Report on a Survey of ACS-Accredited Institutions on the Impact of COVID-19 on ICT Higher Education

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Executive Summary:

In July – August 2020 ACS conducted a COVID-19 impact survey of accredited institutions to better understand current challenges and risks for educational delivery and graduate outcomes. The survey findings indicate that:

- ICT schools have all been somewhat impacted by COVID-19 and all have adapted programs to the new circumstances;
- Some have modified course structures, but few have changed curricula or educational outcomes;
- Many have adapted their Work-Integrated Learning (WIL) programs and arrangements but few have had to redesign these;
- There has been widespread change in assessment methods for COVID-19 conditions and there is now a diverse range of approaches;
- There is much variation in the adoption of tools or software to conduct online teaching and assessments and/or to authenticate students, but good support from institutions in providing such tools;
- Some respondents report an increase in problems with plagiarism and inappropriate work sharing; and
- ICT schools would like ACS to facilitate knowledge sharing between institutions and disseminate information on best practices in teaching, assessment and work-integrated learning for pandemic conditions.

These findings are generally consistent with ACS observations from recent accreditation cases and enquiries, other interactions with higher education and anecdotal feedback.

Proposed ACS objectives and actions:

1) **Set clear expectations for accredited institutions to develop & demonstrate COVID-19 strategies:**
   a) Reiterate the messages of the Professions Australia Joint Statement around maintaining learning outcomes, keeping abreast of best practices, keeping records of changes, monitoring effectiveness;
   b) Refer to TEQSA expectations and guidance information.

2) **Promote a commitment of ICT higher education to maintain graduate outcomes standards during COVID-19:**
   a) Communicate a clear expectation to accredited institutions that they are required to take actions to maintain graduate outcomes standards;
   b) Communicate to industry the actions being taken to maintain ICT graduate outcomes during COVID-19.

3) **Continue to exercise flexibility with COVID-19 temporary changes in teaching/learning and assessment:**
   a) Reiterate earlier ACS advice on COVID-19 flexibility;
   b) Provide examples of the range of current ACS accreditation case requests and actions via an update newsletter to accredited institutions.

4) **Be clear to accredited institutions that permanent changes to accredited programs remain subject to pre-COVID requirements:**
   a) Refer to the TEQSA information on permanent change to programs and remind educational institutions to notify ACS of permanent change to accredited programs.

5) **Promote good practices in academic integrity:**
   a) Circulate the ACS COVID-19 impact survey results;
   b) Draw attention to pertinent TEQSA research and information;
   c) Lead online sessions to facilitate exchange of practices and experiences between ICT/IS schools.

Background on ACS Survey of COVID-19 Impact on ICT Higher Education

At the onset of COVID-19, ACS started to receive notifications from higher education institutions regarding program delivery adaptions in response to pandemic circumstances. We also received requests for guidance on standards and clarity on accreditation expectations. We responded with email updates to accredited institutions. In conjunction with other key stakeholders ACS also assisted the Australian Council of Professions (ACoP) in developing a 'Joint Statement of Principles' for professional accreditation during the COVID-19 pandemic. We circulated this document to all ACS-accredited institutions once available.

During first semester in 2020, ICT schools were busy implementing educational delivery adaptation. At the end of first semester we issued a survey aimed at better understanding the nature of changes to accredited programs and ongoing issues arising from the pandemic. Survey findings are now informing ACS actions to maintain standards and provide ongoing support for ICT higher education.

An email containing a link to the survey was circulated to the Head of School or Dean of Faculty of all ACS-accredited institutions on 1 July 2020. Two follow-up emails were sent as reminders for those who were yet to respond. The survey remained open until 15 August 2020.

There were 27 responses (over 53% response rate) representing ICT schools from all types of providers including the Regional Universities Network, Go8, Technology Network and Innovative Research Universities and across most Australian states and territories.

