



TEQSA – Draft legislative instrument

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To the Tertiary Education Quality and Standards Agency,

Thank you for the opportunity to provide feedback on the draft legislative instrument.

Science & Technology Australia (STA) is the peak body representing more than 88,000 scientists and technologists in Australia. We do so through our member organisations including specialist scientific societies, research institutes, and research strategy bodies such as councils of deans.

STA supports the legislative instrument which TEQSA has developed to implement the recommendations from the provider categories standards review.

STA's main concern in reviewing the proposed instrument is the narrow view of research activities that occur at a higher education institution. It focuses primarily on one form of input (research income) and a traditional output (peer-reviewed articles). We encourage the inclusion of, and a focus on, impact that influences society and economy, including research commercialisation activities (which should be incentivised at our higher education institutions).

To make this legislative instrument more comprehensive, STA makes the following recommendations:

- Section (a) should include the volume of end-user (such as industry) partnered projects;
- When considering "the quality of the publications", use a list of criteria that marks quality publications which includes favourable attributes such as open access;
- Section (c) should specifically include the Engagement and Impact results;
- Section (f) should specifically include research income classified as Categories 2, 3 and 4 in HERDC (Higher Education Research Data Collection).

Such refinements would strengthen the proposed instrument and align it further with the shared ambitions of the Australian university sector, industry, and Government to ensure incentives for even stronger industry-university collaboration.

Kind regards,

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Introduction

Science & Technology Australia recognises the importance of assuring the quality of research being undertaken in Australia's higher education institutions.

In reviewing the proposed draft legislative instrument, STA has concerns about the narrow definitions used, and proposes some refinements in this submission to address this.

The legislative instrument focuses strongly on publications and citations. While this is an essential part of the research process, it does not capture the full story.

There is also evidence that shows a citation-publication focus by the research sector can result in incentivising the wrong types of behaviour in the sector (Crous 2019). Rather than identifying Institutes of Higher Education by their publication and citation output, STA would like to see tools that capture the entire research process from idea to impact. This focus would better implement Recommendation 6 of the Review of the Higher Education Provider Category Standards (Coldrake 2019).

To create a more comprehensive legislative instrument, STA recommends that:

- Section (a) include the volume of industry partnered projects;
- When considering "the quality of the publications" use a list of criteria that marks quality publications which assess scientific quality and reproducibility such as data sharing and open access;
- Section (c) specifically include the Engagement and Impact results; and
- Section (f) specifically include research income classified as Categories 2, 3 and 4 in HERDC (Higher Education Research Data Collection).

Including research translation and commercialisation

The first section of the legislative instrument deals with the volume and quality of research in the form of peer-reviewed journal papers. This is not the only output from research and, in cases where intellectual property and confidentiality are necessary, does not cover all research.

The Department of Education has recognised the importance of research translation through the current drive to see more university research commercialised. This is not just the creation of new knowledge, but new ways to apply current knowledge that exists in an institution. Since this knowledge exists in Institutions of Higher Education, it is essential that commercialisation is considered as part of the new revised category standards.

- **STA recommends that: Section (a) include the volume of industry partnered projects.**

Including Engagement and Impact measures

Use of the Excellence of Research in Australia (ERA) as a measure of the research quality at an Institute of Higher Education is a good idea. Wherever possible, it makes sense to use existing metrics rather than add more red-tape and this section does so.

Given the ARC already collects and publishes data through the engagement and Impact Assessment (for example, EI2018), as well as the ERA data, it would make sense to include these national measures in the provider category standard measures (Australian Research Council 2018). Including

the engagement and impact measures does not increase the amount of reporting that universities have to provide and would incentivise industry engagement.

- **STA recommends that: Section (c) specifically include the Engagement and Impact results.**

How high-quality journals are selected

STA does not agree that “the quality of the publications in which these citations occur” is a standalone measure for analysing the research quality of an institution. Publication quality is a subjective measure and incentivising publications in certain journals has created perverse incentives that can reduce quality (Smaldino and McElreath 2016).

While beyond the scope of this review, it is worth considering using community-accepted quartile journal ranking based on disciplines when considering what is a “high-quality” journal. This method provides a more accurate measure of journal quality, for example, the [Scimago Journal & Country Ranking](#) (Queensland University of Technology 2021).

STA would also recommend considering more than just publication quality but also include a set of characteristics that focus on the scientific quality and reproducibility. Such an approach could also be used to incentivise good behaviour from universities and publishers by including characteristics such as data sharing, open access and publishing rights remaining with authors.

- **STA recommends that: When considering “the quality of the publications”, use a list of criteria that marks quality publications which includes favourable attributes such as open access.**

Including industry income

The legislative instrument outlined by TEQSA considered the income from competitive grants as well as other direct sources. While it is unclear what these other sources might be, STA would like to see industry collaboration income be specifically included. Existing effective mechanisms such as the Higher Education Research Data Collection that determines block funding distribution should be used.

Including income generated from industry collaboration would not require increased reporting from universities as such a measure is already in place for calculating the Research Support Program (Department of Education 2017). This measure has already shown to be somewhat effective in encouraging research-industry collaboration. It is important therefore that the work undertaken in this area is a core aspect of university research.

- **STA recommends that: Section (f) specifically includes research income classified as Categories 2, 3 and 4 in HERDC (Higher Education Research Data Collection)**

Conclusion

Overall, STA agrees with the draft legislative mechanism that has been proposed by TEQSA. Our concerns with this legislation are focused on ensuring the entire breadth of university research output is included and avoiding perverse incentives. This means encouraging more than just peer-reviewed publications and should include outputs from industry engagement as well as metrics that are already collected like the Engagement and Impact measures and direct income levels from industry. Leveraging existing mechanisms which capture research activity such as HEDRC and

Research Block Funding allocations, ERA outcomes, and EI assessment to identify any cases that need further investigation should be the primary mechanism.

References

Australian Research Council. 2018. "Engagement and Impact Assessment 2018-19 National Report."

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Crous, Casparus J. 2019. "The Darker Side of Quantitative Academic Performance Metrics." *South African Journal of Science* 115 (7/8 SE-Commentary). <https://doi.org/10.17159/sajs.2019/5785>.

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Smaldino, Paul E., and Richard McElreath. 2016. "The Natural Selection of Bad Science." *Royal Society Open Science* 3 (9). <https://doi.org/10.1098/rsos.160384>.