

#101

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Page 1: Personal Details

Q1

Your name

Thom Dixon

Q2

Your organisation (leave blank if not applicable)

Macquarie University

Q3

Are you making this submission on behalf of your organisation?

Yes, I am making this submission on behalf of my organisation**Q4**

Email address

research.assessments@mq.edu.au

Q5

What best describes your interest in making a submission?

I work at an Australian university**Q6**

Submissions may be made public unless you request otherwise.

Respondent skipped this question**Q7**

What form of submission do you wish to make?

Provide my responses through the online survey

Page 2: Upload Response

Q8

Respondent skipped this question

Please upload your submission.

Page 3: ERA and/or EI choice

Q9

I want to answer questions on both ERA and EI

Please indicate whether you wish to answer questions on ERA and/or EI.

Page 4: ERA Policy /1

Q10

To what extent is ERA meeting its objectives to:

Continue to develop and maintain an evaluation framework that gives government, industry, business and the wider community assurance of the excellence of research conducted in Australian higher education institutions.

Comment:

Provide a national stocktake of discipline level areas of research strength and areas where there is opportunity for development in Australian higher education institutions.

Comment:

A moderate amount

Analysis suggests that the quality of research, as assessed via ERA, has improved year on year since the process began. ERA offers a framework by which research outputs can be compared across universities but it is not without its problems in terms of providing uniform, comparable assessment of quality across all disciplines and institutions. Macquarie acknowledges that ERA has value and plays an important role in the Australian research system. However, Macquarie also notes a number of significant challenges that exist within the current ERA process and assessment methodology.

A moderate amount

As an exercise in documenting outputs, ERA performs this role of a national stocktake. However, the way in which the information is used is another question. As an exercise in documenting outputs, ERA performs the role of a national stocktake but some elements of the methodology limit the inferences that can be drawn from the results and undermine some of the strategic value of ERA for universities. These include: (1) the potential undervaluing of peer review areas of research given evidence that these areas on average rate lower than citation based areas; (2) the inability to differentiate emerging areas of strength especially as it intersects with scale (where in some disciplines, areas of smaller scale may already be very high quality and in other disciplines, areas of smaller scale may be of emerging quality); (3) the retrospective nature of the stocktake, which offers a lagging indicator of research strength in Australia; and (4) the introduction of eligibility and coding artefacts, which obscures the essence of the quality of research. ERA has partially captured the essence of research in the Australian context, but the process has introduced artifacts such as poaching and gaming. Macquarie notes that ERA is currently a retrospective national stocktake and therefore a lagging indicator of research strength in Australia.

Identify excellence across the full spectrum of research performance.

Comment:

A moderate amount

ERA provides this function through the outcomes reporting process, however it is likely that when the ERA data is interrogated at a more granular level by the Australian government, the data is substantially more valuable than the relatively anonymised and high-level publicly released outcomes reports. A four-digit discipline submission can be a blend of smaller sub-disciplines, and the performance of sub-disciplinary areas inevitably may not be fully recognised. Cross-disciplinary research is not sufficiently recognised and the excellence of high quality scholarship in languages other than English may not be fully recognised. ERA has been useful to some extent in setting aspirational targets for quality, however, due to its retrospective nature and long reference period of 6 years, it has not been helpful in tracking or rewarding more recent research performance. Instead, institutions that have had significant recent advancements are still characterised by legacy issues from years ago. Additionally, there is a demonstrable dampening of ratings of excellence caused by the peer review methodology when compared to the citation analysis methodology. This may mean that ERA makes it more difficult to identify excellence in peer review disciplines, and these disciplines tend to be in the humanities. Similarly, cross-disciplinary and multi-disciplinary research is not well recognised through the ERA assessment methodology and this means it is difficult to identify excellence in multi-disciplinary research in Australia. Finally, the increase of disciplines rated as '5', as measured by ERA, raises an important question around whether research at Australian universities has been improving in quality, or whether universities are just getting better at representing their portfolios of research in relation to ERA assessment processes.

Identify emerging research areas and opportunities for further development.

Comment:

Not at all

There is evidence that ERA ratings are used to identify emerging areas of strength at Macquarie University, however this would only represent a small use of the data. The ERA assessment process highlights already strong units that then attract further investment rather than provide a rationale for investing in emerging research areas. ERA data has not been useful in identifying emerging areas of research, or providing accurate quality evaluation of innovative, creative, or cross disciplinary areas of research. ERA is better suited to established areas of research as it is retrospective. ERA strives to identify excellence as opposed to highlight emerging areas of research or inform institutions about opportunities for further development. Macquarie notes that there is a need for future ERA assessments to be constructed in such a way that they protect and reward emerging areas of high quality research that may be at a low scale (either in publication count of full time equivalent numbers) in comparison to other disciplines. ERA should not act as a disincentive to institutions in this respect and it is important that ERA continues to provide incentives for institutions to showcase small, high quality, growing areas of world-leading research.

Allow for comparisons of research in Australia, nationally and internationally, for all discipline areas.

Comment:

A moderate amount

Due to the restricted and anonymised nature of the data publicly released by the ARC, this is difficult to do for institutions. The ERA ratings themselves do not allow the level of analysis institutions typically require. The answer to this question may be quite different for the Australian government depending on the level of analysis they are able to perform with the ERA data. It is unclear how important ERA has been in the international research arena, or to prospective research collaborators outside of the academy. Ideally an international benchmark or framework for assessment, upon which national assessments are then based, allows for a better ability to judge as to whether a discipline is “at”, “above” or “well-above” world standard.

Q11

The ERA objectives are appropriate for meeting the future needs of its stakeholders.

Neither agree nor disagree,

If you disagreed with the above statement, please explain your answer.:

For the stakeholder subset of universities, ERA does not provide insights of sufficient value when compared to the relative cost of undertaking the process. Macquarie uses ERA outcomes as one piece of information within a larger assessment framework. In terms of ERA, Macquarie is more concerned with ratings that are at or below world standard. The University finds it challenging when discrepancies are identified across ERA ratings that are difficult to explain. In summary, Macquarie values ERA outcomes but recognises its limitations.

Q12

What impact has ERA had on:

the Australian university research sector as a whole

Positive impacts include: ERA has improved the quality of Australian research over time as seen in the improving assessment outcomes. ERA provides a measure that can be used in specific circumstances, but it has diverted a large amount of research time to collecting and furnishing data in exercises that have uncertain practical merits (e.g., Engagement and Impact material). ERA has motivated a push to move away from lower quality publication outlets, which is a positive development. **Possible negative impacts include:** ERA has increased competition, rather than collaboration, between disciplinary colleagues at different institutions; and it has encouraged the university sector to be seen in terms of standardised scores out of 5 instead of more qualitative assessment of diverse strengths (e.g., strengths in particular subdisciplines or specialisations in lowly ranked disciplines are hidden from view by quantitative assessment of the whole discipline). ERA is a costly and time-consuming process for the university sector.

individual universities

Positive impacts include: ERA has had an impact on the research performance strategies of universities over a number of years. ERA ratings and the potential for higher ERA ratings have figured in university restructures. In some cases, there has been changes in research funding (and teaching) support around areas with high ERA ratings, closing off opportunities for growth in new and expanding areas. ERA leads to an internal hierarchy of disciplines within universities, with follow on impacts for research investment. ERA and similar exercises have increased discussions about publishing strategies and research strengths, which has driven insight and enabled better publishing choices to be made. ERA also has discouraged risk-taking, innovation and cross-disciplinary collaboration in research, which are important to maintain both institutionally and Australia-wide. In current times of Covid-19, these sorts of constraints need to be weighed against the positives, and the positive conversations have been valuable. Possible negative impacts include: ERA has an impact on disciplinary reputation (reduced to a single number, minimising other impacts / strengths). There can be less multi-disciplinary research in practice within universities (because of the focus on strengthening disciplines based on FoRCs). ERA contributes to a growing competitive nature rather than collaboration within universities (increased competition for funding is also a contributing factor to the growing competition). ERA is used as a tool for restructuring and internal investment.

researchers

Positive impacts include: ERA has had an impact on the publication practices of individual researchers. ERA has pressured researchers into particular types of research outputs that are measurable and valued by the ERA system. Possible negative impacts include: ERA has reduced the space available for non-quantifiable research outputs that have wider community benefit - EI captures this insufficiently. ERA has emphasised the need for academics to secure research funding, which is not always required in some disciplines. Indeed, many disciplines do not need substantial amounts of research funding to conduct good quality research.