Relevance of COVID-19 and Survey Questions to ACS Accreditation

The COVID-19 pandemic has greatly disrupted higher education delivery through the sudden onset of:
- international travel restrictions, stranding many international students overseas;
- social distancing requirements, ruling out on-campus teaching and assessment, and face-to-face industry interaction; and
- social and economic disruption affecting higher education affordability and access.

Educational institutions have had to adapt to these conditions as a matter of urgency, affecting key attributes of accredited ICT programs with actions such as:
- change to staffing and leadership;
- rapid deployment of online teaching and assessment; and
- adaptation of industry linkage programs.

The ACS Accreditation manual, Volume 2, specifies the criteria required for accreditation. Pertinent clauses include:
  3.1.2 Academic Leadership and Staffing
  3.1.3 Technological Resources for ICT Education
  3.2.1 ICT Program Specification:
  - Criterion C: Coverage of ICT Knowledge (incl teamwork & virtual teams)
  - Criterion E: Integrated and Applied ICT Knowledge (incl industry interaction)
  - Criterion F: Preparation for Professional ICT Practice (incl industry interaction)
  3.2.2 Program Implementation Pathways:
  - Internships and Industry Placements
  - On-Line Education (incl technological resources, management, academic workloads, academic pedagogical knowledge and skill, student capabilities and resources, identity management & academic integrity)

Many accredited programs have by necessity made rapid adaptations to key attributes of accredited programs. This presents risk to educational outcomes and the validity of accreditation.

# Survey findings:

Q's 1 & 2: Identification

Questions 1 and 2 were optional, identifying the institution and faculty/school/department. Only two opted for anonymity and neither of these were outliers in general responses nor raised special concerns.

Q3 *"How has your faculty/School/Department been impacted by COVID-19? (Please tick as many as apply)"*

Responses indicate that most ICT schools have been somewhat impacted by reduced enrolments and freezes on funding. Almost all have been impacted by freezes on recruitment. Many respondents report already seeing an impact from reduced academic staff numbers, but voluntary redundancy offers do not seem to be a key factor at present. There appears to be a small increase in the use of casual teaching and assessment staff. Reduced access to campus facilities is understandably having an impact on most ICT schools.

