be connected to integrity). Another stakeholder reported that sessional staff being required to use their own equipment increases the likelihood for sensitive information being exposed. Finally, there was also concern about how integrity of online education is perceived overseas, which could have implications for international student demand and higher education operations.

There are differing opinions on supervising assessments among stakeholders. While online assessments were seen by some as allowing more integrity checks (including the easier application of plagiarism

identification tools), those could also compromise student privacy and/or be perceived by students as invasive, which one stakeholder expressed as “the vexed and complex issue of academic integrity and proctoring”.

Other issues were raised by stakeholders around online assessments. These included: increased stress when relevant IT systems and technologies fail or create response lags, and staff and student assessment and feedback, literacy and digital literacy, exacerbated in the online environment. One teaching and learning expert from the stakeholder consultations noted sector-wide shortcomings concerning equitable and inclusive assessment design and administration. This was also noted in the scoping review as not all students at home were able to access the necessary technology and conducive exam environment required for valid, fair assessment (Gamage et al., 2020; Jisc News, 2020; Laufer et al., 2021; Mercer-Mapstone et al., 2022; O'Shea et al., 2021; Uluöz, 2020; Xie et al., 2021). Other issues raised by stakeholders were: engaging students in assessment experiences and expectations, applying effective evidence-based processes across institutions, and the efficient and effective design of multiple-choice questions.

Some of the responses from stakeholders reflected on improving the effectiveness of assessments (regardless of the mode they were undertaken in), e.g., by reducing the role and weight given to exams. One stakeholder called for more effective personalised assessment, interactive in the online environment. Student representative organisations were particularly critical of online exams and expressed a preference for take-home, open-book assessments arguing that the latter encourage deeper thought and critical thinking rather than memorisation and regurgitation. A few stakeholders also made comments that assessment should be meaningful and useful, ensuring that students learn from assessment tasks (again, regardless of mode).

Academic integrity has been an ongoing challenge for legislators, regulators and HEPs. As with other issues raised here, the COVID-19 pandemic created a magnification of existing problems surrounding academic integrity. However, the issues were not just an artefact of legacy problems with invigilated exams. Online proctoring and similar approaches raised concerns about privacy and equity. In particular, students being monitored in their home environments by strangers (often not employed directly by the HEP) were seen as an invasion of students’ privacy.

5.4 Student equity

Our background research raised issues around student equity[5], and these considerations were nuanced.

For students from low socioeconomic status backgrounds, the evidence pointed towards issues with access to technology and software. For instance, as identified from the scoping review, students, particularly from low socioeconomic backgrounds, raised concerns around access to reliable bandwidth and the appropriate technology to study, often sharing devices with other family members during lockdowns. In addition, a common issue related to balancing the security of assessments against equity. Not all students at home were able to access the necessary technology and conducive exam environment required for valid, fair administration of student learning (Gamage et al., 2020; Jisc News, 2020; Laufer et al., 2021; Mercer-Mapstone et al., 2022; O'Shea et al., 2021; Uluöz, 2020; Xie et al., 2021). Stakeholders similarly recognised that there is a potential for exacerbating student inequities due to material requirements for successfully participating in online learning (internet access, relevant and functional technologies and applications, study spaces), and additional academic support may be needed for equity students with online and mixed-mode delivery. There is already evidence of restricted funding for equity staffing since the COVID-19 pandemic (Atherton, 2022). For instance, in this report, a recent survey of 22 universities indicated that over half had experienced some decreases in equity staffing.

[5] Equity groups include students that: are from non-English speaking backgrounds; have a disability; are women in non-traditional areas; identify as Indigenous; are from low SES locations based on postcode of permanent home residence, and are from regional and remote locations based on postcode of permanent home residence (DESE, 2017).

For Aboriginal and/or Torres Strait Islander students, there were some examples of successful transitions to a digital community where students and staff felt engaged and connected (Holt & Worrell, 2021). However, other work around Indigenous students' recent experiences during COVID-19 (Bennett et al., 2020) identified that the pre-existing digital divide in Australia created challenges for Indigenous university students. This included the cultural isolation, brought about both being cut off from extended family, community and Country both physically and digitally, and inequitable access to the full range of digital infrastructure.

For regional and remote students, as identified in Chapter 4, there were perceived opportunities with online delivery potentially improving diversity. Specifically, stakeholders saw the potential of reaching more students in regional and remote areas. In addition, they also cited opportunities to better engage with students with disability, who may have had challenges in attending campus. However, while online and mixed-mode delivery have the potential to reach a wider student population and to be more inclusive by providing greater accessibility, this needs to be better understood through further monitoring and research.

Thus, for students from equity groups, there remain significant barriers for some students to attend, engage with and succeed in Australian higher education (Department of Education and Training, 2017). The research carried out under the auspices of the National Centre for Student Equity in Higher Education (NCSEHE) highlights many of the issues facing students from equity groups (e.g., Mercer-Mapstone et al., 2022). As per the other factors highlighted, there were some signals that the situation for many students from equity groups was adversely affected by the shift to online delivery, although the broad implications will become clearer once relevant data are available and analysed. Despite these trends, the longer-term outlook for online and mixed-mode delivery suggests the potential for expansion of the opportunities for students in equity groups when designed and delivered with these students front of mind.

At this point, there are various impacts affecting operations in the higher education sector that are thought to have particularly affected students from equity backgrounds (O'Shea et al., 2021):

- The shift to online delivery during the COVID-19 pandemic meant that outreach programs to 'widen participation' that had traditionally been implemented face-to-face, had to switch to online deliveries or be cancelled. On campus experiences, camps and face-to-face interactions with institutional ambassadors or mentors have been seen as particularly effective modes of widening participation initiatives (Alberti & Raciti, 2020). Thus, the pandemic may have (further) prevented or dampened higher education aspirations of school students and mature-aged students from equity backgrounds.

Other impacts on students from equity groups emerged during higher education studies:

- Access to relevant digital technologies and being comfortable using digital technologies in the context of online learning were more problematic for some students, as detailed above (O'Shea et al., 2021) while some preferred to access face-to-face support services (Mupenzi et al., 2020);
- Psychological and mental health repercussions are more likely to apply to populations already constrained by material and financial structures (Australian Institution of Health and Welfare, 2020) - also particularly relevant for international students.
- While for some equity students, having more online resources and more services available online was better, for others the lack of structure and connection/interaction was problematic and associated with reduced opportunities for accessing higher education in the first place, and decreased motivation. Many of the issues faced by students from equity groups mirror those experienced by the broader student body. However, for these students, the issues were magnified due to the barriers they already face in both starting and succeeding in higher education (e.g., Mercer-Mapstone et al., 2022).

5.5 Summary

The key issues presented in this chapter are identified from our background research of the current findings related to online and mixed-mode delivery in higher education. They are derived from a synthesis of findings from the scoping review of recent literature during the rapid shift to online learning as a result of the COVID-19 pandemic, an analysis of trends of higher education data, stakeholder feedback and the translation of issues into policy considerations. Together with the findings from Chapter 4, they indicate that while there may be some opportunities for higher education with online and mixed-mode delivery, there are also potential risks to the quality and integrity of higher education, broadening to student academic achievement and educational experience. The underlying factors of these issues are presented in the next chapter.

6. Selected factors contributing to key issues

The issues detailed in Chapter 5 emanating from online and mixed-mode delivery were expressed in terms of their impact on aspects of the student experience, learning outcomes, integrity and equity in higher education. Stakeholders consistently discussed the underlying factors for such issues to emerge. This chapter systematically outlines these underlying factors.

6.1 Institutional foundations for quality online delivery

Lessons learned from the COVID-19 pandemic, the earlier literature on online and mixed-mode delivery and a large part of the commentary from stakeholders about risks to higher education quality, points to the importance of having institutional infrastructure and expertise to develop, design, deliver and administer high-quality online and alternate mode offerings that foster student interaction and engagement. Overall, the infrastructure and expertise required for online and mixed-mode delivery differs from that of traditional face-to-face higher education. Evidence in the form of scholarly commentary, 2020 student perceptions data from the SES and expert stakeholder feedback suggested that the sudden shifts towards online delivery during the COVID-19 pandemic were based on insufficient capabilities and capacities for delivering quality teaching online in the sector.

Further, some stakeholders expressed that there are currently capacity and capability variations in the area of online delivery among HEPs in relation to:

- Relevant institutional IT infrastructures;
- Staff capabilities (skills, attitudes) related to online teaching;
- Evidence informed design and implementation of online delivery;
- Relevant support structures for academic staff and students; and
- Relevant leadership and culture in HEPs.

Stakeholders perceived that the institutional foundations for successful online and mixed-mode delivery varied widely across the sector, and such variations make it more likely that the issues outlined in Section 5 will eventuate.

6.2 Federal higher education funding, HEP models and pandemic impacts

Associated with the issues around resourcing, planning and capabilities, were stakeholder concerns around funding and sector-level changes.

Some of the stakeholders consulted saw a systemic depreciation of the value of teaching in the sector, reflected in the dismantlement of the Office for Learning and Teaching in 2016, as discussed by academics.

> *"Together these cuts end key mechanisms used to support and enhance quality university teaching for Australian students. There is now no federal money to support high-quality innovations or encourage new learning and teaching initiatives in higher education."*
>
> **(Bower & Van Bergen, 2021)**

More broadly, stakeholders perceived longer-term withdrawal of Commonwealth funding for HEPs and the increasing reliance of HEPs on international student revenue to support their research and international rankings. Further, they saw the longer-term casualisation trend of the higher education workforce as a concern in the context of quality of delivery as this was seen as undermining the foundations for successful deliveries (in any mode).

Such concerns must have been confirmed when HEPs in Australia shed thousands of staff (often those in casual employment) during the pandemic as revenue from international students declined (Littleton, 2022). The relevance of staffing cuts for concerns about quality deliveries is twofold:

- it confirms and renews the perceived undervaluing of teaching as a service function and of teachers as employees in universities[6]; and
- it potentially impacts on the teaching capacity in the sector.

The latter is supported by Larkins (2022) who thought that staff reductions would have particularly affected academic tutoring or level A roles as well as professional staff often employed in administrative roles, which would "represent major changes to operational teaching and research and administrative service delivery profiles within universities" (Larkins, 2022, p. 3).

A specific concern expressed by some stakeholders was their anticipation that HEPs would consider asynchronous deliveries as a way of reducing the number of teaching staff via re-using previously generated materials.

6.3 Summary

Stakeholders involved in the consultation for this project were specifically prompted about the risks associated with online and mixed-mode delivery in higher education. A consistent theme from the consultations, as well as from the findings from the scoping review and earlier literature, was the risk associated with insufficient resourcing, planning, design and development of these deliveries (as depicted on the next page). There were perceptions that the quality of online deliveries varies greatly by provider foundation, across the higher education sector. It was acknowledged that to progress towards high-quality online deliveries, or any hybrid packaging involving online delivery, is resource intensive. Related to that, were concerns about the resourcing available to achieve this, with references to the business models utilised by HEPs, as a result of changes to government funding.

[6] Staff cuts were prominent in public universities that were exempted from the JobKeeper package that subsidised wages during parts of the pandemic.

KEY FINDINGS

CONTEXT

Reduction in funding for HEPs or operational models that contribute to:

- Low investment in teaching and learning innovation.
- Low investment in IT infrastructure and systems.

CHALLENGES

Operational challenges

Variations and/or insufficiencies across the HE sector in:

- Relevant institutional IT infrastructures.
- Staff capabilities (skills, attitudes) related to online teaching.
- Student capabilities related to online learning.
- Evidence informed design and implementation of online delivery.
- Support structures for academic staff and students.
- Relevant leadership and culture.

Further operational challenges for online delivery:

- Perceptions on the quality of online delivery among parents, employers and professional associations.
- Academic integrity (assessment, IT security).
- Online safety and privacy.
- Development of relevant professional skills in some programs.

RISK

Risk of poor design and (increasing) implementation of online delivery

- Resulting in asynchronous teaching, outdated materials, inaccessible resources and services.

IMPACTS

Manifestations of poor online design and delivery

- Student engagement.
- Student interaction and sense of belonging.
- Mental health.
- International students.
- Quality of teaching and resourcing.
- Learning outcomes, professional attributes and accreditation requirements.
- Academic integrity and student privacy.
- Student equity.

Perceptions of HE quality by employers, domestic and international education experts, and potential domestic and international students

Concerns were expressed by some stakeholders about the possibility, if not likelihood, of some HEPs maximising on the economic advantages of online deliveries, while compromising quality.

> *"Online learning is also often used by university management to reduce costs by no longer running in-person lectures or cutting other services. A recorded lecture does not provide students with the same learning opportunities; they cannot ask questions or engage with the lecturer. The lecturer isn't able to see non-verbal (and sometimes verbal) cues from students, so have no indication when they are losing their student's interests, going too fast or going too slow. Furthermore, asynchronous lectures are a measure that likely leads to staff cuts, as the recording can be used for multiple years."*
>
> **(Consultation feedback from teaching and learning expert).**

It was expressed that some stakeholders saw opportunities to facilitate flexibilities to widen markets and the consequent economies of scale to cheapen operations. Concerns were also expressed by providers who saw opportunities to reduce teacher to student ratios – without sufficiently recognising the difficulties, time and costs involved in designing and implementing quality deliveries. These scenarios were driven by the financial pressures within which they work (e.g., ongoing losses from international student revenue) and the now established business cultures to deal with such pressures.

> *"The biggest risk is to pretend that online or mixed mode components can be simply tacked on to a conventional campus model without thorough redesign. For example, synchronous live-streaming conventional lectures acts as a prompt for students to avoid coming to campus and provides those attending remotely with an inferior experience to a competently designed video lecture which works in a fully online space."*
>
> **(Consultation feedback from teaching and learning expert).**

7. Implications of identified issues

While the underlying factors for the key issues regarding online and mixed-mode delivery in the higher education sector were discussed in Chapter 6, this chapter details the implications of the shifts in mode of delivery over time and during the COVID-19 pandemic for both the HESF and the broader context of higher education policy. With the below contextual factors in mind, this chapter will outline the implications of the findings of this project for the national policy settings.

7.1 Contextual factors

There are eight key contextual factors that have been identified relating to implications for national higher education policy:

1. Online and external modes of study are not new. Many HEPs in Australia are already well established in their capacity to offer high quality learning experiences in these modes of delivery.
2. Despite the long history of good practice and policy settings for external and online learning, the COVID-19 pandemic represented a turning point for the role of digital technologies in higher education.
3. With the rapid acceleration in the use of digital technologies and modes of study commensurate with physical distancing and lockdowns, came an explosion of innovation and exposure to online teaching for a significant portion of higher education teachers and students who had not previously experienced these modes of delivery.
4. The rapid uptake of (predominantly) online learning had serious implications, identified in this report, some of which have already led to unfavourable outcomes (e.g., reduced academic integrity).
5. Researchers and stakeholders argue that the online learning designed and delivered during the COVID-19 pandemic (emergency remote teaching; 'panicgogy') is not representative of high-quality online learning such as that being delivered by HEPs with longstanding experience in online and mixed-mode delivery.
6. The main technological development that enabled swift adaptation during the COVID-19 pandemic is the ability to connect via video, at the same time, in different places. This capability has only become viable for education since the early to mid-2010s.
7. The necessity to apply standards and regulation to higher education offerings needs to be balanced with the provision of sufficient room for ongoing innovation across modes of delivery.
8. Any possible amendments or updates to policy or regulatory instruments will have implications for the wide range of university and non-university HEPs, which are likely to be affected in different ways.

7.2 Implications for HESF

In order to discuss the implications of the ongoing evolution in mode of delivery for the HESF, a student lifecycle approach was adopted.

Firstly, a lifecycle approach allows specific pressure points within each of the seven domains to be described, in turn. This approach both builds on, and synthesises, the mapping of issues to the HESF described earlier in this report. Secondly, and more importantly, taking a student lifecycle approach allows

for the implications of changing delivery modes to be described through the lens of students. While this approach is less relevant to some domains (5, 6 and 7) it is nonetheless a useful frame for the discussion of the implications for the standards.

Each domain has been considered and the main pressure points for aspects of the HESF provided. In particular, the issues identified in this report have been compared to the minimum acceptable requirements (thresholds) outlined in each domain. This has determined any risk of HEPs not meeting these requirements in both new and emerging modes, and any risk of the HESF being inadequately positioned to provide the standards needed to monitor and regulate quality in these modes.

7.2.1 Domain 1: Student participation and attainment

Domain 1 of the HESF focuses on several key areas that are likely impacted by the issues identified in this report. In particular, due to the ongoing evolution in mode of delivery the following require careful consideration, relative to the threshold standards:

Admission

Based on the evidence in this report, there is some uncertainty as to whether students are adequately prepared for the realities of modes of delivery outside of the traditional campus-based model. Firstly, online and mixed-mode delivery can be unfamiliar to students, including school leavers and mature aged students. Even prior experience in a structured senior secondary context with online learning aspects does not necessarily translate to the same online learning students experience in higher education. Secondly, although experienced online and external providers have support mechanisms in place for students experiencing online and mixed-mode delivery, it is unclear whether an appropriate level of support is in place for students who lack experience in online or external modes. Without this support, the data suggest that there is a risk that some students will not be adequately equipped to succeed.

From the evidence in this report, the standards concerning admission seem to be appropriate and robust to changes in mode of delivery. However, it is unclear whether HEPs who have newly adopted online and mixed-mode offerings are equipped to consistently meet the standards set by the HESF.

Orientation and progression

Not only is there a potential implication with the admission of students who are not adequately prepared for new modes of delivery, it is also unclear that the support mechanisms are in place to help students in these modes who might be at risk. It is not known whether providers are adequately prepared to orient students to online and mixed-mode delivery that the institutions themselves are still coming to terms with. For example, it remains unclear how best to orient students to dual mode where they can expect to join a live class from a webinar portal. Again, this is at least in some part due to the mode being so new to some providers that they are still grappling with how best to help prepare students for success.

From the evidence in this report, the HESF standards on orientation and progression also appear to be robust to the changes in modality that are occurring. However, it is unclear whether all HEPs are well placed to meet the thresholds inherent in these standards.

Learning outcomes and assessment

While learning outcomes should be robust to changes in delivery mode when they are externally benchmarked, the consistency of these outcomes across modes is uncertain. For example, can it be expected that all programs of study lead to equivalent outcomes, irrespective of mode of delivery? As identified in this report, there is some ongoing scepticism about the outcomes achieved through some modes of delivery, in some circumstances.

Similarly, the scoping review, and views from some stakeholders, suggests that there are issues with the ways in which assessment is carried out, particularly in online modes. Aside from privacy concerns and the

apparent threats to academic integrity, the validity of some methods of digitally-mediated assessment remains unclear.

Again, it is apparent that the HESF can accommodate the changes in mode of delivery that have been occurring over time and that have been accelerated during the COVID-19 pandemic. However, there is some uncertainty whether the thresholds for appropriate monitoring and achievement of learning outcomes are being met across modes. There is also concern about the forms of assessment that have emerged and evolved as modes of delivery shift, and whether these are still fit for purpose, relative to the HESF standards.

7.2.2 Domain 2: Learning environment

As modes of delivery change, so too do the environments in which the learning occurs. Indeed, that is the very nature of change in delivery mode. However, as these modes evolve and blend, there is a blurring of the definition of the environments that are under the direct control of providers. With that contextual issue in mind, there are several key areas where the shifts in mode of delivery impact the learning environment, as represented in the standards:

Facilities and infrastructure

The standards here refer to sufficient facilities and infrastructure to support students to achieve relative to the learning outcomes. As learning is occurring in a more diverse range of environments, this is a pressure point caused by shifting modes of delivery. What is counted as sufficient, as well as the level at which providers are responsible for the appropriateness of these environments is currently inconclusive. As reported, there is some uncertainty as to whether the full range of students are being adequately supported through the delivery of emergency remote teaching. The ongoing development and delivery of programs in new modes of delivery will need to be founded on high quality delivery, particularly in online environments.

The HESF already clearly outlines that sufficient facilities and infrastructure be in place to support students, regardless of mode of study. There is some uncertainty as to whether this has been the case during the COVID-19 pandemic and there is a possibility that, if providers use remote emergency teaching as a foundation for ongoing delivery in these modes, the environments will not be appropriate or sufficient.

Diversity and equity

The HESF clearly articulates the standards regarding the provision of educational opportunities regardless of student background. The opportunities afforded by new modes of delivery provide avenues for non-traditional higher education students to engage with, and succeed in, higher education. The level of flexibility afforded by online and mixed-mode delivery, can allow students from a range of equity groups to participate in higher education in ways that a traditional campus-based delivery mode cannot.

Despite the affordances of new modes of study for equity groups, there are significant challenges for students for some backgrounds in the new modes of delivery emerging. As the work conducted under the auspices of the NCSEHE has shown, there have been significant barriers for students in equity groups to engage and succeed in their studies during the COVID-19 pandemic. As indicated in this report, further monitoring is required to further explore the patterns and trends. However, this suggests that the design and delivery of emergency remote teaching is not an ideal model for the future delivery of programs in ‘new’ modes.

7.2.3 Domain 3: Teaching

As far as the teaching domain of the HESF is concerned, there are some elements where there are critical considerations raised by the new modes of delivery evolving over time. Fundamentally, interaction between educators and students is different across the various modes of delivery now becoming commonplace in Australian higher education.

Staffing

The HESF outlines appropriate levels and qualifications of staff commensurate with the level of study and field in which they are teaching. The evidence reported here did not suggest that these standards are being affected by shifting modes of delivery. However, there is an opportunity to explore this further. It is unclear how the make-up of the higher education workforce (e.g., reliance on casual teaching staff) has and will shift in response to widespread changes in mode of delivery.

In terms of academic leadership, there are some questions about what constitutes appropriate experience and qualifications for a leader who has responsibility for modes of delivery that they have no experience or expertise in themselves. This raises the issue of appropriate preparedness of the broader higher education workforce for modes of delivery new to many, if not all. Appropriate staffing is yet to be determined and it is also unclear what kind of support is required to upskill current staff.

As per many other components of the HESF, there appears to be no clear mandate for changes to the staffing standards, based on the information available. Shifting modes of delivery are raising questions about appropriate staffing for which there are currently no clear answers.

Learning resources and educational support

The quality and appropriateness of the resources made available by providers during the COVID-19 pandemic are inadequate, based on the evidence in this report. However, the need to shift modes of delivery very quickly meant that quality versions of resources couldn't be delivered in the necessary timeframe. A fundamental and ongoing question, central to the observations made during the COVID-19 pandemic, is: *How many of the habits that formed during the pandemic spill over into business as usual going forward?*. For example, students reported that the level of interaction did not support their success. This issue is partly due to the rushed manner in which learning resources were pulled together as lockdowns and other social distancing measures came into effect.

The current HESF seems well placed to accommodate the shifts in mode of delivery in this domain. However, there are legitimate concerns, described in this report, that the quality of learning resources and educational support was not of the required standard during the COVID-19 pandemic. Ensuring that providers are meeting the HESF standards as new modes of delivery continue to evolve is a critical mission for the HESP and for regulators, into the future.

7.2.4 Domain 4: Research and research training

Research training

It is widely documented, including in this report and in the scoping review in Appendix A, that higher degree research (HDR) candidates faced significant challenges during the COVID-19 pandemic. Therefore, there are considerations relative to this group that need to be taken from the changes in mode of delivery over time. Many of the issues associated with the provision of an appropriate and sufficient learning environment also apply to HDR students. Shifting of modes of delivery of higher degree research programs have the potential to create a range of challenges for candidates that will differ widely due to the nature of their projects and the traditional research carried out in their discipline.

Again, the HESF seems to be robust to changes of mode of delivery for HDR students. The key considerations for these students align with the issues associated with other domains. Further, it is important that HDR students are considered in all domains.

7.2.5 Domain 5: Institutional quality assurance

Domain 5 lays out the conditions for providers to monitor the quality of work occurring within the institution. This is a domain that has a reasonable level of overlap with the issues that have been described in this report. Specifically, the assurance of quality in a mode of delivery that is new to a HEP will raise challenges.

For example, how does a HEP go about setting and monitoring standards in an online environment when all the current quality assurance policies and processes are designed for face-to-face delivery? Clear issues in this domain include the following:

Academic integrity

There has been a substantial, national, and international conversation about emerging issues in academic integrity. In Australia, TEQSA and the Australian Government have been proactive in addressing issues associated with cheating in higher education. Providers shifting to new modes of delivery not only need to be aware of the possibilities for academic integrity in new modes of delivery but also need to proactively address these possibilities to lessen the likelihood of cheating and to ensure that any breaches are managed appropriately.

Monitoring, review and improvement

As mentioned in the overall statement about the implications for this domain of shifting modes of delivery, providers unfamiliar with new modes of delivery will need to adapt or newly create mechanisms for monitoring, reviewing and improving programs offered in new modes. This will be an ongoing challenge for some providers, particularly those with a long history of predominantly on-campus delivery.

Delivery with other parties

As providers seek to capitalise on the new modes of delivery that evolved during the COVID-19 pandemic, some are looking to third party partners to assist with shifting to these new modes. This is particularly the case with providers who have a long history of campus-based activity moving to online delivery modes. Partnering with others introduces some complexities for quality assurance. The HESF already has standards related to this situation. However, the ongoing monitoring of processes to assure the quality of these offerings will be required.

7.2.6 Domain 6: Governance and accountability

Given the regulatory settings in Australian higher education, there are implications of shifting modes of delivery for domain 6. These implications include aspects of corporate governance and accountability that require consideration relative to the issues raised in relation to all previously discussed domains but, particularly for the issues discussed for domain 5. HEPs are required to have sufficient and appropriate governance and accountability structures and processes in place to ensure that they are complying with the HESF standards across domains. The issues identified in this report raise questions about the governance and policy processes within provider institutions. For example: *Do providers have in place a governance structure that is appropriately equipped to manage and provide oversight to programs offered in new modes of delivery?*

While the HESF standards and regulatory processes can accommodate the wholesale shifts in mode discussed in this report, there are grounds to consider the implications as modes continue to become further blurred. The concerns raised in relation to domain 5 reflect quality assurance issues that emerge as modes of delivery shift over time. There are potential implications for the governance and accountability processes within HEPs as the line between internal and external/online offerings become more difficult to define. For example, internal quality assurance mechanisms that were constructed on the assumption that learning activities occur predominantly in a physical environment, may strain to accommodate online and mixed-mode delivery, as discussed in relation to domain 5. Under these circumstances, providers need to have governance and accountability processes in place to adapt and update, to meet the required standards in a new and evolving operating environment.

The standards concerning governance and accountability seem adequately described in the HESF. These standards are critical in the regulation of HEPs who are required to notify TEQSA of any shift in delivery mode. However, what constitutes an appropriate governance and accountability framework, when a

significant shift and blurring of modes of delivery occurs within a HEP, may make regulation more difficult. This will be a matter for HEPs to manage into the future, given the range of issues identified in this report.

7.2.7 Domain 7: Representation, information, and information management

The major issue for domain 7 is about what students can expect, as modes of delivery change. The issues discussed in this report suggest that there is a lack of clarity about the new modes of study emerging and lack of transparency about the implications for student learning and success, across these new modes. Therefore, there are persistent questions about both the representation of offerings and the information that is provided to prospective and current students.

The policy settings were developed at a time when there was a relatively clear delineation between internal and external modes of delivery. Beginning with the emergence of blended learning, this dichotomy has been breaking down. That blurring process was greatly accelerated during the COVID-19 pandemic. Thus, there is a concern that the information that is publicly available about offerings of Australian HEPs no longer adequately represents the complex mixed-mode delivery that has become normal during the pandemic. Although the HESF clearly outlines that providers need to be explicit and clear about what they offer, there is no clear definition of what that is, as modes of delivery have evolved over time.

7.3 Implications for the broader higher education policy landscape

The COVID-19 pandemic and the acceleration of the use and capability of digital devices and networks has, and will continue to, challenge higher education policy in Australia, as well as globally. Maintaining quality while allowing for innovation using the emerging technologies will continue to be a critical issue in the future. While this report has focused primarily on the HESF, it would be remiss to not mention the multiple, inter-related aspects of higher education policy in Australia that overlap with the issues identified in this report. These linkages are provided as a reminder to readers that there are widespread implications of the issues and trends discussed here well beyond the HESF.

