

5.6

Dissemination: Sharing Your Work and Finding Your Audience

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Having developed an intervention or innovation in your class, programme, or institution and then evaluated its effectiveness, the obvious next step is to share this practice through some form of dissemination. In this chapter we aim to support those looking to disseminate their papers in the field. We explore the various outlets that are available, in both general and specific terms. We explore online forums (blogs etc.) or more traditional outlets such as conferences or journal publications. As Engineering Education Research (EER) is an emerging field, this journey can be particularly complex and challenging, and so we give an overview of the process involved in getting an article ready to be published in education conference proceedings or in an academic journal. We aim to support authors in understanding both the publishing landscape but also particular norms in publication style that may not be identical to the technical field in which they first trained. We also look at the wide range of conferences available to those looking to present and publish their work and explore how each has their own distinct scope and specific audience.

1 Introduction

Chapter 5.6 is intended to help educators who have evaluated their teaching of transferable competencies and skills and want to disseminate the results of their evaluations. This may involve educators who have never written a paper or educators who have written papers in their own field of engineering or technical expertise but never on education. This chapter is aimed at helping them take their first steps. We will look at questions such as: what is the purpose of reporting and dissemination? Who do we disseminate for? What paths are there for dissemination of results in engineering education?

Engineering education has emerged as an independent field rapidly over the last couple of decades. Starting predominantly in the US, there are now a number of well-established departments of engineering education (for example Purdue, Virginia Tech, and the universities of Cincinnati, Buffalo, Florida, Texas at El Paso, Ohio State, and Utah State). More recently, centres have emerged in Europe (Wint et al., 2025) for example in Scandinavia, the Benelux, and the UK (Wint & Nyamapfene 2022).

As a relatively new and inherently interdisciplinary field, engineering education research and practice draws from many different disciplines and is still in the process of defining and redefining its own norms and conventions. This is evident in the range of dissemination outlets available and the challenges for all engineering educators, but for those especially newer to research and dissemination in the field, to find the appropriate venue for their work to get maximum attention.

1.1 *Why might we wish to disseminate our work?*

Arguably the first questions academics in the engineering education should ask themselves are: why do you want to disseminate your work? Who would you like it to reach? Knowing this, you are more likely to achieve your goals in sharing your work with the wider community.

While we might sometimes like to think we are simply benevolent geniuses, duty-bound to share our discoveries with the engineering education community, in reality it takes time and effort to disseminate our work. For most, while advancing the engineering education field is important, we will also want to maximise the impact of our work and achieve wider personal goals.

In disseminating your work, you may have different goals:

- Benefit students and academics beyond your own institution through their adoption or adaption of your work;
- Provide a building block to be used by the community as part of a more general evolution of engineering education;
- Act as an indicator of your personal standing in the community to support career progression;
- Test your ideas in the wider community;
- Attract collaborators and contacts;

- Influence policy either through government bodies or professional organisations.

Practical considerations will also influence your choice of dissemination route, such as:

- How much data do you have or do you need to acquire and how much research rigour can you apply to your work?
- How much time do you have to spend on researching and writing and how much time do you need to set out your story?
- How much skill do you have in shaping the narrative of your work to suit the styling, process, and expectations of the dissemination route proposed?
- How much budget do you have for costs such as conference travel and registration, open access fees for journals, and direct research costs such as consumables or participant incentives?

2 Where to disseminate your results

Dissemination of education innovations can take many forms. The ideal venue will depend on the type of work and the type of audience sought. In this section we will review education conferences, journals, and other forms of dissemination such as blogs, podcasts, and the popular media. We will discuss the merits of each, as well as discussing approaches that might be helpful in preparing and utilising these routes.

2.1 Education conferences

Education conferences are a great way to get feedback on your work and to engage in active discussion with like-minded researchers and educators. Engineering education conferences have a reputation of being welcoming and inclusive environments without the competition seen in some technical fields. They are a great way for you to meet as wide as possible an audience with a direct interest in engineering education. There is a wide range of educational conferences and networks in which engineering education developments and research can also be shared. Those listed in table 5.6.1 have a specific engineering education focus and are therefore ideal for new academics wishing to get a broad view of the field and meet with its leading proponents. There are also many broad conferences that have an element of education included, either discipline-specific conferences with an education track or conferences covering education across STEM subjects or beyond. The ones suggested here are linked to international organisations with a specific focus on education or engineering societies (sometimes also referred to as professional engineering institutions) which organise a specific education conference, but the list is by no means exhaustive. They range in scale from REES (typically 80-100 people) to ASEE, which welcomes over 4000 participants every year, with the SEFI annual conference sitting in between at 500-600 people attending.

