AC 2010-188: HOW TO GET PUBLISHED – TIPS FROM JOURNAL EDITORS

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How to Get Published – Tips From Journal Editors

Abstract

Publication of scholarly work is an important aspect of a faculty position. Decisions regarding tenure and promotion include number and quality of publications in addition to teaching, research funding and service activities. Faculty members seeking to publish papers focusing on engineering education are somewhat limited in the journals they may submit their work to, and often find it difficult to publish education oriented work in more traditional research journals. This panel consists of the editors of the top engineering education journals currently in publication. They will provide their perspective on the types of publications their journals focus on, and provide an inside perspective on how to increase the chances of getting an article accepted. This paper presents the input received from four faculty members who "took a break" from their regular academic life. The panelists responded to a specified set of questions:

The information provided can be utilized to encourage and support faculty members as they seek to publish their papers in premier engineering education journals.

Introduction

This paper presents the input received from 5 panelists who are the editors of the leading refereed journals focused on engineering education research. The panel is moderated by Bevlee A. Watford. The five panelists are

- Gary Downey, Editor, Journal of Engineering Studies
- Jackie ElSayed, Editor, Journal of Process Education
- Jack Lohmann, Editor, Journal of Engineering Education
- Susan Lord, Editor, IEEE Journal of Engineering Education
- Larry Shuman, Editor, Advances in Engineering Education

Gary Downey is an ethnographic listener interested in the relationship between knowledge and personhood. Trained as a mechanical engineer and cultural anthropologist, he is Professor of Science and Technology Studies and an affiliated faculty member in the Departments of Engineering Education and Sociology, as well as in the Women's Studies Program. Currently Boeing Company Senior Fellow in Engineering Education at the National Academy of Engineering, he also serves at the Carnegie Foundation for the Advancement of Teaching on a panel exploring relationships between the liberal arts and the professions. His current research explores the influences of popular concepts of progress on what counts as engineers and engineering knowledge in different countries.

The ***International Journal of Engineering Studies (IJES)*** is a peer reviewed international journal with a key objective to provide the academic and industrial community a medium for presenting original cutting edge research related to all aspects of engineering studies and its applications. IJES invites authors to submit their original and unpublished work (usually short papers) that communicates fundamental and current research and development both theoretical as well as application-oriented real world problems from science to technology. Broadly the

topics of interest include but not limited to: Mechatronics, Manufacturing, Production Engineering, Microengineering, Electrical Engineering, Civil Engineering, Transportation, Control Theory, Instrumentation, Automation, Remote Monitoring, Embedded Systems, Information Technology, Communication, Sensor Network, Software Engineering, Computer Science, Soft-computing and Engineering Education.

Dr. Jacqueline El-Sayed, Director of CETL and Professor of Mechanical Engineering graduated from General Motors Institute in 1986 and has been on the faculty at Kettering University since 1996. Dr. El-Sayed earned her MSE (1989) and Ph.D. (1997) from the University of Missouri. Dr. El-Sayed's areas of expertise include manufacturing optimization, multi-disciplinary team teaching, pedagogy, and curriculum development. In 2008-2009, Dr. El-Sayed was recognized nationally for her leadership when she was selected an American Council on Education Fellow in which she served her internship at Harvey Mudd College with her ACE mentor, President Maria Klawe. Dr. El-Sayed is currently the treasurer for the American Society of Engineering Educators, Women in Engineering Division.

The ***International Journal of Process Education*** will be a catalyst for the scholarship of teaching and learning in support of the efforts of the Process Education Academy to transform higher education. The mission of the Journal are to provide a forum for, and an archival record of, scholarly research in process education, to elevate skills in the discipline of the scholarship of teaching and learning, to explore promising new research areas in process education and to foster classroom-based research. The guiding principles of the Journal are (1) all faculty, staff, administrators and students can contribute to classroom research, (2) every researcher's methods can be continuously improved, (3) the term "classroom" is a metaphor for all learning environments (4) mentorship can accelerate the development of research skills, (5) there is a role for both quantitative and qualitative educational research, (6) collaboration among authors, reviewer and editors is critical for a vibrant research environment (7) increasing societal complexity and pace of change make it imperative to accelerate the transition from classroom discovery to disseminated findings that are the basis of shared practice and (8) an educational journal can be improved by regularly assessing all aspects of its operation.

Dr. Lohmann is vice provost for Faculty and Academic Development and professor of Industrial and Systems Engineering at the Georgia Institute of Technology. His principal responsibilities include faculty development and promotion, the initiation, development, and accreditation of Georgia Tech's academic programs, and serving as the president's liaison to the Commission on Colleges of the Southern Association of Colleges and Schools (COC/SACS) and the National Collegiate Athletic Association (NCAA).