In particular, the following aspects of national higher education policy in Australia are implicated:

- Higher Education Support Act: The increased demand and capability for more flexible offerings will test elements of the Higher Education Support Act, particularly as timeframes of study become more flexible. These shifts will have implications for census dates, for example and other aspects of the higher education funding model in Australia.
- Australian Qualifications Framework: Increased flexibility in modes of delivery will overlap with elements of the Australian Qualifications Framework (AQF). For example, the modularisation of existing offerings under the guise of micro credentials is testing the current categorisations in the AQF. Many of the emerging micro credentials are being offered in online and external modes.
- Student equity: The Bradley Review, in 2008, set a target of 20% undergraduate enrolments by students from low socio-economic backgrounds in 2020 (Bradley et al., 2008). This target has not been reached to date. Evidence in this report indicates that equity students (including from Indigenous and regional/remote background) may experience additional disadvantages due to shifts in delivery modes, which underscores the importance of directed funding and programs for additional support.

In addition to these intersections between identified issues and national higher education policy, the following implications were identified from the background research. Addressing these gaps will serve as enablers for national higher education policy to ensure quality of delivery.

- Innovation Gap: A high level of innovation was required following the onset of the pandemic, but it may have led to costly duplication across the sector. The situation laid bare the fundamental lack of a systemic capability for sector-wide sharing of innovation in practice. This function was previously served by the Office for Learning and Teaching and the predecessor organisation, the Australian

Learning and Teaching Council. Both the commentary emerging from the pandemic and the stakeholder consultations indicated that the lack of a sector-wide approach to innovation is problematic.

- Recognition Gap: As more is being asked of teachers, teaching support staff, and educational leaders in Australian higher education, for what is one of Australia's more important industries, there is growing importance for the recognition of the expertise and excellence of educators in Australian higher education. This conflicts with the reported job losses across the sector (Larkins, 2022).
- Data Gaps: As highlighted in this report, there are some opportunities, and some need, to improve Australia's higher education data infrastructure. For instance, there is a need to better capture the mental health of students in HEPs (e.g., via including relevant questions for all respondents in the SES). Further, the current measure of learning engagement reported from the SES does not represent a clear indicator of students' engagement with learning, especially not in relation to different modes of delivery. Both student mental health and learning engagement were key issues that emerged, which underscores the need for investing into better data in these areas. Finally, capturing reliable information on mode of delivery is fundamental in monitoring the workings of different modes of deliveries in Australian higher education. It appears warranted that current definitions and operationalisations of mode of study categories used in higher education data collections are reviewed in the context of possible deliveries now and in the near future. At the same time, there are opportunities to:
    - Establish a baseline for, and assess variations in, infrastructure and staff capabilities in online delivery across HEPs in the sector;
    - Investigate the impact on student equity/diversity (including student retention) from introducing more online and mixed-mode delivery (conditional on having reliable data on different modes), and
    - Examine the confounders and moderators of student experience with the upcoming release of 2021 data, to more thoroughly investigate student perceptions during the COVID-19 pandemic.
- Evidence-informed future: The combination of a crisis, pressure on time and resources, and the need to rely on technology, created ideal conditions for the spread of ill-informed ideas about quality learning in higher education. For HEPs in Australia to continue to offer world-leading programs that attract students from around the world, a shift away from hype and hyperbole to rigorous evidence now needs to occur. It is hoped that this report will go some way towards facilitating this shift.

7.4 Summary

An overarching question that this report was aiming to answer is whether the HESF is still fit for purpose in the 'new normal' that has emerged since the COVID-19 pandemic. The key issues presented in this report were identified from a scoping review of literature on modes of delivery during the COVID-19 pandemic, a trend analysis of higher education data and an extensive consultation process. As discussed, future research and ongoing monitoring of modes of delivery and student experience will provide better insights into the long-term implications of modality. Based on what has been identified, there does not appear to be a strong case for changing the threshold standards in the HESF. However, there is a possibility that some HEPs may have difficulty meeting the standards. There appear to be three key reasons for this possibility:

- Some modes of delivery, such as dual mode ('Zoom in the room', Hi-flex) are new to all providers and the implications and effective practices of these modes is yet to become clear.
- Online, external and hybrid modes of delivery are new to some HEPs and do not have the depth of experience in the quality assurance, design, delivery and support of students in these modes (apart

from during the COVID-19 pandemic, which was an exception and not a proof of concept of high-quality learning). However, the possibility of new markets makes them particularly attractive.

- The discussion and language used to describe modes of delivery in Australian higher education remains too crude to capture the evolution of hybrid modes and other modes of delivery that are emerging. The discussion and policies still largely reflect an internal vs. external/online model that no longer reflects the reality for higher education staff and students.

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Modes of Delivery in Higher Education:
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Appendix A: Impact of COVID-19 on teaching and learning across the higher education sector: a scoping review

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Executive Summary

What is known about the impact of COVID-19 on the higher education sector, particularly in the realm of educational quality, student experience, and institutional responses?

This desktop review examined 105 research outputs published in 2020 to 2021 to provide insights into the impact caused by the COVID-19 global pandemic to educational activities across the higher education sector. Commissioned by the Department of Education, Skills and Employment, this review is part of a larger project to support the Higher Education Standards Panel's (HESP) consideration of the policy[1] and regulatory implications of online and mixed-mode delivery of higher education by Australian providers.

Using a two-staged scoping review approach with thematic analysis, five inter-related categories (students, academics, assessment, how-to guidance, scholar commentary) each with specific themes were identified.

The first two categories focused on the experiences of students and academics with almost all research outputs discussing the impact on learners and educators. Most Australian higher education students, most of whom enrolled in 2020 as on-campus students, struggled with the move to online caused by the global health crisis. Thus, they were navigating a new (and unexpected) learning experience.

The student experience is inextricably entangled with that of teachers. For example, how well teachers fostered online interaction influenced how students engaged and connected (or not) with others in the online learning environment. Like students, many higher education teachers were also thrust into a new educational environment and the initial (rapid) response involved a steep (uncomfortable) learning curve.

Many students and staff also had to adjust to new approaches to assessment. This was particularly evident in disciplines with competency-based, hands-on practicals, and closed book invigilated types of assessment.

[1] Reference to policy issues concerns the implications for the Higher Education Standards Framework, and other regulatory implications in relation to teaching and learning in higher education.

Managing new online assessment approaches and systems

- Maintaining integrity and accessibility with new platforms
- Devising authentic and continuous assessments

The new-ness and sudden-ness characterising the move to online education caused by COVID-19 prompted a mobilisation of support. Guidance in the form of good practice principles for online learning were produced and translated across disciplines and contexts, which drew on decades of existing research on online learning and educational technologies.

Deployment of practical how-to guidance

- Translating what is known about online learning
- Recognising student autonomy and structured flexibility in online learning
- Shifting pedagogies toward online interaction

There is an array of disciplinary lens brought to bear on higher education research (education, sociology, psychology, economics, computer science, history, philosophy, and more). The final category below captured the numerous editorials and scholarly commentary that was making sense of, reflecting on, and critiquing aspects of the pandemic impact on higher education.

Scholarly commentary on the future of higher education

- Re-thinking duty of care obligations between government, university, and its community
- Re-defining internationalisation
- Imagining the road to recovery

Despite decades of experience with and research into online learning, most higher education students and staff were not prepared for online learning caused by COVID-19 in early 2020. There is a consensus that COVID-19 accelerated an existing trend toward more online learning. Nonetheless, most learners and teachers were *thrown into the deep end,* and it was *sink or swim* in the early months of the pandemic. Heroic efforts were made across the higher education sector to support both learners and teachers as they moved into a new learning environment while dealing with the uncertainties of a global health crisis.

Overall, the scoping review analysis of 105 outputs focused on the early stage of the pandemic when on-campus activities largely ceased and the single mode of online enabled higher education providers to continue educational activities. The early-stage impact of COVID-19 involved a rushed *translation* of planned on-campus activities to online platforms. New-ness and sudden-ness characterised this stage with rapid adaption to new learning and assessment technologies along with new forms of contact (all campus services moved online). The time to plan and design for online learning was not an option in the early stage, which is a crucial distinction for many scholars between effective online learning and emergency online learning.

What is missing in the scoping review is important insights into the late-stage of COVID-19 when modes of delivery involved a mix-n-match of dual, flexible, and alternative modes that quickly changed from some on-campus interaction to fully online, and back again, depending on health restrictions. After the shock of the

initial thrust online, the extent to which teachers and learners were becoming more accustomed to the flexibility enabled by ongoing pandemic educational practices is a big unknown. Similar to debates and analysis of work-from-home and hybrid-work models, new modes of delivery are in a transition state as higher education providers operate in the ‘living with covid” stage of the pandemic. There is much to be learnt about new forms of flexibility and what they mean for teaching and learning quality – and care for learners and teachers/staff.

Exploring the impact on COVID-19

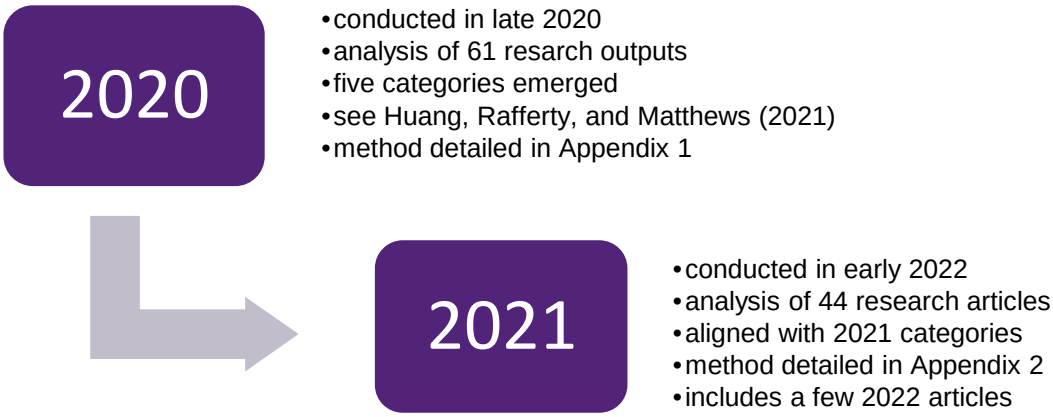
Approach

Using an adapted framework from Arksey and O'Malley (2005), we conducted a two-staged scoping review guided by the question:

> What is known about the impact of COVID-19 on the higher education sector, particularly in the realm of educational quality, student experience, and institutional responses?

A scoping review approach provides a descriptive overview of the field, is useful where other reviews have not been conducted, and where the area of research is emerging (Arksey & O'Malley, 2005; Levac, Colquhoun, & O'Brien, 2010). The widely used Arksey and O'Malley (2005) approach, adopted for this review, involves a six-step process:

A two-stage process was conducted:



In total, 105 research outputs were subsequently read and thematically analysed (Braun & Clark, 2006). In the 2020 stage, five key categories were identified, each with specific themes: (i) student experiences; (ii) academic experiences; (iii) assessment; (iv) pedagogical how-to practices; and (v) scholarly commentary on the future of higher education. In the 2021 stage, the research outputs continued to converge within the five existing categories. Thus, the research outputs identified in 2021 (including a few 2022 articles) added further and nuanced insights instead of diverging into different categories or sub-themes.

Student experience: Navigating new online learning and services

Increasing control and responsibility, reduced motivation, and mental health struggles

While necessarily constrained by the modality of the teaching experience, students generally appreciated the increased responsibility and control over when and where they could study (Alavi et al., 2021; Tang et al., 2021; Uluöz, 2020; Almoayad et al, 2020; TEQSA, 2020). Yet, students also reported a number of challenges with the transition to online learning (Drachsler et al., 2021; Attree, 2021). A prominent challenge was mental health issues such as anxiety and depression, exacerbated by physical distancing and lockdown measures (Lloyd et at., 2021; George-Levi et al., 2021; Jandric et al., 2021; Zainal Badri et al., 2021; Mercer-Mapstone et al., 2022; O'Shea et al., 2021; Uluöz, 2020; Bolumole, 2020; TEQSA, 2020), and the suddenness of the shift to online learning (Tang et al., 2021; Clark et al., 2021; Almoayad et al, 2020). Students also reported difficulties with motivation; a result of distractions (e.g. online streaming services), carer responsibilities, partners, and/or problems with their at home learning environment (e.g. job loss, family loss, unstable home situation, etc.) (Tang et al., 2021; Heo et al., 2021; Attree, 2021; Uluöz, 2020; TEQSA, 2020). Yet, the increased flexibility and accessibility enhanced some students' sense of well-being, experiences, grades, and engagement (Mercer-Mapstone et al., 2022).

Sutherland et al., (2021), noted the key issue for research-intensive PhD students was the consideration of dropping out of their studies as they could no longer afford them because of the pandemic. Further, delays to their data collection due to COVID-19 lockdowns, as well as lack of funding, pushed many PhD students into places of unease and challenge (Jandric et al., 2021).

Given these experiences, Australian students in a report by Dodd et al. (2021) expressed a desire to return to traditional learning settings as quickly as possible. Similarly, in Australia, a TEQSA (2020) study including 118 registered higher education providers found that between 33% to 50% of students "did not wish to ever experience [online learning] again" (p. 8). Attree (2021) found that the majority of Australian student participants regretted the loss of informal social interactions, engagement with classmates and lecturers and the feeling of belonging that comes with being on campus.

Naming of new concerns about online learning quality and assessment integrity

Students expressed concern that some learning objectives were unachievable using online means (Heo et al., 2021; Almoayad et al, 2020; Longhurst et al, 2020), particularly in programs requiring practical activities (Olivares et al., 2021; Gamage et al, 2020b), or those who lacked available online learning materials (Alavi et al., 2021; Ozer & Ustun, 2020). This has led to concerns regarding future professional accreditation requirements for students in some countries (e.g. Australia); especially in disciplines with accreditations requiring unpaid work placements (TEQSA, 2020). Likewise, from an assessment perspective, some students identified integrity issues such as cheating, and privacy issues with online proctoring software that affected their learning experience (Alavi et al., 2021; Gudiño Paredes et al., 2021; Uluöz, 2020; TEQSA, 2020). Some scholars believe such punitive policing software demands unrealistic expectations of student behaviour (Fuller et al, 2020; Nguyen et al, 2020), are not cost-effective (Gamage et al, 2020a; Nguyen et al, 2020), and do not eliminate cheating.

Overall, these experiences have led to calls within the academic community to evaluate the ongoing changes and their impact on students' learning (Crawford et al, 2020; Guo et al, 2020; Longhurst et al, 2020; Pather et al, 2020).

Realising that relationship-building is (more) difficult online

Broadly, students considered the online learning environment a difficult place to ask questions and solicit feedback from their teachers and peers (Lloyd et at., 2021; Oliveira et al., 2021; Uluöz, 2020; TEQSA, 2020). They struggled to find the means with which to develop and sustain ongoing relationships in an online environment (Attree, 2021; Rudolph et al, 2021, Gamage et al., 2020b; Ozer & Ustun, 2020; TEQSA, 2020). While students appreciated that some academics made available more dedicated time for consultation and support (Dodd et al., 2021), it appeared insufficient to overcome the perceived necessity of face-to-face contact in formal or informal settings (Clark et al., 2021; Attree, 2021; TEQSA, 2020). Absenteeism has also

received a lot of attention from students (Uluöz, 2020; Ozer & Ustun, 2020), with many noting that several of their peers either failed to engage or show up altogether for classes. Developing student capacity through peer mentorship programs assisted with issues of student loneliness and ability to engage with external stakeholders (Zainal Badri et al., 2021; Baumber et al., 2021).

Acknowledging issues exacerbated or alleviated for equity-seeking students

In addition to the challenges raised above, students from identified equity groups raised issues with access to reliable bandwidth and home technological devices (Mercer-Mapstone et al., 2022; Olivares et al., 2021; Baumber et al., 2021; Baloran, 2020; Uluöz, 2020; Bolumole, 2020; TEQSA, 2020). While some institutions sought to overcome these accessibility shortfalls by establishing device loan programmes (Laufer et al., 2021; see e.g. TEQSA, 2020), students would then often have to share these devices with family members at home (Baloran, 2020; Uluöz, 2020; Bolumole, 2020; TEQSA, 2020). As a result, a common and pressing issue is balancing the security of assessments against equity; not all students at home are able to access the necessary technology and conducive exam environment required for valid, fair administration of student learning (Mercer-Mapstone et al., 2022; O'Shea et al., 2021; Laufer et al., 2021; Xie et al., 2021; Gamage et al., 2020a; Jisc, 2020; Uluöz, 2020). Students, whether experiencing disadvantage or not, can experience issues brought on by COVID-19 that could see them remove themselves from their Higher Education Institution (O'Shea et al., 2021).

In a comparative study, students from identified equity groups reported higher likelihood of financial insecurity and worsening situations, and reported higher levels of feeling unsupported by their education institutions (Mercer-Mapstone et al., 2022). Yet, in the same cross-university study, students from identified equity groups indicated benefits of online learning that offered new forms of accessibility. Students from indigenous backgrounds or students with disabling conditions also encountered challenges unique to their position in society (Xie et al., 2021; Mupenzi, Mude, & Baker, 2020) with a sense that institutional responses did not give credence to their perspective or experiences, and took advantage of their status for financial assistance (Akuhata-Huntington et al, 2020). The concern of equity should be a central understanding of university teaching due to COVID-19 increasing disadvantage (Dodd et al., 2021; O'Shea et al., 2021).

Academic experience: Navigating new online teaching and support

Varying responses and disciplinary approaches to teaching online because of a pandemic

Globally, academics were largely unprepared for teaching online in response to the pandemic (Lloyd et at., 2021; Oliveira et al., 2021; Baldwin, 2021; Mishra et al., 2021; Rapanta et al., 2021; Lederman, 2020), but managed to cope with the migration to online learning systems and tools for emergency remote teaching (ERT). Despite the general success of the transition to ERT, Watermeyer et al. (2021) identified disciplinary differences amongst academics' experiences in the United Kingdom. Specifically, academics in computer science and education reported higher levels of confidence (75.8% and 72.5% respectively), preparedness (66% and 64.2%), and institutional support (86.3% and 85.3% respectively) than their colleagues in other disciplines. Moreover, marked experiential differences emerged for academics in disciplines with compulsory practical, clinical, or laboratory activities as replicating those traditional experiences proved extremely difficult, if not impossible (Olivares et al., 2021; Ashencaen Crabtree et al., 2021; Longhurst et al., 2020; Pather et al., 2020). However, even academics in disciplines reporting less impact noted concerns with effectively teaching foundational concepts without face-to-face instruction (Mishra et al., 2021; Crick et al., 2020).

Forming of new teaching communities for some but not all

Metcalfe (2020) found that academics had to balance teaching online, working from home, and carer responsibilities as physical distancing and lockdown measures were introduced (Sutherland et al., 2021; Jandric et al., 2021; Ashencaen Crabtree et al., 2021; McGaughey et al., 2021; Baumber et al., 2021). In seeking to balance these competing imperatives, academics came together to support one another to

develop resilience, as reflected in the broad spectrum sharing of teaching materials and advice between and throughout learning communities (Dodd et al., 2021; Baumber et al., 2021; Drachsler et al., 2021; Lederman, 2020). Further, communication from Faculty and professional staff created a continual sense of community and support (Agasisti & Soncin, 2021).

However, Corbera et al (2020) noted that some academics, especially those without tenure or in contract positions, found themselves without a community to fall back on, both professionally and personally, in light of retrenchment activities in the broader community (Mercer-Mapstone et al., 2022). Many academics, whether in a vulnerable position or not, were discussed as being at risk of exacerbated wellbeing and mental health issues (Vandeyar, 2021; Watermeyer et al., 2021; Rudolph et al, 2021). In the long-term, the pandemic was discussed by Watermeyer et al (2021) as reinforcing a trend of mounting occupational precarity in higher education that is increasingly reliant on contract or sessional teaching staff, further undermining academic collegiality.

Shifting into a new identity as a teacher in a digital environment

Academics had to come to terms with transitioning away from face-to-face, synchronous activities to some form of online synchronous or asynchronous teaching model (Allen & McLaren, 2021; Devlin & Samarawickrema, 2022; Laufer et al., 2021; Olivares et al., 2021; Lowenthal et al., 2020). As a consequence, the pandemic drove a universal shift across all disciplines towards the incorporation and utilisation of digitalised curricula (McGaughey et al., 2021; Nkomo et al., 2021; Khoza & Mpungose, 2020). For Suoranta (2020) and others, the adoption of digitised curricula created an opportunity to reimagine the academics' role as incorporating not only content instruction, but the teaching of democratic principles and practices (Rapanta et al., 2021; Jandric et al., 2021).

However, such a reconceptualisation was impossible to fulfil according to Khoza and Mpungose (2020) during ERT, who suggested that academics were merely doing what they could to 'survive' and nothing more, this included low technological quality for lessons and assessments (Alavi et al., 2021; Slade et al., 2021; Heo et al., 2021). Similarly, Lederman (2020) argued the educators' response was one of 'triage', whereby academics sought to maintain as much of the traditional (pre-COVID-19) experience in both online and offline formats (Alavi et al., 2021). It therefore follows that a number of academics did not fully embrace nor adopt the pedagogical nuances of 'online learning' (Slade et al., 2021; Heo et al., 2021; Rapanta et al., 2020). There was a sense that Higher Education Institutions would need to have more substantial infrastructure and investment into online learning training to fulfil pedagogical needs (Mishra et al., 2021; Rudolph et al, 2021).

Academics also found their pastoral roles extended significantly (George-Levi et al., 2021; Vandeyar, 2021; Jandric et al., 2021; Oliveira et al., 2021), to the point of serving as student support substitutes, which overwhelmed some who did not believe they had the expertise or scope to be responsible for their students' welfare (Watermeyer et al., 2021). Maintaining a constant responsive and engaging approach to teaching practices further stressed lecturers and affected their ability to provide a student-centred approach (Dodd et al., 2021)

Questioning trends toward digital teaching forced by the pandemic

Resistance to digitalised curricula became increasingly pronounced during the transition to ERT. According to Pather et al. (2020) and Longhurst et al (2020), academics were worried about student interaction and evidence-informed pedagogical practices being replaced with online platforms for convenience (McGaughey et al., 2021). Watermeyer et al. (2021), in acknowledging this trend, argued that higher education may become more marketized and automated post-pandemic as a result of online migration (Allen & McLaren, 2021). More broadly, it has been stated the collective experience of ERT may deter academics from utilising digital technologies in the future (Nordmann et al., 2021; Lederman, 2020; Watermeyer et al, 2021). Concerns of ERT becoming the norm post-COVID was linked to a lack of trust in Higher Education Institutions and the possibility of the pandemic being used as another way to exploit academic work and therefore increase the division between staff and institutions (Le, 2021; Watermeyer et al., 2021).

Managing new online assessment approaches and systems

Maintaining integrity and accessibility with new platforms

A common issue identified for assessment was balancing the security of high-stakes assessments against equity. Not all students at home were able to access the necessary technology, connectivity and conducive exam environment required for valid, fair administration of student learning (Allen & McLaren, 2021; Alavi et al., 2021; Gamage et al, 2020a; Jisc, 2020). The trade-off for assessment to be more trustworthy and more flexible was amplified during the move to online education. While many students had previously engaged with new submission processes, the pandemic introduced new and various ways in which they had to adapt (Gudiño Paredes et al., 2021; Clark et al., 2021; Bhute et al, 2020). Key changes across the board to minimise academic dishonesty while maintaining equity involve providing more time, trial runs, scanning of physical documents with student handwriting, randomisation of items, and questions adapted to test for higher-order thinking (Choi et al, 2020; Dicks et al, 2020; Nguyen et al, 2020; Raje & Stitzel, 2020). Notably, only the latter veers away from replicating exam conditions to re-designing the content of assessments.

Despite these strategies, there have been mixed experiences with indications of academic dishonesty (Alavi et al., 2021; Oliveira et al., 2021); while some report that data from remote open-book examinations appear to be comparable with that of closed book invigilated examinations (Dicks et al, 2020; Fergus et al, 2020), others report inflated scores (George, 2020; Raje & Stitzel, 2020). Efforts to further replicate closed book exam conditions and mitigate these issues have led to increased popularity of expensive software designed to detect student cheating (Fuller et al., 2020; Gamage et al, 2020a). Some scholars believe these demand unrealistic expectations of student behaviour, have prohibitively rigid instructions, and that the use of such draconian measures signals to students that we do not trust them to be honest (Fuller et al, 2020; Nguyen et al, 2020). Further, the use of these systems created tension and stress in the participating students which then had a negative effect on their result and raised issues of privacy (Gudiño Paredes et al., 2021).

Devising authentic and continuous assessments

Assessment greatly influences the approaches students take in their learning. Using innovative assessment design can help students engage with learning outcomes and mitigate academic misconduct (Crawford, 2021; Slade et al., 2021; Karakaya, 2021; Gamage et al, 2020a). Similarly, technology can go beyond ‘putting exams online’ to help assess an individual’s ability via authentic assessment; not just to retain knowledge but to apply it practically through collaborative, critical problem-solving skills that provide transferable qualifications for future employability (Crawford, 2021; Rudolph et al, 2021; Bopegedera, 2020). While some courses (Slade et al., 2021; Bhute et al, 2020; Dicks et al., 2020) took a fairly conventional approach towards translating assessment to an online medium (primarily exams), others changed assessment entirely (Fergus et al, 2020; Stowe et al, 2020). Evergreen State College replaced its course exams with three projects aimed at assessing knowledge application to real world analysis (Bopegedera, 2020), and while responsible for their own analysis students were encouraged to help each other as the focus was on learning and not the final grade. There are opportunities to further adapt existing assessment tools to employ authentic assessment tasks that are user-centred and develop practical process skills alongside content knowledge (Fergus et al, 2020; Rapanta et al, 2020). They have the added benefit of removing collusion concerns through converting assessments into group assignments that authentically reflect collaborative modern working situations (Bopegedera, 2020; Fuller et al, 2020).

Overall, universities’ quick fixes to assessment have exposed a range of challenges and trade-offs (Slade et al., 2021), and there is a strong belief that online assessment cannot fully achieve desired competencies in disciplines with heavy practical components (Gamage et al, 2020a; Gamage et al, 2020b; Longhurst et al, 2020). However, there is transformative potential in re-considering the ‘how, what, why, when, and what’ of assessments to experiment with designing assessment approaches that are fit for purpose and maintain integrity, equity, and authenticity (Gudiño Paredes et al., 2021; Crawford, 2021; Fuller et al, 2020).

Deployment of practical how-to guidance

Translating what is known about online learning

As higher education institutions not accustomed to distance learning moved to online, there was a new understanding that online learning is different from face-to-face learning (Clark et al., 2021; Kalloo et al, 2020; la Velle et al, 2020). Traditional approaches to curriculum development and 'best practice' were challenged, particularly in disciplines with heavy practical clinical or lab activities (Olivares et al., 2021; Ashencaen Crabtree et al., 2021; Longhurst et al, 2020; Pather et al, 2020), who had to rapidly compensate with technological solutions (Baldwin, 2021; Karakaya, 2021; Dedeilia et al, 2020; Gamage et al, 2020b). Preparing materials and content is only half the battle; pedagogical strategies for teaching online remain a gap in the literature that has continued into COVID-19 times (Karakaya, 2021; Nordmann et al., 2021; Mercer-Mapstone et al., 2022; Olivares et al., 2021; Murray et al, 2020). Common frameworks for informing online teaching include TPACK (technological pedagogical content knowledge) (la Velle et al, 2020), but they do not address the relationships between teacher, student, and content (Murray et al, 2020). Reflections on the process from online teaching experts highlighted a shift in key principles for an online education strategy that are ultimately student-centred (Dodd et al., 2021; Clark et al., 2021; Rapanta et al, 2020), echoing other proposed pedagogical frameworks revolving around the themes below (Karakaya, 2021; Kalloo et al, 2020; la Velle et al, 2020; Murray et al, 2020; Scull et al, 2020).

Recognising student autonomy and structured flexibility in online learning

Learning alone at home is a dramatic change from highly structured, institutional environments (Laufer et al., 2021; Guo et al, 2020). Just because students have grown up with digital technologies does not mean that they come equipped with digital competences for online learning (Alavi et al., 2021; Tang et al., 2021; Kolm et al., 2021; Longhurst et al, 2020; Scull et al, 2020), and may require academic support to model self-regulation and help-seeking behaviours (Dodd et al., 2021; O'Shea et al., 2021; Rapanta et al, 2020; Scull et al, 2020). Thus, to successfully navigate online learning teachers need to establish clear expectations about how students are expected to engage with content and different forms of support (Scull et al, 2020). Further, institutions need to provide significant support and investment into these technologies to ensure students, and staff are not left in a worse position (Mercer-Mapstone et al., 2022).