In addition to these, most countries will have localised networks who run their own symposiums or conferences, e.g., the UK & Ireland Engineering Education Research Network (EERN) and the Engineering Professors Council in the UK; or the Dutch education-wide conferences on challenge-based learning and National

Interdisciplinary Education conference. If your work is potentially applicable beyond just engineering, you may want to seek a broader audience by considering conference in the wider STEM education community.

Table 5.6.1: Suggestions of engineering education conferences

<i>Name</i>	<i>Location</i>
SEFI Annual Conference	Europe
CDIO Annual Conference & Regional Meetings	Worldwide
American Society for Engineering Education (ASEE)	US & Canada
Australasian Association for Engineering Education	Australasia
World Engineering Education Forum	Worldwide
Research in Engineering Education Symposium (REES)	Worldwide
IEEE Frontiers in Education	Usually US
ASME Mechanical Engineering Education (MEEEd)	Usually US

While most conferences implement rigorous peer review processes to ensure submissions meet appropriate quality standards, they often adopt a more flexible approach than journals. This flexibility allows for the presentation of work in progress or practice-based experiences, particularly in cases where formal research methodologies could not be applied. However, as conferences typically run annually, it is important for authors to be aware well in advance of submission timelines to ensure their work will be ready at the correct time to allow for consideration.

In addition to showcasing education research and teaching practices, conferences provide academics with valuable opportunities for direct, in-person feedback and the chance to establish new collaborations. The flexibility to present work in various formats — such as posters, roundtables, traditional papers, practice papers, and interactive workshops — allows you to choose the most effective method for communicating your findings and maximizing the impact of your work.

2.2 Journal publication

To reach the widest audience possible, you may seek a journal publication for your research output. While perhaps the most broadly recognised and valued form of dissemination — especially to research-oriented promotion panels and tenure review boards — they can also be the slowest and most daunting outlet. One of the first hurdles to cross is identifying which journal might be appropriate. Although many journals have similar titles, they often have very distinct remits and scopes. Before approaching any journal, it is important that you consider the journal scope carefully to ensure that your work will not be immediately desk-rejected (i.e. rejection prior to being sent for review) by the editor-in-chief (EiC) — or worse, held in the queue for some time before being rejected for being out-of-scope. In particular, look out for scopes that specify relevance to a particular region, a particular engineering discipline,

or a specific theme within engineering education. We have divided the key journals available into five distinct categories depending on their scope, which may help authors to select the appropriate type of journal.

General EER journals

General EER journals accept papers across a wide range of topics within engineering education research. They accept qualitative, quantitative, and mixed methods studies and all have an emphasis on the rigour of the research methodology underpinning the studies. A selection of the key general coverage journals is provided in Table 5.6.2.

Table 5.6.2: General-coverage engineering education journals and their scope (partially based on REEN, n.d.).

<i>Journal title — Publisher</i>
Engineering Education Review — Scholar Media Publishing <i>This new journal publishes critical analysis, summary, and evaluation of previous research to expand new perspectives, to guide paradigm shifts in engineering education, and to improve academic discourse and practice systems.</i>
International Journal of Engineering Education (IJEE) — Tempus Publications <i>Independent, peer-reviewed journal which accepts regular papers and special issues with a focus on engineering education.</i>
International Journal of Engineering Pedagogy (IJEP) — International Federation of Engineering Education Societies (IFEES) <i>An independent, peer-reviewed online journal. Educators and researchers as well as schools and institutions are invited to discuss their research, experiences, ideas, and perspectives in the field of engineering pedagogy.</i>
Studies in Engineering Education (SEE) — VT Publishing <i>International, open-access, peer-reviewed journal that provides a venue for high-quality research conducted in all settings and contexts relevant to engineering education, with an emphasis on contextually rich reflective discussions of issues and approaches important to engineering education researchers and practitioners.</i>
International Journal of Technology and Design Education — Springer <i>This journal publishes research on all aspects of technology and design education. It features critical, review, and comparative studies addressing technology and design education and includes papers that draw from various fields such as history, philosophy, sociology, and psychology.</i>

Table 5.6.3: Regionally focused engineering education journals and their scope (REEN, n.d.).