Other?

Positive impacts include: ERA has also created a change of emphasis at universities on research publication quality rather than quantity. ERA has had an impact on research management staff involved in facilitating ERA submissions on behalf of institutions. **Possible negative impacts include:** Negative Impacts include: It is an open question whether the improvements in ratings of '5' have been a result of genuine change or attempts at gaming the ERA assessment. Research funding is limited to excellent research assessed independently of ERA. The impact of ERA in driving change in practice is probably very much shallower than appearances would suggest. i.e. other factors are more likely to have driven change in relation to excellence.

Q13

How do you, or your organisation use ERA outcomes?

ERA outcomes are used for the purposes of marketing, grant applications, and benchmarking analyses at Macquarie University. ERA outcomes are one of an array of indicators used to inform strategies for developing and investing in our portfolio of research strengths and opportunities.

Q14

ERA outcomes are valuable to you or your organisation.

Agree,

Do you have any suggestions for enhancing ERA's value to you/your organisation?:

The SEER dashboards are beneficial, and it would be useful if they remained open for access as long as the SEER platform was supported. If the dashboards remained open for longer, institutions could derive more value from the data. Much of the value of the Outcomes documentation arises from data analysis performed on curated datasets available through the ERA outcomes report. These were difficult to access in the 2018 outcomes web-based report. It would be beneficial if the ARC undertook user experience design with the outcomes report next time so that it is suited to those institutional users that facilitate and analyse ERA submission data.

Q15

How else could ERA outcomes be used?

Provide more granular information on the submission to institutions during the outcomes stage of the process.

Provide more information about how institutions are addressing Australian Government priority areas for research within each discipline.

Provide written feedback to institutions about their ratings outcomes and include suggestions for improving the quality of their research. Publicly share submitted data sets to increase accountability and provide further opportunities for benchmarking.

Macquarie recommends that better tracking of return on investment and impact is done for research projects funded or co-funded by the Government, and that the Government identifies and supports areas that are of national priority or can provide a significant competitive edge to the nation.

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Q16

The current methodology meets the objectives of ERA.

Neither agree nor disagree,

Please explain your answer.:

The mixed method approach of citation and peer review meets the objectives of ERA. However, we note that citation-based disciplines rate higher, on average, than peer-review disciplines. There is an important balance between simplicity and accuracy, noting that all metrics used for these purposes are only proxies for what the ARC is attempting to measure and only offer an incomplete picture of quality. In STEM, ERA outcomes are largely driven by citations metrics. The methodology employed is almost indistinguishable from a purely citation based analysis. Hence a pure citation methodology might be equally effective in meeting ERA objectives in STEM disciplines. The ERA evaluation framework has been problematic, especially for cross-disciplinary and peer reviewed disciplines, where greater clarity is needed regarding assessment. Quantitative measures are not entirely objective, and even though the peer reviewed system can be flawed. There is insufficient due diligence in eliminating bias and conflict of interest in the peer review methodology.

Q17

What are the strengths and/or weaknesses of the overall ERA methodology?

Strengths

The strengths of the methodology include comprehensiveness, a reliance on discipline expertise, citation indicators and evidence. For the peer review portion of the methodology, there is an acknowledgement of discipline publication norms. While the peer review methodology is labour intensive for assessors, it is a more accurate measure of quality. The simple approach of citation analysis continues to be appropriate for most STEM disciplines.

Weaknesses

The methodology's weaknesses include the propensity of peer review processes to be influenced by the biases of peer review panels. More effort could be taken to structurally anonymise the assessment process and panel review process to ensure that assessments are not influenced by explicit or implicit biases. No clear justifications for ratings are provided to institutions. There are anomalous ratings across disciplines (both high and low) and the ratings can be very different from disciplinary perspectives of the research quality and capacity of certain institutions. More feedback is required to justify the final scores. The rationale for ratings is currently very opaque. There is a need for explanatory statements at the 4-digit level. Disciplines should be able to make statements about the nature of their research. The focus on international journal and impact factors downplays equally important domestic contributions. i.e. publication in domestic/regional journals is important as it strengthens the discipline in the country. Some Australian research is best communicated to Australian researchers through Australian journals. This needs to be acknowledged in the ERA process. Impact factors and 'international' journals are dominated by one or two countries (UK and USA) for many disciplines. ERA is very focused on academic impact (citations), which is not a good proxy for genuine research excellence – it is a very narrow indicator and risks driving perverse behaviours (e.g. distortions of publication behaviour including authorship and citations that are already a serious research integrity concern). A focus on achieving maximum citations rather than the intrinsic value and quality of the research can exacerbate the bandwagon problem where researchers gravitate to research areas with the most activity to generate the most citations. Such behaviour is not necessarily in the national interest.

Q18

Does the discipline-specific approach for evaluating research quality (citation analysis or peer review for specific disciplines) continue to enable robust and comparable evaluation across all disciplines?

This is uncertain. ERA would further benefit from structural anonymisation where possible to ensure explicit and implicit biases are minimised. Additionally, the Larkin analysis of ERA ratings would suggest the process is not as robust as it once was.

Q19

The citation analysis methodology for evaluating the quality of research is appropriate.

Strongly agree,

Please explain your answer.:

Citations are a well understood proxy for measuring the academic impact of research. For what ERA is trying to achieve, it is the least bad method, particularly for many STEM disciplines.

Q20

What are the strengths and/or weaknesses of the citation analysis methodology?

Strengths

It provides a comparative and transferable method that establishes agreed upon benchmarks for what constitutes world standard research. It is a relatively rapid and simple methodology that doesn't require the labour-intensive input of the peer-review process. It is objective and can potentially be automated.

Weaknesses

There are two dimensions to citations: the quantity of citations and the quality of citations. The ERA citation methodology only measures the quantity of citations and doesn't focus on the dimension of quality. This means the methodology cannot allow for "negative" citations (i.e. where work is cited as an example of a defunct theory, a poor method etc) or any of the nuances that peer review can, at least try to, allow for. Broadly speaking, the citation methodology is adequate, over a large sample size and the span of a researcher's career. However, it does not always indicate the quality of a research output, for example citations may be higher for an applied research output compared with a pure research output even though the latter represents better quality research. Dependency on citations alone also may discourage certain publishing practices that are beneficial in ways not captured by the ERA assessment, e.g. publishing for practitioner use, or supporting an emerging journal or a journal in a developing country. Finally, ERA incentivises researchers to focus on achieving 'headline' outputs in journals where there is a strong likelihood of a high number of citations, at the expense of incrementally pushing science forward through reproducing previous work. ERA disincentivises research that is necessary but is typically not highly cited. There are large differences in citation behaviour across disciplines, and the intricacies of this are not captured effectively by the ERA methodology. Citations also can be gamed and there are research integrity issues that arise, which may distort assessment outcomes in some disciplines. If resourcing was not an issue, the ideal situation for current citations-based disciplines would be for a sample of outputs to also be submitted for peer review.

Q21

Can the citation analysis methodology be modified to improve the evaluation process while still adhering to the ERA Indicator Principles?