The ***Journal of Engineering Education*** is a peer-reviewed international journal published quarterly by the American Society for Engineering Education (ASEE) in partnership with the Asociación Nacional de Facultades y Escuelas de Ingeniería (ANFEI) in Mexico, Australasian Association for Engineering Education (AAEE), Indian Society for Technical Education (ISTE), Internationale Gesellschaft für Ingenieurpädagogik (IGIP), Latin American and Caribbean Consortium for Engineering Institutions (LACCEI), and Mühendislik Dekanları Konseyi (MDK). The journal focuses exclusively on scholarly educational research in engineering education. We offer a large international readership and a highly cited archive. Its articles cover

a wide range of subjects including what knowledge and competencies engineers must possess and how they are learned and assessed, how educational methods, materials, infrastructure, and faculty affect learning, and how to attract, engage, and retain diverse human talent to engineering

Dr. Susan Lord directs the Optoelectronics Laboratory at USD. Her research interests are in the areas of optoelectronics and materials. She has worked as a Research Fellow at SPAWAR Systems Center's RF Photonics Branch. Most recently, Her research has been supported by NSF, NASA, the Office of Naval Research, and the American Society of Engineering Educators. As President of the IEEE Education Society, she is representing the IEEE Transactions on Education.

The aims of the ***IEEE Transactions on Education*** are both scientific and educational, grounded in the theory and practice of electrical and computer engineering. The scope covers educational methods, educational technology, instructional materials, history of science and technology, and educational and professional development, as well as programs within electrical engineering, computer engineering, and allied disciplines. Manuscripts submitted to the Transactions should clearly embrace one or more of these topic areas.

Dr. Larry Shuman is currently Associate Dean for Academic Affairs, School of Engineering, University of Pittsburgh. He is also Professor of Industrial Engineering and recently served as the Interim Dean. His three primary areas of interest are: improving the engineering educational experience, the application of operations research to health delivery systems, and the study of the ethical behavior of engineers and engineering managers. In the health delivery area, Dr. Shuman has been involved with the design and simulation of prehospital care systems, the evaluation of care delivery processes, and the design of particular hospital subsystems including simulation studies of diagnostic imaging, emergency departments, operating rooms, nurse scheduling and staffing. He has been principal or co-principal investigator on over twenty sponsored research projects funded from federal and state government agencies, and private foundations. He has also served as a consultant to Blue Cross of Western Pennsylvania, the Western Pennsylvania Emergency Physicians, and numerous hospitals.

The mission of ***Advances of Engineering Education*** is to disseminate significant, proven innovations in engineering education practice, especially those that are best presented through the creative use of multimedia. AEE seeks to define a new means to disseminate documented innovations in engineering education practice through the creative use of multimedia. A peer-reviewed journal, AEE will be permanently archived online. Authors are strongly encouraged but are not required to utilize such supporting material as animation, audio, graphics and video in addition to text in order to best demonstrate their educational achievements. The journal includes descriptions of innovative curricula, courses, and teaching practices both within and outside the classroom that are clearly built upon a foundation of accepted learning science principles. Completed and documented studies are published as full articles; work in progress that shows distinct promise of eventual success may be published as educational briefs. By focusing on educational developments and practice, Advances in Engineering Education complements the Journal of Engineering Education, which focuses on rigorous engineering education research.

Please provide a brief overview of your journal, the type of publications it prints, how frequently it is printed and the intended audience.

Lord: The aims of the IEEE Transactions on Education (ToE) are both scientific and educational, grounded in the theory and practice of electrical and computer engineering. The scope covers educational methods, educational technology, instructional materials, history of science and technology, and educational and professional development, as well as programs within electrical engineering, computer engineering, and allied disciplines. Manuscripts submitted to the Transactions should clearly embrace one or more of these topic areas.

The Transactions on Education (ToE) is published 4 times per year as a peer reviewed archival publication. Hard copies are produced and electronic copies are available via IEEE Explore. The intended audience for the ToE is primarily IEEE Education Society members who receive a subscription to the publication as part of their dues. It is also intended for all those interested in education in the domain of electrical engineering, computer engineering, and allied disciplines.

Downey: *Engineering Studies: Journal of the International Network for Engineering Studies* (www.tandf.co.uk/journals/engineeringstudies) is an interdisciplinary, international journal devoted to the scholarly study of engineers and engineering. It is the official journal of the International Network for Engineering Studies (www.inesweb.org), founded in 2004. *Engineering Studies* is published three times yearly by Routledge, an imprint of the Taylor & Francis Group, beginning in 2009. It is edited by Gary Downey (Virginia Tech) and Juan Lucena (Colorado School of Mines) supported by a Managing Editor, twelve Associate Editors, and an Editorial Board with thirty-five members, as well as an Assistant Editor and Web Editor.

The journal advances research in historical, social, cultural, political, philosophical, rhetorical, and organizational studies of engineers and engineering. Two key questions addressed by published articles include "How does this paper enhance understanding of engineers or engineering?" and "What are the relationships among the technical and the nontechnical dimensions of engineering practices, and how do these relationships changes over time and from place to place?"