<i>Journal title — Publisher</i>
American Journal of Engineering Education (AJEE) — Clute Institute <i>Publishes articles that bridge the worlds of theory and practice, identify cross-disciplinary and cross-institutional innovation, and describe educational strategies to address the changing role that engineering plays in society and in driving economies.</i>
Australasian Journal of Engineering Education (AJEE) — Taylor & Francis/AARE <i>Papers report research that makes an original contribution to knowledge and can be used to improve engineering education by informing practice, policy, and/or research. Contributions must be relevant to readers in Australasia and/or internationally.</i>
ASEAN Journal of Engineering Education (AJEE) — Universiti Teknologi Malaysia <i>Publishes papers that bridge the world of theory and practice in engineering education. There are two sections in the journal: the first focuses on rigorous research on engineering education, while the second includes papers that offer scholarly experience on practice and innovation in engineering education strategies.</i>
European Journal of Engineering Education (EJEE) — Taylor & Francis/SEFI <i>The journal embraces multiple perspectives to examine relevant conditions, developments, approaches, methods and experiences relevant for higher education in engineering. It is a European journal with global readership and authorship. While the European context is emphasised, papers presenting wider international or intercultural dimensions are also considered for publication. It invites relevant contributions that combine scholarliness with usefulness for improving engineering education.</i>
Journal of Engineering Education (JEE) — Wiley and Sons <i>Publishes original research that contributes significantly to the body of knowledge in the field of engineering education. Managed by the American Society for Engineering Education, JEE accepts empirical investigations, research reviews, and other types of papers.</i>
Southern Journal of Engineering Education (SJEE) — South African Society of Engineering Education (SASEE) <i>While critical perspectives from the Global South are the main interest, papers that deal with wider international or intercultural dimensions, of interest to our readership, are also considered for publication.</i>

Regionally focused journals

These journals are very similar to the general EER journals above but are typically associated with a regional engineering education association. Because of their affiliation to a regional society, they tend to have an emphasis on studies that are directly relevant to readers from that region. That certainly does not mean that they will not accept papers from authors outside the region; however, work that is specifically focusing only on a different region — e.g., a Chinese specific study submitted to a European journal — may be considered out of scope. These journals are typically associated with a regional engineering education association. This affinity to a regional group of research often means that journals are highly visible in that community. Again, some of the most high-profile are outlined in Table 5.6.3.

Practice-focused journals

Recent years have seen the emergence of practice-focused journals, with two such examples provided here (Table 5.6.3). While still expecting a level of rigorous evaluation, there is an emphasis on the description of the practices and/or the pedagogic principles behind them to ensure that innovations can be adopted rapidly and readily by other practitioners.

Table 5.6.3: Practice-focused engineering education journals and their scope (partially based on REEN, n.d.).

<i>Journal title — Publisher</i>
Advances in Engineering Education (AEE) – ASEE <i>The journal aims to disseminate significant, proven innovations in engineering education practice, including those that are enhanced through the creative use of multimedia.</i>
SEFI Journal of Engineering Education Advancement (SEFI-JEEA) — European Society of Engineering Education (SEFI) <i>The journal welcomes appropriate submissions of innovations in practices, approaches, or ideas within the field, which will appeal and be useful to practitioners as well as researchers.</i>

Special topic area journals

This subset of engineering education journals takes a particular focus on an aspect of engineering education. If your work falls within these areas, they offer an excellent opportunity to position your manuscript in the context of similar work in that area and to receive feedback during the review process from highly knowledgeable peers in this specific area. Table 5.6.4 provides a selection of these.

Table 5.6.4: Special topic area engineering education journals and their scope (partially based on REEN, n.d.).