Survey responses indicate only a minor increase in problems with plagiarism and inappropriate work sharing. This response is notable given that adaptation to remote teaching and assessment might be assumed to be accompanied by an escalation in such problems. This matter is further explored in other survey responses and external reference information and research below.
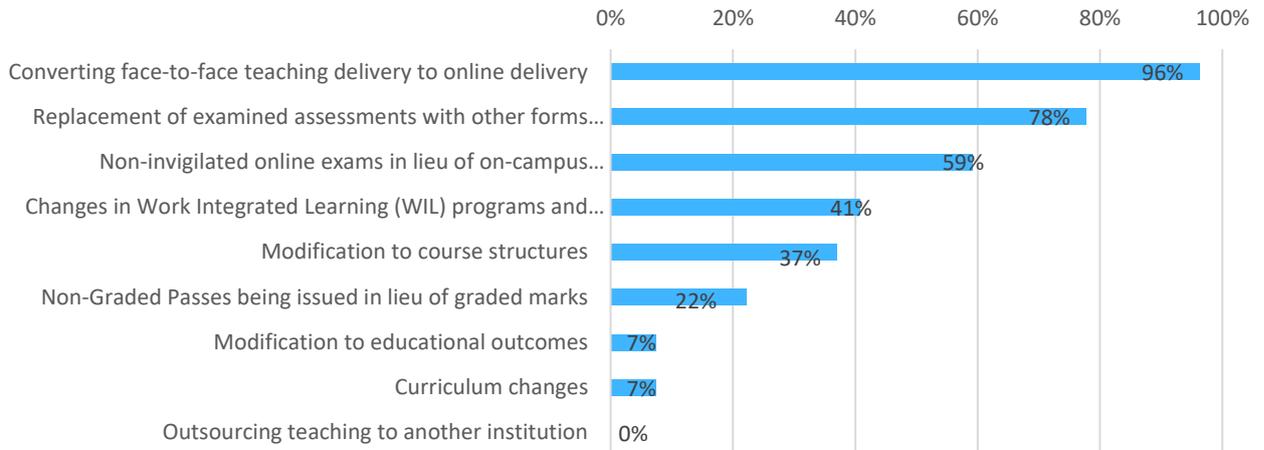
How has your faculty/School/Department been impacted by COVID-19?
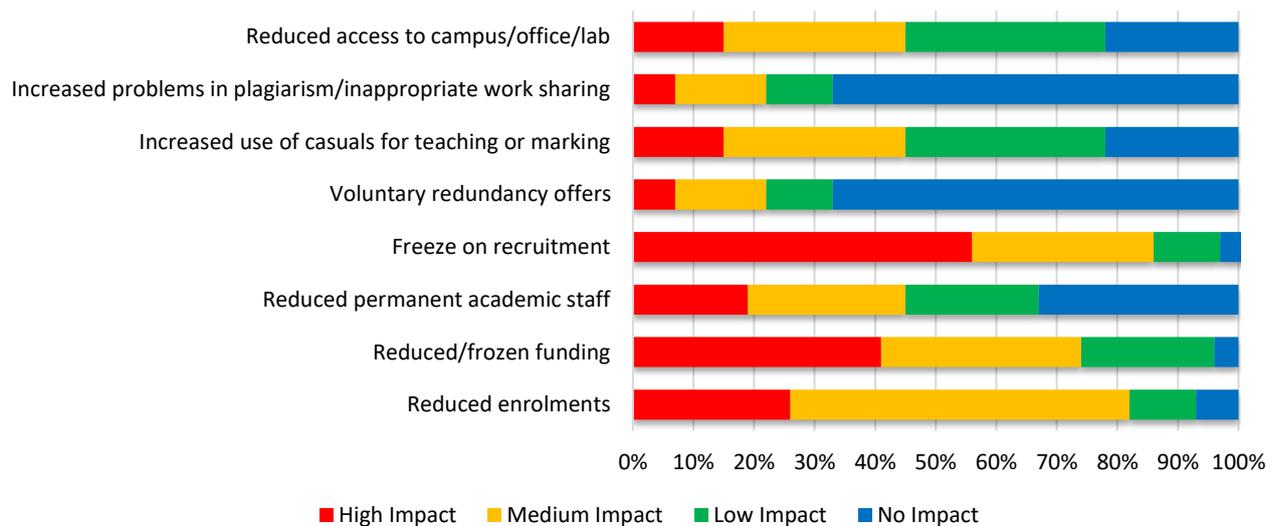
Q4: *"Please indicate the change(s) made/being made in response to COVID-19: (Please tick as many as apply)"*

Responses indicate that some ICT schools have modified course structures, but few have modified curricula or educational outcomes. All but one responding institution have converted face-to-face teaching delivery to online delivery (the outlier having pre-existing online delivery). Almost all have replaced examined assessments with other forms of assessment, and many have introduced non-invigilated online exams in lieu of on-campus invigilated exams. Only a few are issuing non-graded passes in lieu of graded marks. Around half have made changes to Work Integrated Learning (WIL) programs and arrangements.

Changes made in Response to COVID-19

| Category	Value
Converting face-to-face teaching delivery to online delivery	96%
Replacement of examined assessments with other forms…	78%
Non-invigilated online exams in lieu of on-campus…	59%
Changes in Work Integrated Learning (WIL) programs and…	41%
Modification to course structures	37%
Non-Graded Passes being issued in lieu of graded marks	22%
Modification to educational outcomes	7%
Curriculum changes	7%
Outsourcing teaching to another institution	0%

Q's 5 & 6 "*What tools/software are you using to provide remote delivery?*" and "*How would you rate the support to use these tools provided by your institution? (1 = no support, 5 = very supportive)*"

All but one respondent listed multiple software tools. Those most frequently listed included Zoom, MS Teams, Blackboard/Blackboard Collaborate, Slack and Moodle. A couple of responses indicated that these may range from institution-wide tools to tools used by program coordinators or lecturers to topic-specific platforms.