Yes,

If you answered 'Yes', please describe how the methodology could be improved.:

Yes, the citations methodology could be adjusted to provide for the dimension of quality citations in addition to the quantity of citations relative to world standard. This could be achieved by attributing citations to journal outlets and combining this with a weighted quality metric derived from those journal outlets. Another possible adjustment to provide for the dimension of quality could be to require a small sample size of articles to be put forward for peer review in each citation-based discipline. This may be more achievable if/when other processes are automated. Additionally, there are disciplines in the sciences and engineering - such as the Computing and Information Sciences - that would benefit from being included in a citation based methodology. The allocation of disciplines to a citation or peer review methodology should be reviewed every ERA assessment as the appropriateness of disciplines in relation to a citation based methodology changes over time.

Q22

The peer review methodology for evaluating the quality of research is appropriate.

Agree,

Please explain your answer.:

It continues to be appropriate for those disciplines that do not have near 100% indexation of journal outlets. Peer review in principle allows for measured assessment of quality of research outputs not available through citation or other quantitative metrics.

Q23

What are the strengths and/or weaknesses of the peer review methodology?

Strengths

Strengths include the ability to assess disciplines with low coverage among the major bibliometric database providers. The methodology can (with the right panel) be more sophisticated and multifaceted than the citation methodology.

Weaknesses

Weaknesses include the high potential for explicit and implicit biases to intrude into the assessment process. There are no agreed upon benchmarks of quality that can be established outside of qualitative opinion, and the peer review reading process is laborious and time intensive.

Q24

Can the peer review methodology be modified to improve the evaluation process while still adhering to the ERA Indicator Principles?

Yes,

If you answer 'Yes', please describe how the peer review methodology could be improved.:

Citation information could be provided for each discipline in addition to current peer review mechanisms. An indicator of the percentage of coverage could be provided for indexed research outputs and review panels could be advised to assess citation indicators as a complementary information source during their deliberations. There are potential problems with the comparability of peer review processes. It seems possible that, just as in peer review of grant applications or publications, certain reviewers might respond somewhat subjectively to the material at hand and, while claiming expertise, are able to assert subtle (or not so subtle) prejudice. The capacity for peer reviewers to select publications to review potentially skews results. Peer review statements need to be taken in the context of the wider publication profile submitted by a discipline. It is unclear how this process currently is managed to provide a comprehensive assessment of the range of specialist areas in the outputs. Panel assessment of an overall publication profile (i.e. number and quality of publications) is arguably better than an individual peer review process where the overall picture is unclear. There needs to be increased transparency and clarity about how panels use income data to assist with assessing a discipline.

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Q25

The volume and activity indicators are still relevant to ERA.

Agree,

Please explain your answer.:

The indicators continue to provide panels with useful information, especially about how a discipline has changed over time. The indicators are relevant to reporting, but not to the assessment itself. Importantly however, volume indicators are insufficient to establish quality. The inclusion of other activity indicators provides a valuable national benchmark snapshot by discipline.

Q26

The publishing profile indicator is still relevant to ERA.

Strongly agree,

Please explain your answer.:

This is an important indicator for understanding publishing practices within a discipline. The publishing profile provides an important indicator because expert panels can be subject to explicit or implicit biases.

Q27

The research income indicators are still relevant to ERA.

Agree,

Please explain your answer.:

This indicator is particularly important for assessing the benchmark research activity at a national level. However, it is difficult to understand how it contributes to an assessment of world-standard research as benchmarks values for international research funding are not available. Research income can be a strong indicator for research excellence in certain areas. However, in other disciplines, high quality research can be conducted with modest amounts of funding. Income indicators are a useful proxy in that the associated research usually has been subject to peer review process (assessment of quality) and the data already is captured and reported by universities for HERDC. Therefore, it is a "low cost" metric if it is useful to the ERA panels.

Q28

The applied measures are still relevant to ERA.

Patents

Comment:

Agree

Patents often occur prior to the publication of research outputs due to the confidentiality provisions that exist in relation to the patenting process. Therefore, this is an important measure to track in order to understand variations in the research output profile of a discipline that conducts applied research.

Research commercialisation income

Comment:

No response

It is more difficult to understand the link between research commercialisation income and research quality for a given reference period. Commercialisation income can often be derived from licenses on research that predate the reference period, meaning there is no direct link between the reference period quality of a research discipline and the commercialisation income of that period. Similarly, there is no way to benchmark this information at a world-standard, but only at a national standard.

Registered designs

Comment:

Agree

For similar reasons to the answer given under patents.

Plant breeder's rights

Comment:

Agree

For similar reasons to the answer given under patents.

NHMRC endorsed guidelines

Comment:

Agree

For similar reasons to the answer given under patents, bearing in mind that the relationship of NHMRC endorsed guidelines to publication practices may be different.

Q29

The five-band ERA rating scale is suitable for assessing research excellence.

Disagree,

Please explain your answer.:

This assessment rating could be enhanced by publicly releasing additional metrics as part of the ERA outcomes process. For example, the ERA ratings scale could be enhanced by the public release of metrics such as citation class distribution and research output activity levels for each discipline in each institution. This would allow all members of a discipline across the country to assess the congruence of a rating with the activity levels of that discipline. An alternative to this would be to analyse and report on clusters of institutions based on volume of research activity. As this is currently not done, the dimension of volume is hidden from view when assessing publicly released ratings. Macquarie also recommends that the ARC investigate why the increase in ratings of '5' has occurred over previous ERA rounds. A key assumption to test is whether or not universities have actually increased the quality of what they publish. If indeed they have, then it should not matter if 90% or eventually all Units of Evaluation (UoEs) reach and exceed world standard. This would be sign of a successful government policy intervention. However, if universities have instead learned to optimise the representation of their research profile for ERA assessments, then the continuing value of ERA may be questionable in its current form. Improvements might then be less about changing or expanding the quality scale (i.e. range of scores). Rather, there might need to be changes made to those ERA-related processes that disrupt causal links between research quality and ERA ratings. Additionally, the 5-band scale does not benchmark well with international standards, therefore benchmarking to world standard is unclear. The 5-band scale is not sensitive enough at the higher end of the scale. There currently are many different ways that a rating of 4 or 5 can be achieved, and the current scale is insensitive to this.

Q30

Noting that 90% of units of evaluation assessed in ERA 2018 are now at or above world standard, does the rating scale need to be modified to identify research excellence?

If you answered 'Yes', please explain how the rating scale can be modified to identify research excellence.:

Maybe: There are two ways of looking at this. One is that ERA has achieved its objective of lifting Australian research quality. The other is that a five-tiered rating system does not have the level of detail required for a valid assessment of the Australian publicly funded research system. In relation to the second point, releasing additional dimensions for public review, such as volume of activity or citation class distributions, would facilitate a finer grained approach to public ratings of quality without losing the simplicity of the five-tiered rating system.

Q31

The ERA low volume threshold is appropriate.

Agree,

Please explain your answer.:

The low volume threshold was appropriate for the 2008 ANZSRC-based assessment divisions. Due to the increase in number of Field of Research groups in the 2020 ANZSRC, it may make sense to review the thresholds across different disciplines. Volumes for each FoRC (including those not assessed) should be reported for each institution. This would ensure a more transparent ERA process overall.

Q32

Are there ways in which the low volume threshold could be modified to improve the evaluation process?

The low-volume threshold could be dynamic dependent on the discipline, though this would sacrifice the simplicity of the current system. However, many disciplines in the humanities have much slower publication rates (sometimes as long as two years to be published in a top journal) and this impacts on the number of publications that can reasonably be produced by a given cohort of researchers in those disciplines. Macquarie recommends the ARC review the nature of publication practices across disciplines and how this may be changing as publications practices embrace open access and online journal outlets.

Q33

What is the more appropriate method for universities to claim research outputs—staff census date or by-line?

Census date,

Please explain your answer.:

A census date ensures that staff and affiliations are known to the institution. This process also aligns the methodology with the Higher Education Staff Data Collection process. While there are some draw-backs to using staff census date as the measure for publication data, (such as staff being 'poached' by other institutions prior to census dates), on balance, it is more preferable than using by-lines. It allows for the domestic movement of staff and it encourages investment in those staff as universities seek to bring together concentrations of research expertise in various disciplines. Greater clarity around eligibility of strategic temporary hires, fractional appointments and honorary positions is needed regardless of whether a by-line or census date approach is used.