<i>Journal title – Publisher</i>
Journal of International Engineering Education (JIEE) — University of Rhode Island <i>Serves as a unique peer-reviewed resource for academic, corporate, non-profit, and other constituencies involved in creating, maintaining, growing, and studying international engineering education programmes.</i>
Journal of Pre-college Engineering Education Research (J-PEER) — Purdue University Press <i>Disseminates original scholarly articles that seek to investigate, enhance, and transform pre-college engineering education.</i>
Journal of Women and Minorities in Science and Engineering (JWM)— Begell House <i>Publishes original, peer-reviewed papers that report on empirical investigations covering a variety of topics related to achieving inclusion of historically underrepresented and minoritized populations in science and engineering education, academia, and professional practice. These populations include those who identify as people of colour, women, first-generation college students, veterans, members of the LGBTQ+ community, people with disabilities, and the intersections of these and other identities.</i>
Engineering Studies — Taylor & Francis <i>Publishes critical analysis in historical, social, cultural, political, philosophical, rhetorical, and organizational studies of engineers and engineering. The journal takes an interdisciplinary approach to understanding the culture and practice of engineering (broadly construed), with the interdisciplinary field of Science and Technology Studies as a foundation.</i>

Engineering discipline-specific focus journals

Many of the discipline-specific technical societies also offer an educational publication within their journal portfolio. For work that has elements that situate it within a specific engineering discipline, these can be highly appropriate publications venues and offer wide exposure for the work with educators in a given field. Historically, the alignment with highly technical publications has meant that quantitative research has been favoured, but this has changed in recent years. It is important to read the scope of these journals very carefully, as they will have very clear boundaries for what is in and what is out of scope.

Table 5.6.5: Examples of discipline-specific engineering education journals and their scope (partially based on REEN, n.d.).

<i>Journal title — Publisher</i>
<u>IEEE Transactions on Education</u> — Institute of Electrical and Electronics Engineers (IEEE) <i>Publishes contributions to education in electrical and electronics engineering, computer engineering, computer science, and other fields within the scope of interest of IEEE. Contributions must address discovery, integration, and/or application of knowledge in education in these fields.</i>
<u>Journal of Civil Engineering Education (JCEE)</u> — American Society of Civil Engineering (ASCE) <i>Publishes on a wide range of subjects within civil engineering education, with a special focus on connecting engineering and construction education to professional practice. Papers examine research on effective methods to teach engineering and construction principles and prepare students to succeed in practice, with emphasis on the engineer's and constructor's professional obligations and responsibilities.</i>
<u>Chemical Engineering Education (CEE)</u> — ASEE, Chemical Engineering (ChE) division <i>Expects papers focussing on teaching chemical engineering, ChE curriculum and courses, ChE students, or the future of the field.</i>
<u>Biomedical Engineering Education</u> — Springer <i>Publishes on practice and scholarship of education in bioengineering, biomedical engineering, and its allied fields.</i>
<u>Computer Applications in Engineering Education (CAEE)</u> — Wiley <i>Focuses on innovative uses of computers, internet, and software tools in engineering education.</i>
<u>Journal of Materials Education</u> — International Council on Materials Education <i>Publishes on education in materials science and engineering, including pedagogical and technical subject areas, new materials, new characterization procedures, new processing techniques, and strategic development of education programmes.</i>
<u>Education for Chemical Engineers</u> - Elsevier/Institution of Chemical Engineers <i>Targeted at chemical engineering academics and educators, discussing the ongoing changes and development in chemical engineering education.</i>

Broad educational journals of interest to EER

Table 5.6.6 lists examples of journals outside of the EER sphere, which will commonly published EER research if it fits certain criteria. Some, for example the *International*

Journal of Sustainability in Higher Education, will publish higher education research from any field as long as it related to aspects of sustainability. The other publications are general higher education research journals and are often good publication venues for work that may have influence beyond engineering, for example work on education development or those that relate to curriculum development or educational policy.

Table 5.6.6: Examples of educational journals that publish engineering education research and their scope.

Journal title — Publisher

International Journal of Sustainability in Higher Education — Emerald Publishing

Publishes papers relating to sustainability in a higher education context.

Journal of Cleaner Production — Elsevier

Focuses on cleaner production, environmental science, and sustainability research and practice. Regularly publishes education papers in this area.

Journal of Problem Based Learning in Higher Education — Aalborg University Open Publishing

Publishes research articles and cases on problem-based learning with a focus on higher education.

Studies in Higher Education — Taylor & Francis

Publishes research-based articles dealing with higher education issues from either a disciplinary or multi-disciplinary perspective. Empirical, theoretical, and conceptual articles of significant originality will be considered.

Higher Education — Springer Nature

With a diverse range of authoritative overview articles, comparative studies, and focused analyses, the journal aims to deepen our understanding of higher education across the world.