Along with its parent organization, the journal also seeks to (a) to help build and serve diverse communities of researchers interested in engineering studies, and (b) link scholarly work in engineering studies to broader discussions and debates about engineering education, research, practice, policy, and representation. As such, it challenges authors to reflect on and anticipate how their work might prove helpful to others elsewhere, both within the academy and beyond. The journal thus explicitly juxtaposes heterogeneous forms of research rather than attempting to build a coherent discipline. The editors make a special effort to publish works on engineering topics from around the world.

Published and forthcoming special issues include:

- Locating Engineers: Education, Knowledge, Desire
- Engineers in the Armed Forces
- Engineers in the 18th Century
- Engineers in the Workplace

- Engineers and Communication.

Shuman: The mission of *Advances of Engineering Education* is to disseminate significant, proven innovations in engineering education practice, especially those that are best presented through the creative use of multimedia.

The editors of AEE seek to define new means for disseminating documented innovations in engineering education practice through the creative use of multimedia. A peer-reviewed journal, AEE is permanently archived online. Authors are strongly encouraged but are not required to utilize such supporting material as animation, audio, graphics and video in addition to text in order to best demonstrate their educational achievements. The journal includes descriptions of innovative curricula, courses, and teaching practices both within and outside the classroom that are clearly built upon a foundation of accepted learning science principles. Completed and documented studies are published as full articles; work in progress that shows distinct promise of eventual success may be published as educational briefs. By focusing on educational developments and practice, Advances in Engineering Education complements the Journal of Engineering Education, which focuses on rigorous engineering education research. AEE's intent is to reach a steady-state of four issues per year with six to ten articles per issue. The intended audience is engineering educators, both in the US and internationally.

ElSayed: The International Journal of Process Education is a "start up" journal with a unique philosophy. Our journal is innately interdisciplinary. The editorial board composed with diversity in mind, including organizational type (different Carnegie classifications.) At this time we have successfully published our inaugural edition, and are working on our second edition to be published June 2010. During this initial phase we are publishing one edition per year while we develop our processes, and will gradually increase our publication rate according to demand and submissions.

The following Vision/Mission/Guiding Principles (posted on our website at www.j-jpe.org) were developed by the board following our process education philosophy, which is very collaborative and involves continuous assessment by all members.

Vision: The International Journal of Process Education will be a catalyst for the scholarship of teaching and learning in support of the efforts of the Process Education Academy to transform higher education.

Mission: To provide a forum for, and an archival record of, scholarly research in process education

- To elevate skills in the discipline of the scholarship of teaching and learning
- To explore promising new research areas in process education
- To foster classroom-based research

Guiding Principles:

1. All faculty, staff, administrators and students can contribute to classroom research.
2. Every researcher's methods can be continuously improved.
3. The term "classroom" is a metaphor for all learning environments.

4. Mentorship can accelerate the development of research skills.
5. There is a role for both quantitative and qualitative educational research.
6. Collaboration among authors, reviewer and editors is critical for a vibrant research environment.
7. Increasing societal complexity and pace of change make it imperative to accelerate the transition from classroom discovery to disseminated findings that are the basis of shared practice.
8. An educational journal can be improved by regularly assessing all aspects of its operation.

Scope: Journal topics include (but are not limited to) the following processes and tools used by educators when implementing the philosophy of Process Education:

peer coaching	cooperative/active learning	mentoring
designing a syllabus	guided-discovery learning	evaluation
building knowledge maps	applied critical thinking	assessment
constructing methodologies	learning environments	communication
curriculum/course design	problem-based learning	facilitation
student engagement	constructive interventions	planning
	designing performance measures	

Lohmann: The *Journal of Engineering Education* (JEE) is the world's oldest journal in engineering education; it will celebrate its centennial year in 2011. JEE is a peer-reviewed international journal published quarterly in print and online by the American Society for Engineering Education (ASEE) in partnership with the Asociación Nacional de Facultades y Escuelas de Ingeniería (ANFEI) in Mexico, Australasian Association for Engineering Education (AAEE), Indian Society for Technical Education (ISTE), International Association for Continuing Engineering Education (IACEE), Internationale Gesellschaft für Ingenieurpädagogik (IGIP, International Society for Engineering Education), Korean Society for Engineering Education (KSEE), Latin American and Caribbean Consortium for Engineering Institutions (LACCEI), and Mühendislik Dekanları Konseyi (MDK, Turkish Engineering Deans Council). Individual or institutional members of these organizations are eligible to receive JEE at a discounted rate as a member benefit. JEE also has a partnership agreement with *Research in Higher Education of Engineering* (RHEE), the national scholarly journal in China on higher engineering education research co-sponsored by the Chinese Academy of Engineering, Chinese Ministry of Education, Chinese Association of Higher Education, and Huazhong University of Science and Technology, to publish selected JEE articles in Chinese in RHEE. A similar arrangement will soon be executed for publishing JEE articles in Korean in the *Korean Journal of Engineering Education*. Other international partnerships are pending. JEE has approximately 8,500 subscribers in over 80 countries (excluding the 4,000 subscribers of RHEE). The journal's audience is the global community of stakeholders interested in advancing engineering education through educational research. More information about JEE may be found at www.asee.org/jee.