Q34

What are the limitations of a census date approach?

Limitations include the perverse incentive for institutions to poach researchers and research groups prior to the census date. Other limitations are the lack of time series information about how the discipline has fluctuated from census date to census date.

Q35

Would a by-line approach address these limitations?

No,

Please explain your answer.:

A by-line approach would not address these limitations. Instead, it could create incentives for institutions (with the means) to reward honorary and unaffiliated staff using institutional by-lines. It would create additional work for institutions in auditing historical by-line data in order to contact journals and seek changes when unaffiliated researchers used an institution's by-line inappropriately. The process may be more workable if it was applied to eligible researchers in relation to a census date, or a specific cohort of researchers such as honorary academics (0 FTE). However, it is unclear how such an approach would be markedly different from the 2018 ERA approach to 0 FTE researcher eligibility unless the by-line eligibility rule were applied to cohorts of staff with greater than 0 FTE.

Q36

What are the limitations of a by-line approach?

Limitations include: (1) the reliability of by-line data in relation to the actual staff affiliated with an institution's discipline of research; (2) the additional work generated at institutions through the necessary implementation of by-line data quality assurance measures; and (3) the ability for well-resourced institutions to incentivise external researchers to institutionally affiliate through visiting researcher schemes and similarly designed programs.

Some journals may have limits on the number of by-lines a staff member can use, and this will have an impact on staff members who are legitimately employed at multiple institutions. This problem can be overcome by allowing staff to make a case for inclusion if their by-line has not been included for some reason.

Q37

ERA adequately captures and evaluates interdisciplinary research.

Strongly disagree,

Please explain your answer.:

Interdisciplinary material runs into problems of categorisation, comparative assessment and selection of the appropriate peer reviewer with adequate expertise. ERA does not adequately capture, evaluate or encourage interdisciplinary research. For example, the discipline of Law is inherently interdisciplinary, and the study of law invariably intersects with a number of other disciplines, including (but not limited to) history, politics, philosophy, economics, geography and planning, medicine, and computer science. Researchers who publish in interdisciplinary journals must rely on that journal having multiple FoRCs. As a consequence, many researchers in law do not take up opportunities for collaborating with other disciplines on research relevant to law because the publication might not be eligible as a law publication. As such, ERA discourages interdisciplinary research, and treats disciplines as 'silos.'

Q38

If you disagreed with the previous statement, how could interdisciplinary research best be accommodated?

This is difficult, but it might be achieved through the introduction of a 4-digit discipline explanatory statement that outlines the nature of interdisciplinary work. As with the National Competitive Grants Programme (NCGP), there might be scope for cross-disciplinary peer reviews. Interdisciplinary research could be awarded additional points.

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Q39

My institution would meet ERA low volume threshold in Indigenous studies at:

Two-digit	Yes
Four-digit	Yes

Q40

In ERA, the best approach for evaluating Indigenous Studies is (choose one):

Other (please describe).:

By lowering the low-volume threshold for research in groups within the division of Indigenous Studies, this would ensure that institutions could be assessed for the quality of their Indigenous work even in instances where there is low FTE and relatively low research outputs in comparison to other disciplines in previous ERA assessment rounds.

Q41

What would be the advantages and/or disadvantages of your preferred approach for evaluating Indigenous studies in ERA?

Advantages

Macquarie finds this a difficult question to answer. It is important that Indigenous research is well defined prior to the next ERA assessment. At Macquarie, Indigenous research conducted by Indigenous researchers comprises a small fraction of a larger cohort of Indigenous research publications. Given that Indigenous research is a strategic priority area, the low-volume threshold should be modified to measure the quality as representative of the current quantity of Indigenous research undertaken at a national level. It is therefore recommended that an analysis be conducted based on national Indigenous research outputs in the last five years and mapped against the proposed new 4-digit and 2-digit codes to determine the appropriate low-volume threshold that will highlight quality Indigenous research at both a 4 and 2 digit level. It is recommended that there also are quantity and quality indicators that determine/distinguish Indigenous research that is led by Indigenous researchers. Macquarie also supports an annual collection of data to allow for a better understanding of the growth or movement within the relevant FORs.

Q42

ERA should move to an annual collection of data from universities.

Neither agree nor disagree,

Please explain your answer.:

This is not an easy question to answer as it is dependent on the requirements of an annual collection process. If an annual collection process was similar in requirements to the 2018 ERA assessment, it would be an unworkable proposition for universities and highly disruptive to the research opportunity of academics involved in preparing an institutional ERA submission. If the process was substantially different, such that only specific bibliometric metadata were collected (not including Field of Research classifications), then this may be a more workable proposition as it would be similar in scope to the publication collection of previous iterations of the HERDC submission process. A key variable to answering this question is the timeframe for delivering ERA assessments. If the assessments are many years apart, then data collection on an annual basis that includes FoRCs would be highly likely to go out of date as the correct profiling of an institution's concentrations of research excellence change over time. Macquarie notes that if there is annual data collection, this process should not include the assignment of FoRCs. The assignment of FoRCs should be left until the ERA submission. However, in the event that FoRCs are required, Macquarie recommends that review processes are planned for the corresponding ERA assessment rounds. Annual collection processes may be appropriate if they are accompanied by University review processes. Macquarie emphasises that an answer to this question entirely depends on the requirements of a given annual collection process. For example, an automatic annual process of data collection is a workable proposition, but it may not produce enough information for meaningful assessment to take place without background/context statements and other indicators that require manual work from universities.

Q43

What would be the advantages and/or disadvantages of an annual data collection.

Advantages

Advantages could include a better understanding of time series data points, and a finer grained approach to processes of change in research across the Australian research landscape. There are a number of potential advantages of more frequent and up to date ratings including more useful tracking of changes in Australian research capacity and capability. An automated process also would be less work for universities. Data is very useful for benchmarking performance, so more frequent reporting (assuming it does not come with an unreasonable workload) is ultimately good for universities and Australia.

Disadvantages

Disadvantages include the administrative burden and cost to institutions in meeting the requirements of an annual process. This burden would also be placed on experienced academics who typically assist in the preparation of an ERA submission. This would result in lost research opportunity and may lead to a nationwide structural decrease in research productivity (particularly problematic in the current post-COVID context).

Q44

In future ERA rounds, should the volume of outputs submitted for each unit of evaluation be published?

Yes,

Please explain your answer.:

This would provide for a more transparent assessment of the ERA ratings for each institution if the volume of outputs are released for each institution. However, if this data were only released at the national unit of evaluation level, little value could be derived from this information except the percentage of an institution's contribution to a field. Publicly releasing publication volume information in the Outcomes Report would help the Australian public better understand the activity of disciplines and institutions. Macquarie notes that transparency will improve the ERA process. However, Macquarie also notes that there will be a small cohort of researchers in Australia that will analyse publicly released ERA data with a view to raising questions about the validity of the assessment methodology. This could lead to a distrust in ERA ratings and the assessment process overall.

Q45

In future ERA rounds, research outputs should be published with their assignment to specific disciplines following completion of the round.

Strongly agree,

Please explain your answer.:

Given that the primary workload in preparing ERA data sits with higher education institutions, and they are the institutions outside of government that allocate the most time in analysing publicly released ERA metadata, it therefore makes sense to provide this information publicly. This information would benefit sector-wide benchmarking and analysis – and further promote the objectives of the ERA process.

Q46

What would be the advantages and/or disadvantages of publishing research outputs with their assignment to specific disciplines?

Advantages

It would promote the objectives of ERA by facilitating national benchmarking processes at universities throughout Australia. It may also result in a more “honest” system, whereby all stakeholders could see any differences in how universities code papers they have in common.