International Journal of Educational Research — ScienceDirect

Publishes high-quality research that advances our understanding of education, learning, and development across all educational stages and diverse international contexts. The journal serves researchers, practitioners, and policy makers, providing a platform for rigorous, relevant, and impactful studies

Research in Science & Technological Education — Taylor & Francis

An original research journal publishing international perspectives on science and/or design technology education. Focuses on scholarly research that investigates and interrogates the psychological, sociological, economic, and organisational aspects of science and design technology education, as well as developments within the global curriculum.

2.3 Other forms of dissemination

While peer-reviewed journals and conferences often carry the most kudos in academic circles, if the primary aim is to disseminate your work as widely as and as quickly as possible, they may not provide the most compelling outlet. These outlets may be found in the digital world. One of the key advantages of emerging digital formats — such as blogs, podcasts, and video channels — is their ability to incorporate mixed media to enhance communication and engagement. However, unlike traditional journals, which benefit from established systems of archiving and discoverability through specialist search engines, these newer dissemination methods often require authors to be more direct and proactive, using social media and personal networks to ensure they are able to reach and grow their audience. Such approaches, that are gaining in popularity and should be considered, include the following.

Academic and professional platforms. There are now a wide range of preprint servers (e.g., arXiv, SSRN, bioRxiv) as well as social networks for researchers, such as ResearchGate and Academia.edu, that allow work to be shared and enable discussion and engagement with peers. It is not uncommon to see unpublished papers made available through these platforms or even institutional repositories being publicised through these networks as a form of dissemination. You may also consider dissemination via LinkedIn. While this is not a suitable place to publish full papers, it does offer the opportunity for short vox pops, innovation snippets or adverts/pointers for the full publication. It also has the social media options to like, share, follow, and comment, thus contributing to network building.

Blogs and personal websites. These informal platforms allow dissemination and commentary on research findings and allow practitioners to showcase the innovations they have made in the classroom.

Podcasts and YouTube channels. Using audio-visual formats is one of the most powerful ways to demonstrate education innovations to a wider audience, especially when coupled with the use of social media, for example LinkedIn, to alert peers to a new video.

Popular media articles. As originally print-based publications moved online, the use of guest articles or blogs has increased substantially, offering the opportunity to spotlight all aspects of teaching innovation. Popular outlets with a higher education focus include *Times Higher Education*, *Wonkhe* (for research with policy implications), the *Chronicle of Higher Education* and *The Conversation*. In addition, engineering stories are often carried by tech-focused media such as *Wired*, *TechCrunch*, *The Verge*, professional magazines such as *The Engineer*, or society magazines such as *IEEE Spectrum* or IET's *E+T* magazine.

Books. Specialist academic books in engineering education continue to be published, typically in the form of handbooks or guides designed to support practitioners in specific areas of the field. To manage the workload, these volumes are often collaborative efforts involving multiple authors. As structured guides, their content is

usually predefined by the book or series editors, making them less suitable for more open or exploratory forms of dissemination.

Reports or position papers. Academic engineering societies or groups may commission reports or publish position papers. These allow academics to work with like-minded individuals on specific topic areas, often with the goal of influencing future direction of an aspect of education.

3 How to disseminate your results

In this section, we discuss the typical build-up of dissemination, including how each type of publication is typically structured.

3.1 Popular media, blogs, and websites

Getting research or educational innovations published in popular media — like newspapers, magazines, blogs, or podcasts — requires a different approach than academic publishing. Content must be engaging to a broader readership than academic work. One approach is to use storytelling to frame your research — what problem does it solve? Why should people care? How does your work impact society, technology, or daily life for engineers or engineering students? For these mediums it is important to be clear and jargon-free in your writing, replacing technical terms with analogies, concrete examples, and everyday language.

Although you can create your own website or blogs, gaining an audience can take considerable time and effort and if you choose to do so it might be more productive to collaborate with established channels, especially those focused on engineering, innovation, or science communication. Recognised platforms or university supported blogging sites are recommended, such as *Medium* or *Substack*.

An alternative is to target platforms that align with your topic and audience to disseminate your work. The greatest impact is found in general science outlets such as *Scientific American*, *New Scientist*, *Quanta Magazine* or mainstream media with science and engineering sections such as *The Guardian*, *The New York Times* or *BBC Future*; however, these are also the most challenging to penetrate. With the increase in the level of output in the online era, there is an opportunity to pitch an idea for a story to an outlet's online editor. University press offices are typically well connected to such publications and are usually happy to advise on the best approach to maximise exposure for the university. Ultimately, the nature of the content production cycle means that most content needs to be relevant at a specific moment and therefore there is often an element of opportunism needed to get your innovation published through these channels.

3.2 The publication process

While most academics will be familiar to some extent with the norms of academic writing, there are some important areas to consider when developing an output for an EER journal.

What is important in the paper?

Title. First of all, the title is important! As journals have shifted from print to online, the concept of 'reading' a journal as one might a monthly magazine has shifted. Publishers have noticed that most articles are found via search engines rather than through scouring a particular source. For most articles this means that the title (and perhaps abstract) must have 'Google juice'. This is particularly true for articles behind paywalls (i.e., non-open access). Think carefully about what terms your intended audience might be searching for and make sure they feature prominently.

Abstract. This is your opportunity to sell the work; here you need to give enough detail (within the space allowed) to make your reader want to read on. Again, for paywalled articles this might be all that is available without a subscription, so the abstract needs to describe the novelty of the work and why it might have significance or interest to others but should also provide brief details of methodology and context (e.g., is this a study in one institution or many?). A good abstract is clear, avoiding imprecise or ambiguous language, abbreviations, or acronyms, and does not include citations or hyperlinks. It also should use the active voice: "*We undertook a study to...*". While it is important to engage readers to want to read on, do not exaggerate and oversell the results of the work. Some journals use structured abstracts to help format this information. This might ask you to provide two or three sentences on each the following: background, purpose, methodology, results, and conclusions.

The body of most journal papers follow variations on a similar pattern.

Introduction section. This provides the background and context of the work. It should explain in some detail the research question that the work is looking to answer. It may also survey the 'related literature' or 'state of the art' in order to show how the author's work can be positioned in the existing knowledge, or to underpin the research question.

Methodology/method. This explains the process used to address the research question. The methodology justifies the approach, often including the theoretical framework, while the method provides the detail about data collection and analysis. It details the overarching strategy, specific techniques, and procedures used to collect and analyse data (Case & Light, 2011). It is important to be quite detailed here. For example, in a study involving a survey, discuss: how were participants selected? How where they contacted? How many and what proportion responded? How was the survey developed? What theoretical framework was used to analyse the data? For some types of studies, rigorous protocols have been developed, for example for systematic literature reviews (Borrego et al., 2015). If used, these should be referenced. If you have followed the framework of EER presented in Chapter 5.1, then you should be well positioned to provide all the detail a reader would need to understand the process of your study.

Results and analysis. The main aim here is to present your findings clearly, neutrally, and aligned with your research questions or hypotheses. This section typically includes descriptive statistics and reliability and validity metrics for instruments for quantitative

work, or themes, categories, or codes from interviews, as well as reflections, open-ended questions, or representative quotations for qualitative works.

Discussion and conclusions. The most important thing here is to not oversell the results. Nothing attracts a reviewer's wrath more than trying to overgeneralise the results beyond the scope of the data set. This can be a good point to include a thoughtful section on the limitations of the study.

Check if any declarations are needed at the end of the paper or in the submission system. This might include:

- *Acknowledgements.*
- *Author contributions.* This lists which of the authors made which contribution, from conceptualising the idea for the study, to collecting the data, to writing the paper. Some journals have very specific requirements for this while others use the CRediT (Contributor Roles Taxonomy) statement, such as this handbook (NISO, n.d.).
- *Source of funding.* How was the work funded;
- *Ethical approval.* This is typically required for all studies that interact directly with people;
- *Conflicts of interest.* This should mention any financial, in-kind support, professional, personal, or other relationships that could influence or be perceived as influencing the research or judgement.
- *Use of artificial intelligence.* This section should state which large language models and machine learning tools, if any, have been used in collecting and analysing the data or in writing the paper;
- *Data availability statement.* Increasingly, journal publishers are asking for the data set on which the research is based to be made available for others to review and potentially to reinterpret. This is yet to become widespread in education research, due to anonymity and ethical concerns.