Because effective online learning is a shift away from prescriptive ways of teaching to student-centred methods, it increases the sharing of responsibility and disrupts the power dynamic between teacher and student (la Velle et al, 2020). The teacher role here is more focused on supervising and facilitating self-paced student progress, with the aim to develop and support student autonomy and ownership over the learning journey (Vandeyar, 2021; la Velle et al, 2020; Rapanta et al, 2020). The use of technology can also facilitate more continuous monitoring of learning through automated feedback and learning analytics data, establishing a model that is timelier and evidence-based in progressing student learning (Rapanta et al, 2020).

All four teaching and learning experts interviewed in Rapanta et al. (2020) also believed that online learning should not be designed as entirely synchronous teaching and teacher-led discussions but offer a variety of learning activities that facilitate self-reflection and peer-to-peer interaction. Activities that involve problem solving, creative thinking, and collaboration encourage self-regulation and consequential learning (la Velle et al. 2020; Rapanta et al, 2020), and provide more authenticity in assessing an individual's ability for higher-order thinking and transferable skills alongside content knowledge (Bopegedera, 2020; Fuller et al, 2020; Fergus et al, 2020; Rapanta et al, 2020).

To effectively adapt their teaching, academics required a design flexibility based on a continuous and vigilant analysis at all steps of the process to ensure material is clear, accessible, and responsive to student needs (Dodd et al., 2021; Devlin & Samarawickrema, 2022; Clark et al., 2021; la Velle et al, 2020; Rapanta et al, 2020; Scull et al, 2020). Flexibility is crucial not only in the way curriculum content is designed and delivered, but also in the approaches used throughout to facilitate course engagement and participation in a timely manner for ever-changing needs (Dodd et al., 2021; Crawford, 2021; Baldwin, 2021; Xie et al., 2021; Mercer-Mapstone et al., 2022; Rapanta et al, 2020). Such approaches include opening up extra communication channels, using 'pulse checks' (Dodd et al., 2021; Scull et al, 2020), and adjusting expectations about

progression. Further, the understanding that blended learning may become the norm in higher education will bring more challenges in the future (Xie et al., 2021).

Shifting pedagogies toward online interaction

Formalised structures to encourage interaction and engagement with others help compensate for the lack of spontaneous interactions that build group cohesion, trust, and respect in a community of learning (Clark et al., 2021; Xie et al., 2021; Zainal Badri et al., 2021; Gamage et al, 2020b; Guo et al, 2020). Pedagogies drawn upon emphasise the role of technology in not only delivering teaching but also in augmenting learning and facilitating interactions (Baldwin, 2021; Karakaya, 2021; la Velle et al, 2020). By embracing facilitatory discourse, student ownership of the learning process, building of a virtual community, and flexibility in personalising curriculum and support mechanisms to student goals (Vandeyar, 2021; la Velle et al, 2020; Rapanta et al, 2020), these new pedagogical methods are more inclusive, situated and social-constructivist in nature (Slade et al., 2021; Gamage et al, 2020b; Murray et al, 2020). These approaches consider how online pedagogy might overhaul the nature of student engagement and student–teacher relations, and how the processes of knowledge ownership, creation, distribution and utilisation might work differently, though further research is needed (George-Levi et al., 2021; Ross, 2020).

The importance of care and its role in supporting students is prominent and widely acknowledged (George-Levi et al., 2021; Murray et al, 2020); what is less certain is knowing what good caring teacher-student relationships look like in this time of change (Vandeyar, 2021; Watermeyer et al., 2021). Murray et al (2020) suggests that what may look like ‘caring’ in Care Ethics might really represent misuse of power and urges less controlling educational interactions. Vandeyar (2021) suggests that academics ‘caring relations’ enabled them to create situations and pedagogies in which their students could flourish and make the best of a bad situation (Zainal Badri et al., 2021). The success of developing these new competencies is also not solely determined by efforts of the teaching staff; its responsibility also rests upon institutions of higher education (Rapanta et al, 2020) to equip its staff with the skills required (Rudolph et al, 2021; Murray et al, 2020; Ross & DiSalvo, 2020).

Scholarly commentary on the future of higher education

Re-thinking duty of care obligations between government, university, and its community

The pandemic has raised questions as to the nature of the relationship between universities and governments (Collier et al., 2021; Baumber et al., 2021), and their obligations to its students and employees (Lloyd et at., 2021; Le, 2021; Watermeyer et al., 2021; Blackmore, 2020). Reflective of the treatment demonstrated by government bodies for its Higher Education Institutions, providers were similarly cited for providing inadequate support for students with a range of diverse experiences (George-Levi et al., 2021; Laufer et al., 2021), particularly communities in which the experience of COVID-19 has been inequitable in its impact (Allen & McLaren, 2021; Kift et al., 2021; Akuhata-Huntington et al, 2020; Harper, 2020). These articles highlight how people relied on their communities to support each other when institutional support was inaccessible and unoffered, emphasising the need to move away from the individualising imperative that places the onus on students to seek support (George-Levi et al., 2021; Akuhata-Huntington et al, 2020; Mupenzi et al, 2020). Academics themselves have endured exploitative pressures from universities too (Le, 2021; Watermeyer et al., 2021). However, the pandemic has also illustrated the power of collective action and participatory approaches to decision-making that create new ways of working (Blackmore, 2020) and rekindle a sense of ownership and trust in executive management.

Instead of individualistic strategies aimed at shifting one’s own troubles onto others, there is a call for society to take collective responsibility for shared outcomes that support the thriving of higher education as a public good (Marginson, 2020; Yang, 2020). There are clear opportunities for reform to policy, funding and practice to protect its vulnerable (Allen & McLaren, 2021; Kift et al., 2021; O'Shea et al., 2021; Kalloo et al, 2020), and for collaborative efforts in tandem with its many stakeholders, including the state and higher education students (Guo et al, 2020; Suoranta, 2020).

Re-defining internationalisation

Another key pedagogical re-invention is the meaning of internationalisation (Guo et al, 2020; Leask, 2020). There is no turning back from the reality of global interconnectivity (Kolm et al., 2021). With the increased potential of programs going, and staying, online (or blended) comes the opportunity to tap into a new learner pool that is more inclusive and accessible (Perrotta, 2021; Devlin & Samarawickrema, 2022; Guo et al, 2020; Pham & Ho, 2020; Suoranta, 2020). The core of internationalisation, according to Leask (2020), is that all graduates can work together across national and cultural boundaries, regardless of physical mobility (Laufer et al., 2021). Yet it is often still understood as a set of separate, exclusive activities rather than an integral part of teaching and learning. Instead of focusing internationalisation efforts on a minority of mobile staff and students, they propose integrating virtual international and intercultural learning and professional development activities into institutional culture and establish cross-fertilisation of ideas in global learning communities (Devlin & Samarawickrema, 2022; Laufer et al., 2021; Leask, 2020; Yang, 2020).

Yet, with the current business model, international students continue to be treated as consumers (or 'cash cows' (Hogan et al., 2021, pg. 572) and education as a commodity (Whatley & Castiello-Gutlerrez, 2021; Watermeyer et al., 2021; Baumber et al., 2021; McGaughey et al., 2021; Beard, 2020; Rizvi, 2020), and much of the talk of recovery is focused on mitigating these financial losses instead of exploring alternative funding models (Hogan et al., 2021; Birrell, 2020; Ross, 2020). For other scholars, however, the pandemic and rising nationalism (Guo et al, 2020) has forced a re-think about the value and purpose of international education for its patrons, which has been largely unacknowledged and under-researched (Perrotta, 2021; Hogan et al., 2021; Beard, 2020; Rizvi, 2020). They call for a strategy that is both student-centred and business-smart (Hogan et al., 2021; Beard, 2020).

Imagining the road to recovery

The conversations here depict the consequences of an over-commercialised, individualistic, and corporatised system in higher education (Green et al, 2020; Suoranta, 2020; Takayama, 2020) that further intensifies accountability regimes in universities (Perrotta, 2021; Hayes et al., 2021; Allen & McLaren, 2021; Watermeyer et al., 2021; Nordmann et al., 2021). Concurrently, scholars in China are observing increasing pressures to report and affirm higher education's value and contributions (Guo et al, 2020). Rather than relying on research output as signs of international prestige, they advocate that productive teaching and learning arrangements should no longer be subordinate to these priorities (Birrell, 2020), and to produce graduates ready for leading and innovating professional work in society (Guo et al, 2020). In Australia, government policies echo the need for vocationally relevant fields of study, to be entrepreneurial and aligned more with industry needs (Birrell, 2020).

A more optimistic perspective of online learning in COVID-19 times is that it is a substantial step forwards in the professionalisation of academics as teachers, guiding the transformation for pedagogic re-invention in a new digital era (Kift et al., 2021; Watermeyer et al, 2021). COVID-19 has demonstrated that educational technology is at a level of maturity that can be utilised to accelerate and enhance delivery of core education services (Allen & McLaren, 2021; Yang, 2020). Even cautious governments across Asia are embracing the merits of blended education (Guo et al, 2020; Pham & Ho, 2020). Establishment of new policies and regulations that support and encourage best practice in online teaching, assessment, curriculum, and intellectual property is warranted (Guo et al, 2020).

Overriding the potential for pedagogical re-invention is the consuming fear that higher education will return to traveling its same path; that the 'success' of the transition and substantial economic impacts of COVID-19 will be used as a pretext for further cost-cutting by moving courses online (Hayes et al., 2021; Perrotta, 2021; Rizvi, 2020; Watermeyer et al, 2021), such that a digital re-invention will only occur among the wealthiest institutions or those already technologically committed (Crawford et al, 2020). And without a substantial commitment to supporting digital transition, if the direction of online pedagogies simply aims to reproduce older modes of thinking to recoup financial losses, the fears of unsound learning pedagogy with the current emergency online migration will likely remain the status quo, along with its associated impositions on academic labour (Hogan et al., 2021; Watermeyer et al, 2021). COVID-19 provides a critical moment to reflect on the current dominant neoliberal values of higher education and re-imagine the societal response that rises as a more resilient, caring, and transformative model (Agasisti & Soncin, 2021; Lloyd et at., 2021; Crawford, 2021; Blackmore, 2020; Green et al, 2020; Rizvi, 2020; Suoranta, 2020).

Conclusion

The desktop review demonstrates that the impact of COVID-19 has permeated every nook and corner of higher education, ranging from the daily lived experiences regarding assessment and delivery of teaching and learning, to more strategic questions on institutional purpose and its future sustainability.

Despite decades of experience with and research into online learning, the vast majority of higher education students and staff were not prepared for online learning caused by COVID-19 in early 2020. There is a general consensus that COVID-19 accelerated an existing trend toward more online learning. Nonetheless, most learners and teachers were *thrown into the deep end,* and it was *sink or swim* in the early months of the pandemic. Heroic efforts were made across the higher education sector to support both learners and teachers as they moved into a new learning environment while dealing with the uncertainties of a global health crisis.

Overall, the scoping review analysis of 105 outputs focused on the early stage of the pandemic when on-campus activities largely ceased and the single mode of online enabled higher education providers to continue educational activities. The early-stage impact of COVID-19 involved a rush *translation* of planned on-campus activities to online platforms. New-ness and sudden-ness characterised this stage with rapid adaption to new learning and assessment technologies along with new forms of contact (all campus services moved online along with learning activities). The time to plan and design for online learning was not an option in the early stage, which is a crucial distinction for many scholars between effective online learning and emergency online learning.

Resonant throughout was the significance of harnessing the power of relationships and connections with others in the face of these challenges. They emphasise the importance of care as a community, as an educator, to collaborate and provide the support that is instructional, developmental, and personal. They also indicate that it is time to stop reacting and start envisioning what higher education will look like in the ‘new normal’. The concepts discussed here are not novel, but COVID-19 may be the push needed to bring it to the forefront, by focusing on sound, quality teaching instead of transmission of content via a different mode. It also highlights the emergence of new identities as autonomous student learners in a VUCA (volatility, uncertainty, complexity, and ambiguity) world, and as academics who use innovative and quality teaching practices, to re-construct a sector that is more inclusive, participatory, and resilient to future change.

What is missing in the scoping review is important insights into the late-stage of COVID-19 when modes of delivery involved a mix-n-match of dual, flexible, and alternative modes that quickly changed from some on-campus interaction to fully online, and back again, depending on health restrictions. After the shock of the initial thrust online, the extent to which teachers and learners were becoming more accustomed to the flexibility enabled by ongoing pandemic educational practices is a big unknown. Like debates and analysis of work-from-home and hybrid-work models, new modes of delivery are in a transition state as higher education providers operate in the ‘living with covid” stage of the pandemic. There is much to be learnt about new forms of flexibility and what they mean for teaching and learning quality – and care for learners and teachers/staff.

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Appendix 1

1. Identifying the research question

What is known about the impact of COVID-19 on the higher education sector, particularly in the realm of educational quality, student experience, and institutional responses?

2. Identifying relevant studies

Inclusion criteria: Higher education articles that focused on teaching and learning, broad institutional responses to COVID-19, multiple university responses to pedagogy, curriculum, assessment, and experience of students enrolled in coursework programs.

Exclusion criteria: Data that was not collected during COVID-19, experiences of RHD students, surveys on internet connectivity, research experience, validation studies, individual disciplinary course level case studies documenting experience of change in teaching (course-based scholarship of teaching and learning), duplicates or studies related to non-tertiary education

Search years: 2020

Search terms: teaching+ pedagogy+ university +Covid (Scopus); Covid + teaching + university (ERIC) + COVID (Top 10 journals)

Search approach: Used key word search in two databases (ERIC and Scopus), search of Top 10 Higher Education Journals (Google metrics Nov 2020 reported: *Studies in Higher Education; Higher Education; Assessment & Evaluation in Higher education; Higher Education Research & Development; The Journal of Higher Education; Journal of College Student Development; Teaching in Higher Education; Journal of Studies in International education*; and *Innovations in Education and Teaching International*), and through referrals from professional networks and subscribed newsletters.

3. Study Selection

The selection of studies uses a multiple step process:

1. Search curated list;
2. Read title and abstract for inclusion, and
3. Read full articles for inclusion (downloaded and saved), based on the above criteria.

The literature reviewed primarily consisted of peer-reviewed research papers and editorials. Articles which contained some form of data collection and analysis (observations, case studies, surveys) were categorised as empirical. Articles which offered opinions or perspectives for moving forward without drawing on the literature or evidence were categorised as editorial.

Source	Keywords	Results	Included after screening
Scopus database	teaching + university + covid	344	13
Eric database (peer reviewed)	covid + teaching + university	35	12
Top 10 HE journals	COVID	62	15
Networks	NA	21	21
	Total		**61**

4. Charting the data

When an article or report was included, data were systematically recorded using an excel database with data extraction fields displayed below.

Field	Description
Details of article	• title • journal
Context of study	• Country/ies • institutions (e.g., Universities/Non-universities) • study type (empirical, review, editorial/opinion, theory)
Data collection:	• Data source: Participants (students – break down further (international/domestic full-time/part-time, low SES/regional remote, disability, age, RHD, ATSI), academics, staff, etc) or artefacts (articles, documents, policies, etc) • Data collection: surveys, interviews, literature review, self-reflection, etc. • International/Domestic • Undergraduate/Postgraduate • CALD/ATSI/ Indigenous
Summary	• Key findings • Key argument • Implications

5. Collating, Summarising and Reporting

Findings from the research outputs were thematically analysed (Braun & Clark, 2006) and themes were reported by category given the breadth and focus of the findings.

6. Consulting

The scoping review was reviewed within the *Institute of Teaching and Learning Innovation* and then made publicly available through online repository.

Appendix 2

1. Identifying the research question

What is known about the impact of COVID-19 on the higher education sector, particularly in the realm of educational quality, student experience, and institutional responses?

2. Identifying relevant studies

Inclusion criteria: Higher education articles that focused on teaching and learning, broad institutional responses to COVID-19, multiple university responses to pedagogy, curriculum, assessment, and experience of students enrolled in coursework programs.

Exclusion criteria: Data that was not collected during COVID-19, experiences of RHD students, surveys on internet connectivity, research experience, validation studies, individual disciplinary course level case studies documenting experience of change in teaching (course-based scholarship of teaching and learning), duplicates or studies related to non-tertiary education

Search years: 2021

Search terms: COVID-19, Pandemic, Coronavirus

Search approach: Deliberately focused on a curation of 25 relevant higher education journals, 1 selected organisation reports, and filtered through our networks. This approach was adopted after searching was conducted to mirror 2020 approach, which yielded thousands of results, many outside the scope for inclusion. Given the rapid nature of this review, curating a list of journals based on the team's expertise in this area (ensuring peer-review, a level of quality, and breadth across pedagogy, assessment, policy, student life) and selected organisation reports enables pragmatic rigour, coverage, and timeliness.

3. Study Selection

The selection of studies uses a multiple step process:

4. Search curated list (presented below);
5. Read title and abstract for inclusion (add to Mendeley database), and
6. Read full articles for inclusion (indicated in Mendeley database), based on the above criteria.

Curated Journals & Organisational Reports:	Found	Included	Excluded	Analysed
Australasian Journal of Educational Technology	7	6	1	2
Student Success	15	10	5	5
Journal of University Teaching and Learning Practice	6	5	1	2
Journal of Higher Education Policy and Management	20	2	18	2
Australian Universities Review	2	1	1	0
The Australian Educational Researcher	16	0	16	0
Computers and Education	39	1	38	1
British Journal of Educational Technology	7	3	4	1
Postdigital Science and Education	33	9	24	4
The Internet and Higher Education	6	0	6	0
Journal of Educational Technology & Society	2	1	1	0
Educational Technology Research and Development	27	8	19	1
International Journal of Educational Technology in HE	30	7	23	2
Journal of Computer Assisted Learning	35	8	27	2

Studies in Higher Education	13	11	2	3
Higher Education	55	5	50	2
Assessment & Evaluation in Higher Education	4	1	3	1
Research in Higher Education	13	1	12	1
Higher Education Research & Development	9	6	3	4
The Journal of Higher Education	1	0	1	0
Teaching in Higher Education	5	3	2	2
Journal of Studies in International Education	7	2	5	1
Journal of Further and Higher Education	10	7	3	3
Distance Education	8	5	3	3
Active Learning in Higher Education	2	1	1	1
National Centre for Student Equity in HE	1	1	0	1
Total:	**372**	**103**	**269**	**44**

4. Charting the data

When an article or report was included, data were systematically recorded using an excel database, see below for data extraction fields. Important to note for this phase is that each included document was categorised in regard to the HESF domains. This is a crucial step for the policy translation phase to ensure evidence-informed issues with policy relevance are the focus of the desktop scan.

Field	Description
Details of article	• title • journal
Context of study	• Country/ies • institutions (e.g., Universities/Non-universities) • study type (empirical, review, editorial/opinion, theory)
Data collection:	• Data source: Participants (students – break down further (international/domestic full-time/part-time, low SES/regional remote, disability, age, RHD, ATSI), academics, staff, etc) or artefacts (articles, documents, policies, etc) • Data collection: surveys, interviews, literature review, self-reflection, etc. • International/Domestic • Undergraduate/Postgraduate • CALD/ATSI/ Indigenous
Summary	• Key findings • Key argument • Implications

Category (based on 2020 themes):	• academic experiences; • student experiences; • pedagogical how-to practices; • assessment: and • scholarly commentary on the future/design of higher education • Extra/Other themes found as articles read
HESF category	• HESF Domain 1: Student participation and attainment • HESF Domain 2: Learning environment • HESF Domain 3: Teaching • HESF Domain 4: Research and research training • HESF Domain 5: Institutional quality assurance • HESF Domain 6: Governance and accountability • HESF Domain 7: Representation, information and information management

5. Collating, Summarising and Reporting

Arksey and O'Malley (2005) suggested two basic ways to present the findings: numerical and thematic overview. To ensure the policy focus, the thematic overview will be driven by the HESF domains and the three identified topics in the Australian Government Department of Education Delivery Modes tender:

1. *The impact and issues of online and mixed-mode of delivery for higher education students*
2. *Higher education providers pandemic response*
3. *Impact on professional accreditation requirements and employment opportunities*

6. Consulting

To verify the authenticity of the literature we identified and selected, we will invite UQ scholars on the Advisory Panel to review our database and report of findings. In addition, the operational group for Student Voice Australia (SVA) *may* be invited to discuss the findings. SVA involves both students and staff.

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Appendix B: Student enrolment, student experience, labour market outcomes for different modes of study in higher education

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Executive Summary

Introduction

This technical appendix summarises Australian trends in the mode of higher education studies, student experiences and graduate labour market outcomes. Most information is based on official data collections, enrolment data and data from the Quality Indicators for Learning and Teaching (QILT) suite of surveys - Student Experience Survey (SES), Graduate Outcomes Survey (GOS), Graduate Outcomes Survey – Longitudinal (GOS-L) and Employer Satisfaction Survey (ESS).

In all of these data collections, the three modes of study in the higher education student data collection are defined as per below[1]:

Internal:

- the study is undertaken through attendance at the higher education provider (HEP) on a regular basis; or
- for higher degree unit enrolments, where regular attendance is not required, but the students attend the HEP on an agreed schedule for the purpose of supervision and/or instruction.

External:

- lesson materials, assignments etc. are delivered to the student, and any associated attendance at the HEP is of an incidental, irregular, special or voluntary nature.

Multi-mode:

- the study is undertaken partially on an internal and partially on an external mode of attendance.

The COVID-19 pandemic constituted a large disrupting event for the higher education sector. Due to that, findings are presented in two sections with the first presenting relevant longer-term trends in student enrolments, student experience and labour market outcomes patterns prior to the COVID-19 pandemic and the second presenting patterns since the onset of the COVID-19 pandemic.

Longer-term trends

Mode of study and gender differences

- Since 2001, there has been a constant decline in internal study mode for domestic female students and, to a lesser extent, for domestic male and international students. External mode was more popular than multi-modal study for male and female domestic students over the most recent 20-year period.
- Among domestic students, female students were more likely to study externally and multi-modally than male students. The gender differences in study mode grew from 2001 when 78% female vs 79% male students studied internally (compared with externally or multi-modally), compared with 57% female vs 68% male students in 2019.
- Among international students, multi-modal study became more prevalent than external study from 2010/11 onwards. International students were far more likely to study in internal mode: prior to the pandemic in 2019, 87% of international female students and 89% of international male students were enrolled as internal students. Gender differences in study mode were less pronounced among international students.

[1] Source: https://heimshelp.dese.gov.au/resources/glossary/glossaryterm?title=Mode%20of%20Attendance

Student experience

- Prior to the COVID-19 pandemic, externally enrolled students reported lower ratings for **Learning Engagement**. This was across universities and Non-University Higher Education Institutions (NUHEIs). **Learning Engagement** was largely measured in the SES by the extent of student interactions, sense of belonging and preparedness. These results suggest that students who were enrolled externally had a less positive experience in these areas than students who had internal or multi-mode enrolments.
- External students at universities (but not at NUHEIs) were also less likely to state that their studies had developed their skills.
- However, external students were more likely than their peers to rate **Teaching Quality** and the Q**uality of the Entire Educational Experience** positively at universities as well as NUHEIs. Consistent with these results, recent undergraduate and postgraduate coursework graduates who had been enrolled externally were also more likely to rate the quality of their course highly in the GOS than their internally and multi-modally enrolled peers.

Progression to degree completion

- The chances of completing a degree were lower for domestic undergraduate students who study externally, than for those internally and multi-modally enrolled. This applies across universities and NUHEIs, with the NUHEIs showing even lower completion rates for all three modes of studies than universities.
- External students were more affected by known factors associated with reduced success in higher education studies. This includes low socioeconomic status, first in family, Aboriginal or Torres Strait Islander, regional/remote background, mature age, having a disability, having responsibilities for family and household, which are accompanied by higher rates of part-time study. These characteristics contribute to external students' much lower chances of completing a degree.
- External study mode by itself also appears to lower chances of success in higher education studies. Externally enrolled students are much more likely to prematurely exit their studies.

Labour market outcomes

- It is important to note that dropped-out students are excluded from the pool of graduates who were surveyed in the GOS and the GOS-L.
- The overall and full-time employment rates of graduates tend to be higher for those who have studied externally and completed their studies, compared to internally or in multi-mode.
- Similarly, the median salaries of new graduates who had studied externally were higher compared to those internally or multi-mode graduates.
- Some of the differences in employment outcomes between internal/multi-mode and external graduates reduced over time.
- A critical element in external graduates' employment outcomes is that they were already more likely to be in employment prior to and during their studies. Further, they were more likely to be at a later stage of their employment history/career and may be more likely to obtain qualifications for career development rather than entry into the professional labour market.
- There had been a general decline in the short-term overall employment and full-time employment rates for graduates in the 10 years prior to the COVID-19 pandemic. This particularly applied to graduates with undergraduate degrees.

Employer satisfaction

- Graduates who had been internally enrolled were rated more positively by employers than graduates who had been enrolled externally.
- This applied to all six key measures that capture graduate attributes and employer satisfaction in the ESS – **Foundation Skills**, **Adaptive Skills**, **Collaborative Skills**, **Technical Skills**, **Employability**, and **Overall Satisfaction.**
- Employers perceived the largest difference between external and other graduates in relation to **Collaborative Skills**.

Changes since the COVID-19 pandemic

Student experiences

- There was a notable jump in the proportion of students categorised as studying externally and multi-modally in 2020 when the pandemic hit[2].
- This jump was most severe among international female students (from 11% to 26%) compared with male international students (from 10% to 23%).
- The shift towards emergency remote modes of learning in 2020 meant that many students who had enrolled internally had to embrace the new mode required to continue their studies. This exposed (younger) school leaver students, who traditionally preferred internal studies, to remote learning. As internal students constitute the largest group of students by far, this change impacted on overall student perceptions, as captured in the SES.
- Prior to the COVID-19 pandemic, ratings on the six main SES measures had been relatively stable over the preceding years. In 2020 this changed. Student ratings for all measures but the **Student Services** measure dropped, notably:
    - Moderate declines in ratings for **Skill Development** and **Teaching Quality**.
        - Within the **Skill Development** domain, declines primarily concerned developing the ability to work effectively with others and spoken communication skills.
        - Declines in ratings for more **traditional academic attributes** (critical thinking, confidence to learn independently, the ability to solve complex problems, knowledge of the field of study, and the development of work-related knowledge or skills, written communication skills) at the overall student population level, were less pronounced.
        - Within the domain of **Teaching Quality**, declines in student ratings concerned the structure and focus of the study, whether teachers actively engaged them in learning as well as general perceptions about the 'quality of teaching' and the 'quality of the entire educational experience'.
        - Student ratings of their studies being **relevant** and other **teacher behaviour** measures (intellectual stimulation, providing clear explanations, demonstrating concern, commenting in helpful ways, being helpful and approachable, setting assessment tasks that challenge to learn), remained mostly unchanged.
    - Substantial declines for measures of **Learner Engagement**, **Learning Resources** and the **Quality of the Entire Educational Experience** question.
        - Within the **Learner Engagement** measure, declines in student ratings concerned student interaction and sense of belonging.

[2] While the mode of study figures for 2020 were affected by inconsistent applications of the mode of study definitions and cannot be taken literally, the reported jump is a reflection of the wide shifts towards remote and online learning that occurred during the pandemic throughout the HE sector.

        - Declines in student ratings in the domain of **Learning Resources** related to the perceived quality of teaching spaces, student spaces, online learning materials, computing and IT resources, laboratory or studio equipment and library resources and facilities. Potentially, these results were based on not being able to access physical campuses and infrastructure rather than reflecting an actual decline in quality of resources.

- Declines in student perceptions in 2020 were universal – they applied to domestic and international, undergraduate and postgraduate students, commencing and later year students, university and non-university providers, as well as demographic sub-populations including equity students.
- There were variations in the extent to which declines in student ratings occurred – by HEP, field of study and demographic student group.
    - For example, **Dentistry and veterinary science**, while representing smaller degree programs, appear to be fields of study in which students were subjectively more severely affected by the circumstances in 2020 than in some other areas. This is suggested not only by SES results but also retrospective course evaluations expressed by graduates in the 2021 GOS.
    - SES results suggest that international students were more likely to be impacted by living arrangements and financial circumstances in 2020 than domestic students. Further, financial and fee difficulties played a larger role for considering premature departure from higher education studies in 2020 for international students.