Disadvantages

There may be some disadvantages to institutions arising from their approach to classifying their research by FoRCs, particularly if that approach verges on gaming the rules of ERA. This could introduce disputes between authors and institutions. The release of this information may provide information that facilitates the poaching of research groups by well-resourced institutions. It could lead to a public questioning of the ERA methodology, process and program and ultimately lead to questions regarding the efficacy of the ERA process.

Q47

What other data do you think the ARC should publish following an ERA round? (Note - in ERA 2018 metadata included: Research output title, Research output type, reference year, outlet, publisher, ISBN, ERA round, and Institution)

The ARC could consider releasing research income data from ERA rounds in ways that it currently does not do. As much of this data is already publicly available at the income category level in public HERDC reports, it would provide the sector with novel information enriched with field of research classifications.

This information would also be useful for benchmarking academic performance at the discipline level. For example, the ERA data of per FTE performance for each Unit of Assessment is one data point that is very valuable to benchmarking activities.

Q48

Considering that EI is a new assessment, to what extent is EI meeting its objectives to:

encourage greater collaboration between universities and research end-users, such as industry, by assessing engagement and impact?

Comment:

A small amount

Generally, strategic and individual activities that have taken place at Macquarie since EI 2018 suggest the assessment has had an impact on the awareness of, support for, and engagement with research end users. This process is still gaining momentum and is likely to catalyse substantive changes in the research engagement and impact profile of the university. We cannot, however, speak for the rest of the sector. There are, however, some limitations to reaching this objective. Research engagement and impact generally is driven by factors other than scoring a high EI rating at the institution level. Such factors include research income and diversification. The EI exercise has helped to lift the profile and the University is strategically emphasising such work in a range of ways. Macquarie expects greater uptake over time, which should be reflected in future EI rounds ERA and EI can be in tension because behaviours that are highly rated in ERA are include publications in top discipline specific journals. However, the kinds of public focused, engagement highly rated in EI arise from publishing in practitioner related outlets that do not have high academic impact and are unlikely to be highly cited within the academy. Yet these outputs are read by end users. This creates a tension where work that leads to a high ERA rating might not support a high EI rating and vice versa. Long lead times for engagement and impact generation are another obstacle, along with difficulties in evidencing impact, especially from a quantitative perspective where there has been a lack of metrics to support impact.

provide clarity to the Government and the Australian public about how their investments in university research translate into tangible benefits beyond academia?

Comment:

No response

It is not really possible for universities to answer as it is a question for Australian governments and the Australian public. Nonetheless, a worthy consideration would be whether that would be the best way of drawing attention to research impact? We consider the EI assessment to have generated a good set of case studies which the sector can use to highlight impact.

identify institutional processes and infrastructure that enable research engagement?

Comment:

A moderate amount

The contribution of many institutional processes and infrastructure to research engagement and impact were mapped during the assessment. It is unlikely that this process would have been conducted to such a degree of discipline specificity had the EI assessment not existed. The EI assessment has helped clarify internally what mechanisms and pathways exist and how these can potentially drive valuable engagement and significant impact.

promote greater support for the translation of research impact within institutions for the benefit of Australia beyond academia?

Comment:

A moderate amount

The EI evaluation did raise awareness of the importance of research impact outside academia. However, EI is one of many institutional drivers behind this change at Macquarie, it is difficult to tease out the specific contribution that EI has made to this ongoing process of change. Other drivers of research impact include the need to diversify research, a drive to expand external research income, the existence of community clinics, and other well established end user focused support strategies. These activities are all driven by the University's Strategic Framework.

identify the ways in which institutions currently translate research into impact?

Comment:

A small amount

It is unlikely that EI is achieving this objective particularly well due to the structure of the 2018 assessment. As the 2018 assessment was underpinned by unstructured narratives, there was not really a methodical approach to mapping, classifying or identifying existing translation mechanisms. The EI assessment would need a more defined structure to achieve this objective more effectively. A limited number of case studies were provided by each institution. To better analyse whether this objective was met, it would be useful to have access to a nationally synthesised account of research impact, and to have received advice about best practice.

Page 12: EI Policy /2

Q49

The EI objectives are appropriate for the future needs of its stakeholders.

Agree,

Please explain your answer.:

They continue to be appropriate, but likely deserve to be reviewed at the close of each assessment.

Q50

What impact has EI had on:

the Australian university research sector as a whole

As already addressed, it is difficult to separate the impact of the EI assessment from other drivers (e.g. the impact of aspirational research income strategies). Because impact data is collected from a very small number of examples, most academics do not see EI as driving change for them.

Individual Universities

The scarce resources in universities pose a resource problem for adding another major evaluation in the form of EI.

Q51

How do you, or your organisation, use EI outcomes?

Macquarie reused the engagement and impact narratives for case study storytelling and examples of best practice in internal training programs.

As an example: the Macquarie Business School EI case study on Professor David Throsby, was profiled by the Australian Business Deans Council (ABDC) on their website at <https://abdc.edu.au/research-thats-not-art-or-is-it/> as an example of a quality EI submission. It was used to improve the narrative around the value of business school research in Australia. The aim is to take advantage of the immense amount of traffic driven to the website by the ABDC Journal Quality List. The Macquarie Business School also uses EI outcomes in their research brochure, which is provided to external stakeholders.

Q52

The EI outcomes are valuable to you or your organisation.

Agree,

Please explain your answer.:

In the sense that it allows us to profile our staff more and serve as an example of how to ensure that what we do as academics can be clearly used as examples of how our research can impact the community. These activities are consistent with the University's Strategic Framework and EI outcomes are valuable because they are in alignment with the Macquarie's goals.

Q53

How else could EI outcomes be used?

To better prosecute our case to the community of the practical value and benefit of our research. Better efforts can be made to link these outcomes to partnership building exercises with industry, government and the NFP/NGO sector.

Page 13: EI Policy /3

Q54

The current Engagement definition is appropriate.

Agree,

If you don't agree, what are your suggested amendments to the Engagement definition?:

Based on the current definition of Engagement, it would be useful to be provided with examples of engagement across various sectors and stakeholders.

Q55

The current Impact definition is appropriate.

Agree,

If you don't agree, what are your suggested amendments to the Impact definition?:

Agree, however, the definition would benefit from incorporating additional domains of impact. It would be useful to be provided with examples of both qualitative and quantitative indicators of impact.

Q56

The current end-user definition is appropriate.

Strongly disagree,

If you don't agree, what are your suggested amendments to the end-user definition?:

The international equivalents section of the definition should be more carefully defined to cater for a nuanced approach to state-owned enterprises and the defence innovation enterprise. A two-tiered approach to the exclusions section could be used to allow for a nuanced approach to publicly funded research organisations like CSIRO, ANSTO, etc. These organisations are included as end-users under the HEIMS definition, so they should either be included as end-users, or be included as a second tier of state-funded research users. It does not make sense to minimise the importance of university engagement with these organisations through not recognising them as users of university research in the end user definition. As an example, development of instrumentation for national/international research organisations (e.g. astronomical instrumentation) generates impact indirectly. Also, the exclusion of Medical Research Institutes from the end-user definition is problematic. Although Macquarie's research could lead to engagement and real-life impacts, such as new treatments through our clinics and hospital (MQ Health, MUH), Macquarie cannot submit these examples of engagement and impact under the current definition. Perhaps an additional classification would make this clearer: end user AND end beneficiary. Two definitions would allow for the distinction between those organisations that use university research, and those that benefit from the application of university-generated knowledge outside of academia.

Q57

Are there any end-user categories excluded in the current definition of research end-user that you think should be included? Please explain your answer.

The end beneficiary definition is one worth considering.

Depending on the level of detail required in the assessment, it could be worth having a defined approach to "next users", "end users", and "end beneficiaries". This caters for the common occurrence where universities are substantially divorced, often multiple user groups away, from the actual beneficiaries of their research.