Submission process

Although there are many common features to the submission process, each journal will have its own peculiarities. All journals will have an 'information for authors' section or similar. Spending some time reading through the guidance could save a lot of time later on. A few things to look out for:

- *Does the journal require a particular format for peer-review?* Many allow unformatted submissions, but some require the paper to be put into the journal's template at first submission — often to ensure page limits are met.
- *Does the journal require a specific form of abstract?* Structured abstracts — divided into specific sections rather than just one chunk of text — are required by some journals.
- *Does this journal have page limits?* Some will accept papers over the limit but charge a fee for overlong papers. Best to be aware of this ahead of submission.
- *Do you have details of the ethics review and your data protection policy?* This can be asked at the submissions stage. If you are using human subject data

(which much education research does) this should usually receive Ethics Review Board (or similar) clearance prior to the study taking place.

- *Do you need to highlight specific aspects in a cover letter to the editor-in-chief?* This might include whether some of the results have already been published in conference papers. Most journals allow some amount of reuse as long as new results are included, but flagging this in the cover letter (which may be a formal letter or may be just a text box in the submission) is helpful, rather than the editor finding out when plagiarism alerts start appearing in the system (most journals use plagiarism detection software to highlight content reuse).
- *Is the journal single- or double-blind review?* Both exist within the journals listed above. For double-blind review (where reviewers don't know the authors and authors don't know the reviewers) all identifying features must be removed from the text. This includes references to the institution or citations that will obviously reveal the authors. For single-blind processes (where the reviewers are aware of the authors' identity) this is not necessary.

Review process

Again, while there is no universally standard process, most journal follow a similar process.

1. The publisher undertakes a basic screening. This is usually just tick-box on adherence to key measure — not overlength, appropriately blinded for review, in correct format etc.
2. The editor-in-chief and/or an associate editor (or guest editor if a special issue) performs a basic review. This is a check, firstly, to see if the paper is within the scope of the journal, but also to confirm that there is a possibility that the paper will receive a positive review. This may confirm that there are sufficient results or that the research question and research methodology are adequately described. If rejected at this stage, this is what is called a desk-reject. You should remember that ultimately it is in the journal's best interests to publish papers, but also that there are limited reviewer resources available (ask any EiC about the difficulty in finding reviewers and you will get the idea!).
3. Assuming these thresholds are met, the paper will be sent out to reviewers. These are selected usually by the associate editor assigned to your manuscript, as experts related to the field of your paper. They will be given a fixed time period to return the review. This process can take from a couple of weeks to many months (most try to limit this but not always successfully!). The number of reviews required will depend on the journal. Many aim for at least three, but will accept two good reviews if necessary.
4. Once the required number of reviews is reached, the manuscript will be returned to the associate editor for a recommendation, based on the information provided by the reviewers.
5. This recommendation is passed to the EiC, who ultimately makes the decision on what will happen to the paper. The categories will differ between journals, but some common responses included:

- a. *accept* — the paper is accepted without revisions. It is now ready for proofing and typesetting for publication. For most journals, it is unlikely that you will receive this response after the first round of reviews.
- b. *minor revisions* — a few modifications or corrections must be made before the paper is ready for publication. After revision, these will often be signed off by the associate editor without the need for the reviewers to comment on the paper again.
- c. *major revisions* — revisions are needed that require more time or which are more fundamental. The paper will usually go back to the original reviewers (if possible) for re-review when re-submitted.
- d. *reject with resubmission* — while there is potential for publication, there is too much work required for a resubmission within a reasonable timeframe. Examples are papers that require the collection of more data or significant reanalysis of data before they can be considered again.
- e. *reject* — it is judged that the paper will not be publishable by this journal.

It is not uncommon for papers to go through two or even three rounds of review before reaching acceptance.

4 Final thoughts

There is a vast array of possible outlets for engineering education innovations; the right one depends on the type of work and the desired audience. Many of these avenues might seem daunting, with vague rules and norms. This chapter has aimed to shed some light on possible approaches to dissemination and some of the processes behind academic publishing. When starting out it can at times feel like the system is there to stop your work getting published, but you should remember that ultimately editors, whether of media outlets or journals, need content. Therefore, it is their job to support authors to produce papers or articles that their readership wants to read. Sometimes they do this by dispensing the harsh truth that a particular piece of work is not right for them (remember, it is just not for them — other venues may take a different view), but also, often, by advising authors on how to make the most of their work and how to get it ready for publication. By engaging with the community, for example, you will find many of the editors-in-chiefs of the major journals at conferences such as ASEE or SEFI. This will give you the opportunity to adapt your work to the dissemination outlet of choice.

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AI statement

During the preparation of this work the authors did not make use of any AI tools.

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