JEE is listed in the Science Citation Index (categories: Education, Scientific Disciplines; Engineering, Multidisciplinary), and the Social Sciences Citation Index (category: Education, Education Research) by Thomson-Reuters and the Institute of Scientific Information (ISI) (www.isiknowledge.com), and it is classified as an A* journal by the Australian Research

Council (www.arc.gov.au/era/era_journal_list.htm). JEE is a founding member of both the Web portal Annals of Research on Engineering Education published by the Center for the Advancement of Scholarship on Engineering Education of the National Academy of Engineering (www.nae.edu) and the International Federation of Engineering Education Societies (www.ifees.net). The journal is also listed in EBSCOhost research databases (Education Research Complete™ and Academic Search Complete™), the Elsevier bibliographic research database, Scopus, and it has applied for inclusion in the U.S. Department of Education's research database, ERIC.

The journal's *mission* is to serve as an archival record of scholarly research in engineering education. It publishes manuscripts in a wide variety of research areas in the field of engineering education. Manuscripts are expected to report original research that significantly extends the body of knowledge in the field of engineering education. Quantitative, qualitative, and mixed methods research designs are accepted. The journal typically publishes two types of manuscripts: research investigations and research reviews. Research investigations should state the questions addressed and their context relative to the body of knowledge on the subject. The relevant theories should be presented, research design described, limitations acknowledged, and research methods and instruments discussed so as to permit evaluation of the validity and reliability of the evidence offered. Ethical considerations in data collection, analysis, and reporting involving human subjects should be addressed. A description of any statistical analyses, discussion of the uncertainties, and the significance of the results to advancing engineering education research or practice should be provided. Research reviews should state the propositions addressed in the review and their context relative to the body of knowledge reviewed. A review might include a critical analysis, synthesis, or evaluation of previous research to provide new perspectives, a new knowledge structure, general conclusions or overarching principles, or new research directions. Reviews using meta-analytic approaches are encouraged. An explanation of the significance of the insights gained to advancing engineering education research or practice should be provided.

Manuscripts are evaluated according to their fit with the journal's mission and its six published review criteria. Manuscripts are expected to:

1. state clearly the questions or propositions addressed and the significance of the research to engineering education research or practice (focus and relevance);
2. situate the research within relevant bodies of knowledge and describe how it contributes to new knowledge (context and contribution);
3. employ research designs, methods, theories, and/or practices appropriate to the research performed (research validity and reliability or credibility and dependability);
4. present original ideas or results of general significance supported by clear reasoning and compelling evidence (results and generalizability or transferability);
5. exhibit clear, concise, and precise exposition that appeals to a broad international readership interested in engineering education research and practice (clarity and readability); and
6. provide tables and figures, as needed, that meaningfully add to the narrative (useful illustrations).

Please provide statistics on paper submissions and acceptance rates.

Lord: Using data from 2005 to 2009, an average of 335 manuscripts are submitted per year. About half of these are deemed acceptable for peer review by the Editor in Chief and go on to peer review. Of those which receive peer review, the average acceptance rate is about 51%.

Downey: For the 12 months prior to February 2010:

manuscripts submitted = 51
accepted = 11 (note: some are in process)
acceptance rate = 21%-24%

Shuman: Approximately 25% of the papers are being accepted; however, a number of papers that are not accepted during the first review, are ultimately accepted following one, or in some cases two re-writes.

ElSayed: Because the IJPE is in its start up phase, we do not have relevant data for this, since the inaugural education was composed of invited papers. However, due to our philosophy of continuous improvement, if the submission is not worthy of publication, our reviewers are committed to work with the authors to improve the quality of their submissions by providing rigorous and multiple assessments.

Lohmann: JEE processes about 300 submissions and revisions per year. As of February 15, 2010, the acceptance rate for manuscripts submitted in 2009 for which a final decision had been made was 6.1% (a final decision has not yet been made on 9.5% of the 2009 submissions).

What is the typical turnaround time for your journal from submission of the original abstract to publication of the paper? What stages does a paper go through in moving from submitted abstract to published paper and what should the author do at each stage to help in this process?'

Lord: Using data from 2005 to 2009, it takes about 1.5 months after submission for a manuscript to receive an initial decision and 2.3 months from author submission to final acceptance decision. On average, it is 18 months from author submission until print publication.

The Editor in Chief (EiC) reviews each manuscript upon submission. If the manuscript is not suitable to enter the review process (reasons include lack of quality, not falling within the scope of the journal, lack of assessment data, etc.) it will be rejected. Those manuscripts not rejected enter the review process, and are distributed to an associate editor (AE) on the basis of the technical area of the manuscript. Each manuscript is assigned at least three (3) reviewers. A minimum of two (2) reviews must be performed before a decision can be taken. Once these reviews are in hand, the AE prepares a preliminary decision, if necessary giving requirements and recommendations to be met by the author(s). The EIC reviews the preliminary decision, edits it as necessary, and communicates the decision to the author(s). This process continues with revisions that are submitted until a satisfactory manuscript is obtained.

The author can best help the process by ensuring that their manuscript addresses topic areas of interest to the Journal (as described in response #1 above); by carefully following the Instructions to Authors (printed on the inside back cover of the journal) when preparing the

manuscript, and the directions on the ScholarOne website when submitting it; and by responding promptly to communications from the IEEE and from the Journal's editors and editorial staff.

Downey: For twelve months prior to February 2010:

- Average days from submission to first decision = 32
- Average days from submission of revised manuscript to final decision = 42
- Estimate of average days from final acceptance to publication = 80
- Stages in the review process, for both initial and revised manuscripts:
- Author submits manuscript at journal's ScholarOne site
- Managing Editor records submission and directs it to one of the Editors
- Lead Editor assigns Associate Editor in consultation with other Editor
- Associate Editor selects reviewers, solicits reviews, and makes recommendation
- Lead Editor closely reviews manuscript, reviews, and Associate Editor recommendation, and produces draft decision
- Other Editor closely reviews manuscript, reviews, Associate Editor recommendation, draft decision, and recommends edits to draft decision
- Lead Editor issues decision
- Stages in the production process
    - Author uploads final manuscript into ScholarOne
- Managing Editor supervises Final Review of manuscript. Managing Editor copy-edits manuscript. Assistant Editor checks all notes and references. Editors make final suggestions with Track Changes. Managing Editor returns manuscript to Author for final editing.
- Author approves/disapproves of recommended changes and returns manuscript to Managing Editor
- Editors authorize formal upload of manuscript
- Managing Editor uploads manuscript for production
- Taylor & Francis produces proof for Author review and correction
- Author returns proof
- Taylor & Francis makes electronic version of article available on *iFirst*. The article is considered published at this point, lacking only page numbers
- Taylor & Francis issues print version

Shuman: The review process should take 90 days; if accepted, publication should follow within another 90 days. However, as noted above, a number of papers require a second review before being accepted which increases the total turn around time to up to nine months.

A submitted paper is first screed and given a quick review by the Editor-in-Chief (EIC). If it appears to have merit and worthy for full review, it is then sent to an Associate Editor (AE) for handling. The AE may decide that the paper is not acceptable and return it to the EIC. However, typically, the AE will send it out for review. Ideally we would like to have three or four appropriate reviewers (including one that the authors might recommend) as well as a review of the AE. The AE then makes a recommendation to the EIC. The Editor-in-Chief will read the paper, the AE's recommendation and each of the reviewers' comments before making a final decision. The AE and reviewers are able to make comments that are only seen by the AEE editors, in addition to comments that will be sent to the authors. The paper may either be

accepted as is, minor revisions requested prior to acceptance, major revisions (requiring a full re-review), or rejected. If minor revisions are required, the AE has the option of accepting the revised paper or sending it out for a second review. As noted, the authors receive a full set of comments from the AE and the reviewers as well as the EIC.

The author can track the progress of the paper online or contact the EIC. Our objective is to try to be very timely, but authors should appreciate that this is an all volunteer operation and consequently, other priorities intervene at times, delaying reviews and turnaround.

ElSayed: Turn around time currently is six months from paper submission to publication. Abstracts can be submitted any time for feedback from the reviewers. The deadline for paper submission is January 15. Initial feedback to the authors will be returned by February 15, and final submissions deadline is April 1. The intent currently is for the IJPE reviewers to return their reviews within two weeks. It is our intention to assist authors in continuously improving their skills, so more feedback iterations may occur.

Lohmann: JEE uses a two-step process for review. Upon submission the journal editor evaluates a paper's suitability for peer review by assessing its compatibility with the journal's mission and its six published review criteria. Papers judged compatible are forwarded to one of eleven associate editors for peer review. JEE has two primary manuscript processing goals and the journal publishes its performance to achieve them annually. The editor's goal is to review and inform an author(s) as to a paper's suitability for peer review within 14 days of submission on at least 90 percent of the papers submitted. For manuscripts submitted in 2009, the editor reviewed and informed the author(s) within 14 days on 98.7 percent of the submissions, and the average number of days for informing authors was 4.6 days (excluding the 9.5% of manuscripts in review). If a paper is forwarded for peer review to the journal's associate editors, the goal is to complete the peer review within 90 days of submission on at least 90 percent of the papers submitted (including the time for the editor's initial review for suitability). As of February 15, 2010, manuscripts submitted in 2009 and that had completed their first round of peer review, the journal processed and informed the author(s) of the results within 90 days on 89.7 percent of the papers, and the average time was 58.0 days. Manuscripts are seldom accepted following their first round of peer review. Most require one or more revisions. Accepted papers are typically published within one or two issues from the date of acceptance.

When (and how often) is it appropriate for author's to inquire on the status of a paper under review by a journal?

Lord: Queries from authors are always welcome. Nevertheless, given the timing of the review cycle, an author should not expect a decision before the manuscript has been in review for about two months. Authors receive a rapid response to such queries; the nature of that response should dictate when s/he should enquire again. So, for instance, if the response is that difficulty has been experienced in finding a third reviewer, it would be reasonable to leave a sufficient time lapse for a reviewer to be invited, to accept, and to perform a review before enquiring again. Should the response be that a final review is pending, a shorter time lapse would be appropriate.

The Associate Editor responsible for the review of the manuscript is copied on the response if there has indeed been a delay in the review process, and encouraged to expedite the process as far as possible.

Downey: It is appropriate for the Author to inquire about the status of a manuscript 45 days after submission. Inquiry is through an email to the Managing Editor, who consults with Editors about how to respond. Typically, the Editors respond with an explanatory note.

Shuman: It depends on the Journal - for AEE, certainly after 90 days the author should enquire about the status of the paper.

ElSayed: Authors should receive acknowledgement from me with in two business days after submission. If the author does not hear back from me after receipt in one month, please feel free to contact me through email to follow up.

Lohmann: Authors should feel free to inquire any time. Authors may follow the progress of their manuscript on the journal's Web site for submitting and processing manuscripts. However, given that the vast majority of authors hear back from the journal within 14 days as to the manuscript's suitability for peer review or within 90 days if forwarded for peer review, most authors seldom have need to contact the journal as to the status of their paper.

What are some of the strategies being employed to shorten the turnaround time on articles in review?

Lord: Automatic reminders, warning of overdue status, are issued by the ScholarOne system to Editors, Associate Editors, reviewers and authors at each stage of the review process.

In addition, the status of all manuscripts in review is reviewed monthly, at a minimum, by the Journal's Editorial Administrator. Where appropriate, the Associate Editors of overdue manuscripts are then contacted directly and encouraged to move the manuscripts forward.

Given the *pro bono* nature and the time demands of the role of Associate Editor, this can become a burden over time even to the most responsible. In one or two other instances, Associate Editors have achieved a venerable age in their roles! Both these factors can result in a certain neglect of the review process. The current Editor-in-Chief has addressed this problem by inviting new Associate Editors to join the Journal, replacing older serving members as appropriate.

Downey: The Managing Editor keeps Editors apprised if an Associate Editor is taking too long to assign reviewers, receive reviews, or make recommendations. The journal has twelve Associate Editors. Many work quickly. Some do not.

The Editors are responsible for reminding/encouraging/cajoling Associate Editors to complete the review process. Most of the time this works well. Sometimes it does not.

Shuman: Pleading with AEs to move the process along! Seriously, AEs are dependent on reviewers, and many times the ideal reviewers are either over committed or do not have the time

to do a thorough review. At times if we have received two good reviews, then the AE may decide not to wait for the other reviewers but serve as the third reviewer and make a recommendation to the editor.

ElSayed: The publication cycle mentioned previously was designed to meet author and community expectations for moving teaching & learning work from the classroom/lab to the broader process education community. We are continuously improving our processes as we gain experience, and as our submission increase we will have to expand our number of reviewers and perhaps our IT processes to keep the same high quality of feedback and timeliness.

Lohmann: See the journal's policy and published performance in question 3.

When you have multidisciplinary research, it is very difficult to find knowledgeable reviewers. How does your journal address this situation?

Lord: The Journal's Associate Editors are each assigned to particular topic areas. They select reviewers either 1) by inviting professional colleagues who they feel can span the subject-matter of the submitted manuscript, or 2) by using the Search features of the ScholarOne website to search for reviewers with the appropriate expertise. In the case of an unusually multidisciplinary manuscript, reviewers should be selected to cover the various areas of technological expertise required.
It should also be noted, though, that multidisciplinary research is now the norm, not the exception; the majority of engineers have developed an ability to bridge between disciplines which means that even if they might not know the answer, they know where to go to get it.

Downey: This is why the journal has twelve Associate Editors and an Editorial Board with thirty-five members. Eight of the Associate Editors are based in the United States, three in Europe, and one in East Asia. Each Associate Editor has a unique multidisciplinary identity.

Shuman: The idea is to try to cover the disciplines with several reviewers; sometimes this is difficult when a particular specialty area is the focus. Consequently, the AE may have to find someone from engineering education, someone from the technical field (typically a researcher in the topical area) and someone from the learning sciences. Because we ask for three-week turnaround from reviewers, this places an additional burden on the AE. However, for a good review, we are willing to provide a reasonable amount of additional time. Note that the AE is asked to evaluate the reviewer in terms of quality and usefulness of the review as well as timeliness. AEs have access to this information in selecting reviewers. Also available is the number of times a reviewer has been asked to review an article. We try to not overload any reviewer, but also try to stick with those who received very good recommendations from the AEs.

ElSayed: As mentioned above, our publication is inherently interdisciplinary and covers the scope of our journal. Because of the diversity in our editorial board, they will seek out other experts in their fields for reviews as they see fit.

Lohmann: *Scholarly engineering education research is by its very nature multi-disciplinary.* At the least, it involves the disciplines of engineering and education (and related learning sciences) and frequently other disciplines as well (e.g., humanities, natural and social sciences). Consequently, JEE's editorial team has broad expertise, including cognitive and educational psychology, education, engineering, liberal arts, learning sciences, higher education, STEM education, etc. JEE has a database of nearly 4,000 international reviewers who also reflect broad disciplinary expertise as well as a diversity of organizational settings, i.e., academe, industry, non-profit, government; it also has a 47 member international advisory board with similar diversity. Finding expertise is seldom an issue. JEE seeks to provide at least 3 three reviews on every paper. Manuscripts submitted in 2009 and that had completed their first round of peer review had an average of four reviews per paper.

What are the characteristics of papers that help them to get accepted?

Lord: To be accepted, a manuscript should make a worthwhile contribution to its field. In addition, it is expected to provide a literature review and assessment data. It should also provide a clear rationale for why the work was done, and what direct value it has. What specific need will it meet, and how?

A further factor in getting a manuscript accepted is clarity in its writing. While many of the Journal's authors are non-native English speakers, this clarity is more the result of consistent logical thought on the part of its author than of expertise in the use of English.

Downey: The journal accepts empirical research manuscripts, theoretical analyses, and thoughtful reflective essays. It is crucial that a manuscript "enhance understanding of engineers or engineering."

Many manuscripts in engineering education research, for example, test and assess innovative contributions to engineering curricula. Such a manuscript is appropriate for *Engineering Studies* only if it explains and analyzes the implications of the activity for engineers and engineering. It is not enough, for example, to report that a particular approach to design pedagogy was effective. It is necessary to explain and if possible assess the larger implications for engineering of that approach to design pedagogy scaling up and gaining broad acceptance. How would engineers and engineering be different because of it, and what would make that a good thing?

Shuman: First, the article describes a true advance in engineering education built upon solid pedagogy and indicated by a comprehensive literature review (summarized). Second, there is a sound assessment documenting that advance.

ElSayed: The primary characteristics for acceptance are technical merit, archival value, and quality. The paper should have emphasis on an educational process or relevant application. Other criteria are posted on our website as follows:

The submitted manuscript will be assessed by at least two reviewers. Reviewers for the journal will use the *Strength, Improvement, and Insight (SII) assessment method*, the official assessment adopted by the Academy to select the published manuscripts. The authors will receive the

reviewers' SII assessment of their manuscript at the end of the review process. The assessment of the manuscripts will be conducted according to the following two sets of criteria and established measures for each.

The first set of criteria concerns the document's scholarly content and its contribution in one or more of the following ways:

- Addresses issues relevant to Process Education philosophy and implementation
- Employs Process Educational principles and methodologies
- Presents an original contribution to Process Education knowledge map
- Appeals to wide range of Process Educators
- Expands upon relevant Process Education references and bodies of knowledge

The second set of criteria concerns the quality and presentation of the manuscript:

- Provide a clear, concise, and accurate representation
- Use appropriate and well-defined terminology
- Adhere to journal standards and style
- Be self-contained and well integrated
- Exhibit a high level of quality and attention to details

Lohmann: The paper fits the journal's mission and addresses the six review criteria well.

What are some common characteristics of papers that lead to poor reviews and rejection?

Lord: The current EIC has made a concerted effort to improve the quality of the scholarship of the journal through insisting that manuscripts sent out for review include an extensive literature review of previous work, and also incorporate meaningful assessment data that will allow readers who are considering adopting an educational innovation described in a ToE article to know whether the innovation has been effective in improving student learning. This is a major change to the culture of the Transactions and there is sometimes "pushback" from authors whose work is rejected. However, the current editorial board of ToE considers it essential that the same standards for rigor that would be applied to a journal in a disciplinary field also be applied to research in the educational field. These standards for assessment and for literature review are communicated to potential authors through online guides to authors that are constantly updated to ensure that the standards for publication in ToE are communicated to potential authors.

A common failing of submitted manuscripts is lack of a clear rationale as to why the work was performed. Starting a manuscript with vague, generic statements (*"The world without electronics engineers is unimaginable and it is not an understatement to claim that these engineers helped to shape the world to the way it is today."*) can give the impression that the authors don't actually have a good reason to do the work at all.

Downey: The most common reason a manuscript receives a poor review is that it does not explicitly address the question: How does it enhance understanding of engineers or engineering?

Different manuscripts miss in different ways. Some quantitative studies, for example, fail to disaggregate data about engineers from data about scientists. Some manuscripts fail to analyze

the objectives of their initiatives, assuming readers accept them without question or reflection. Some manuscripts assume engineers and engineering are the same at all times and in all places.

Shuman: What the paper describes is clearly not an "advance"; no assessment or very little assessment; weak or incorrect statistical methodology; poorly written; not appropriate for an engineering education audience (i.e., a paper that should be submitted to a journal in the author's technical area rather than an engineering education journal).

ElSayed: Manuscripts will always be assessed according to the SII methods mentioned previously and on our website which means that the strengths of the paper will be cited, the improvements of the paper will be outlined in a constructive manner and insights on how to improve the paper will be provided. Once the author has improved the paper to meet the standards in all areas reviewed it will be published. Paper that exhibit a lack of defined outcomes, content is not coherent, or is common practice so no added contribution will be more difficult to assess to provide meaningful feedback for improvement.

Lohmann: The paper does not fit the journal's mission and/or does not address the six review criteria well.

If you could provide one single bit of advice to a person seeking to be published in your journal, what would you say?

Lord: Have a solid piece of work to report, and follow the instructions!

Downey: Be sure your manuscript addresses the question: How does this manuscript enhance understanding of engineers or engineering?

Shuman: Make sure you have a convincing case for your "advance."

ElSayed: Use mentorship and peer reviews to get feedback on the merit and quality of the paper. Read a few IJPE papers to understand the journal's expectations. The Faculty Guide Book published by Pacific Crest includes much information as well and being an excellent resource. Contact me to connect you to a PE practitioner to discuss your paper before submitting. Adopt a continuous improvement mindset to work with us to elevate the substance of your work. We pride ourselves in being mentors since this is the PE philosophy.

Lohmann: *Successful papers submitted to JEE are based on work that recognizes the multi-disciplinary nature of engineering education research.* For example, papers submitted to JEE in 2009 for which a final decision had been made and were written by authors with expertise in at least the disciplines of engineering and education (including related learning science disciplines) were accepted seven times more often than papers written by authors with expertise in only engineering. Indeed, even papers written by authors with expertise in other disciplines excluding education (and related learning science disciplines) and frequently but not necessarily always involving engineering were accepted twice as often than papers written by authors with expertise in only engineering. Clearly, the single most important piece of advice for authors interested in submitting their papers to JEE is that the work reported must recognize the multi-disciplinary

nature of engineering education research, and of course, the work must be thoughtfully conceived, well designed, and carefully executed and presented in clear, concise, and precise exposition.

Please feel free to add any additional information that could be useful to future authors.

Downey: *Engineering Studies* actively seeks to expand its geographic purview beyond Europe and the United States. Much of the literature on engineers and engineering available in English focuses on these areas. Millions of engineers have worked elsewhere.
Finally, if your account of engineers or engineering is inclined toward critique, challenge yourself to examine and perhaps report on potential pathways for responding to your criticism. In addition to helping build and serve diverse communities of researchers interested in engineering studies, the journal seeks to contribute to and participate in broader discussions and debates about engineering education, research, practice, policy, and representation.

ElSayed: We are committed to transforming higher education through continuous improvement of the scholarship of teaching & learning. Each issue of our journal contains an assortment of articles that collectively provide (a) discoveries based on empirical findings, (b) explanation of promising theories/constructs grounded in the literature, (c) strategies for expanding and strengthening the community of reflective practitioners of process education. If you would like to know more about process education and our philosophy, please visit the website of the Academy of Process Educators at www.processeducation.org

Lohmann: The *Journal of Engineering Education* is more than a place to publish papers—it also serves to build a vibrant community of scholars and practitioners dedicated to advancing scholarship in engineering education. This aspiration announced in 2005 was translated into action with the creation of a five-year strategic plan (JEE, July 2005). Reports on the progress to achieve the goals of the strategic plan have been published annually in the Editor's Page of the journal (JEE; July 2006, April 2007, April 2008, April 2009, April 2010—in press). Among the major achievements has been to substantially broaden its readers, reviewers, authors, and editors internationally. The journal also launched the highly successful international Research on Engineering Education Symposium (REES) that has now become an independent community-owned event with an elected governing board. Further, JEE provides global workshops for those interested in becoming more substantively engaged in engineering education research, and JEE increasingly is a sponsor supporting international educational research and engineering educational research meetings, workshops, symposia, and conferences.

Shuman: First, we are very much interested in articles that creatively use multi-media and which exploit our online capabilities in order to provide readers with a better understanding of their topic. To date, we are just scratching the surface as to what can be done. We encourage authors to help move us forward.

Second, we are very interested in publishing special issues and invite prospective guest editors to contact us concerning a proposed special issue. Our current issue includes a special issue on Capstone Design (the result of a conference held in 2007). Special issues on departmental level reform and e-learning are in the works.

Conclusion

The topic of this paper and the associated panel evolved from a discussion among peers about how to improve the potential for paper acceptance by the leading refereed journals. It is hoped that this information aids faculty in understanding the publication process so that they may enhance their success in becoming published.

Helpful Websites

1. Reprinted from http://www.processeducation.org/ijpe/info.htm
2. Reprinted from http://www.ripublication.com/ijes.htm
3. Reprinted from http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=13
4. Reprinted from http://advances.asee.org/mission.cfm
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