Q58

Are there other key terms that need to be formally defined?

Yes,

If you answered 'yes', please explain your answer.: Macquarie notes that our Office of Financial Services queried the fact there was no definition for "cash" in the EI guidelines. A glossary of key terms, including those that seem quite basic, would assist all stakeholders to the EI process in the next assessment. Often these terms are critical to defining what is and is not included in data acquisition and collection processes at the university level due to the way data is defined in university systems.

Page 14: EI Methodology /1

Q59

Are the two-digit Field of Research codes the most appropriate method to define units of assessment for Engagement and Impact?

Yes,

Please explain your answer.: Field of Research codes are the most appropriate if comparability with the ERA submission is being sought. This is perhaps more so for the engagement submission than for the impact submission as the engagement submission is discipline-specific, whereas the impact submission involves single case study submissions. The 2-digit level is sufficient to drive institutional change. A more-detailed EI assessment using 4-digit Field of Research codes would require too much work to submit under and would be too complex to evaluate. There wouldn't be any obvious benefit from being able to show impact at a four-digit level when a two-digit level would still cover off the underlying four-digit FoRC.

Q60

Are there other ways to classify units of assessment in EI, for example SEO codes?

No,

Please explain your answer.: The 2-digit FoRC classification is most relevant given universities are structured to align with FoRC rather than SEO codes. Trying to link engagement and impact to SEO codes could be difficult and would potentially draw on a far larger range of disciplines for a single SEO code. It might make it easier to see end-user areas of impact, but would obscure the disciplines that drove the impact. If SEO codes are to be considered, they would be more appropriate for the impact submission than the engagement submission. However there would need to be significant consultation with the sector about how this would work from the perspective of volume thresholds linked to submission requirements.

Q61

Should there be more or fewer units of assessment per university?

The same number as in EI 2018,

How many, and why?:

For reasons of workload, there should be the same units of assessment per university. However, there are instances where one case study per 2-digit FoRC does not reflect the range of research undertaken within the various disciplines grouped under that code. In these cases, assessing research quality based on one submission is problematic. Hence the answer to this question is contingent on both the frequency of assessment and on whether other data like FTE would be used to calculate units of assessment for each university. From Macquarie's perspective, the university submitted across 20 fields of research due to the volume thresholds. However, as an institution Macquarie has significantly less FTE than other research comprehensive universities in Australia. This places an unfair burden on research comprehensive universities with low FTE in a unit of evaluation. Any change in the number of units of assessment should be linked to measures of scale in a unit of assessment. And any increase in the number of units of assessment should consider allowing the submission of previously-submitted case studies where there has been significant progression/change.

Q62

The EI low-volume threshold should continue to be based on the number of research outputs submitted for ERA.

Agree

Q63

If you disagree, how should eligibility for assessment in EI be determined?

It is reasonable to require universities to submit in the EI assessment only where they have done so in ERA.

Q64

The low-volume threshold is set at the appropriate level.

Agree,

Please explain your answer.:

Agree, although it would be useful to analyse whether a lower threshold is warranted if impact is most often derived by a small number of individuals.

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Q65

Overall, the engagement indicator suite for the assessment of research engagement is suitable.

Agree

Q66

The cash support from research end-users using HERDC data is appropriate for the assessment of research engagement.

Agree,

Please explain your answer.:

Agree, though this was initially difficult to calculate and required much manual review.

Q67

The research commercialisation income is appropriate for the assessment of research engagement.

Neither agree nor disagree,

Please explain your answer.:

Neither agree nor disagree, as mentioned previously, research commercialisation income can often be disconnected from the actual research activities that take place during the reference period. It is not a particularly strong proxy for actual research engagement over a reference period and can in some cases be misleading.

Q68

Are there additional metrics that would be appropriate across many or all disciplines?

Yes,

If you answered 'Yes', please outline the metrics. If you answered 'No', please explain your answer.:

It would be beneficial if in-kind contributions were included as an optional indicator for institutions who are able to report on it. We acknowledge the difficulties associated with collecting and defining in kind contributions, however there are often large in-kind contributions that drive many engagement and impact partnerships, and this is not captured in the current EI assessment. If any new mandatory metrics are introduced, institutions should have at least three years in which to prepare for reporting. Sourcing new mandatory metrics can be a time-consuming administrative exercise.

Q69

Are there alternative metrics that would be appropriate across many or all disciplines?

Please specify the metrics.:

The engagement mandatory indicators were quantitative, and this did make it easier to report on. However, many qualitative indicators of engagement exist, and institutions should be able to report on those. In 2018, institutions could discuss qualitative indicators in the narratives to some extent, but a richer narrative could be constructed if qualitative indicators could be reported to a greater extent.

Q70

Should any of the current engagement metrics be redesigned?

Yes,

If you answered 'Yes', which ones and how?:

The specified category 1 income metrics may need review due to the Australian Competitive Grants Register being discontinued. Many of the research income metrics will require additional thought due to changes in accounting practices (cash versus accrual) that is occurring over the likely EI 2024 reference period. Additionally, a defined approach to reporting CRC income would be useful. Macquarie expended significant effort in assessing the end user component of CRC income in the 2018 EI assessment, only for the guidelines to be altered weeks prior to the submission closing.

Q71

The co-supervision of HDR students should be made an engagement indicator in future rounds of EI.

Neither agree nor disagree,

Please explain your answer.:

Macquarie assumed this was going to be a mandatory indicator based on the ARC's previous communications. Macquarie has undertaken work to ensure the university is ready to submit this information should the ARC request it.

Q72

In your opinion, are any of the ERA applied measures appropriate indicators of research engagement in EI?

Patents

Comment:

Yes

Suggest licensed patents, rather than just patents generally. Licensed patents are indicative of end-user engagement and far more likely to be having end-user impact than all patents.

Research commercialisation income

Comment:

No response

Please refer to previous responses on research commercialisation income.

Registered designs

Comment:

Yes

Suggest licensed registered designs, as licensing is indicative of end-user engagement and far more likely to be having end-user impact than un-licensed registered designs

Plant breeder's rights

Yes

NHMRC endorsed guidelines

Comment:

Yes

Yes, but this highlights an issue with the current definition of end-user. It is contradictory if NHMRC guidelines are considered an indicator of end-user engagement, but working with the NHMRC is not because the NHMRC is a publicly funded research organisation and is therefore excluded from the definition of end user. As with other aspects of EI, often it is the characteristics of an activity that define whether or not organisations involved are end-users, rather than intrinsic characteristics of the organisations themselves.

Page 16: EI Methodology /3

Q73

The narrative approach is suitable for describing and assessing research engagement with end-users.

Disagree,

Please explain your answer.:

Disagree, use of the narrative approach can mean that the style of a narrative has a larger impact on the rating than the content. Macquarie recommends the ARC should consider approaches to the format of narrative and case study templates that minimise the variability of ratings directly or indirectly attributable to writing style versus content quality.

Q74

If you disagree with the narrative approach, what alternative approach could be used to replace the narrative? If you are suggesting indicators, please be specific.

Macquarie would recommend the use of a much more defined template for submission, similar to the REF. Each element of the submission could require a separate short statement and would therefore be more suited to comparative assessment by review panels based on weighted assessment criteria. Engagement seems amenable to a series of indicators, as this would require institutions to support claims of engagement with hard data. Allowing institutions to select which indicators to include seems a reasonable approach given the wide range of end-users possible throughout society and across the full range of disciplines covered by the FoRCs.

Q75

One engagement submission per broad discipline is sufficient for capturing the research engagement within that discipline.

Agree,

Please explain your answer.:

Agree, the engagement submission made a lot of sense at the broad discipline level. A more detailed assessment would create additional work with no obvious benefit.

Q76

The engagement narrative needs to be longer.