Graduate outcomes and employer's views on recent graduates

- There were declines in rates of employment across undergraduate, postgraduate coursework and postgraduate research graduates although some had commenced in 2019. The largest decline was a drop of the full-time employment rate of 3.5 percentage points for undergraduate graduates in 2020.
- It is possible that students delayed labour market entry by delaying graduation because of perceived worsened labour market conditions. Thus, the GOS results may not fully capture the impact of the pandemic on the graduate labour market. An alternative course of action to delay labour market entry post-graduation is to commit to further full-time study.
- There is evidence in the GOS data that an increased number of graduates went on to study: 21.1% of undergraduate graduates were engaged in further full-time study in 2021 compared with 18.5% in 2020, 18.9% in 2019 and 19.4% in 2018.
- There is no evidence that employers' views on attributes of recent graduates notably changed when they were surveyed in the ESS in 2020 and 2021.

Limitations and future opportunities

The investigation of trends in this document was based on consulting available reports and tables, which largely consisted of cross-tabulations. Cross-tabulations have limitations in identifying empirical relationships between different elements as they do not account for confounding and moderating influences.

Enrolment, SES and GOS data offer opportunities to dig deeper into particular student or HEP segments as well as to better understand relationships between such segments on the one hand and student progression, experience and graduate outcomes on the other. This would require analyses of unit record data and was out of scope here.

Abbreviations

Abbreviation	Definition
the Department	Australian Government Department of Education
ESS	Employer Satisfaction Survey
GOS	Graduate Outcomes Survey
GOS-L	Graduate Outcomes Survey Longitudinal
HEIs	Higher Education Institutions
HEPs	Higher Education Providers
HESF	Higher Education Standards Framework
HESP	Higher Education Standards Panel
NUHEI	Non-university Higher Education Institution
QILT	Quality Indicators for Learning and Teaching
SES	Student Experience Survey
TEQSA	Tertiary Education Quality and Standards Agency
RUCs	Regional University Centres
UQ	The University of Queensland

1. Introduction

This technical appendix presents Australian trends in the mode of higher education studies, student experiences and graduate labour market outcomes. This work has been commissioned by the Australian Government Department of Education (the Department) and is part of a larger project to support the Higher Education Standards Panel's (HESP) consideration of the policy and regulatory implications of online and mixed-mode delivery of higher education by Australian providers.

The purpose of this appendix is to demonstrate the trends preceding, and changes since the COVID-19 pandemic. This is to help gain new insights into the potential impacts of the pandemic and the implications of the rapid shift to online and mixed-mode delivery on students. The insights from the presented trends, as well as the scoping review (appendix A), have provided the basis for the key issues identified in the associated report.

The trends presented in this section relate to: mode of study, student experience, progression to degree completion, labour market outcomes and employer satisfaction. These data reported are from official data collections, enrolment data and data from the Quality Indicators for Learning and Teaching (QILT) suite of surveys - Student Experience Survey (SES), Graduate Outcomes Survey (GOS), Graduate Outcomes Survey – Longitudinal (GOS-L) and Employer Satisfaction Survey (ESS).

Throughout this appendix, three modes of study are referenced. The three modes of study in the higher education student data collection are defined as per below[3]:

Internal:

- the study is undertaken through attendance at the HEP on a regular basis; or
- for higher degree unit enrolments, where regular attendance is not required, but the students attend the HEP on an agreed schedule for the purpose of supervision and/or instruction.

External:

- lesson materials, assignments etc. are delivered to the student, and any associated attendance at the HEP is of an incidental, irregular, special or voluntary nature.

Multi-modal:

- the study is undertaken partially on an internal and partially on an external mode of attendance.

1.1 Outline of technical appendix

Section 2 presents enrolment trends by mode of study for domestic and international students. Section 3 outlines trends in student perceptions as captured in the SES before trends in study progression by mode of study are explored in Section 4. Recent graduates are asked about their satisfaction with the quality of their course in the GOS. Responses to this question complement the student perceptions from the SES and are presented in Section 5. The GOS also captures employment outcomes of recent graduates and the GOS-L does so 3 years after participating in the GOS. Employment outcomes are discussed in Section 6 before employers' perceptions on graduates from the ESS are presented in Section 7. Finally, Section 8 summarises the results across all preceding sections.

[3] Source: https://heimshelp.dese.gov.au/resources/glossary/glossaryterm?title=Mode%20of%20Attendance

2. Enrolment trends in mode of study, 2001-2020

Based on official data, there were 1,622,867 higher education students in 2020, in Australia. Of these, 1,233,633 were domestic students. The trends presented in this section show the percentage distributions of students across the three modes of study, for the period 2001 to 2020[4].

Enrolment data presented include all HEPs (previously known as Table A, Table B, Table C and non-university HEPs), postgraduate, bachelor and sub-bachelor programs (e.g., diploma), enabling and all non-award courses included in the higher education student data collection.

This section presents breakdowns by gender and domestic/international students, based on available demographic data. While 2020 data are included in this section, the categorisation of mode of study in 2020 was inconsistent compared with the preceding years *(Social Research Centre, 2021a, p.9)*.

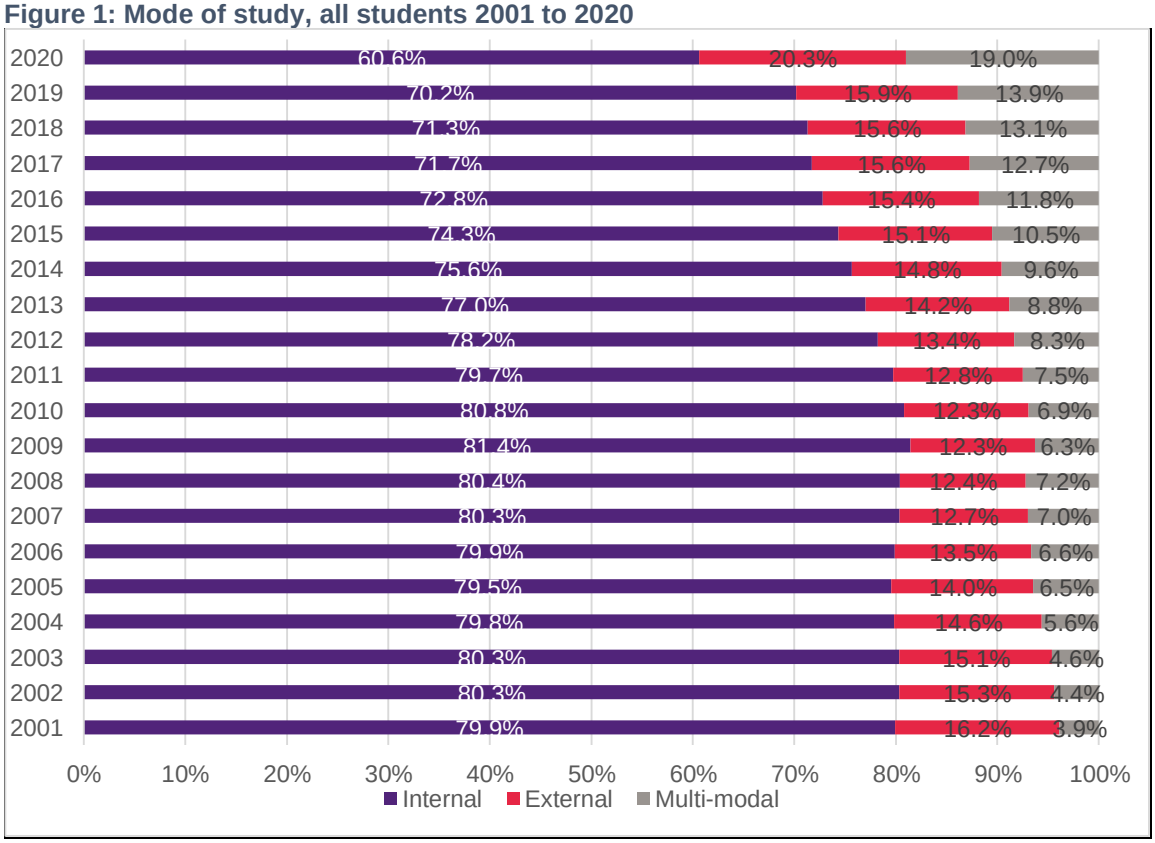
2.1 Overall trends

Between 2001 and 2011, the proportion of students studying in internal mode was relatively stable at 80/81% (Figure 1). However, this proportion declined to 70% by 2019 and further dropped to 61% in 2020.

The share of students studying in multi-modal increased very gradually each year between 2001 and 2008, rose again steadily to 14% between 2010 and 2019, before it jumped to 19% in 2020.

The prevalence of external study declined over the first 10 years from 16% in 2001 to 12% in 2010. It then steadily increased back to 16% in 2019, and jumped to 20% in 2020.

Figure 1: Mode of study, all students 2001 to 2020



[4] The source for figures for the years 2001 to 2019 is DESE, Higher Education Statistics Data Cube (uCube) (http://highereducationstatistics.education.gov.au/). The source for 2020 figures is DESE (2022), Student Enrolments Pivot Table (https://www.dese.gov.au/higher-education-statistics/resources/student-enrolments-pivot-table).

2.2 Trends for sub-populations (gender and domestic/international)

The trend in the mode of study for domestic male students (Figure 2) follows the overall trend (Figure 1). However, contrasting with the overall trend, domestic female students' likelihood of studying in internal mode declined for most of the period 2001 to 2020 (Figure 3), leading to a considerable gap by 2019 (57% vs. 68% of male domestic students) and 2020 (49% vs. 61% of males).

Figure 2: Mode of study, domestic male students 2001 to 2020

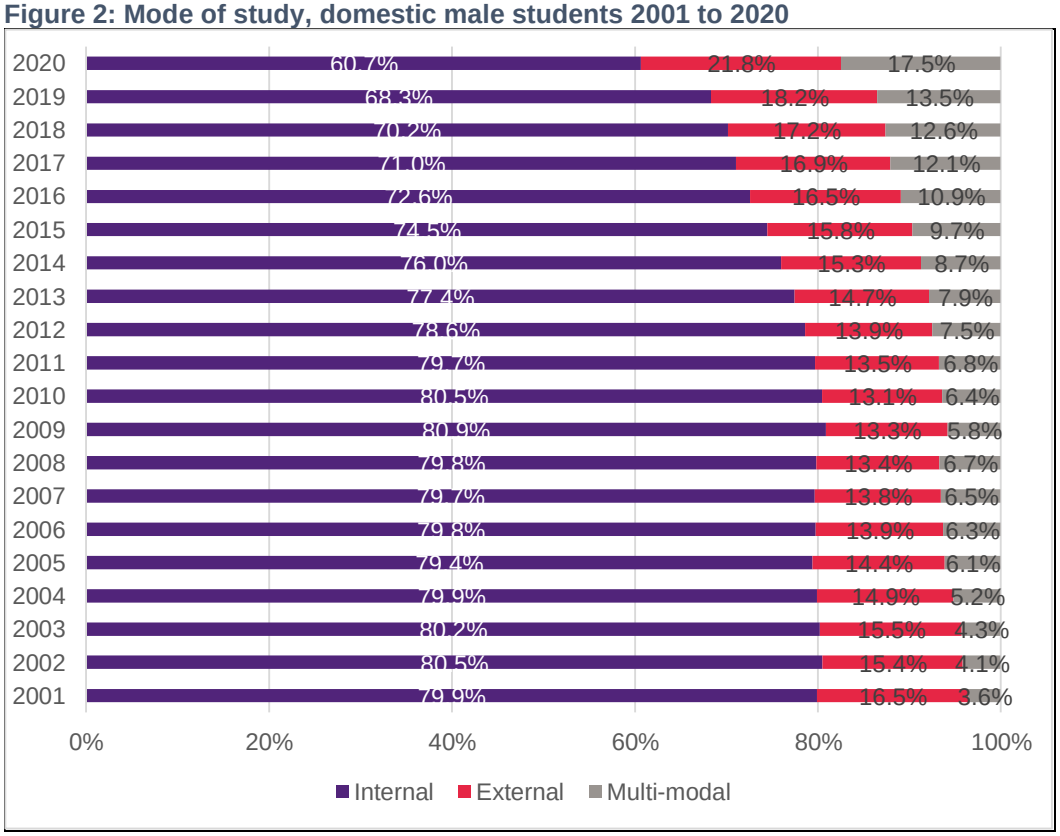
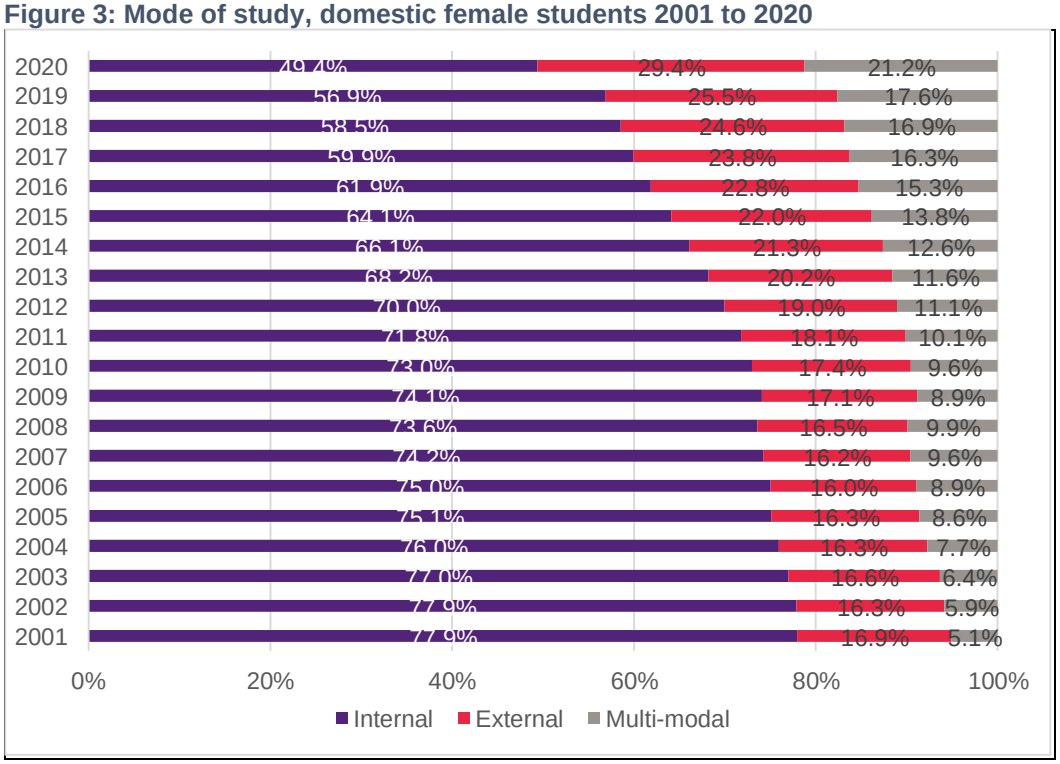


Figure 3: Mode of study, domestic female students 2001 to 2020



Further, in 2020, half of all female domestic students were categorised to study externally (29%) or multi-modally (21%), compared to 39% of male domestic students.

Differences in the mode of study between international male (Figure 4) and international female students (Figure 5) were less pronounced. However, both show a notably different enrolment pattern than domestic students. Compared to domestic students, international students were more likely to study in internal mode throughout the period. However, over the first 10 years international students increasingly enrolled in internal mode up to 93% in 2010. After that, enrolment in internal mode continuously decreased to 89% for male and 87% for female students in 2019. This further dropped to 78% for male and 74% for female students in 2020.

Similarly, as for domestic students, the prevalence of multi-modal study consistently increased over the years for international male and female students. While both external and multi-modal enrolment shares jumped in 2020 for international students, it was greater for multi-modal enrolments, and reflected in the decline of internal mode for international students in the same year.

External study mode played a minor role for international students in the years prior to 2020. Despite an increase in 2020, the prevalence of external mode among international students remained about four times lower than the equivalent prevalence among domestic students.

Figure 4: Mode of study, international male students 2001 to 2020

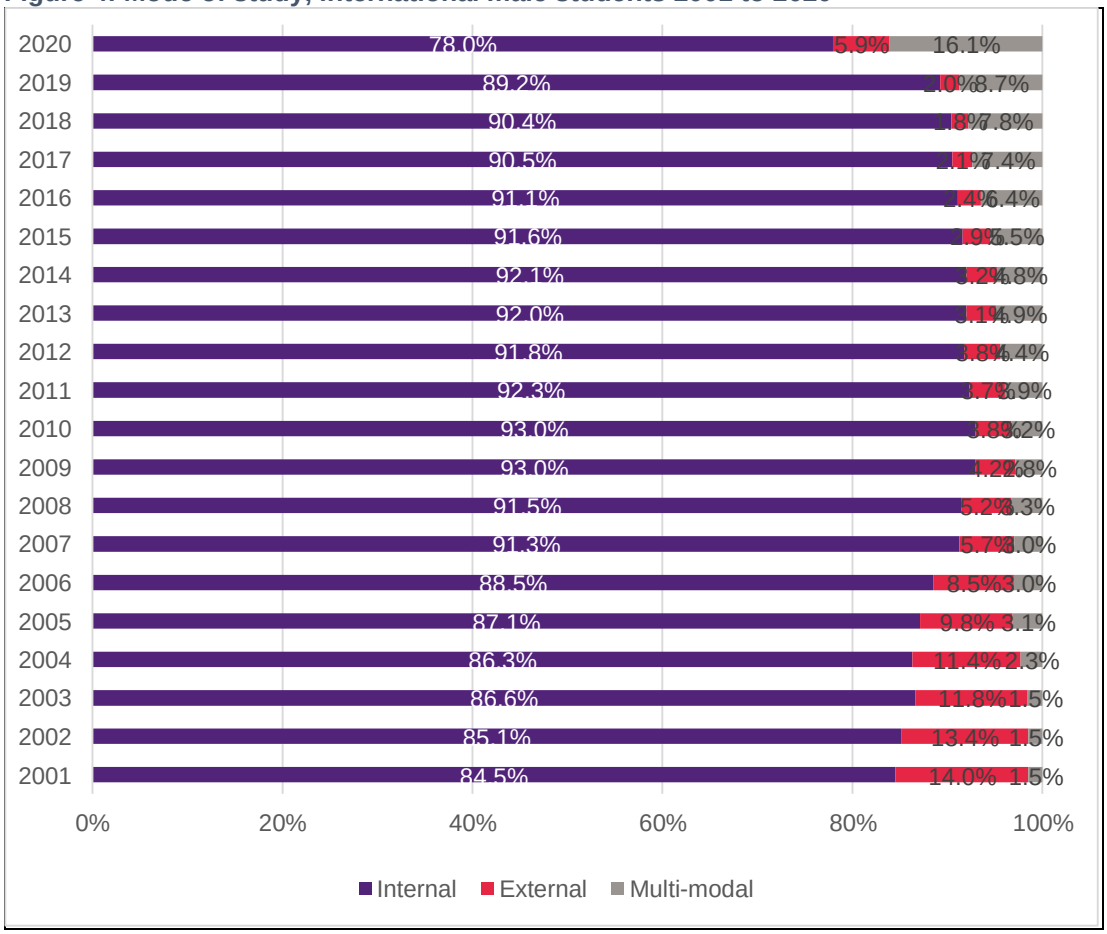


Figure 5: Mode of study, international female students 2001 to 2020

3. Trends in student perceptions

3.1 SES key measures

3.1.1 Longer-term trends

There were no considerable changes in student ratings of domestic and international students across the six main SES measures between 2014 and 2019 as shown in Table 1. Over the six-year period, the % positive scores for each of the measures varied by a maximum of 3 percentage points. The maximum year-to-year change over the period for any of the six measures was 2 percentage points. This only occurred once for domestic and international students, respectively:

- For domestic students, the score on the **Learner Engagement** measure was 62% in 2016 and 60% in 2015.
- For international students, the score on the **Student Support** measures was 73% in 2019 and 71% in 2018.

3.1.2 Changes in 2020, by domestic and international

Despite the stable longer-term data for both domestic and international students' changes in student perceptions between 2019 and 2020 were considerable. In particular, there are:

- Moderate declines in scores for **Skills Development** and **Teaching Quality** (between 3 and 4 percentage points); and
- Substantial declines in scores for **Learner Engagement**, **Learning Resources** and the **Quality of the Entire Educational Experience** (between 8 and 16 percentage points).

Table 1: Key SES domains, domestic and international undergraduate students 2014 to 2020

Measure	Citizenship	2014	2015^	2016	2017	2018	2019	2020	2020-2019
		Percent positive							Percentage points
Skills Development	*Domestic*	81	81	81	81	81	81	78	-3
	International	80	79	79	79	80	80	76	-4
Learner Engagement	*Domestic*	61	60	62	60	60	60	44	-16
	International	57	57	58	57	58	59	49	-10
Teaching Quality	*Domestic*	82	82	81	80	81	81	78	-3
	International	78	78	78	78	79	78	74	-4
Student Support	*Domestic*	73	72	72	73	73	74	74	0
	International	70	70	71	72	71	73	71	-2
Learning Resources	*Domestic*	85	86	85	83	84	84	76	-8
	International	84	85	84	83	83	83	72	-11
Quality of Entire Educational Experience	*Domestic*	80	80	80	79	79	78	69	-9
	International	74	74	75	75	76	75	63	-12

^ Note that results from 2015 onwards include students attending both university and non-university higher education institutions and therefore are not directly comparable with results from earlier surveys which refer to university students only.
Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

By international and domestic student status, between 2019 and 2020:

- There was no change in the **Student Support** measure for undergraduate domestic students and a minor drop of 2 percentage points for international students.
- With the exception of **Learner Engagement and Skills Development**, international students reported larger drops in their ratings on the remaining measures.
- The **Learner Engagement** measure includes some survey items that capture interactions between students, within and outside studies, and the change between 2019 and 2020 reflects a decline in the ratings for those underlying survey questions that asked about student interactions (see Table 6).

The trend patterns in Table 1 also apply to domestic and international postgraduate students although the observation period is shorter (see Table 2). There was little change in postgraduate students' ratings between 2017 and 2019, but more substantial changes between 2019 and 2020, particularly for **Learner Engagement**, **Learning Resources** and the **Quality of the Entire Educational Experience**. In contrast to undergraduate students, international postgraduate coursework students' rating for **Learner Engagement** aligned with domestic students.

Table 2: Key SES domains, domestic and international postgraduate coursework students 2017 to 2020

Measure	Citizenship	2017	2018	2019	2020	2020-2019
		Percent positive				Percentage points
Skills Development	*Domestic*	80	81	81	78	-3
	International	82	82	82	78	-4
Learner Engagement	*Domestic*	52	53	54	42	-12
	International	59	59	61	48	-13
Teaching Quality	*Domestic*	80	81	81	78	-3
	International	80	80	80	75	-5
Student Support	*Domestic*	73	73	75	74	-1
	International	74	73	76	72	-4
Learning Resources	*Domestic*	82	83	83	73	-10
	International	83	84	84	71	-13
Quality of entire educational experience	*Domestic*	76	76	76	69	-7
	International	75	75	75	64	-11

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

3.1.3 Changes in 2020, by field of study

There were some differences in student ratings between 2019 and 2020, by field of study. Table 3 presents these differences for undergraduate students. With few exceptions, there was a decrease in ratings for international students across five of the six key measures compared to domestic students. For example:

- In 18 of the 21 fields of study, international undergraduate student ratings fell more than domestic undergraduate student ratings (when the differences are expressed in percentage points).
- The drop in the ratings of the **Quality of the Entire Educational Experience** was particularly severe for international students in:
    - **Dentistry** (-21 percentage points), and

    - **Veterinary Science** (-25 percentage points).

- The drop in the ratings of the **Quality of the Entire Educational Experience** for domestic undergraduate students was most pronounced for Veterinary Science students (-15 percentage points).

Dentistry and Veterinary Science are fields of study for which the underlying respondent numbers are relatively small so although susceptible to larger variations, care must be taken in the analysis of any apparent differences. However, smaller samples do not necessarily have to show larger variations in survey estimates, as can be seen for Tourism, Hospitality, Personal Services and Sport and Recreation, which had the smallest number of respondents. Therefore, it is possible that these larger differences indicate that the **Quality of the Entire Educational Experience** was affected in degree programs that fall under Dentistry and Veterinary Science. This is supported by graduates' course evaluations captured in the Graduate Outcomes Survey (GOS) and reported in Section 5. Similar differences are noted for Dentistry and Veterinary Science in Table 4 when it comes to the change in the **Quality of the Entire Educational Experience** measure for postgraduate coursework students but must also be viewed with caution, for the reasons cited above.

Most fields of studies displayed a notable decrease in the **Quality of the Entire Educational Experience** measure. In fact, only two fields of study in undergraduate programs featured a moderate decrease in the measure between 2019 and 2020 - Teacher Education, and Tourism, Hospitality, Personal Services, Sport and Recreation.

There were also fields of study with substantial decreases in ratings for **Learning Resources** (for example engineering) and **Learning Engagement**, that were more pronounced (for example Agriculture and Environmental Studies).

Table 3: Key SES domains, changes between 2019 and 2020 (in percentage points), domestic and international undergraduate students

	Skill Development		Learning Engagement		Teaching Quality		Student Services		Learning Resources		Quality of Entire Educational Experience	
	Dom	*Int*	*Dom*	*Int*	*Dom*	*Int*	*Dom*	*Int*	*Dom*	*Int*	*Dom*	*Int*
Science and mathematics	-5	-8	-19	-15	-4	-7	-2	-5	-10	-14	-13	-17
Computing and information systems	-2	-4	-12	-9	-3	-5	-3	-4	-11	-12	-10	-11
Engineering	-3	-4	-17	-14	-4	-6	-2	-4	-11	-16	-12	-13
Architecture and built environment	-2	-5	-18	-15	-2	-7	1	-6	-9	-17	-10	-18
Agriculture and environmental studies	-6	-10	-23	-14	-3	-9	1	-4	-8	-8	-10	-12
Health services and support	-2	-2	-16	-14	-2	-3	0	-2	-6	-10	-8	-10
Medicine	-3	-1	-11	-11	-1	-6	2	1	-1	-6	-12	-16
Nursing	-4	-6	-15	-12	-4	-5	-1	-3	-8	-10	-11	-11
Pharmacy	-5	-6	-21	-14	-4	-2	-2	1	-8	-9	-10	-9
Dentistry	-2	-9	-3	-2	-2	-3	1	-8	-2	-6	-11	-21
Veterinary cience	-2	-6	-16	-4	-5	-5	2	-4	-9	-12	-16	-25
Rehabilitation	-3	-3	-16	-5	-3	-1	0	-2	-5	-4	-9	-15
Teacher education	-1	-4	-12	-4	-1	-4	1	1	-4	-9	-4	-6
Business and management	-3	-3	-15	-10	-3	-4	-1	-2	-7	-10	-10	-12
Humanities, culture and social sciences	-4	-5	-17	-11	-3	-7	1	-1	-6	-11	-9	-11
Social work	-4	-5	-12	-11	-4	-3	-2	-3	-10	-15	-9	-11
Psychology	-2	-5	-16	-12	-1	-2	1	-3	-6	-7	-7	-10
Law and paralegal studies	-4	-2	-16	-9	-3	-3	0	-1	-5	-6	-9	-10
Creative arts	-3	-7	-15	-13	-1	-4	1	-6	-10	-13	-11	-16
Communications	-2	-1	-18	-12	-3	-5	0	-4	-10	-18	-10	-16
Tourism, hospitality, personal services, sport and recreation	-3	4	-12	-12	-4	4	-1	-1	-7	0	-6	-1
Total	**-3**	**-4**	**-16**	**-10**	**-3**	**-4**	**0**	**-2**	**-8**	**-11**	**-9**	**-12**

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

Table 4: Key SES domains, changes between 2019 and 2020 (in percentage points), domestic and international postgraduate coursework students

	Skill Development		Learning Engagement		Teaching Quality		Student Services		Learning Resources		Quality of Entire Educational Experience	
	Dom	*Int*	*Dom*	*Int*	*Dom*	*Int*	*Dom*	*Int*	*Dom*	*Int*	*Dom*	*Int*
Science and mathematics	-4	-7	-16	-18	-5	-8	-3	-7	-15	-19	-11	-15
Computing and information systems	-6	-6	-12	-13	-7	-7	-6	-7	-15	-15	-10	-11
Engineering	-4	-5	-14	-15	-6	-7	-3	-5	-18	-19	-12	-14
Architecture and built environment	-6	-8	-17	-16	-5	-7	0	-2	-16	-21	-15	-17
Agriculture and environmental studies	-6	-6	-18	-18	-5	-7	-2	-7	-11	-13	-15	-19
Health services and support	0	-1	-8	-7	1	-1	2	0	-6	-10	-4	-7
Medicine	1	0	-6	-16	-1	-4	3	2	-6	-12	-7	-11
Nursing	0	-1	-6	-8	1	-2	4	0	-6	-8	-2	-5
Pharmacy	0	-4	-6	-13	3	-1	10	-7	-6	-18	-1	-16
Dentistry	-9	-8	-17	-16	-14	-11	-12	-11	-21	-24	-28	-28
Veterinary science	-6	-12	-16	-28	-6	-12	5	-4	-15	-14	-27	-43
Rehabilitation	-2	-7	-12	-21	-2	-8	3	-4	-2	-6	-8	-13
Teacher education	-1	-4	-11	-15	0	-5	2	-3	-8	-12	-4	-9
Business and management	-3	-3	-10	-11	-2	-4	0	-2	-8	-10	-8	-9
Humanities, culture and social sciences	0	-3	-10	-14	0	-5	1	-6	-6	-11	-5	-11
Social work	-1	-3	-10	-11	1	2	2	1	-3	-8	-3	-2
Psychology	-3	0	-16	-22	-2	-2	1	-5	-4	-8	-6	-17
Law and paralegal studies	-4	-6	-14	-20	-3	-7	3	-1	-9	-13	-7	-13
Creative arts	-4	-7	-14	-18	-4	-5	-4	-8	-21	-26	-13	-18
Communications	-5	-10	-17	-17	-5	-8	-5	-10	-19	-23	-15	-21
Tourism, hospitality, personal services, sport and recreation	-14	-19	-33	-47	-15	-19	-7	-13	-20	-20	-24	-33
Total	**-3**	**-4**	**-12**	**-13**	**-3**	**-5**	**-1**	**-4**	**-10**	**-13**	**-7**	**-11**

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

3.1.4 Changes in 2020, by higher education provider

There were also some differences in the survey results between university and NUHEI students. Student perceptions on **Learning Engagement**, **Learning Resources** and the overall **Quality of Entire Educational Experience** dropped more for university than NUHEI students in 2020 (Table 5). For example, scores for the **Learning Resources** measure fell by 9 percentage points for undergraduate university students and 12 percentage points for postgraduate coursework university students.

In comparison, there was little difference between the ratings for NUHEI undergraduate and postgraduate coursework students on the **Learning Resources** and **Quality of Entire Educational Experience** measures in 2020.

It should be noted that university students (undergraduate and post-graduate coursework) gave notably more favourable ratings for the quality of **Learning Resources** than their peers at NUHEIs prior to the COVID-19 pandemic, in 2019. Despite this, undergraduate students at universities still had a higher score on the **Learning Resources** measure than NUHEI students in 2020.

Table 5: SES measures by NUHEI/Universities, all (dom and int) students 2019 and 2020

Measure	HEP type	Undergraduate			Postgraduate coursework		
		2019	2020	2020-2019	2019	2020	2020-2019
		% positive		*perc points*	*% positive*		*perc points*
Skills Development	NUHEIs	82	80	-2	81	82	1
	Universities	81	78	-3	81	78	-3
Learner Engagement	NUHEIs	63	56	-7	55	50	-5
	Universities	60	43	-17	54	41	-13
Teaching Quality	NUHEIs	82	81	-1	82	84	2
	Universities	81	78	-3	80	77	-3
Student Support	NUHEIs	78	78	0	78	82	4
	Universities	74	73	-1	74	73	-1
Learning Resources	NUHEIs	76	73	-3	73	76	3
	Universities	85	76	-9	84	72	-12
Quality of entire educational experience	NUHEIs	79	71	-8	80	79	-1
	Universities	78	68	-10	76	67	-9

Some HEPs that were included in the 2019 results were not included in the 2020 results and some HEPs included in the 2020 results were not included in the 2019 results. This particularly applies to HEPs within the NUHEI category. One reason for that is that HEPs not covered by the Higher Education Support Act 2003 were included in the SES from 2020 onwards only.
Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

It is worth noting that the NUHEIs included in the 2020 results were different from those in 2019. Thus, this may account for differences. The SES report also noted a correlation between the size of a HEP and the extent of change in student perceptions/experiences between 2019 and 2020 (Social Research Centre, 2021, p.11). NUHEIs tend to be much smaller than universities, and this could have influenced the lesser drops in **Learner Engagement**, compared with university students.

This is a general limitation of the results presented here but also in the SES report: the underlying cross tabulations are not sufficient to determine what 'drives' differences in results. In the case here, is it HEP type, or is it size of provider, different student populations (e.g., older students at NUHEIs)? Alternatively, is it different distributions of field of study? Pursuing these questions could generate a better understanding of patterns of student perceptions, and potentially underlying differences in student experiences.

There were considerable variations in the change of student ratings on the **Quality of Entire Educational Experience** between universities between 2019 and 2020. For undergraduate students, the largest decline

in scores occurred for the University of Melbourne (25 percentage points), which was followed by Monash University (18 percentage points) and RMIT (16 percentage points). The SES reports points out the heightened impacts of COVID-19 for Victoria at this time:

> "*That these are all Victorian universities and the survey was undertaken in August/September 2020 at the height of the lockdown during the second wave of the COVID-19 pandemic in Victoria may, in part, be due to students reacting to the broader COVID-19 environment and its impact on their higher education experience. That said, there were Victorian universities that experienced lower than average falls in student ratings including Victoria University, 6 percentage points, Swinburne University of Technology, 8 percentage points, and La Trobe University, 9 percentage points." (Social Research Centre, 2021, p.11)*

There were also differences in the degree to which student ratings changed in 2020 among NUHEIs. These come with more uncertainties due to the smaller sample sizes and are not scrutinised here.

3.2 Individual survey items

Presented above were the index measures with combined information from multiple survey items. Analysing individual survey items demonstrates interesting detail.

3.2.1 Changes in 2020

The individual survey items with the most severe declines in % positive scores for undergraduate domestic students are listed in Table 6. They include most of the survey items included in the **Learner Engagement** and **Learning Resources** measures. In comparison, they only include two of the eight survey items from the **Skill Development** measure, and four of the 11 items that constitute the **Teaching Quality** measure.

The table shows that the largest declines in students' perceptions occurred in the areas of:

- Developing an ability to work effectively with others;
- Developing spoken communication skills;
- Feeling prepared for study (which may be related to preparedness for remote studies);
- Interacting with other students in and outside studies;
- Feeling a sense of belonging to the university;
- The structure and focus of studies;
- Teachers engaging students;
- The quality of teaching; and
- The quality of various resources (learning materials, teaching spaces, student spaces, computing/IT resources, laboratory/studio equipment, library resources and facilities).

Table 6 also includes separate results for commencing and later year students. The findings suggest that the significant declines in the % positive scores, which may indicate changes in student experiences, occurred similarly in both student segments. The survey items in Table 6 were also the items with the steepest declines in the ratings of domestic postgraduate coursework students, international undergraduate students, and international postgraduate coursework students. Differences for the latter student populations were, at times, more pronounced than suggested in Table 3 for domestic undergraduate students.

Table 6: Individual survey items with largest declines in % positive score between 2019 and 2020 (in percentage points), domestic undergraduate students

Survey item	SES index measure	First-year students:		Non-first year students:		Total 2019	Total 2020
		2019	2020	2019	2020		
		% positive					

Developed ability to work effectively with others	SD	63	52	67	62	65	56
Developed spoken communication skills	SD	53	45	61	57	56	50
Felt prepared for your study	LE	66	63	70	64	68	63
Had a sense of belonging to your university	LE	54	42	49	40	52	41
Worked with other students as part of your study	LE	64	48	69	57	66	52
Interacted with students outside study requirements	LE	42	27	43	33	42	30
Interacted with students who are very different from you	LE	52	37	51	40	51	38
Been given opportunities to interact with local students	LE	57	35	55	37	56	36
Study well-structured and focused	TQ	70	65	62	57	67	62
Teachers engaged you actively in learning	TQ	68	64	64	59	66	62
Quality of teaching	TQ	82	79	76	71	80	75
Quality of entire educational experience	TQ	81	71	75	65	78	69
Quality of teaching spaces	LR	89	82	82	74	86	79
Quality of student spaces and common areas	LR	82	77	74	68	79	73
Quality of online learning materials	LR	87	83	82	78	85	81
Quality of computing/IT resources	LR	84	79	79	73	82	76
Quality of laboratory or studio equipment	LR	85	73	78	67	82	71
Quality of library resources and facilities	LR	88	83	84	77	86	80

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

3.2.2 Changes in 2020, by domestic and international

There were some differences between domestic and international student ratings in student perceptions (see Table 1 and Table 2). This includes somewhat larger declines in international student ratings for the quality of the entire educational experience in 2020.

However, the more significant differences occurred in relation to three questions that probed for negative influences on study: living arrangements, financial circumstances and paid work. For domestic students, financial circumstances and paid work were somewhat less often cited as negatively affecting studies in 2020 than in 2019 while living arrangements were only marginally more often seen as affecting study negatively in 2020 than in 2019 (Table 7). In contrast, international students were considerably more likely to report that the three factors negatively affected their studies in 2020 than in 2019. This particularly applied to financial circumstances, which were seen by 28% of international students as negatively affecting their studies in 2019 and by 47% in 2020.

Table 7: Perceived negative effects from context on study, undergraduate domestic and international students

Citizenship	Living arrangements		Financial circumstances		Paid work	
	2019	2020	2019	2020	2019	2020
	% quite a bit/very much					
Domestic	22	23	26	22	37	33
International	23	34	28	47	21	30

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

3.2.3 Changes in 2020, by other demographics

The 2020 SES report identifies young students and internal students as more affected by the pandemic on measures of student experience (see Table 8). The table also shows that, at the level of the six main SES measures, there were very similar patterns in the changes in the ratings between 2019 and 2020 for other sub-student populations including Indigenous students, students with disability, and students with different socio-economic and remoteness statuses. The 2020 SES report notes: *"Changes in student ratings in the 2020 SES are broadly similar among other demographic groups." (Social Research Centre, 2021, p.9).*

It should be noted that when interpreting the 2020 results for different mode of studies (including changes between 2019 and 2020), the operationalisation of mode of study in 2020 was not consistent with those applied earlier:

> *"It should also be borne in mind, however, that changes in course delivery and shifting patterns of internal/external students makes interpretation of student ratings more fraught than is usually the case. Examination of enrolment patterns shows institutions have adopted different practices with respect to classifying their internal/external students with the shift to greater online delivery arising from COVID-19 restrictions. For some institutions, where students were previously studying internally, notwithstanding their participating in more online delivery of courses, they have been reported as still studying internally. Other institutions have reported similar students as shifting from internal study in 2019 to external study in 2020. That is, overall, many more students were studying externally in 2020 than the data would suggest." (Social Research Centre, 2001, p.9).*

Table 8: Changes in key SES measures by demographic group between 2020 and 2019 (in percentage points), undergraduate students

Student group	SD	LE	TQ	SS	LR	OoE
	Difference between 2020 and 2019 in percentage points					
Stage of studies – Commencing	-4	-17	-3	0	-8	-10
Stage of studies – Later year	-3	-14	-4	-1	-8	-10
Male	-4	-16	-4	-2	-9	-12
Female	-3	-16	-2	0	-8	-9
Age group – under 25	-4	-17	-3	-1	-8	-11
Age group – 25 to 29	-3	-12	-2	1	-7	-8
Age group – 30 to 39	-3	-12	-3	0	-6	-7
Age group – 40 and over	-3	-11	-2	-1	-5	-5
Indigenous	-2	-14	-1	0	-6	-9
Non-Indigenous	-3	-16	-3	0	-8	-9
Home language – English	-4	-16	-2	0	-7	-9
Home language – Other	-4	-12	-5	-3	-11	-12
Disability reported	-3	-17	-3	-2	-8	-10
No disability reported	-4	-15	-3	0	-8	-10
Internal/Mixed study mode	-4	-16	-4	-1	-8	-11
External study mode	1	9	-1	-2	-4	-4
Domestic student	-3	-16	-3	0	-7	-9
International student	-4	-10	-4	-2	-11	-12
First in family**	-4	-16	-3	-1	-7	-9
Not first in family**	-4	-20	-3	-1	-7	-10
Previous higher education experience – current institution**	-4	-17	-3	-2	-9	-10
Previous higher education experience – another institution**	-4	-14	-2	-1	-7	-8
New to higher education	-3	-18	-3	0	-8	-10
Socio-economic status – High***	-4	-19	-4	0	-8	-9
Socio-economic status – Medium***	-3	-17	-3	0	-7	-9
Socio-economic status – Low***	-3	-15	-2	0	-6	-8
Locality – Metro*** †	-3	-17	-2	0	-7	-9
Locality – Regional/Remote*** †	-3	-17	-2	-1	-7	-9
Total	**-3**	**-16**	**-3**	**0**	**-8**	**-9**

**Previous higher education experience and First in Family status includes commencing students only.
*** Locality statistics are calculated according to proportion for both metro and regional/remote categories.
† Location data are only reported for Commonwealth assisted students, which excludes international and domestic full fee paying students.
†† Some subgroups may not add to 100 per cent due to rounding.
Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

3.2.4 Longer-term trends by mode of study and higher education provider

To understand the normal variations in student scores for different modes of studies, Table 9 presents the % positive scores for the key measures for 2019 only. This shows that, relative to students who study in internal or mixed-mode, external mode students scored higher on the **Student Support, Teaching Quality** and **Quality of Entire Educational Experience** question. They scored lower on the **Skill Development** measure and dramatically lower on the **Learner Engagement** measure which largely reflects social interactions with other students. There were hardly any differences in the **Learning Resources** scores between the two modes.

Table 9: Key SES domains by mode of study, undergraduate students 2019

Mode of study	SD	LE	TQ	SS	LR	QoE
			% positive			
Internal/Mixed study mode	82	63	81	74	84	78
External study mode	78	24	83	79	83	81
Total	**81**	**60**	**81**	**74**	**84**	**78**

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

Do students experience modes of study differently at universities and NUHEIs? As the mode of study information for 2020 is not reliably indicating in which way students study, Table 10 disaggregates the six key SES measures by mode of study and HEP type for 2018/19, before the pandemic. This shows that the biggest difference in the reports of students who studied in different modes was in the area of **Learner Engagement** (which largely relates to student interactions).

External students were far less likely than internal/mixed mode students to achieve a % positive score on the **Learner Engagement** measure. This applied to both, universities (66% internal/mixed vs 24% external) and NUHEIs (66% internal/mixed vs 29% external).

This suggests that student interactions and sense of belonging may have traditionally been much lower for remote students than other students. In this sense, the notable overall drop in % positive scores on the **Learner Engagement** measure in 2020 was not inconsistent with the pre-pandemic results. There were just more students studying (and having to study) in external mode in 2020.

A smaller difference, which is still noteworthy in the context of this project, is that external university students were 4 percentage points less likely to achieve a % positive score on the **Skills Development** measure than their university students who studied in internal/mixed mode.

Table 10: SES measures by NUHEIs/universities and mode of study, all undergraduate students pooled data combining 2018 and 2019

Measure	HEP type	Internal/Mixed	External	External - Int/Mixed
		% positive		Percentage points
Skills Development	NUHEIs	82	81	-1
	Universities	82	78	-4
Learner Engagement	NUHEIs	66	29	-37
	Universities	63	24	-39
Teaching Quality	NUHEIs	83	85	2
	Universities	81	83	2
Student Support	NUHEIs	78	77	-1
	Universities	73	79	6
Learning Resources	NUHEIs	76	79	3
	Universities	85	83	-2
Quality of Entire Educational Experience	NUHEIs	79	81	2
	Universities	78	81	3

Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

3.3 Considered leaving

The SES also captures students' disposition towards pre-maturely leaving their higher education studies, *(During <year>, have you seriously considered leaving <institution>?).* There was no discernible change in the proportion of students who indicated they had seriously considered leaving between 2019 and 2020. For instance, the proportion of undergraduate students who considered leaving was 20% in 2019 and 2020. The

national SES report suggests that push factors for attrition could have been offset by declining pull factors in the shape of worsening labour market conditions. It notes that:

> *"In previous economic downturns, the student attrition rate has declined because as job opportunities diminish students are more inclined to continue with their studies." (Social Research Centre, 2021, p.19).*

3.3.1 Undergraduate students

Students who gave a 'Yes' response to the question about seriously considering leaving their HEP, were also asked in the SES to indicate the reasons why they have seriously considered leaving. There were some shifts in the reasons behind considering leaving. Table 11 shows the percentages of undergraduate students who indicated individual reasons for leaving in 2019 and 2020.

Table 11: Selected reasons for considering early departure among undergraduate students, 2019 and 2020

Reasons	2019 %	2020 %	Change 2020-2019 in percentage points
Health or stress	46	50	+4
Study / life balance	30	27	-3
Workload difficulties	25	27	+2
Expectations not met	22	27	+5
Personal reasons	25	25	0
Financial difficulties	23	23	0
Need a break	24	22	-2
Academic support	19	22	+3
Need to do paid work	27	22	-5
Quality concerns	16	20	+4
Boredom/lack of interest	21	20	-1
Career prospects	18	16	-2
Paid work responsibilities	17	16	-1
Family responsibilities	16	16	0
Change of direction	16	13	-3
Fee difficulties	10	12	+2
Administrative support	10	11	+1
Gap year / deferral	9	9	0
Academic exchange	10	9	-1
Other^	13	9	-4
Institution reputation	10	8	-2
Commuting difficulties	13	8	-5
Social reasons	9	8	-1
Moving residence	6	7	+1
Other opportunities	8	7	-1
Standards too high	6	6	0
Graduating	5	5	0
Received other offer	5	4	-1
Government assistance	3	3	0
Travel or tourism	6	3	-3

Notes: Respondents could indicate multiple reasons. ^ Open-ended responses under the 'Other' option were coded to the existing categories were applicable in 2020.
Source: 2020 SES Report Tables (https://www.qilt.edu.au/surveys/student-experience-survey-(ses)#latest)

Health or stress, expectations not met, quality concerns and (lack of) academic support were the reasons given for leaving that increased in 2020 compared with 2019. Reasons that were given less often by undergraduate students who considered leaving in 2020 compared to 2019 were need to paid work, commuting difficulties, (lack of) study life balance, travel or tourism and change of direction.

These shifts in reasons for considering leaving higher education studies are plausible in the context of remote learning and lockdowns. While they may illustrate changes in students' experiences in 2020 they are quite moderate - the largest change in percentage points for some reason given between 2019 and 2020 was 5 percentage points.

While HEP-specific analyses have shown that a 'yes' response to the SES question is not a reliable indicator for predicting which individual student will drop out, responses to the question are nevertheless correlated with actual attrition at the group level. For example, of UQ commencing undergraduate SES respondents who responded with 'Yes' to the leave question in 2015, 69% re-enrolled in Semester 1 in 2016. For those respondents who replied with 'No', 94% re-enrolled in Semester 1 2016 at UQ (UQ Student Success Office, 2016).

3.3.2 Postgraduate coursework students

Shifts in reasons for considering leaving among postgraduate coursework students, were more pronounced and primarily concerned:

- financial difficulties (up from 20% in 2019 to 30% in 2020);
- fee difficulties (up from 13% in 2019 to 22% in 2020), and
- health or stress (up by 5 percentage points from 46% in 2019 to 50% in 2020).

3.3.3 International students

International students were also similarly likely to seriously consider leaving in 2020 when compared with 2019. The proportion of international students who had considered leaving increased by only 1 percentage point from 17% in 2019 to 18% in 2020.

International students who considered early leaving were particularly likely to report financial and fee difficulties as reasons for considering leaving in 2020:

- 41% of international postgraduate coursework students indicated financial difficulties in 2020 (vs 19% in 2019), and
- 36% fee difficulties (vs 18% in 2019).

Among international undergraduate students:

- 38% nominated financial difficulties in 2020 (vs 20% in 2019), and
- 35% fee difficulties (vs 21% in 2019).

Thus, the shifts in reasoning for international students were far more pronounced than that was the case for domestic students who had considered leaving. These results are consistent with the results in Table 7 that show that international students were far more likely to see their studies negatively affected by their financial circumstances in 2020.

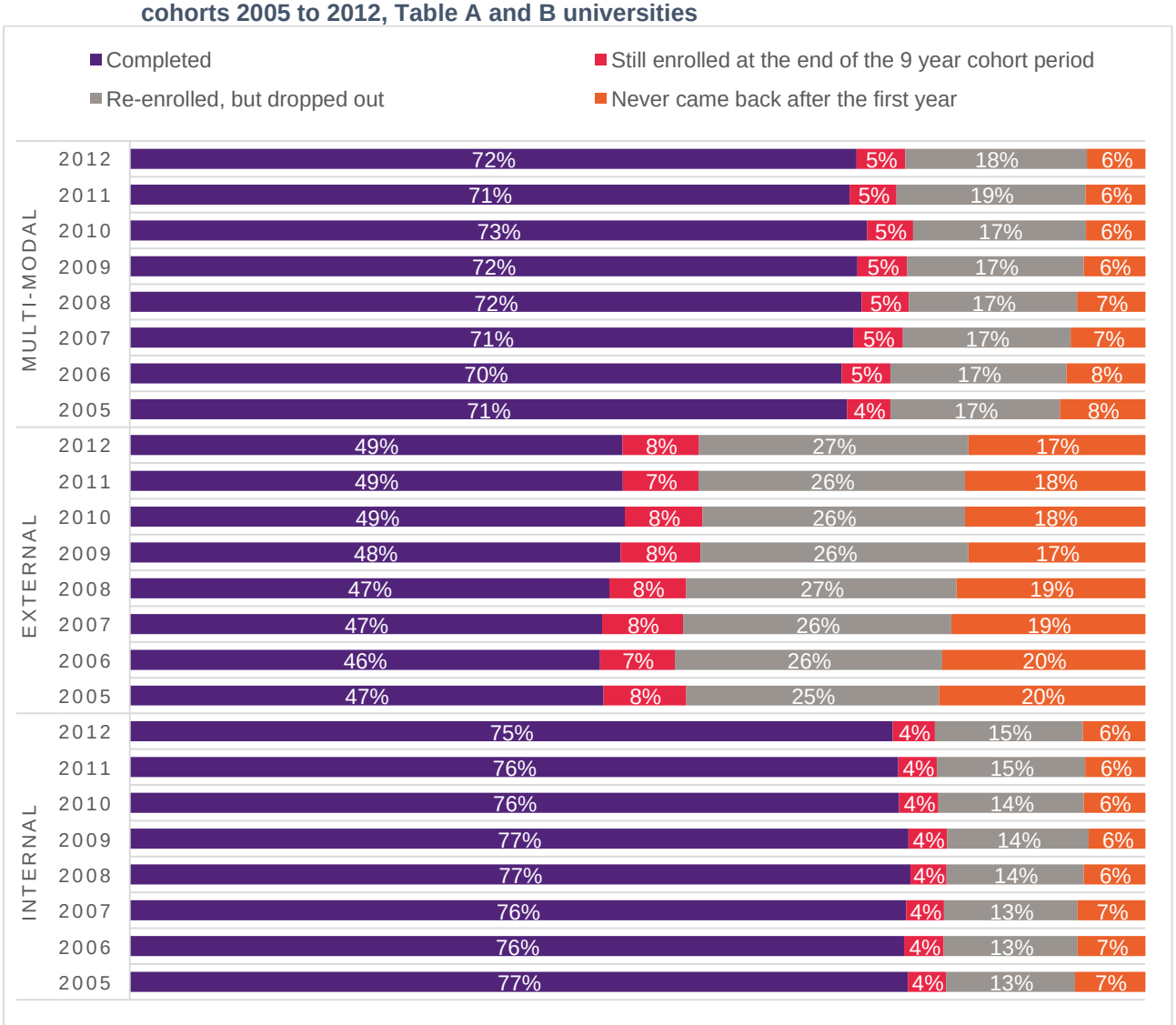
4. Student retention

4.1 Longer-term trends, by higher education provider and mode of study

Historically, externally enrolled students have been less successful in progressing through their studies to completion. This is clearly indicated in Figure 6, which shows the completion or other status of eight bachelor student cohorts at Table A and B universities 9 years after commencing their studies.

About 3 in 4 internally enrolled students had completed their studies after 9 years while this was only the case for less than 1 in 2 externally enrolled students. Already the proportion of students who dropped out after a year and never came back to study is much larger among externally enrolled students (between 17% and 20%) than other students (between 6% and 8%). Internally enrolled students were also more likely to complete their degree within 9 years than multimodally enrolled students, although the latter were still much more likely to do so than externally enrolled students.

Figure 6: Progression status 9 years after commencing a bachelor degree, commencing domestic cohorts 2005 to 2012, Table A and B universities



Source: DESE, 2022, Completion Rates of Higher Education Students - Cohort analysis, 2005-2020 (https://www.dese.gov.au/higher-education-statistics/resources/completion-rates-higher-education-students-cohort-analysis-20052020).

There was little change in the completion patterns over time although a slight improvement in completion rates for externally enrolled students is visible as is a slight decline in the 9-year completion rates of internal students.

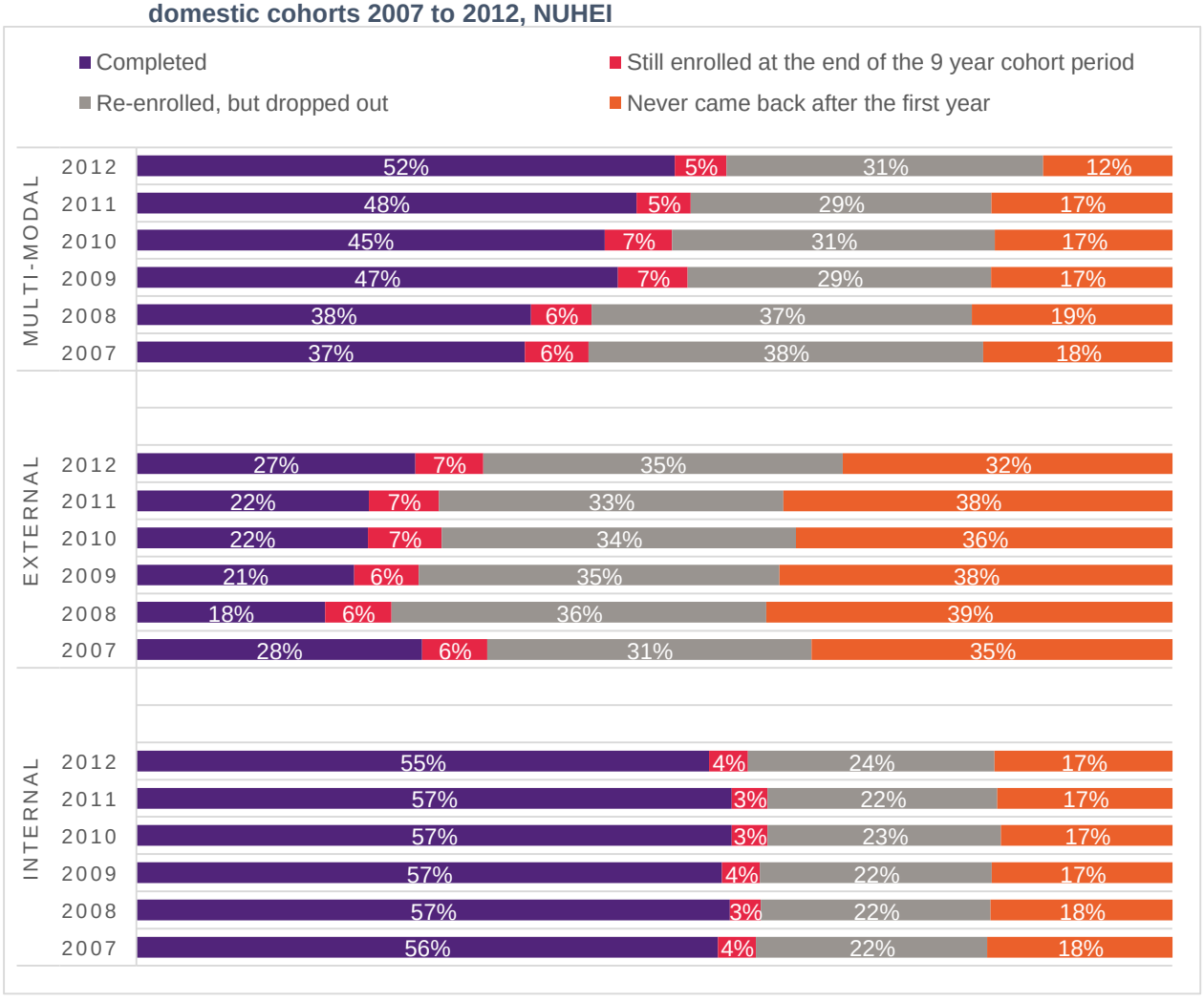
There were similarities in the completion patterns for undergraduate students studying at NUHEIs although this is based on only six observed cohorts (Figure 7). Of the three groups, internal students had the highest completion rates over a 9-year period, followed by multimodally enrolled students and, with some distance, externally enrolled students. There were two marked differences though, compared to Table A and B universities:

- completion patterns at NUHEIs were markedly more negative for all three student groups; and
- there was a more pronounced improvement in completion rates for multimodally and externally enrolled students who commenced their studies after 2008.

NUHEI figures in Figure 7 cannot strictly be compared with figures for Table A and B universities in Figure 6, due to the inclusion of sub-bachelor programs in the former. Nevertheless, the extent of the differences in completion patterns is striking.

The reported completion patterns are based on enrolment and completions information across the different HEPs in Australia. Comparable figures for international students are not available as international students are not tracked through the higher education system.

Figure 7: Progression status 9 years after commencing an undergraduate degree, commencing domestic cohorts 2007 to 2012, NUHEI



Source: DESE, 2022, Completion Rates of Higher Education Students - Cohort analysis, 2005-2020 (https://www.dese.gov.au/higher-education-statistics/resources/completion-rates-higher-education-students-cohort-analysis-20052020).

While there has been a great difference between external and other students in progressing to study completion, prior to the pandemic external students tended to have characteristics that, by themselves, were associated with increasing the likelihood of exiting university prior to degree completion. They tended to be older and have families with caring and provider functions, were more likely to be from disadvantaged backgrounds (low SES, regional/remote) or to have a disability or of Aboriginal or Torres Strait Islander status. They were also more likely to study part-time to accommodate their studies in the context of their circumstances (e.g. Stone, 2019). While the higher prevalence of disadvantage backgrounds and disadvantaging circumstances among externally enrolled students will account for some of the lower likelihood of achieving study progression and completion the dramatically lower chances of succeeding to completion for external students may well point to institutional shortcomings in educating and servicing external students in the higher education sector.

Statistically, it is possible to isolate an effect that study mode itself may have on succeeding in higher education studies by controlling for differences in disadvantage factors in the analyses. A study by HESP (2017) comes close to this notion although it was primarily interested in isolating institutional effects on student attrition. It found that mode of study was the third largest factor (after HEP and type of attendance) that statistically explained variations in institutional attrition rates. This suggests that even if internal, multimodal and external student populations had the same distribution of socio-demographic (age, gender, Indigenous status, SES, NESB) and study (field of study, type of attendance) characteristics as well as the same distribution admission pathways, students enrolled externally were still more likely to attrite.

5. Course satisfaction among recent graduates

5.1 Overall trends

Recent graduates are asked in the Graduate Outcomes Survey, which is administered between 4 and 6 months after graduation, to rate their agreement with this statement: *"Overall, I was satisfied with the quality of <this course>".*

In 2021, there was a decline in the proportion of undergraduate and postgraduate coursework graduates who agreed or strongly agreed with the statement (by less than 3 percentage points). This is shown in Table 12.

The 2021 GOS report makes a note of this being a smaller drop than occurred for the overall educational quality questions in the SES in 2020 speculating that the fact that graduates reflecting on their study experience retrospectively may rate their experience differently than current students (Social Research Centre, 2021b, p.25). However, there are other factors that may contribute to the differences:

- different question wording in the two surveys and the SES frames the question more broadly, in terms of quality of entire educational experience, than the GOS (quality of course); and
- the 2021 graduates are not the same group as the 2020 later year students captured in the SES. Many of the latter may still be studying and some will have dropped out without graduating. In this sense, 2021 graduates in the GOS are a select, successful group who were at a late stage in 2020 at which point they could see the end of their studies.

Table 12: Undergraduate and postgraduate retrospective coursework satisfaction, 2016 to 2021, % agreement

Year	Undergraduate	Postgraduate coursework
2016	80.6	82.5
2017	79.4	81.9
2018	79.7	81.7
2019	80.1	81.8
2020	80.7	81.7
2021	77.9	79.8

Source: Social Research Centre, 2021b, Table 17

In 2019, 2020 and 2021, undergraduate and postgraduate coursework graduates who had been enrolled as external students rated the quality of their course higher than their peers who had been enrolled as internal or mixed mode students (Table 13), which is consistent with SES results in Table 9.

Table 13: Undergraduate, postgraduate coursework and postgraduate research retrospective satisfaction by mode of study, 2019-2021

Year	Mode of study	Undergraduate	Postgraduate coursework	Postgraduate research
2021	Internal/Mixed	77	78	85
	External	83	84	85
2020	Internal/Mixed	80	81	86
	External	85	85	85
2019	Internal/Mixed	80	81	85
	External	83	84	87

Source: 2019, 2020, 2021 GOS National Report Tables (https://www.qilt.edu.au/surveys/graduate-outcomes-survey-(gos))

5.2 Changes since COVID-19 pandemic, by field of study

Looking at satisfaction scores for 2021, relative to 2020 and by field of study, may indicate which fields of study were more impacted than others:

- Consistent with the results from the SES, Dentistry and Veterinary Science emerge as fields of study that feature among those with the largest drops in satisfaction scores between the 2020 and 2021 rounds of the GOS (Table 14). This applies to undergraduate and postgraduate coursework.
- Rehabilitation studies were another FOS affected by notable drops in relation to both, undergraduate and postgraduate coursework studies.
- Architecture and the built environment for undergraduate studies show drops in satisfaction by more than 5 percentage points
- Pharmacy for postgraduate coursework studies also show drops in satisfaction by more than 5 percentage points.

Table 14: Overall retrospective satisfaction by course level and study area, 2020 and 2021, % agreement

Field of study	Undergraduate 2020	Undergraduate 2021	Postgraduate coursework 2020	Postgraduate coursework 2021
Science and mathematics	84.1	82.6	79.9	79.4
Computing and information systems	74.2	72.5	75.7	72.8
Engineering	75.3	72.3	76.9	74.6
Architecture and built environment	76.2	70.4	77.9	75.7
Agriculture and environmental studies	83.3	81.9	86.7	87.8
Health services and support	82.4	77.8	85.6	84.5
Medicine	80.4	79.6	75.9	73.4
Nursing	79.5	75.9	83.8	80.8
Pharmacy	83.7	84.2	83.7	78.7
Dentistry	77.1	65.6	73.2	61.7
Veterinary science	83.9	78.8	77.7	66.1
Rehabilitation	88.2	82.0	81.9	75.5
Teacher education	78.3	75.3	82.9	81.3
Business and management	78.6	76.5	82.9	81.3
Humanities, culture and social sciences	86.0	83.7	87.3	86.0
Social work	85.6	83.8	80.8	82.2
Psychology	84.2	81.2	86.2	83.0
Law and paralegal studies	84.1	79.9	78.0	77.6
Creative arts	76.2	73.0	77.1	74.4
Communications	80.3	77.4	82.4	80.2
Tourism, hospitality, personal services, sport and recreation	82.6	80.3	82.7	82.3
All study areas	**80.7**	**77.9**	**81.7**	**79.8**

Fields of study and scores are highlighted when the difference between the 2020 and 2021 result is larger than 5 percentage points.
Source: Social Research Centre, 2021b, Table 18.

6. Graduate outcomes

6.1 Longer-term trends

The Graduate Outcomes Survey (GOS), and its predecessor the Australian Graduate Survey (AGS), have tracked graduate employment outcomes for many years for graduates 4 to 6 months after graduation. Table 15 shows that overall employment, including full-time employment rates, declined in the 10 years between 2009 and 2019 for undergraduate as well as post-graduate graduates. In particular, these declines applied to graduates with undergraduate degrees and, to a much lesser extent, to graduates with postgraduate coursework degrees. For example, overall employment for graduates with an undergraduate degree declined by 5.9 percentage points over the 10-year period while it only declined by about 1.8 percentage points for graduates with a postgraduate coursework degree. Declines in the two rates for graduates with postgraduate research degrees were in between these two groups (e.g., a decline of 3.9 percentage points in overall employment).

The different rates of declines for the different graduate groups have led to a divergence in these rates between the three graduate groups: the rates for the three graduate groups were more similar in 2009 compared with 2019. For example, postgraduate coursework graduates were about 1.8 percentage points more likely to be employed than undergraduate graduates in 2009. In 2019, they were almost six percentage points more likely to be employed.

Of the three groups considered, graduates with postgraduate degrees featured, with one exception, the highest employment rates throughout the 10-year period.

Table 15: Full-time and overall employment rates by study level, 2009-2021 (%)

Year	Undergraduate Full-time employment	Undergraduate Overall employment	Postgraduate coursework Full-time employment	Postgraduate coursework Overall employment	Postgraduate research Full-time employment	Postgraduate research Overall employment
2009	79.2	92.7	87.6	94.5	85.3	94.6
2010	76.2	91.8	86.4	94.1	84.6	93.9
2011	76.3	91.6	85.0	93.6	83.0	93.1
2012	76.1	91.7	85.4	93.9	81.9	93.6
2013	71.3	90.0	83.2	92.6	78.5	91.2
2014	68.1	89.2	82.5	93.1	75.8	91.0
2015	68.8	89.5	82.7	92.7	73.0	89.1
2016	70.9	86.4	85.1	92.4	80.1	90.3
2017	71.8	86.5	86.1	92.6	80.4	90.6
2018	72.9	87.0	86.9	92.9	82.3	91.8
2019	72.2	86.8	86.8	92.7	81.1	90.7
2020	68.7	85.1	85.6	91.6	80.1	90.0
2021	68.9	84.8	84.9	90.8	77.7	88.1

Source: Social Research Centre, 2021b, Table 5.

6.2 Changes since COVID-19 pandemic

With one exception, there were drops in each of the two rates in each of the pandemic years (2020 and 2021) and for all student segments included in the table. The exception is the fulltime employment rate for graduates with an undergraduate degree, which recovered slightly in 2021[5] after having dropped more notably by 3.5 percentage points in 2020.

The GOS surveys graduates throughout three periods in each year. Comparing results on a period-specific basis over the years 2019 to 2021 shows larger drops in the two measures and larger recovery in the values of the two measures in specific periods. This shows more dramatic influences of the pandemic on the graduate labour market (see Social Research Centre, 2021b, p.7ff).

It is possible that students delayed labour market entry by delaying graduation and because of that, the GOS results do not fully capture the impact of the pandemic on the graduate labour market. An alternative course of action to delay labour market entry post-graduation is to commit to further full-time study. There is some evidence in the GOS that more graduates went on to study: for example, 21.1% of undergraduate graduates who responded in the GOS were engaged in further full-time study in 2021 while the respective proportions were 18.5% in 2020, 18.9% in 2019 and 19.4% in 2018 (Social Research Centre, 2021b, p.23).

Overall and full-time employment rates as well as median salaries have been traditionally in favour of graduates who had studied externally, compared to those who had done so internally or in multi-mode. This is only shown for undergraduates and the years 2020 and 2021 in Table 16. External undergraduates were somewhat less likely to be part of the labour force than internal/multi-mode graduates during that time.

Table 16: Undergraduate employment outcomes by mode of study, 2020 and 2021

Employment outcome	Internal/ Multi Mode	External
Full-time employment (%)2020	67.1	79.7
Full-time employment (%)2021	67.1	79.7
Overall employment (%) 2020	84.5	89
Overall employment (%) 2021	84.2	88.6
Labour force participation rate (%) 2020	91.6	90.5
Labour force participation rate (%) 2021	92.3	90.6
Median salary, employed full-time ($) 2020	63,000	72,000
Median salary, employed full-time ($) 2021	64,000	72,500

Source: Social Research Centre, 2021b, Table 7.

As is the case with investigating patterns of student perceptions in the SES, it is not clear what drives differences in short-term employment outcomes. External students tend to be older and are more likely to be already in employment prior to their studies. In fact, some may upgrade qualifications for career development rather than initial entry into the professional labour market.

Some of the differences in employment outcomes between internal/mixed mode and external graduates get smaller over time as indicated by results in the GOS-L three years after participating in the GOS. However, formerly externally enrolled graduates still feature higher full-time employment rates, overall employment rates and median salaries in the mid-term, compared with internal or mixed-mode graduates. This is shown in Table 17 for the year 2021. In 2021, this trend applied to graduates of undergraduate, postgraduate coursework as well as postgraduate research degrees. As was the case in the shorter term, the labour-force participation rate for formerly externally enrolled undergraduates was also somewhat lower 3 years postgraduation. The same applied to postgraduate research graduates.

[5] The changes in rates between consecutive years will often be within the margin of survey error.

Table 17: Short-term and mid-term employment outcomes by mode of study, 2021

Employment outcome	Undergraduate		Postgraduate Coursework		Postgraduate Research	
	Internal/ mixed	External	Internal/ mixed	External	Internal/ mixed	External
Full-time employment rate (%)						
Short-term	73.4	80.0	83.9	90.9	82.6	80.6
Medium-term	88.8	89.7	92.5	94.5	89.9	96.4
Overall employment rate (%)						
Short-term	87.2	89.1	92.1	95.1	91.9	91.9
Medium-term	92.2	92.9	94.7	96.0	92.4	92.5
Labour force participation rate (%)						
Short-term	91.9	90.6	95.7	96.9	94.6	93.3
Medium-term	92.0	89.9	95.0	95.1	93.2	89.9
Salaries ($)						
Short-term	61,000	69,400	78,000	92,000	90,000	106,000
Medium-term	75,800	83,000	95,000	106,000	101,000	110,000

Source: 2021 GOS-L National Report Tables (https://www.qilt.edu.au/surveys/graduate-outcomes-survey---longitudinal-(gos-l))

7. Employer satisfaction

7.1 Overall trends

According to the ESS, employer satisfaction with some graduate attributes remained broadly unchanged between 2017 and 2021 (Table 18).

Table 18: Employer satisfaction with graduate attributes and overall satisfaction, 2017 to 2021

Year	Foundation %	Adaptive %	Collaborative %	Technical %	Employability %	Overall satisfaction %
2021	93.5	90.3	89.3	93.7	86.6	85.3
2020	93.7	90.1	88.1	93.8	86.8	84.7
2019	92.7	89.3	87.8	92.7	85.4	84.0
2018	93.5	89.9	88.7	93.8	86.5	84.8
2017	93.4	90.1	85.9	93.3	85.0	83.6

Source: 2021 ESS National Report Tables (https://www.qilt.edu.au/surveys/employer-satisfaction-survey-(ess))

Graduates who had been internally enrolled were given more positive scores by employers than graduates who had been enrolled externally. This applied to all six key measures that capture graduate attributes and employer satisfaction in the ESS and is shown for the years 2020 and 2021 in Table 19. The difference between employer ratings for internal and external graduates was most pronounced for the **Collaborative skills** measure.

Table 19: Employer satisfaction with graduate attributes and overall satisfaction by mode of study, 2020 and 2021

Year	Mode	Foundation %	Adaptive %	Collaborative %	Technical %	Employability %	Overall satisfaction %
2020	Internal	94.5	90.6	89.7	94.7	87.8	86.3
	External	91.2	88.5	82.3	90.8	83.5	78.9
2021	Internal	94.1	90.4	91.4	94.2	87.5	85.8
	External	91.4	89.8	81.9	91.9	83.6	83.8

Source: 2021 ESS National Report Tables (https://www.qilt.edu.au/surveys/employer-satisfaction-survey-(ess))

8. Summary

8.1 Longer-term trends

8.1.1 Student enrolment

There have been shifts away from internal mode, particularly for female domestic students.

Overall, the proportion of students studying in internal mode remained stable between 2001 and 2011, then declined until 2020 (with a remarkable drop from 2019). This trend is reflected in the data for male domestic students, although among female domestic students, there was a constant decline in internal study mode since 2001. Over the past 20 years, domestic female students were more likely to study externally and multi-modally than domestic male students. The gender differences in study mode among domestic students grew, leading to a considerable gap by 2019 (57% of females vs 68% of males) and 2020 (49% of females vs. 61 of males). After that, enrolment in internal mode continuously decreased to 89% for male and 87% for female students in 2019 (and dropped further to 78% for male and 74% for female students in 2020). Among domestic male and female students, the prevalence of external mode was higher than the prevalence of studying multi-modally over the 20-year period.

International students were more likely to study in internal mode, increasing from 2001, reaching 93% in 2010. Then, their enrolment in internal mode continuously decreased and prior to the pandemic, in 2019, 87% of international female students and 89% of international male students were enrolled as internal students (which dropped further to 74% and 78% respectively in 2020).

Gender differences in study mode were less pronounced among international students. However, multi-modal study became more prevalent than external study from 2010/11 onwards.

8.1.2 Student experience

Student experience has not been the same, for different modes of study.

Externally enrolled students reported lower ratings for **Learner Engagement** in the SES prior to the COVID-19 pandemic. This was the case for externally enrolled students in universities and NUHEIs. The SES measure includes the extent of student interactions, sense of belonging and preparedness. These results suggest that students who have been enrolled externally have not had the same experience in these areas as students who had internal or multi-mode enrolments.

External students at universities were also less likely to state that their studies had developed their skills. This was not the case for NUHEIs.

Despite the lower student ratings in these areas, external students were more likely than their peers to positively rate **Teaching Quality** (SES) and the **Quality of the Entire Educational Experience**. This was the case for universities as well as NUHEIs. Consistent with these results, recent undergraduate and postgraduate coursework graduates who had been enrolled externally were also more likely to rate the quality of their course highly in the GOS than their internally and multi-modally enrolled peers.

8.1.3 Progression to degree completion

External study is less associated with progression to degree completion.

Statistically, domestic undergraduate students who study externally have had substantially lower chances of completing a degree than internally and multi-modally enrolled students. This applies to study at universities and NUHEIs, with the latter showing notably lower completion rates for all three modes of studies than the former.

External students are more affected by known factors associated with challenges for successful higher education studies – low socioeconomic status, first in family, Aboriginal or Torres Strait Islander, regional/remote background, disability, mature age and responsibilities for family and household, which are accompanied by higher rates of part-time study. The sector's tolerance of the extent of difference in chances of successfully getting through higher education studies is noted; there has been little change over recent years. Further to that, there is some evidence that external study status per se (regardless of known disadvantaging factors) contributes to lowering chances of succeeding, which points to the external study mode itself as a disadvantage factor for succeeding in higher education studies.

8.1.4 Labour market outcomes

External graduates have more positive labour market outcomes.

The overall and full-time employment rates that graduates achieve shortly after graduation as well as median salaries (captured in the GOS) have been traditionally in favour of graduates who had studied externally compared to those who had done so internally or in multi-mode.

Some of the differences in employment outcomes between internal/mixed-mode and external graduates have reduced over time.

However, formerly externally enrolled graduates feature higher overall and full-time employment rates, and higher median salaries than internal or mixed-mode graduates.

This is no contradiction with the finding that externally enrolled students are much more likely to prematurely exit their studies. Dropped out students are excluded from the pool of graduates who are surveyed in the GOS. It is possible that the larger attrition among externally enrolled students creates a stronger 'selection/filter' effect that defines the employment relevant capabilities of the graduate pool – those external students who make it to graduation may go through a stronger filtering process that retains only the students with higher employability features than applies to students studying in other modes.

A critical element in external graduates' employment outcomes is that they were already more likely to be in employment prior and during their studies. They are more likely to be at a later stage of their employment history/career and may be more likely to obtain qualifications for career development rather than entry into the professional labour market.

There had been a general decline in short-term overall employment and full-time employment rates for graduates in the 10 years prior to the pandemic. This particularly applied to graduates with undergraduate degrees.

8.1.5 Employer perceptions

Employers are more satisfied with internal graduates.

Graduates who had been internally enrolled were given somewhat more positive scores by employers than graduates who had been enrolled externally in recent rounds of the ESS. This applied to all six key measures that capture graduate attributes and employer satisfaction in the ESS:

- Foundation skills;
- Adaptive skills;
- Collaborative skills;
- Technical skills;
- Employability, and
- Overall satisfaction.

Employers perceived the largest deficit between external and other graduates in relation to Collaborative skills.

8.2 Changes since the COVID-19 pandemic

8.2.1 Enrolment

There were wide shifts towards remote and online learning that occurred during the pandemic throughout the higher education sector.

There was a notable jump in the proportion of students who were categorised as studying externally and multi-modally in 2020 when the COVID-19 pandemic commenced. This jump was most severe among international female students (from 11% to 26%). While the mode of study figures for 2020 were affected by inconsistent applications of the mode of study definitions and cannot be taken literally, the reported jump is a reflection of the wide shifts towards remote and online learning that occurred during the pandemic throughout the higher education sector.

The shift towards emergency remote modes of learning in 2020 meant that students who had enrolled internally had (often) no choice than to endure the new mode required to continue their studies. This exposed (younger) school leaver students who traditionally preferred internal studies to remote learning. As internal students constitute the by far largest group of students, this change impacted on overall student perceptions as captured in the SES.

8.2.2 Student experience

There were universal declines in ratings of student experience: they applied to domestic and international, undergraduate and postgraduate students, commencing and later year students, university and non-university providers, as well as demographic sub-populations including equity students.

Prior to the pandemic, ratings on the six main SES measures had been relatively stable over the preceding years. In 2020 this changed.

Student ratings for all measures but the **Student Services** measure dropped notably, including:

- Moderate declines in ratings for **Skill Development** and **Teaching Quality**, and
- Dramatic declines for measures of **Learner Engagement, Learning Resources** and the **Quality of the Entire Educational Experience** question.

Within the **Skill Development** domain, declines primarily concerned perceptions about developing the ability to work effectively with others and developing spoken communication skills. Declines in ratings for more traditional academic attributes such as critical thinking, confidence to learn independently, the ability to solve complex problems and knowledge of the field of study, but also the development of work-related knowledge or skills, and written communication skills were more minor, at least at the overall student population level.

Within the **Learner Engagement** measure, declines in student ratings concerned questions about student interaction and integration rather than engagement with learning (as this is the way the measure is constructed).

Within the domain of perceived **Teaching Quality**, declines in student ratings primarily concerned perceptions on the study as well structured and focused, and whether teachers actively engaged the survey respondent in learning as well as general perceptions about the 'quality of teaching' and the 'quality of the entire educational experience'. Student perceptions on their studies as being relevant as well as on various (other) teacher behaviours (re intellectual stimulation, providing clear explanations, demonstrating concern, commenting in helpful ways, being helpful and approachable, setting assessment tasks that challenge to learn) were less affected by declines in student ratings.

Declines in student ratings in the domain of **Learning Resources** related to the perceived quality of teaching spaces, student spaces, online learning materials, computing and IT resources, laboratory or studio equipment and library resources and facilities. It is likely that these results were based on not being able to access physical campuses and infrastructure rather than reflecting an actual decline in quality of resources.

Declines in student perceptions in 2020 were universal – they applied to domestic and international, undergraduate and postgraduate students, commencing and later year students, university and non-university providers, as well as demographic sub-populations including equity students.

There were, of course, variations in the extent to which declines in student ratings occurred – by HEP, field of study and demographic student group. For example, Dentistry and Veterinary Science, while representing smaller degree programs, appear to be fields of study in which students were subjectively more severely affected by the circumstances in 2020 than in some other areas. This is suggested not only by SES results but also retrospective course evaluations expressed by graduates in the 2021 GOS.

SES results suggest that international students were more impacted by circumstances of living arrangements and financial circumstances in 2020 than domestic students, and that financial difficulties and fee difficulties played a considerably larger role for considering pre-mature departure from higher education studies in 2020 for them.

However, there was no notable increase in seriously considering leaving among domestic and international students in 2020, and while shifts in the reasoning for leaving appear plausible in the context of the pandemic (increases in reasons of health/stress, expectations not met, quality concerns) these shifts were at a moderate level of within 5 percentage points for undergraduate students. This suggests, at the most, some minor to moderate changes in student experiences[6].

The SES data offer opportunities to dig deeper into particular areas and student segments to uncover possible nuances in rating patterns that might indicate differences in experiences. However, such digging also needs to consider confounding relationships and sample sizes for the relevant respondent segments and areas involved in these analyses for interpreting the different patterns. This would require analyses of unit record data, which is beyond the scope of this project.

[6] Of further note in this context is that the relevant questions in the SES referred to here are only presented as 'tick all that apply' boxes to the smaller proportion of students that had indicated they had seriously considered leaving. This question design and the preceding filtering cannot generate data to effectively monitor changes in students' perceptions re expectations met, health/stress etc.

8.2.3 Graduate outcomes

Graduate outcomes were somewhat worse in the pandemic.

With the exception of the full-time employment rate for undergraduate graduates, there were minor year-to-year declines in the overall and full-time employment rate for undergraduate, postgraduate coursework and postgraduate research graduates in 2020 and 2021 (but also already in 2019).

The full-time employment rate for undergraduate graduates dropped more notably in 2020 (by 3.5 percentage points) and recovered slightly in 2021.

The GOS surveys graduates throughout three periods in each year. Comparing results on a period-specific basis over the years 2019 to 2021 shows larger drops in the two measures but also larger recovery in the two measures in specific periods. This shows more notable short-term influences of the pandemic on the graduate labour market.

It is possible that students delayed labour market entry by delaying graduation as a result of perceiving more difficult labour market conditions. As a result, the GOS results do not fully capture the impact of the pandemic on the graduate labour market. An alternative course of action to delay labour market entry post-graduation is to commit to further full-time study. There is some evidence in the GOS that more graduates went on to study: for example, 21.1% of undergraduate graduates who responded in the GOS were engaged in further full-time study in 2021 while the respective proportions were 18.5% in 2020, 18.9% in 2019 and 19.4% in 2018.

8.2.4 Employers' perceptions

Employer views on recent graduates did not change during the pandemic.

There is no evidence that employers' views on attributes of recent graduates notably changed when they were surveyed in the ESS in 2020 and 2021.

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Appendix C: Stakeholder Consultation Report for the Modes of Delivery in Higher Education project

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Executive Summary

Introduction

The aim of the stakeholder consultations was to confirm, evaluate, and extend on, the issues identified through the preceding components of the Modes of Delivery project. The earlier phases of the project involved a scoping review, trends analysis of higher education enrolment and QILT data and a policy translation component. This entire project is funded by the Department of Education (the department).

The consultations were designed and implemented across three rounds that reflected different thematic areas of expertise:

1. Modes of delivery and student learning and experience
2. Modes of delivery and professional graduate attributes
3. Modes of delivery and the higher education sector

Participation

A total of 37 responses were received.

Nearly half (n=18) were respondents in round 3 that was concerned with higher education institutions and the sector more broadly. Fourteen stakeholders responded in round 1, which focused on student learning and experience. Five professional associations participated in round 2, which was concerned with graduate attributes and professional requirements.

Findings

Potential benefits for students

Across all three rounds of the consultation, participating stakeholders expressed that advantages of online and mixed-mode deliveries lie in the flexibilities they offer for students, including spatial flexibilities and temporal flexibilities. The advantages with **flexibilities** around when and where students study included:

- saving students travel time and costs;
- allowing students to organise studies around their other responsibilities; and
- providing students with a wider variety of options of programs, regardless of their location.

Stakeholders saw that both types of flexibilities offered chances to **widen participation** by offering greater opportunities for students:

- from low SES and regional/remote backgrounds;
- with a disability and/or additional needs;
- with caring, employment and/or other commitments, and
- who were immunocompromised where participation in on-campus activities posed heightened health risks.

Some stakeholders saw **teaching and learning enhancements**, including that:

- students would have better opportunities to effectively review online lectures and tutorials if these were recorded;
- anonymity in learning contexts may reduce social anxieties for some, and
- offering different deliveries to students could cater for different learning preferences.

Potential benefits for Higher Education Providers

There were also perceived benefits for Higher Education Providers (HEPs), including:

- flexibilities for staff to work around other commitments or circumstances, such as caring, sickness and isolation;
- more easily recruiting and involving experts who are not on location in the delivery of courses;
- flexibilities when designing courses such as making learning more interactive, presumably as part of synchronous delivery;
- opportunities for economies of scale when the same online platform is used across different courses and disciplines, and
- widening market/reach beyond traditional catchment areas.

Another theme that emerged in rounds 1 and 3 was that online deliveries would, as a result of capturing student activities in online systems, improve opportunities of HEPs to effectively monitor student progress and inform timely interventions by applying learning analytics.

Challenges and risks

When stakeholders were asked about the main challenges and risks they perceived, their responses were bundled under the following:

Aspects of poor online design and delivery

Some responses alluded to aspects of poor online design and delivery. Stakeholders either saw these as current empirical realities that constitute risks to higher education, or challenges to be overcome. Specifically aspects of poor online design and delivery included:

- a focus on asynchronous delivery;
- outdated content of resources; and
- problems with accessing learning resources, teaching content or support services in a timely and relevant way.

Consequences of poor online or mixed-mode design and implementation

Other responses alluded to the *consequences* of poor online design and/or delivery. These concerned:

- no or minimal quality interactions between students, and students and staff as a result of asynchronous delivery, impacting the development of students' academic and social sense of belonging, informal networks, and learning engagement;
- underdeveloped graduate skills in areas that are not seen to be developed through online delivery (that have traditionally involved interactions with humans, animals or agricultural and physical environments, such as related to physical examination, clinical, counselling and therapist skills, but also architectural modelling);
- poor integration of international students in local life as a result of asynchronous delivery;
- violations of students' privacy as a result of remote proctoring;
- worsening of student equity due to unequal access to material requirements for successfully participating in online learning (internet access, relevant and functional technologies and applications, study spaces);
- uncertainties about the identity of the online learner or the authorship of assignments; and
- perceptions of quality and integrity of Australian higher education resulting from perceptions of all of the above, as well as perceptions of employers and perceptions overseas.

Operational challenges for creating foundations for quality online/mixed-mode deliveries

A third category of feedback related to operational challenges for generating successful online and mixed-mode delivery. Stakeholders expressed feedback in terms of what they saw as needing to be

done/addressed to establish the foundations to ensure quality deliveries in non-face-to-face modes. These concerned:

- addressing variations in staff capabilities and dispositions towards online delivery, by providing training and ongoing support for staff;
- addressing variations in student capabilities in relation to online learning, by providing relevant and timely student academic and other supports (e.g. 24/7 library access and student support);
- defining a rational basis for assessing/calculating the online workload allocation for staff and for students;
- providing sufficient access to relevant tools and spaces, and addressing potential inequities as a result of unequal access to relevant technology, software and internet connectivity but also physical study spaces when learning off-campus;
- ensuring student interactions with staff (academics, support) and other students to generate student and learning engagement, reduce student isolation and generate informal support networks and a sense of academic and social belonging;
- developing reliable and safe infrastructures that facilitate online delivery;
- developing and updating an evidence base about all aspects of flexible learning approaches;
- developing mental health and wellbeing for students and staff across different modes;
- addressing the development of more generic skills, such as public speaking, face-to-face interviewing;
- addressing difficulties with developing specific professional skills that has traditionally relied on proximity to people, animals or physical materials;
- addressing under-developed notions of students as partners for designing modes across student life stages;
- designing whole of institution approaches leading to coherent student experiences;
- developing institutional capacity and capability for data intelligence and learning analytics to support iterative improvement of delivery;
- developing adequate policy for ensuring safe online environments;
- dealing with negative perceptions about online learnings in society (e.g. among parents and employers, also internationally);
- dealing with outdated approaches to accreditation that favour face-to-face delivery by some disciplines;

Academic integrity

There were contradictory views on the risks to academic integrity, with some stakeholders believing academic integrity was a no bigger issue in online delivery than face-to-face delivery. Other stakeholders perceived a greater risk with online delivery.

Most stakeholders who commented on academic integrity agreed that it would need ongoing active monitoring.

There were also differing opinions on supervision in assessments with some arguing for the necessity of strong invigilation and others for open-book assessment without proctoring.

Some also viewed integrity of higher education as directly linked to quality or in the context of the security of IT infrastructure.

Perceived drivers for risks

A few stakeholders believed that the risks for successful online delivery were rooted in longer-term trends in the higher education sector. Specifically, they perceived:

- significant underinvestment in Learning and Teaching (including technology enhancement) and associated Research and Development
- systemic and sustained underinvestment in institutional IT infrastructure and enterprise architecture;
- general reductions or redirections in higher education funding that can lead to shifting funding away from teaching to research (e.g. to cater for HEP ranking methodologies); and
- pressures or desires to cut costs in conjunction with perceptions of online mode as a cheap(er) delivery option. It was perceived that this could lead HEPs to expand low quality online education. Consistent with this assessment some participants called for renewed investment in teaching and learning and innovation, infrastructures.

Modes of delivery and Higher Education Standards Framework (HESF)

Most stakeholders across the three rounds did not comment on the HESF as part of their feedback.

Of those that did, most thought that the HESF was sufficient in its current state and needed no revisions to accommodate shifts in the mode of delivery - even if HESF's standards were not met, it's role of setting the standards was seen as fulfilled.

Of the stakeholders who thought that the standards were not met, the issues were around:

- perceiving the equivalence principle was not being met as there was a perceived general trend of increasing variety in student experiences - across institutions, disciplines, but also modes, and between domestic and international students, and onshore and off-shore international students, and
- the HESF clause that states that students should have interactions outside of formal teaching regardless of mode, which was questioned in an online environment.

There were two references to things that were missing in the HESF or that needed addressing:

- concern whether the student experience and wellbeing issues were adequately captured in the HESF (or regulatory frameworks); and
- a suggestion that the HESF should describe in more detail the different modes and institutional requirements to support students and set expectations for students, and what their experience should entail in the different modes of delivery.

It was also suggested to continue to monitor the currency and fitness for purpose of the HESF and other regulatory instruments.

1. Aim and structure of consultations

The aim of the stakeholder consultations was to confirm, evaluate, and extend on, the issues identified through the preceding components of the Modes of Delivery project. This entire project was funded by the Department. The earlier phases of the project involved a scoping review, trends analysis of higher education enrolment and QILT data and a policy translation component.

1.1 Modes of delivery and student learning and experience

This round of the consultation explored stakeholders' views on the relationship between modes of delivery and student learning, assessment and the broader student experience. Relevant stakeholders in this round were experts in (online) teaching and learning, professionals and managers of student services, student experience and retention units as well as representatives of practitioner and student associations including such professionals and representatives who are specialised in particular student groups (e.g. undergraduate, postgraduate, International, Aboriginal and Torres Strait Islander, regional or remote, low socio-economic status). In addition, researchers with an intimate understanding of the student experience (e.g. from the National Centre for Student Equity in Higher Education) were targeted for this round of the consultations.

1.2 Modes of delivery and professional graduate attributes

This round of the consultations focused on the relationship between modes of delivery and broader student graduate attributes. These attributes included non-academic attributes and professional accreditation demands. Relevant stakeholders for this round were representatives of professional associations including those with responsibility for professional accreditations.

1.3 Modes of delivery and the higher education sector

This round of the consultations explored views on the relationship between different delivery modes and operations in the higher education sector. The round involved higher level HEP managers, representatives of HEP networks/associations covering the different types of providers, and individual higher education policy experts.

2. Recruitment of stakeholders

The project team identified a range of organisations in relation to the above three rounds of consultation. An effort was made to have approximately 15 organisations in a consultation round. Possible stakeholders within each of these organisations were then identified by the project team in consultation with the Department. This list of stakeholders was used to filter out the intended stakeholders to be recruited to take part in the consultations. In some cases, more than one representative from an organisation was selected because the individuals within had different and specialist expertise in areas of relevance. From these activities, a list of 90 relevant stakeholders was created.

On Tuesday, 3 May 2022, email messages were sent out to the selected stakeholders inviting them to take part in the consultations. The email stated the background to and purpose of the consultations and the different formats (e.g., online form, phone, zoom) to undertake this consultation. A participant information sheet was attached to the email, which contained more detail about the project. The email encouraged stakeholders to nominate another person if they were unavailable or thought another person in their organisation should be included.

Thirty-eight stakeholders responded to this email, the majority of which were agreeing to participate or providing a suitable nominee in their place. An email to remind stakeholders who had not responded was sent after 10 days. After the follow up email, a total of 47 stakeholders/organisations expressed an interest in participating.

3. Process of consultations

Stakeholders who confirmed their willingness to participate were sent an email on 20 May 2022 that contained a link to an online consultation form. The form was specific to the round in which the stakeholder was invited. The email also had the consultation form attached for stakeholders to be able to view the questions prior to completing the online form. In two cases the same stakeholder was invited to two of the consultation rounds, in which case the email contained two attachments and two links to the relevant online forms.

The consultation form contained 6 questions for rounds 1 and 2, and 7 questions for round 3. The content and sequence of the questions was similar across the three rounds with the question wording slightly tailored to prompt stakeholders in their identified areas of expertise (see Table 1). The questions were deliberately designed to be open-ended without with our preliminary findings to maximise capturing authentic stakeholder views of issues in the directions prompted by the questions. They were preceded by a statement that encouraged stakeholders to consider their experience in a longer-term timeframe that included knowledge and experiences that preceded as well as included the pandemic years.

Stakeholders were sent a reminder email on 3 June 2022 and the consultations were closed on 10 June 2022.

The majority of participating stakeholders used the online form. Three stakeholders returned completed physical copies of the consultation form that had been attached to the invitation email, and three stakeholders requested to be interviewed on the phone or via video link. In those cases the interviews were conducted by two project staff, with one staff member undertaking the interviewing following the question sequence according to the relevant consultation form (see Table 1) and the other staff member taking notes.

Table 1: Questions in the three rounds of consultations

Round 1: Student learning and experience	Round 2: professional graduate attributes	Round 3: Higher education sector
Q1. What advantages do online or mixed-mode delivery offer over face-to-face delivery for students' learning and/or the student experience?	Q.1 What advantages do online or mixed-mode delivery offer over face-to-face delivery in developing employability and professional attributes and skills of students and graduates?	Q.1 What advantages do online or mixed-mode delivery offer over face-to-face studies for higher education institutions and the Australian higher education sector?
Q2. What are the main challenges of online or mixed-mode delivery for students' learning, their experiences, and their chances of succeeding?	Q2. What are the main challenges of online or mixed-mode delivery for developing employability and professional attributes and skills of students and graduates?	Q2. What are the main institutional challenges for successful implementation of online or mixed-modes?
Q3. How do online assessments enhance or reduce the fairness, integrity and effectiveness of assessing learning outcomes?	Q.3 How do online or mixed-mode delivery enhance or reduce professional learning experiences (e.g. placements, work integrated learning)?	
Q4. Are there any issues that constitute significant risks for the student experience, the quality or integrity of higher education linked to mode of delivery that need to be addressed in the higher education sector?	Q4. Are there any issues that constitute significant risks for developing employability or professional attributes and skills when students study in online or mixed-mode that need to be addressed in the higher education sector?	Q3. Are there any issues that constitute significant risks for the quality of higher education linked to mode of delivery that need to be addressed in the higher education sector?
		Q4. Are there any issues that constitute significant risks for the integrity of higher education linked to mode of delivery that need to be addressed in the higher education sector?
		Q5. Are there any issues that constitute significant risks for the operations of higher education providers or the Australian higher education sector linked to mode of delivery that need to be addressed in the higher education sector?
Q5. Do you have suggestions for addressing the issues and risks you identified above? Are there learnings (including from the literature and from other countries) that can be applied in solutions?	Q5. Do you have suggestions for addressing the issues and risks you identified above? Are there learnings (including from the literature and from other countries) that can be applied in solutions?	Q6. Do you have suggestions for addressing the issues and risks you identified above? (For example, do they require revisions to the Higher Education Standards Framework, new leadership or regulatory actions by TEQSA or effective self-regulation or mitigation strategies by higher education providers?)
Q6. Is there anything else you would like to share that is related to the student experience or student success and that is linked to online or mixed-mode delivery?	Q6. Is there anything else you would like to share that is related to attributes of graduates and online or mixed-modes of delivery?	Q7. Is there anything else you would like to share that is related to institutional operations or higher education policy and linked to online or mixed-modes of delivery in higher education?

4. Stakeholder participation

A total of 37 responses were received. This number included individual stakeholders and stakeholders responding on behalf of their organisation who completed the online consultation form, returned attached responses or were interviewed by project staff. Nearly half of those (n=18) were respondents in round 3 that was concerned with higher education institutions and the sector more broadly. Fourteen stakeholders responded in round 1, which focused on student learning and experience and five professional associations participated in round 2, which was concerned with graduate attributes and professional requirements.

Table 2: Stakeholder participation

Consultation rounds	Responses
Round 1 – Student learning and experience	14[a]
Round 2 – Professional graduate attributes	5
Round 3 – Higher education sector	18[a]
Total	**37**

[a] One stakeholder completed the online forms for rounds 1 and 3.

4.1 Reporting of stakeholder views

To retain the richness and variety of perspectives, stakeholders' feedback is presented in some detail with only a small degree of paraphrasing to facilitate easier reading. To maximise transparency, it is initially presented for each of the three rounds and each question separately before it is summarised across the three rounds in the last section.

5. Stakeholder views: Delivery modes and student learning and experience

5.1 Potential advantages of online and/or mixed delivery

The 14 stakeholders who participated in round 1 of the consultation were first asked about the potential advantages of online and mixed-mode deliveries. Without exception, all participating stakeholders made reference to student flexibility when considering the benefits of online delivery. This concerned *locational flexibility* that allowed students to study in various places saving travel time and associated costs, as well as *temporal flexibility* that allowed students to organise their learning engagement and planning around other commitments. Both types of flexibilities were particularly seen as chances for students from low SES and regional/remote backgrounds, students with disability, and students with caring, employment and/or other commitments to participate in higher education studies. Two stakeholders applied a similar argument to students who were sick or in isolation in the context of the pandemic: online delivery would allow students in these situations to participate in higher education studies, and staff in such situations could still deliver higher education. One stakeholder noted that online delivery generally facilitated that immunocompromised people could safely participate in higher education studies, which could be particularly relevant during a pandemic.

Another common potential advantage raised by stakeholders was that students had better opportunities to effectively review online lectures and tutorials if these were recorded. One stakeholder suggested that online delivery can increase anonymity which may reduce social anxieties for some students. Somewhat linked to that, another stakeholder noted that students can learn without perceiving judgement.

The potential anonymity, as well as temporal advantage, appear particularly linked to asynchronous delivery. However, one stakeholder in round 1 noted the potential of online delivery for a more diverse range of students to interact with another. This is presumably is linked to synchronous online delivery.

One stakeholder observed that the sudden switch to online deliveries during the pandemic may have developed more self-direction, time management and problem-solving skills and attitudes among their students. For instance, students may have had to anticipate and solve technical problems, and plan around times for accessing online materials. Another stakeholder saw a better chance of providing and receiving the same communications when they are provided online to all students.

While most of the 14 stakeholders focused their responses to this question solely on the students, some also pointed out potential advantages in designing and delivering curriculum and support services. For example, one stakeholder alerted to added flexibilities in designing course segments of varying length, another to the opportunity of designing digitally enabled personalised student experiences, which is likely linked to capturing information about student (online) activities, needs and preferences in such environment. Related to capturing information on students in online delivery processes, another stakeholder raised the possibility of providing more opportunities for applying learning analytics and informing timely student supports or teaching adjustments.

Responses to the question mainly considered potential advantages of online delivery over face-to-face delivery. However, most of the participating teaching and learning experts already qualified their responses here by making the potential advantages they expressed conditional on the quality of online delivery.

5.2 Main challenges of online or mixed-mode delivery

Participants were then asked about the main challenges of online or mixed-mode delivery for students' learning and experiences. Almost all participating teaching and learning experts made statements to the effect that carefully designing and implementing online delivery would take time, planning and resources. Challenges in this process were seen in:

- addressing varying levels of general digital literacies among students and staff;
- addressing variations in staff capabilities in, and staff dispositions towards, online learning and teaching (among both, continuing and sessional staff), and, relatedly, providing training and ongoing support for staff (e.g. educational technologists working with academics);
- defining a rational basis for assessing/calculating the online workload allocation for staff;
- addressing variations in student capabilities in relation to online learning (including levels of self-direction, which was seen by some as especially problematic for first year students and school leavers in asynchronous study), and, relatedly, providing relevant and timely student academic supports;
- defining a rational basis for assessing/calculating the online workload for students;
- providing sufficient access to relevant tools and spaces, and addressing potential inequities as a result of unequal access to relevant technology, software and internet connectivity but also physical study spaces when learning off campus;
- ensuring student interactions with staff (academics, support) and other students to generate student and learning engagement, reduce student isolation and generate informal support networks, and a sense of academic and social belonging;
- developing mental health and wellbeing for students and staff across different modes;
- addressing the development of more generic skills, such as public speaking and face-to-face interviewing;
- addressing difficulties with developing specific professional skills that traditionally relied on proximity to people, animals or physical materials and tools (e.g., such as in physical examination in medical studies);

Some stakeholders expressed the view that discipline-specific skills of such nature cannot be sufficiently developed in online mode. Others expressed that the transfer of content to online formats is more problematic for some disciplines than for others.

In response to the first question, asynchronous study was seen in the context of opportunities for widening higher education participation, as detailed above. In response to the second question, asynchronous study emerged as particularly associated with challenges for the delivery of quality education. This was seen as a result of possibly reducing timely interactions between students and staff (e.g. to seek immediate clarifications and facilitate dialogical learning) and requiring higher levels of self-direction from students. This was seen as challenging for the students who would have different capacity for self-directed learning.

A few stakeholders also perceived broader institutional and sector-wide underlying factors (beyond staff capabilities and support services) as 'main challenges', including:

- a lack of sector-wide investment in Learning and Technology enhancement and innovation;
- a lack of whole-of-institution approaches leading to a lack of coherence and a fragmented student experience;
- ongoing issues with (joined up) enterprise architecture, IT governance, oversight, planning and investment, and an underappreciation of IT risk management;
- insufficient institutional technologies/infrastructures; and
- a lack of institutional capacity and capability for data intelligence and learning analytics to support iterative improvement and study period support provision.

In this context, it was noted that universities will likely re-use asynchronous lectures resulting in poor learning engagement as a means to cut staff.

Some participants also reported their own impressions from the pandemic, for example, that some students perceived less academic support available and reported getting less from zoom-based tutorials and group work during the pandemic, or that the switch to emergency online learning may have lowered the motivation of initially pro-active and enthusiastic learners who felt constrained by the new parameters within which active learning could take place. It was further noted that Open University students have traditionally reported lacking access to support and services.

One stakeholder gave an example of a course in Law that was offered at a university in online and face-to-face streams where, due to some online asynchronous implementation features, these two streams led to different learning experiences with online students not receiving the same opportunities to discuss and learn from their peers as face-to-face students.

5.3 Online assessments as enhancing or reducing the fairness, integrity and effectiveness of assessment

Stakeholders were next prompted for their views on whether and how online assessments could enhance or reduce the fairness, integrity and effectiveness of assessing learning outcomes.

Some of the participating learning specialists and student representative organisations gave responses to this question, which mirrored some of the responses given to the first two questions. On the one hand, they saw that online assessments have the potential to enhance fairness for students who are further distanced or for those with other commitments provided they allow for spatial and temporal flexibility (i.e. can be undertaken at various times). On the other hand, the dependence on functional hard and software, networks, and appropriate study spaces could reduce fairness for materially less privileged students. The possibility of reduced fairness was also noted for some performance-based assessments and for some students who may struggle to translate their work or learnings in an online forum.

As was similarly noted for online teaching, some teaching and learning specialists thought that online assessment can enrich assessment by increasing the repertoire of assessment methods to address a greater range of learning outcomes. It was further noted that online assessment is not as effective as on-location assessment when access to plants or people are needed.

One educator suggested that online assessment can reduce the effectiveness of assessment by reducing the capacity for the student to powerfully present/deliver an assessment (e.g. lacking non-verbal cues).

There were various views on the issue of cheating in online assessments. Some thought cheating or the identity of the student are always and equally an issue regardless of the delivery mode. Some feedback

suggested that technologies offer better ways for making it harder to cheat and to disincentivise cheating. While online assessments were seen by some as allowing more integrity checks (including the easier application of plagiarism identification tools), it was also seen that those could compromise student privacy or could be perceived by students as invasive. This was expressed by one stakeholder as “the vexed and complex issue of academic integrity and proctoring”.

Two participating stakeholders noted the possibility of increased stress when relevant IT systems and technologies fail or create response lags. Another stakeholder noted that assessment and feedback literacy for staff and students is an ongoing issue in the sector, which was exacerbated in the online environment.

One teaching and learning specialist noted sector-wide issues/shortcomings concerning equitable and inclusive assessment design and administration, engaging students in assessment experiences and expectations, and applying effective evidence-based processes across the institutions. The efficient and effective design of multiple-choice questions was also seen as an issue across the sector.

Some of the responses were generally reflecting on improving the effectiveness of assessments (regardless of the mode they were undertaken in), e.g. by reducing the role and weight given to exams with one stakeholder calling for methods that more personalise assessment and make them more real-time and interactive in the online environment. Student representative organisations were particularly critical of (online) exams and expressed a preference for take-home, open-book assessments arguing that the latter encourage deeper thought and critical thinking rather than memorisation and regurgitation.

5.4 Significant risks for the student experience, the quality or integrity of higher education

Stakeholders were then asked whether there were any issues that constituted significant risks for the student experience, the quality or integrity of higher education linked to mode of delivery, that needed to be addressed in the higher education sector. Two stakeholders expressed that there were no significant risks provided the deliveries were well designed and delivered. More stakeholders saw that a significant risk was that the latter would not materialise. This believed that online and mixed-mode designs and deliveries would be seen as cheap options that can be ‘tacked on’ to the conventional campus model without thorough redesign.

Other feedback reflected and repeated the perceived issues and factors that had already been identified under the ‘main challenges’, relating to:

- gaining professional skills (e.g. physical examination skills and associated confidence for medical students);
- student inequities;
- connecting students in learning and socially developing students’ sense of belonging (with associated implications for student retention);
- academic integrity;
- large variations in educator capabilities or ensuring these capabilities across the sector;
- significant underinvestment in Learning and Teaching and associated Research and Development starting with the closure of the Office for Learning and Teaching in 2016 impacting the sector’s capacity to assure quality of education with risks for Australia's international reputation;
- systemic and sustained underinvestment in institutional IT infrastructure and enterprise architecture;
- lacking data intelligence capabilities;
- general reductions in higher education funding that can lead to shifting funding away from teaching to research;
- outdated approaches to accreditation by some disciplines (face-to-face contact, min hrs taught);
- under-developed notion of students as partners for designing modes across student life stages; and
- creating adequate policy for ensuring safe online environments.

Several other comments were raised in relation to perceived risks. One stakeholder remarked that the variability of the student experience is increasing across institutions, disciplines, but also modes, and

between domestic and international students, and between onshore and off-shore international students, and that this violates the equivalence principle enshrined in the HESF. It was also noted that Indigenous students benefit from a sense of community on campus, including interactions with Indigenous academic staff and some cultural wraparound experience. A student representative organisation noted that the utilisation of tests and exams is often harsh and crude and constitutes risks for the quality and integrity of higher education. Another student representative organisation thought there was potential that a focus on online learning "will further degrade campus life and a thriving academic community". They also pointed out that learning, academic and social opportunities occur at various levels (on campus) that include interactions and experiences outside the classroom.

5.5 Suggestions for addressing identified risks

Stakeholders were then prompted to provide suggestions including learnings from elsewhere that could address the risks they had identified. Much of the feedback was largely the logical reverse of the identified issues that constituted risks. A prominent theme here was that attention must be paid to appropriate design and delivery of online education (courses and assessments), using best practices as identified from research. This came with added emphasis that this should be undertaken much more carefully "than is typically to be found in traditional campus-based institutions". Quality online teaching was seen as entailing pedagogies that facilitate communication and connection among students as part of learning activities.

Other suggestions included:

- a focus on authentic, collaborative and active forms of assessment;
- deeper and more useful evaluative processes that arise from simple student surveys;
- relevant support for underprivileged students to ensure they have relevant technologies and network connections (e.g. scholarships for hardware or subscriptions to internet providers);
- additional academic support (especially for equity students);
- ensuring online literacies for staff and students;
- lifting educator capability (e.g. facilitated by curation of national and international best practice materials at levels relevant for busy academics);
- the provision of suitable support services for staff, including those who operate in dual mode, and associated investments (e.g., in learning designers)
- ensuring in-person teaching continues for teaching physical examination skills to medical students;
- investment in Learning and Teaching and Research and Development for student experience and assessment enhancement;
- ensuring sufficient institutional infrastructures and logistics;
- anti-racism and cultural safety training for all teaching and tutoring staff with respect to in person and online delivery;
- generally reviewing and amending assessment processes; and
- ongoing monitoring of best practice in other countries (e.g. Singapore and Malaysia).

A student representative organisation suggested that every course should be available in face-to-face and online format. This organisation also suggested that students should be encouraged to attend face-to-face but that every student should also be given the choice to attend online.

One stakeholder suggested the HESF could provide more detail about different modes. This stakeholder discussed how the HESF could detail the associated institutional requirements to support students and set expectations for students with different modes of delivery, and what the student experience should entail.

There was also mention that there was considerable experience by some universities or organisations that could that could inform successful designs and implementation. Stakeholders specially mentioned universities in the UK and Canada who specialise in distance education, or work by NCSEHE, DEAKIN or in Australia.

6. Stakeholder views: Delivery modes and graduate attributes/professional requirements

6.1 Potential advantages of online and/or mixed delivery

The five participating stakeholders in this round were firstly asked about the potential advantages of online and mixed delivery modes in developing employability and professional attributes and skills of students and graduates.

The possible advantages of online learning most commonly mentioned by stakeholders focused on aspects of temporal and locational flexibility. This concerned locational flexibility that allowed:

- students and staff to save time on travel and advantageous for students in rural and remote settings;
- staff to offer more timely support to geographically dispersed students, and
- students to work part time, or to upskill or retrain when working.

Some stakeholders indicated that the potential advantages were conditional on whether the online learning was synchronous or asynchronous or a hybrid model. One stakeholder saw different advantages depending on the delivery method, and contingent on the quality of factors such as internet speed and learning tools. When used well, it was seen that synchronous learning enabled more flexible outreach to students living in remote areas or with other responsibilities. The flexible schedule of asynchronous learning was appropriate for delivery of some aspects of theory or less interactive activities.

One stakeholder argued that while mixed-mode delivery offered the best of both worlds and online delivery was efficient, particular degrees still needed group work experiences in face-to-face sections of the course.

The main potential benefit of online learning related to increased flexibility, but other benefits included:

- increased chances for enhancing diversity and equity of the student population, and
- an opportunity for students to develop skills around technology.

6.2 Main challenges of online or mixed-mode delivery

Participants were then asked about the main challenges of online or mixed-mode delivery for developing employability and professional attributes and skills of students and graduates. As was the case for round 1, the flexibility it provides to the students was seen as an appealing aspect of asynchronous learning. However, all stakeholders viewed asynchronous online learning with concern when considering the challenges for developing effective professional skills, including both hard and soft skills. This included not having the ability to practice skills (counselling skills, clinical skills, listening and observation skills, therapist qualities) or observe or support active participation or ask questions. Synchronous online learning, at a minimum, was seen as necessary (mixed-mode delivery will assist with this) if not face-to-face.

Other challenges included:

- the relevant infrastructure;
- ensuring students could access technology and receive IT support outside of business hours;
- varying levels of language, literacy, numeracy and digital skills that students need to use online or mixed-mode delivery, and
- students needing internal motivation and accountability to succeed in self-directed learning in an online environment.

6.3 Online and/or mixed-mode delivery as enhancing or reducing professional learning experiences

Stakeholders were next prompted for their views on how online or mixed-mode delivery enhance or reduce professional learning experiences (e.g., placements, work integrated learning).

Online delivery was recognised as beneficial for developing student knowledge in their academic discipline. However, students would still need in-person interaction for building their professional learning experience, and this could not happen if all was delivered online. Further, some qualifications still required a minimum number of supervised professional experience days to be undertaken. This was considered very important for a practice profession, for example, developing a critical skill like emotional intelligence or understanding relationship dynamics (in the context of becoming a counsellor).

Stakeholders saw value in simulation-based experiences such as telehealth. One stakeholder argued that online may be used to complement face-to-face learning rather than as a substitute for it.

6.4 Significant risks for developing employability or professional attributes and skills

Stakeholders were then asked whether there were any issues that constituted significant risks for developing employability, professional attributes or skills for students with online or mixed-mode delivery that needed to be addressed in the higher education sector.

Stakeholders identified what can and can't be effectively taught/learned online, which partially reflected their responses to the preceding question. The following were seen as risks with online delivery for developing employability, professional attributes or skills:

- a lack of or undeveloped relational skills, emotional intelligence and ability to effectively respond in the immediacy of interaction with a client;
- students don't use and develop competencies and teachers can't collect evidence of student competence (observation of skills and interaction with patients);
- students (in Architecture) can misunderstand 3D modelling basics of scale and relationships when they model only online, and
- communication skills.

Other issues were also raised, including:

- that a degree program taught fully online may not be accredited;
- challenges getting to know individual students and determining their learning capabilities and needs, and
- challenges determining the authenticity of a student's work.

6.5 Suggestions for addressing identified risks

Stakeholders were then prompted to provide suggestions, including learnings from elsewhere, that could address the risks they had identified. The majority of feedback was the logical reverse of the identified issues that constituted risks, including:

- ensuring any necessary face-to-face teaching is not reduced or replaced by online learning;
- getting institutions to provide evidence to accrediting bodies that online or mixed-mode delivery satisfies set standards;
- keeping student cohort numbers reasonable;
- ensuring sufficient support staff to groups to establish bonds;
- determining student capacity and abilities, and providing relevant support for students to ensure they stay engaged in the program;
- providing platforms for students in online study to connect with each other outside the online classroom;
- investing in learning and teaching, as well as research and development for student experience (e.g., regular student experience surveys), and
- researching employers' experiences with graduates from online courses.

7. Stakeholder views: Delivery modes and the higher education sector

7.1 Potential advantages of online and/or mixed-mode delivery

Stakeholders were first asked about the potential advantages of online and mixed-mode delivery for higher education institutions or the broader higher education sector. Without exception, all 18 participating stakeholders in this round made reference to various aspects of student flexibility when considering the benefits of online delivery. As was the case in round 1, this concerned locational flexibility that allowed students to save travel time and associated costs as well as temporal flexibility that allowed students to organise their learning engagement and planning around other commitments.

Reflecting the characteristics of stakeholders in this round and the wording of the question, potential benefits that related to increased student flexibilities were commonly expressed in terms of 'reach', widening markets, and responding to student preferences. However, stakeholders in this round also saw chances for increasing diversity and equity of the student population, and to cater for different learning styles.

Two stakeholders also expressed an operational advantage of institutions having better opportunities to recruit and involve experts from around the country or the world in the delivery of higher education studies without the need for their on-campus attendance. Flexibility in designing and delivering teaching operations was also seen as a potential advantage. One stakeholder saw cost efficiencies when comparing costs of an online platform against costs of face-to-face infrastructure (excluding costs for course design and delivery).

There were also views that online and mixed-mode delivery could open opportunities for more interactive teaching and learning while tracking students' learning progress through parameters of their online learning activities. Benefits of undertaking online and mixed delivery were also seen in developing associated capabilities in staff and students.

7.2 Main challenges for successful implementation of online or mixed-mode delivery

Participants were then asked what they saw as the main challenges for implementing online or mixed-mode delivery successfully. Some stakeholders made the point that quality online delivery was quite different from quality face-to-face delivery requiring different operational models, staff capabilities and infrastructure requirements as well as pedagogical approaches. Some participants emphasised the costs associated with quality online and mixed-mode delivery, with some hinting that these costs are higher than those for face-to-face delivery and/or higher than commonly seen in the sector.

Challenges expressed by the participating higher education institution managers and higher education experts were similarly articulated to those of the teaching and learning experts, and student representative organisations in round 1. However, in this round there was more emphasis on ensuring operational requirements for online and mixed-mode delivery in this round. They were expressed in terms of:

- varying and insufficient staff (e.g. educator) capabilities and experience;
- varying staff dispositions toward online learning and teaching;
- ongoing training and support for staff;
- varying student capabilities in relation to online learning;
- providing relevant and timely student supports (seen by some as more difficult compared to on campus services);
- building and providing appropriate technological infrastructures (e.g. that work reliably including internet connections and also in remote areas);
- ensuring quality and engaging online content;
- achieving a balance between teacher-centred and team-based design and delivery;
- developing and applying advanced instructional design skills in the sector;

- providing specific technologies for specific tasks (e.g. coderunner, slacks);
- timetabling in hybrid deliveries as on-campus components still needed fixed dates;
- societal perceptions (including among parents) that online delivery is second best or has poor quality;
- similar perceptions by accreditors in relation to particular course elements and disciplines;
- integration of international students in local life;
- achieving consistency of staff training across educator capabilities, and
- providing the same level of engagement across all subjects.

Some stakeholders pointed out that challenges of successfully implementing online and mixed-mode deliveries would vary between disciplines (e.g., Business vs Nursing) and course elements (e.g. lecture vs practical experiment) and that some elements (e.g., clinical placements) could not be transferred to online delivery.

One stakeholder saw the attendance requirements for international students as per the National Code of Practice for Providers of Education and Training to Overseas Students as a challenge for successful implementation of online or mixed-mode deliveries. The code prescribes a minimum attendance of 80% of course contact hours.

Another stakeholder pointed out that the HESF requires interactions among students outside of formal teaching space.

7.3 Significant risks for the quality of higher education

Stakeholders were then asked whether there were any issues that constituted significant risks for the quality of higher education linked to mode of delivery that needed to be addressed in the higher education sector.

Most stakeholders saw risks for the quality of higher education and learning that often linked to the expressed main challenges:

- poor quality of, or inadequate access to technical infrastructure or learning resources;
- untrained and/or unmotivated staff;
- inadequate maintenance of learning resources;
- main use of asynchronous learning;
- declining/low intrinsic motivation levels of students or disengaged students who are not connected with other students and/or staff; and
- transitioning into and progressing through higher education studies.

At a more systemic level, one stakeholder nominated developing evidenced-based leadership as a significant issue for successfully designing and implementing flexible learning modes. Evidence-based leadership related to “professional learning of teaching staff (professional development to support design and delivery of multimodal curricula) and supporting students (literacy to support engagement with multimodal learning and making informed choices how to learn best)”.

Risks to the sector were also seen as lying in perceptions about the quality of higher education studies. This included perceptions among employers or those that influence the international reputation of Australia’s higher education system.

While risks were commonly seen by higher education experts and managers there was also the sentiment that online or mixed-mode delivery do not compromise quality when done well, and some of the consulted stakeholders listed some conditions for successful delivery:

- teachers who ensure students actively interact;
- thoughtful supports for (off-campus) students and staff (e.g., learning support officers in addition to regular academic and student services and IT support);

- HEPs with strong academic governance and dedicated educator capacity-building;
- course designs that have diverse learners in mind including those with responsibilities and constraints; and
- increases in e-books and open databases.

Some stakeholders also mentioned academic integrity as a risk under this question with one thinking that there is a need for oversighting assessments.

7.4 Significant risks for the integrity of higher education

Stakeholders were then directly asked whether there were any issues that constituted significant risks for the integrity of higher education linked to mode of delivery that needed to be addressed in the higher education sector.

As was expressed by some learning and teaching specialists in round 1 of the consultation, some higher education managers and sector experts thought that academic integrity was a no bigger issue in online or mixed-mode deliveries than face-to-face deliveries. Other stakeholders saw an increased risk of integrity issues with online delivery. Some offered solutions to combatting integrity issues, from generally calling for actively monitoring academic misconduct to addressing the causes of integrity risks by fostering appropriate pastoral relationships with students, especially with school leavers and international students.

There appear to be different opinions on supervising assessments. Some stakeholders saw open book exams as better than remote proctoring while others promoted the use of invigilation software. One stakeholder suggested applying different forms of assessment to ensure the identity of students.

As was the case in round 1, a few stakeholders also made comments that assessment should generally be meaningful and useful, ensuring that students learn from assessment tasks (regardless of mode).

A few stakeholders viewed integrity in a broader way with two seeing a connection between poor quality education and integrity, and one seeing that integrity is always at risk when something is based on IT platforms (with the potential for hacking, stealing, manipulating, data loss).

Another stakeholder reported that sessional staff being required to use their own equipment potentially increases the likelihood for sensitive information being exposed. Finally, there was also concern about how integrity of online delivery is perceived overseas, which could have implications for international student demand and higher education operations.

7.5 Significant risks for the operations of higher education

Stakeholders were then asked whether there were any issues that constituted significant risks for the operations of HEPs or the sector, that were linked to mode of delivery and that needed to be addressed in the higher education sector.

There were various things expressed by stakeholders under this question, some reflecting or linked to issues that had been expressed under previous questions. Some responses were phrased in terms of what needed to be done, including:

- financial investment in infrastructure and capacity-building;
- an operational focus on student success;
- continuous feedback loops involving students and industry;
- support service delivery needs to be calibrated to support greater span of hours to keep up with general shift towards study anywhere anytime (e.g. 24/7 library access and student support);
- focused workforce capability and training;
- greater pastoral care strategies and processes to keep online students engaged and not withdrawing;
- maintaining campus life and activity with a mixed cohort of students;
- adapting to offer social, cultural and recreational aspects of university life to remote students;

- building and maintaining staff relationships with different workload models and employment practices;
- further work to explore varying forms of credentials and the product offer to ensure competitiveness and market relevance; and
- operational adjustments to processes, scheduling etc (although this forms part of all institutions/providers continuous improvement and adapting to change/environmental factors, regardless of delivery modes).

Other feedback was phrased as statements that qualified operational risk:

- compromised student information;
- class sizes may impact the ability of providers/institutions to ensure integrity, e.g. smaller classes enable increased interaction and monitoring of student progress and potential academic misconduct;
- perceptions of lower quality learning outcomes from online delivery; and
- if learning outcomes can be assured online, then it is possible that large technology firms (e.g. Google education, Amazon education, Netflix education) will challenge traditional HEPs.

It was recognised that some of these issues will differ by institution and course, and by the share of activity that is conducted online.

7.6 Suggestions for addressing identified risks

Stakeholders were then asked: *"Do you have suggestions for addressing the issues and risks you identified above? (For example, do they require revisions to the Higher Education Standards Framework, new leadership or regulatory actions by TEQSA or effective self-regulation or mitigation strategies by higher education providers?)".*

As stakeholders were explicitly prompted in relation to the HESF and TEQSA, some responses concerned those two levels. A few responses suggested the HESF was sufficient as it is (e.g. in the way it already included references to different modes of delivery):

> *"The Standards Framework and general regulatory environment seems fit for purpose and largely up to date." However, "Going forward, it will be important to monitor the currency and fitness for purpose of the Standards and other regulatory instruments, to ensure that they remain abreast of developments in technology and the practice of online delivery, along with many other developments in higher education."*

One stakeholder stated there was also some concern whether the student experience and wellbeing issues were adequately captured in the HESF or regulatory frameworks.

One stakeholder noted that TEQSA's Technology Enhanced Learning (TEL) guidance notes provide "very clear advice". However, another stakeholder thought it was unclear how sophisticated TEQSA's risk analysis is, for example, using TCSI data to look for unusual patterns or changes in patterns of subject passes by mode of delivery. Yet another stakeholder called for TEQSA to become more discerning of the online models being used. *"It is NOT acceptable to merely take the classroom model and roll it out online."*

One stakeholder saw that parts of TEQSA were biased towards public universities, and that there were inefficiencies in regulatory processes for providers who deliver VET as well as higher education. There could also be scope for a review of the TEQSA Act.

Another stakeholder thought TEQSA's Integrity Unit can play a useful role in monitoring and supporting universities' responses. This was seen as part of the Unit's wider role to support integrity across the sector regardless of mode of delivery.

Some suggestions directly related to the issues and risks stakeholders had identified earlier, with implications for providers, rather than the HESF or TEQSA. This included:

- building and investing into the ongoing data and evidence base for flexible learning approaches to inform institutional leaders on systems and implementations surrounding student administration, curriculum design, student access to curriculum, assessment, and student and staff capability needs;

- professional development for all teaching staff, and provision of specialist support (e.g. academic developers and learning designers). Training should be tailored to level (e.g. tutor, lecturer, course coordinator) and completion recognised and rewarded; and
- opportunities and support for students to develop capabilities to select courses and modes, and engage with and navigate multimodal curriculum.

There were views that:

- the ability to create significant learning may be needed to be substantiated if education is largely or only provided online;
- this is a leadership and cultural change matter that needs investment by HEPs in equipping their staff;
- effective SEG regulation and strong strategies to support academic development, learning design and student support were needed;
- renewed investment in learning and teaching in higher education would be a welcome strategy. *"The demise of the Office of Learning and Teaching (OLT) has come at a significant cost to the profile of quality teaching and the opportunities to engage in robust scholarship across institutions."*

One stakeholder reiterated the view that academic misconduct requires active invigilation ("unfortunately"). And one stakeholder recommended that the issues that constitute risks for higher education quality, integrity and operations be addressed by evidence of strategic planning, and policy and management frameworks for different and changing:

- Student cohorts (especially disadvantaged students);
- Staff profiles (e.g. fully online staff, new support roles);
- Delivery platforms (e.g. maintenance/upgrade/review schedules);
- Assessment practices (e.g. open book exam policy);
- Pastoral care;
- Campus and student culture; and
- Teaching and innovation culture.

8. Summary

The aim of the stakeholder consultations was to confirm, evaluate and extend on the issues identified through the scoping review, analyses of enrolment and QILT data and the policy translation step.

The consultations were designed and implemented across three rounds that reflected different thematic areas of expertise. One round focused on matters of student learning and the broader student experience, one round on matters of graduate attributes in the context of professional requirements and one round on matters of higher education operations.

8.1 Potential benefits for students

Participating stakeholders across all three rounds of the consultation expressed that advantages of online and mixed-mode deliveries lie in the flexibilities they offer for students. This concerned spatial flexibilities and temporal flexibilities around when and where students study and which could save students travel time, travel costs, and would allow them to organise studies around other responsibilities.

Both types of flexibilities were particularly seen as chances for students from low SES and regional/remote backgrounds, students with disability, caring, employment and/or other commitments, and students who were immunocompromised to participate in higher education studies. In this sense, online and mixed-mode deliveries could contribute to widening participation. An element in students' flexibility in accessing higher

education studies online relates to the variety of programs that are available for students regardless of their location.

A second set of benefits that were expressed by some stakeholders were associated with the perceived nature of online delivery. Some argued that students would have better opportunities to effectively review online lectures and tutorials if these were recorded (presumably there would be less need for relying on their own notes), and it was pointed out that anonymity in learning contexts (presumably related to asynchronous delivery) may allow students to learn without perceiving judgement by others and may reduce anxieties for some. Offering different deliveries to students could cater for different learning preferences and facilitate that students learned in their preferred learning style.

8.2 Potential benefits for HEPs

Some stakeholders pointed out that online and mixed-mode delivery also offered flexibilities for staff who could also work around other commitments or circumstances, such as caring, sickness and isolation. It was further pointed out that online delivery also made it easier to recruit and involve experts who are not on location when delivering courses. A few stakeholders also saw opportunities for having more flexibilities when designing courses and saw opportunities for enhancing the quality of courses in online delivery. The latter included the possibility that learning could be made more interactive, presumably as part of synchronous delivery. There could also be economies of scale when the same online platform is used across different courses and disciplines.

The perceived student flexibilities outlined above, in conjunction with the operational flexibilities of HEPs, would translate into commercial opportunities for the latter by widening their market/reach beyond traditional catchment areas and national or international source regions. This may entail offering a larger range of programs from smaller campuses through online deliveries as these become viable options.

Another theme that emerged in rounds 1 and 3 was that online deliveries would, as a result of capturing student activities in online systems, improve opportunities of HEPs to more effectively monitor student progress and inform timely interventions by applying learning analytics.

8.3 Challenges and risks

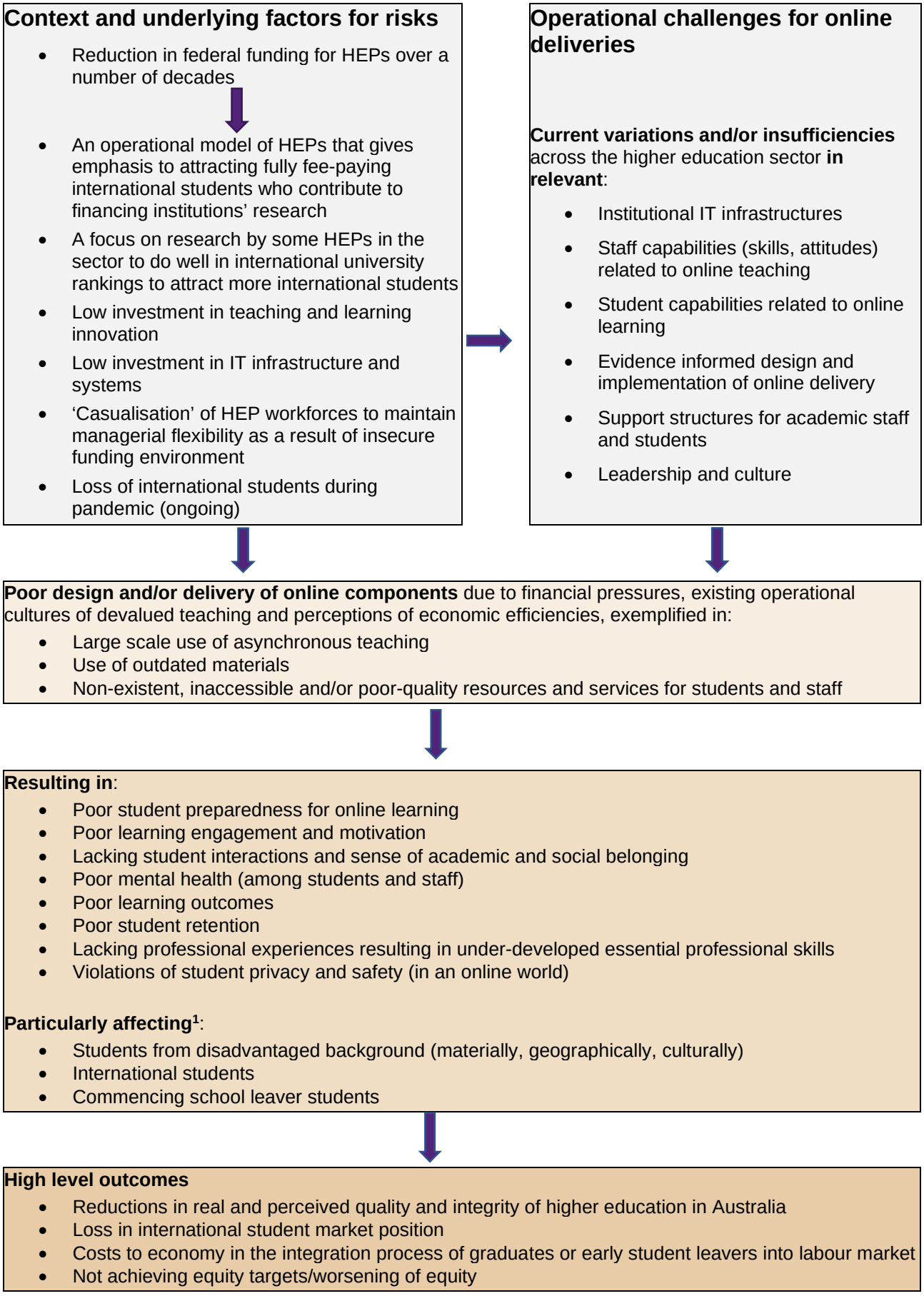
When stakeholders in the different rounds were asked about the potential benefits of online and mixed-modes of delivery it prompted them to consider benefits in theory (“potential”) and many stakeholders appeared to respond in the theoretical, which was indicated by a number of them qualifying that the benefits would be conditional on designing and implementing online and mixed-mode deliveries well.

When the same stakeholders were asked about the main challenges and risks they perceived, whether these related to the student experience, or the quality and integrity of higher education, their responses may have been more rooted in their empirical experience.

There were many things that stakeholders across the three rounds nominated under the questions that probed for challenges and risks. These are bundled under different sub-sections below according to the way they were phrased, and are summarised in Figure 1. The figure plots the stakeholder feedback as a risk map that is centered around drivers for, and results of, poor online delivery.

Stakeholders also expressed opportunities for Australian higher education emanating from quality online delivery. Some stakeholders further articulated barriers for quality online delivery in the form of (undeserved) negative reputations of online delivery among parents and professional organisations. While the latter may also be an operational challenge to successful online delivery, current reputational perceptions about online delivery are not considered as drivers for poor online delivery here and excluded from the diagram. They may be addressed by marketing and lobbying more so than affect the design and delivery of online content to students.

Figure 1. Summary of stakeholder perceptions on online delivery risks.



[1] Who all particularly need experiences including associated services that work towards integration into academic life, and local life and culture more broadly.

8.3.1 Aspects of poor online design and delivery

Some responses alluded to aspects of poor online design and delivery that stakeholders either saw as current empirical realities that constitute risks or that they considered as challenges to be overcome. This related to a focus on asynchronous delivery, outdated content of resources, and problems with accessing learning resources, teaching content or support services in a timely and relevant way.

8.3.2 Results of poor online or mixed-mode design and implementation

Other responses alluded to the consequences of poor online design and/or delivery. These concerned:

- lacking interactions between students and other students, and students and staff, as a result of asynchronous delivery with implications for:
    - developing an academic and social sense of belonging and informal support networks; and
    - achieving learning engagement/motivation with implications for students' success and retention (with particular mention of commencing school leaver cohorts);
- lacking graduate skills in areas that are not seen to be developed through online delivery (that have traditionally involved interactions with humans, animals or agricultural and physical environments, such as related to physical examination, clinical, counselling and therapist skills, but also architectural modelling);
- poor integration of international students in local life as a result of asynchronous delivery;
- violations of students' privacy as a result of remote proctoring;
- worsening of student equity due to material requirements for successfully participating in online learning (internet access, relevant and functional technologies and applications, study spaces);
- uncertainties about the identity of the online learner or the authorship of assignments; and
- perceptions of quality and integrity of Australian higher education resulting from perceptions of all of the above, including perceptions of employers and perceptions overseas.

8.3.3 Operational challenges for creating foundations for quality online and mixed-mode deliveries

A third category of feedback related to operational challenges in generating the foundations for successful online and mixed-mode delivery. Stakeholders saw the following as needing to be done to ensure quality deliveries in non- face-to-face modes:

- addressing variations in staff capabilities in, and staff dispositions towards, online delivery, and relatedly, providing training and ongoing support for staff;
- addressing variations in student capabilities in relation to online learning, and relatedly, providing relevant and timely student academic and other supports (e.g. 24/7 library access and student support);
- defining a rational basis for assessing/calculating the online workload allocation for staff;
- defining a rational basis for assessing/calculating the online workload for students;
- providing sufficient access to relevant tools and spaces, and addressing potential inequities as a result of unequal access to relevant technology, software and internet connectivity but also physical study spaces when learning off-campus;
- ensuring student interactions with staff (academics, support) and other students to generate student and learning engagement, reduce student isolation and generate informal support networks and a sense of academic and social belonging;
- developing reliable and safe infrastructures that facilitate online delivery;

- developing and updating an evidence base about all aspects of flexible learning approaches;
- developing mental health and wellbeing for students and staff across different modes;
- addressing the challenges with developing more generic skills, such as public speaking, face-to-face interviewing;
- addressing difficulties with developing specific professional skills that has traditionally relied on proximity to people, animals or physical materials;
- addressing under-developed notions of students as partners for designing modes across student life stages;
- designing whole-of-institution approaches leading to coherent student experiences;
- developing institutional capacity and capability for data intelligence and learning analytics to support iterative improvement of delivery;
- developing adequate policy for ensuring safe online environments;
- dealing with negative perceptions about online learnings in society (e.g. among parents and employers, also internationally);
- dealing with outdated approaches to accreditation that favour face-to-face delivery by some disciplines;

8.3.4 Academic integrity

There were somewhat contradictory perceptions when it came to the risks of online delivery to academic integrity. Some thought academic integrity is no worse an issue in online delivery than it is in on-campus delivery, while others thought that it was. Regardless of that, most stakeholders who commented on academic integrity agreed that it would need ongoing active monitoring.

There were also differing opinions on supervision in assessments with some arguing for the necessity of strong invigilation and others for open-book assessment without proctoring. At times, opinions on assessment were shaped by general considerations of achieving learning and learning outcomes with, particularly student associations, preferring take home assessments over exams.

Some also viewed integrity of higher education as directly linked to quality or in the context of the security of IT infrastructure.

8.4 Perceived drivers for risks

As is evident under the sub-headings above, stakeholders took different perspectives to identifying or stating challenges and risks to students' learning, the student experience or the Australian higher education sector. A few stakeholders saw that the risks for successful online delivery were rooted in longer-term trends in the higher education sector, specifically they perceived:

- significant underinvestment in Learning and Teaching (including technology enhancement) and associated Research and Development starting with the closure of the Office for Learning and Teaching in 2016;
- systemic and sustained underinvestment in institutional IT infrastructure and enterprise architecture;
- general reductions in higher education funding that can lead to shifting funding away from teaching to research (e.g. to cater for HEP ranking methodologies).

In the context of longer-term lacking investments and reduced public higher education funding one possible dynamic was prominently identified as constituting significant risks to the student experience, and the quality and reputation of Australian higher education. This was that cost pressures or desires to cut costs in conjunction with perceptions of online mode as a cheap(er) delivery option could lead HEPs to expand low quality online education that reflects the features outlined under 'Aspects of poor online design and delivery' above. Consistent with this assessment some participants called for renewed investment in teaching and learning and innovation, infrastructures.

8.5 Modes of delivery and HESF

Most stakeholders across the three rounds did not comment on the HESF as part of their feedback. Some stakeholders thought that the HESF was sufficient in its current state and needed no revisions to accommodate shifts in the mode of study. It was seen that even if HESF's standards were not met, it's role of setting the standards was seen as fulfilled.

Stakeholders thought that standards were not met on two occasions. One stakeholder thought that the HESF contained an equivalence principle, which was increasingly not met as there was a perceived general trend of increasing variety in student experiences - across institutions, disciplines, but also modes, and between domestic and international students, and onshore and off-shore international students. Another stakeholder pointed to the HESF clause that states that students should have interactions outside of formal teaching regardless of mode, which presumably was questioned by this stakeholder to take place in an online environment.

There were two references to things that were missing in the HESF or that needed addressing in stakeholders' feedback:

- concern whether the student experience and wellbeing issues were adequately captured in the HESF (or regulatory frameworks); and
- a suggestion that the HESF should describe in more detail the different modes and institutional requirements to support students and set expectations for students, and what their experience should entail in the different modes of delivery.

The latter suggestion may imply that the stakeholder anticipates that the HESF needs to account for (and accept) differences in student experiences that arise from different modes.

Finally, one stakeholder suggested to monitor the currency and fitness for purpose of the HESF and other regulatory instruments, "to ensure that they remain abreast of developments in technology and the practice of online delivery, along with many other developments in higher education."

8.6 Tensions between opportunities and risks

The consultation unearthed various tensions between opportunities and risks of online deliveries:

- On the one hand, flexibilities afforded by online delivery offer chances for widening participation. On the other hand, resource requirements for online learning can have the opposite effect, reducing access to, and successful participation in, higher education studies for people and students from disadvantaged backgrounds.
- On the one hand, asynchronous delivery can maximise student and staff flexibility, and institutional reach. On the other, it increases risks for student engagement, integration and retention, and is widely associated with low quality learning.
- On the one hand, online delivery can enhance teaching and learning by venturing into various virtual realities that would be largely inaccessible in face-to-face formats, by involving globally located experts who could not be involved in face-to-face formats in the delivery of courses, or by adding formative assessment components in an online environment. On the other hand, it cannot (yet) address some learning outcomes that need face-to-face interactions with humans, animals or particular agricultural or physical environments.
- If well designed and implemented, online assessment processes can enhance student learning. However, they can also violate student privacy or be abused via cheating.

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