85% of respondents gave a 5-star or 4-star rating for the support from their institution for remote education delivery tools or software. This suggests that there is not a widespread issue to address but attention needed in certain instances.

How would you rate the support to use these tools provided by your institution?

Rating	Value
1 Star Rating	4%
2 Star Rating	4%
3 Star Rating	7%
4 Star Rating	37%
5 Star Rating	48%
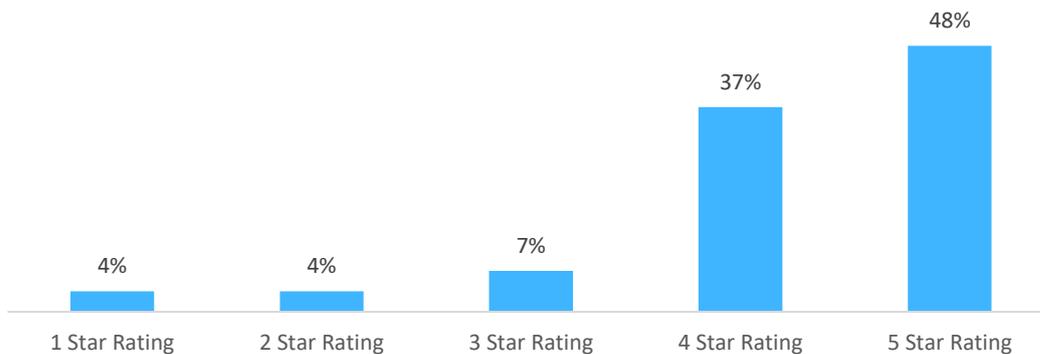
Q7 "*If teaching has been outsourced, please provide details*"

There were no responses to this question, indicating that there has been no such action amongst the respondents.

Q's 8 & 9 "*What tools/software are you using to conduct exams?*" and "*What method of student authentication is used in the examination? (if applicable)*"

Most respondents to Question 8 indicated usage of multiple examination tools. Those most frequently listed included Moodle, Blackboard, Procter-U. Responses indicate that some are conducting on-line invigilated exams while others are using software tools to host online quizzes and take-home exams. Zoom is also used by a few (for video-oral assessment). 27% of respondents indicated that no such tools were in use, stating or implying that campus-based examination is still in place.

A variety of responses were provided to Question 9 (by most respondents to Question 8) on methods of authentication. These included:
- Student identification via unique system login;
- Sighting student faces via live camera and photo ID;
- Oral assessment by live video; and
- Follow-up interview to confirm student knowledge when in doubt.

Q's 10 & 11 "*Has your School created an alternative to existing WIL programs?*" and "*Please provide brief details on the alternative to WIL*"

Question 10 responses indicate that only a few institutions have created an alternative to existing WIL programs. Whilst Question 4 responses indicate that around half of respondents have adapted their WIL programs, only a few seem to have had to adopt new approaches to accommodate COVID-19 conditions.

Those responding "Yes" to Question 10 provided the following responses to Question 11:
- Virtual placements with industry partners;
- Virtual internships with R&D groups in offshore universities; and
- Simulation.

26% of respondents indicated "Not applicable" to Question 10. Some are presumably preparing students for professional practice in ways other than through WIL programs. One has advised that 'partial' would be their appropriate response, since they have had a review but actions are pending reviews of some WIL industry partners.

**Has an alternative been made to existing WIL programs?**

- Yes
- No
- Not applicable

15%

26%

59%
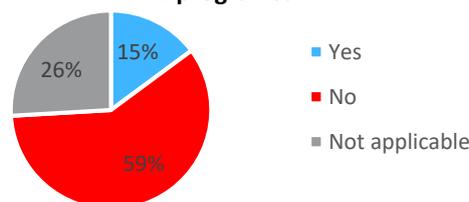
Q's 12 & 13 "*Has any aspect of the accredited course been changed?*" and "*Please provide brief details of the changes*"

Responses indicate that around 25% have changed some aspect of their accredited courses. Those responding "Yes" provided details which all related to:
- Change in educational delivery to online; and
- Change in assessments methods including on-line examinations and take-home assignments in place of on-campus examinations and assessments.

One noted that the learning outcomes are unchanged and that conversion of ICT educational delivery to on-line is relatively straight-forward (in comparison to some other disciplines).

Has any aspect of the accredited course been changed ?
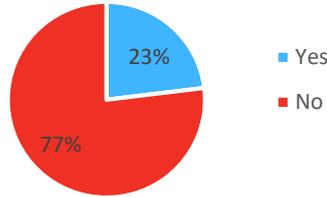
Q14 *"What could ACS do to better support accredited courses and ensure graduates are not unduly disadvantaged in skills development or employability during COVID-19?"*

44% of respondents provided no response, no suggestion, or indicated satisfaction. Responses from others included:

- Best practices/guidelines/resources/information on remote/socially distanced teaching, examinations & industry-based projects;
- Facilitating sharing of experiences between institutions re online delivery;
- Flexibility/clear expectations on examinations/examination material during and after COVID;
- Free/attractive student memberships; online employability skill sessions; networking for students;
- Advocating to universities to maintain capacity for educational design, delivery and adaptation;
- Reassuring industry of learning outcomes being maintained during COVID; and
- Incentives for industry to provide student mentoring and virtual internships.

Q's 15 & 17 *"Is your Institution/School due for an ACS reaccreditation review in 2020?"* and *"Would you like an accreditation compliance conversation with ACS?"*

Question 15 and 17 responses indicate that around 25% of respondents are due for ACS reaccreditation review in 2020. A similar proportion have requested accreditation compliance conversations with ACS; some of these are from the group due for 2020 reaccreditation. ACS is already liaising with those due for accreditation in 2020, leaving only two requiring special follow-up for accreditation compliance conversations possibly connected with COVID-19. These responses together with Question 12 response suggest that the critical attributes of ACS-accredited programs remain largely intact.

Is your Institution due for ACS review in 2020?
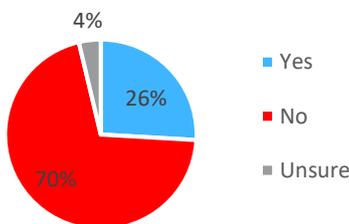
Would you like a conversation with the ACS?
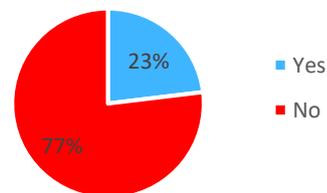
Q16 *"Is there anything you would like to advise ACS of regarding the changes to your Institution/School and/or accredited courses?"*

This question yielded a couple of responses prompting ACS follow-up, but otherwise few surprises. Responses included:
- A planned campus closure;
- A wide-ranging curriculum review;
- A TEQSA re-accreditation application;
- Reference to changes or new programs already submitted to ACS;
- Some on-campus invigilated examinations being changed to non-invigilated online assessments for 2020; and
- Key staff changes (and non-replacement in one case).

External reference information and research

TEQSA have a range of pertinent COVID_19 information and resources including:
- TEQSA COVID-19 resources
- TEQSA Online Delivery - key considerations for providers

TEQSA also provide substantial resources regarding academic integrity that are pre-COVID in origin and still being further developed:
- Academic integrity toolkit
- Good Practice Note: Addressing contract cheating to safeguard academic integrity

Key messages from resource and research material on or linked from the TEQSA website:
- Pre-COVID research indicates that academic integrity is an ongoing & growing issue and needs to be managed with a holistic approach by the institution;
- All assessment methods are susceptible to compromise, but some methods are more susceptible that others; and
- Academic integrity can't be managed just by addressing assessment methods.

These TEQSA infographics summarise the point:
- Academic integrity and the Higher Education Standards Framework
- Academic integrity and decision making: an integrated approach

Conclusions

Survey responses indicate that most ICT schools are being somewhat impacted by enrolment decline, and constraints on funding, resources and staffing arising from COVID-19. Some have modified course structures, but few have changed curricula or educational outcomes.

There has been universal adaptation of on-campus educational delivery to online delivery, and widespread change in assessment methods including non-invigilated online exams in lieu of on-campus invigilated exams. Respondents nevertheless report only a minor increase in problems with plagiarism and inappropriate work sharing.

Many have made changes to Work Integrated Learning (WIL) programs and arrangements. Many have adapted their WIL programs (mainly with online internships), but only a few seem to have had to adopt new approaches to accommodate COVID-19 conditions.

A wide variety of tools or software was reported to be in use for remote education delivery, both institution-provided and adopted at program delivery level. Respondents reported variable levels of support from institutions in providing such tools.

Most but not all respondents had tools or software in place to conduct online examination or assessment and/or to authenticate students. A wide variety of solutions and approaches were reported and this was a particular area of request for guidance and information-sharing.

Many respondents had no suggestions for how ACS could provide better support, but responses from others included:
- Best practices/guidelines/resources/information on remote/socially distanced teaching, examinations & industry-based projects;
- Facilitating sharing of experiences between institutions re online delivery;
- Flexibility/clear expectations on examinations/examination material during and after COVID;
- Free/attractive student memberships; online employability skill sessions; networking for students;
- Highlighting the need to maintain capacity for educational design, delivery and adaptation;
- Informing industry of how learning outcomes are being maintained during COVID; and
- Encouragement for industry to provide student mentoring and virtual internships.

Whilst we cannot attest that pre-COVID assessments for accredited programs were immune from academic integrity issues, it seems inevitable that COVID-19 adaptation involves a shift towards assessment methods that are more susceptible to compromise. It is not for ACS to prescribe or prohibit assessment methodologies and we don't have accreditation criteria addressing assessment methods per se but we have an obligation to address risk and consider whether learning outcomes accrue to all graduates.

There is opportunity to leverage off the work of TEQSA and others around academic integrity. TEQSA seem to be:
a) Facilitating good practice research and information around academic integrity;
b) Expecting institutions to develop strategies (and presumably to demonstrate this);
c) Exercising flexibility with COVID-19 temporary changes in teaching/learning and assessment;
d) Putting the onus on the institution to maintain graduate outcomes standards; and
e) Applying the usual requirements for changes the institution decides to make permanent.

We should consider what for ACS is the problem to be solved. It seems that accredited institutions may need greater clarity on ACS expectations to ensure they manage COVID-19 adaptations appropriately and manage their own compliance risk regarding ACS accreditation. ACS could align with the TEQSA approach and address items a) to e) above with the following actions:
a) Disseminate the ACS survey results, draw attention to pertinent TEQSA research and information, and run online sessions to facilitate exchange of practices and experiences between ICT schools;
b) Reiterate the messages of the Professions Australia Joint Statement around maintaining learning outcomes, keeping abreast of best practices, keeping records of changes, monitoring effectiveness, and refer to TEQSA information;
c) Reiterate earlier ACS advice on COVID-19 flexibility, and provide examples of the range of current real ACS accreditation case requests and actions via an update newsletter to accredited institutions;
d) Communicate to academia and industry through articles on the expectation of ICT graduate outcomes standards being maintained during COVID-19; and
e) Refer to the TEQSA information on permanent change to programs and adopt similar wording.

ACS should remind institutions of the need to report at the earliest opportunity any permanent changes to accredited programs to ensure ongoing validity of program accreditation. We should reiterate that institutions need not give notification of temporary changes at this time but are expected to maintain records of such changes for possible future audit. It is appropriate that ACS exercises flexibility to enable institutions to adapt to COVID-19 conditions, but if temporary adaptations that may lack academic rigour are retained through multiple semesters, the risk to graduate outcomes is accentuated and ACS retrospective audit may be necessary. ACS would also need to investigate should complaints or adverse media reports emerge.