Disagree,

Please explain your answer.:

Disagree, the current length of the engagement narrative was long enough to assess a discipline. If anything, the narrative should be more defined across specific elements, e.g. Research communication / provision of expertise / end user collaboration / etc. This would allow for a more targeted explanatory statement and a more comparative assessment based on weighted criteria. It would also show areas where a lack of engagement might be the norm in particular disciplines.

Q77

Additional evidence is needed within the narrative.

Neither agree nor disagree,

If you agree, what evidence should be provided?:

An element based approach as noted in the response above would be sufficient. Room for additional optional qualitative/quantitative indicators, as mentioned above, would also be welcome.

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Q78

The narrative approach is suitable for describing and assessing Impact.

Disagree,

Please explain your answer.:

Similar to the suggestions for the engagement submission, an element-based approach that focuses on different elements of impact, as carried out in the UK REF, would be better. Such an approach could be based on creating short text boxes for responses about specific criteria, and these criteria could be based on lessons learnt analysing the 2018 Impact submissions rated 'High'.

Q79

If you disagree with the narrative approach, what alternative approach could be used to replace the narrative? Please explain your answer. If you are suggesting indicators, please be specific.

As above.

Q80

One impact study per broad discipline is sufficient for capturing the research impact within that discipline.

Neither agree nor disagree,

Please explain your answer.:

As noted earlier, this depends on the frequency of assessments and the scale of a unit of evaluation for a particular institution. It could be useful to allow optional additional impact case studies to be submitted per broad discipline, say up to three in total. This would allow for the diversity of impact case studies to be showcased in relevant disciplines if an institution chose to, but would not create required additional work.

Q81

The impact narrative needs to be longer.

Disagree,

Please explain your answer.:

Disagree, the current narrative length is sufficient.

Q82

There is need for additional evidence to be provided within the impact narrative.

Agree,

If you answered 'Yes', what evidence should be provided?: It would be useful to have the ability to submit supporting evidence when making claims of research impact. An element-based approach to the narrative would necessarily require submissions to be more focused on providing evidence of claims of specific types of impact and specific types of activity. However, indicators of impact and their associated evidence are almost always unique to a case study, so other than broad level activity categories (cultural, economic, environmental, etc.), there is little else that can be added without compromising the submission template. The definition of impact as "measurable change" is not well suited to HASS. A more nuanced approach to the impact of HASS disciplines would make the Impact assessment more meaningful. Macquarie suggests consulting with the relevant Academies to improve the definition and methodologies.

Q83

In your opinion, are there quantitative indicators that could be used to measure the impact of research outside of academia?

No,

Please explain your answer.:

There are many, but quantitative indicators tend to be unique to a case study. It is difficult to think of a quantitative indicator that could be made mandatory without having an overt influence on the types of case studies selected by institutions for submission.

Q84

If you answered 'yes' to the previous question, please name and describe the quantitative indicator/s, and the disciplines for which they are relevant.

Respondent skipped this question

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Q85

The narrative approach is suitable for describing and assessing approach to impact.

Please explain your answer.:

Similar to above, this section should be broken down into elements that facilitate better evaluation by weighted criteria.

Q86

If you disagree with the narrative approach, what alternative approach could be used to replace the narrative? Please explain your answer. If you are suggesting indicators, please be specific.

As mentioned above, short text boxes that are dedicated to specific categories or classifications of activity would facilitate better comparability between submissions. They would also be amenable to weighted criteria and better focus on the content of a case study rather than the narrative.

Q87

One approach to impact narrative per broad discipline is sufficient for capturing the activities within that discipline.

Neither agree nor disagree,

Please explain your answer.:

There is some merit in disconnecting the approach to impact statement from the case study submission and keeping it at a discipline level. If this were done, the approach to impact could form a close companion to the engagement submission. However, this would lose the link to how an institution specifically supported a case study. But it would perhaps acknowledge the fact that much research impact is probabilistic and has very little to do with institutional agency in the early stages of adoption.

Q88

The approach to impact narrative needs to be longer.

Disagree,

Please explain your answer.:

Disagree, it is of sufficient length.

Q89

There is a need for additional evidence to be provided.

Disagree,

Please explain your answer.:

Disagree, the current process is sufficient.

Q90

Would there be benefit in combining engagement and approach to impact?

Yes,

Please explain your answer.:

Yes, this would make sense if an element-based approach to the engagement submission were taken. This would allow for a discipline-level overview of the elements of the pathway to research impact that occur after the research outputs are created. Institutions could then compile a single coherent submission describing a discipline's engagement and how that was supported to enable impact.

Page 19: EI Methodology /6

Q91

The engagement rating scale is suitable for assessing research engagement.

Disagree,

Please explain your answer.:

Disagree, particularly if the approach to impact section is going to be combined with the engagement section. A weighted criteria approach for an element-based submission would allow for a more objective assessment, while also amenable to a scoring process.

Q92

The descriptors for the engagement rating scale are suitable.

Disagree,

Please explain your answer.:

Disagree, it was difficult to interpret the difference between medium and high levels of engagement.

Q93

The impact rating scale is suitable for assessing impact.

Disagree,

Please explain your answer.:

Disagree, we suggest that this should be accompanied by a secondary dimension that also indicates the scale at which the impact is occurring. A local scale case study with high impact may not be comparable with a global scale case study with medium impact. Similarly, a weighted criteria approach to impact based on an elements/components style submission would allow better comparison of submissions in a single unit of evaluation.

Q94

The descriptors for the impact rating scale are suitable.

Disagree,

Please explain answer.:

Disagree. There was a difference of one word between medium and high impact ('significant') and no clear definition for significance.

Q95

The approach to impact rating scale is suitable for assessing approach to impact.

Disagree,

Please explain your answer.:

Disagree. A high impact case study that had low support from the institution should still be valued; the 2018 ratings system detracted from the value of these types of research impact. It makes more sense to assess this at the discipline level with the engagement submission.

Q96

The descriptions for the approach to impact rating scale are suitable.

Disagree,

Please explain your answer.:

Disagree, as per above.

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Q97

Should EI continue to include an interdisciplinary impact study in addition to the two-digit Field of Research impact studies?

Please explain your answer.:

Neither agree nor disagree. If there is an increasing push for interdisciplinary research, then it would make sense to maintain an interdisciplinary case study.

Q98

Should the EI low volume threshold be applied to the unit of assessment for Aboriginal and Torres Strait Islander research in EI 2024 with the option to opt in if threshold is not met?

Yes,

Please explain your answer.:

Yes. The opt in approach worked well in the 2018 assessment round.

Q99

Should the unit of assessment for Aboriginal and Torres Strait Islander research include engagement in the next round of EI?

Yes,

Please explain your answer.:

Macquarie had assumed that the units of assessment would align with the new ANZSRC. If this is not the case, then yes, there should be a unit of assessment specific for Aboriginal and Torres Strait Islander research.

Page 21: Overarching Issues Common to ERA and EI

Q100

How often should ERA occur?

Other (please specify and explain your answer).:

If ERA were fully automated, then it could occur annually. However, if manual work is required on the part of institutions, Macquarie recommends that ERA should be conducted once every five years. As a general principle, the frequency of ERA should depend on the reference period and the amount of overlap with the previous reference period. If the frequency was every five years, then the results would provide a more meaningful measurement of achievements and would result in a less onerous process. A five-year gap would reduce the administrative burden of measuring research such that it would detract less from actual research and would allow enough time between cycles for new research strategies based on previous outcomes to have effect. However, the risk of a five-year period of assessment is that it may be too infrequent to drive institutional change.

Q101

What impact would a longer assessment cycle (i.e. greater than three years) have on the value of ERA results, particularly in the intervening years?

In the event that data were collected annually and the assessment was conducted more than three years apart, this could have an impact on the timeliness of information; ratings would become out of date, especially at a time of rapid change. It could also impact on the readiness of institutions to meet assessment requirements as it may be difficult for institutions to maintain knowledge and expertise among academics regarding submission processes. Any loss of institutional skill and knowledge would have to be rebuilt at greater cost (due to reduced efficiency) four or five years later.

Page 22: Overarching Issues Common to ERA and EI

Q102

How often should the EI assessment occur?

Other (please specify and explain your answer):

Ideally following the same timeframe as ERA. However, engagement and impact take time to realise. If ERA took place every three years, then the EI assessment could take place every six. Ultimately, the frequency of EI assessments depends on the format and requirements of the assessment. If the assessment continued to limit the number of case studies, and allowed previous impact case studies to be re-submitted, then the frequency could be a little shorter.

Q103

What impact would a longer assessment cycle (i.e. greater than three years) have on the value of EI results, particularly in the intervening years?

Similar to above. Undertaking the EI assessment less frequently would reduce the number of case studies submitted over the course of multiple assessment rounds and therefore reduce workload. Macquarie notes that there is a relatively finite pool of case studies available to institutions at a high degree of impact maturity. This means that some time is required between assessment rounds in order to allow institutions to mature their impact case studies that are beginning to be adopted by end users. More frequent assessment cycles are likely to only be feasible for most universities if previously submitted case studies are eligible for submission in future assessment rounds.

Page 23: Overarching Issues Common to both ERA and EI

Q104

ERA and EI should be combined into the one assessment.

Disagree,

Please explain your answer.:

Disagree. Logistically, combining the ERA and EI assessments may keep the process simpler, but it would intensify workload. ERA assesses the quality and excellence of the research itself, whereas EI assesses the significance of the engagement and impact that occurs in relation to that research. These are separate processes and quite different concerns from an assessment perspective. Additionally, the practices that are put in place by institutions to improve the excellence of research, versus improve engagement with end users and research impact, are very different. Again, these should not be mixed. Different reviewers should evaluate each assessment.

Q105

What would be the advantages and/or disadvantages of ERA and EI being combined into the one assessment.

Advantages

Advantages would include only having one hard deadline for a submission, but this would be offset by the level of work required in meeting that deadline. It would be potentially advantageous to submit EI data through XML, but this would potentially lose the liaison function that institutions and the ARC undertook in the 2018 EI round.

Q106

Are there other ways to streamline the processes to reduce the cost to universities of participating in ERA and EI?

Yes,

Please explain your answer.:

If SEER was always open, universities could take a sustainable approach to ERA; continually testing the upload of their submission according to their own business processes. A number of the difficulties arising from ERA and EI are due to the level of uncertainty linked to business processes that occur every three years. The guidelines change every submission and project timelines remain unconfirmed until the guidelines are released. From a project management perspective, this involves a lot of risk management and dependency on the part of institutions. Any work the ARC could do to minimise these risks would be valuable. Indeed, if the ARC consulted on project timelines with the sector, it may ensure that there was better alignment between the business processes of the ARC and universities.

Page 24: Overarching Issues Common to Both ERA and EI

Q107

In your view, what data sources could ERA utilise?

HERDC, HEIMS, HESDC, previous ERA submissions and application and awards data from the ARC and NHMRC. Additionally, the major bibliometric providers such as Scopus and Web of Science are useful data sources.

Q108

In your view, what are the most time consuming elements of the ERA submission?

The allocation of field of research codes to research outputs.

Q109

Are there efficiencies that could be introduced?

Please describe.:

There is not much efficiency that can be gained here without losing expert oversight and therefore losing data quality. Research that is assessed at a discipline level will inevitably involve qualitative judgements by discipline experts about what is and is not in a discipline given the research profile of an institution at the time of submission. It is difficult to see how much efficiency can be brought into this process without fundamentally changing the basis of ERA submissions. Perhaps coding could be automatic based on journals and perhaps paper keywords for multidisciplinary journals.

Page 25: Overarching Issues Common to Both ERA and EI

Q110

In your view, what are the most time consuming elements of the EI submission?

The end user tagging of research income was particularly time consuming. Collecting all the data required as elements of evidence in the engagement narratives. Drafting the EI narratives. It's unlikely that one could streamline this without reducing the scale of the exercise.

Q111

Are there efficiencies that could be introduced?

Yes,

Please describe.:

Yes, but likely not on the ARC's end. Much of the efficiencies are to be gained in ensuring research management systems on the part of institutions are prepared for submission requirements ahead of a reference period. Any unexpected changes to submission requirements will necessarily introduce inefficiencies into EI reporting.

Page 26: Overarching Issues Common to Both ERA and EI

Q112

ORCID iDs should be mandatory for ERA.

Agree,

Please explain your answer.:

Agree, however this would only work well when ORCID iDs are mandated either by institutions or by all journals for all authors, and therefore all publications are uniquely identified. ORCID iDs are already widely used elsewhere, such in ARC grant applications, so it would make sense to use them in the ERA submission too. However, there would be some initial administrative burden placed on universities to introduce this, and then some ongoing burden associated with monitoring/vetting.

Q113

What are the advantages and/or disadvantages of mandatory ORCID iDs?

Respondent skipped this question

Q114

The automatic harvesting of output data using ORCID iDs would streamline a university's submission process.

Agree,

Please explain your answer.:

Agree. Automatic harvesting of output data using ORCID iDs could expedite the harvesting process and would be a means of checking the data. However, some workload would still exist in vetting the ORCID iDs.

Q115

What are the advantages and/or disadvantages of automatic harvesting of output data using ORCID iDs?

Disadvantages

There are no advantages from the perspective of an institution, disadvantages have been mentioned above.

Q116

DOIs should be mandatory for ERA.

Agree,

Please explain your answer.:

Agree, this helps with ensuring data quality, the traceability of research outputs and ensuring that no duplicates are submitted.

Q117

What are the advantages and/or disadvantages of mandatory DOIs?

Advantages

Advantages include the ability to trace research outputs.

Disadvantages

Disadvantages include the additional workload for institutions in ensuring that there is 100% coverage of DOIs across a submission.

Page 27: Overarching Issues Common to Both ERA and EI

Q118

Are there other ways to collect data to reduce the cost and burden to universities of participating in ERA and EI whilst maintaining the robustness of the ERA and EI process?

Yes,

Please explain your answer.:

Yes, but none of these ways are sufficiently mature technologies to replace the current process. It may be possible to run such collection and classification processes (data harvesting, algorithm-based field of research assessment, etc.) in parallel to the next submission to assess their efficacy, but it would not be prudent to change processes yet. The most extreme example would be for the ARC to ask a citation provider to auto-harvest and auto-code (based on keywords, journal FoRCs or other approaches) all publications in a reference period and not require institutions to be involved. Of course, that would mean that some of the articles would be miscoded, but perhaps that would be a price that institutions would be willing to pay if the burden of ERA coding were removed. Macquarie notes that any move to automating different aspects of the ERA or EI assessment process inherently involves considerations of work-load on the part of universities. The harvesting of publicly available data will require universities to validate and conduct assurance on that data. This could involve time consuming processes of analysing publicly available research metadata and liaison with bibliometric database providers.

Q119

What are the advantages and/or disadvantages?

Disadvantages

While any effort to reduce the cost and burden to universities is welcome, if those processes do not result in processes that are transparent at each step, then they are unlikely to be welcomed by the sector. Key issues with algorithm use at the moment are black box issues, unexplainable results, and uncontestable processes. Any automation of ERA-related processes would require a mechanism of review for institutions, this is unlikely to actually reduce the administrative burden to universities in the short or medium term. Over time, if automated processes are trialled in conjunction with standard ERA assessments, and their efficacy is proven, and associated data review and rating contestability processes are tested with positive results, then it may be appropriate to run an automated assessment as the primary assessment process. Such a change process is likely to take at least two ERA submissions and is therefore unlikely to be possible prior to 2027. It would make sense for the ARC to develop a roadmap in collaboration with the sector should it decide to go down this route.

Page 28: Additional Comments

Q120

Respondent skipped this question

Please provide any additional comments:
