Tips for
Reviewing an ASEE Paper

Jack R. Lohmann

Georgia Institute of Technology

Overview

- **Prepared remarks**
  - Why do peer review?
  - What makes a good review?
  - How to review with focus?
- **Workshop exercises**

Why do peer review?

How we often view it

Two functions

- **Quality control**
  - Filtering
- **Quality improvement**
  - Advice

Worth remembering...

...regardless of what happens to the paper, you have an opportunity to help the authors improve their efforts to enhance the quality of the educational experience for engineering students.

What makes a good review?

Three elements

- Qualified reviewers
- Purpose of the program (or session)
- Specific review criteria

Qualified reviewers

- **Desirable characteristics**
  - Knowledgeable of subject
  - Broadly informed
  - Forthright and constructive
  - Free of conflict of interest
  - Responsive to deadlines

Purpose of the program

- **What were the authors aiming for?**
  - Was there a call for papers?
  - Does the session chair have an objective?

ASEE Annual Conferences

"The annual conference and exposition provides a forum for engineering educators and suppliers from around the globe the opportunity to exchange ideas, effect curriculum changes, enhance teaching methods, and network with peers and others dedicated to furthering engineering education."

A colleague's perspective

"Since I have never been given a philosophy or guideline for reviewing papers for the conference, I have operated on the premise that most of the papers represent work-in-progress and that the conference is meant to be more inclusive than exclusive. Therefore, unless the paper has absolutely no redeeming quality whatsoever (and I have seen one or two of those), I review not so much to determine acceptance/rejection as to give a heaping dose of constructive advice to help the author in the further development of his/her topic."

Specific review criteria

- **At a fundamental level, most of us expect a paper to…**
  - be carefully written
  - address important issues
  - present persuasive arguments
  - provide useful information

Two aspects of a review

- **Content and contribution**
  - Substance
- **Composition and presentation**
  - Form
- **Ten suggested criteria**
  - Adapted from “Guide for Authors,” *Journal of Engineering Education*, and *Scientific Research in Education*, National Research Council, 2002.

Content and contribution

- **Audience**
  - Address the right audience? Appeals broadly?
- **Topic**
  - Principal issues clear? Are they important?
- **Related Work**
  - Who's done what? How does this contribute?
- **Approach**
  - Based on sound methods? Was it carefully done?
- **Results**
  - Are they new? Convincing arguments or evidence?

Composition and presentation

- **Exposition**
  - Is the writing clear, concise, and accurate?
- **Layout**
  - Is it thoughtful and logical?
- **Attention**
  - Is there careful attention to details?
- **Illustrations** (if any)
  - Are they meaningful and understandable?
- **Composition**
  - Does it follow accepted standards?

A final comment

The best reviews…

- are thorough, specific, and thoughtfully worded
- render sound professional judgment
- offer advice in the spirit of collegiality
- exhibit themselves the high standards they encourage

How to review with focus?

Calibrating before reviewing

- Title
- Author(s)
- Abstract
- References
- Paper focus

Title

- **Concise? Descriptive? Thoughtfully worded?**
- **How would you judge these?...**
  - "Shake, Rattle and Roll: A Moveable Lab"
  - "New Approaches to Education"
  - "An Innovative Approach to Assess and Evaluate the Fluids Option in Mechanical Engineering Curricula: Combining the Outcomes of EC 2000 with the Methodology of CQI to Assure High Quality Student Learning"
  - "Concept Mapping as a Form of Student Instruction and Assessment in Bioengineering"

Author(s)

- **Experience? Expertise?**
  - Title, Affiliation
  - Biosketches
  - Acknowledgements
- **Elements to consider…**
  - Early career? Seasoned “warrior”?
  - Professional focus, organization
  - Balance among the authors

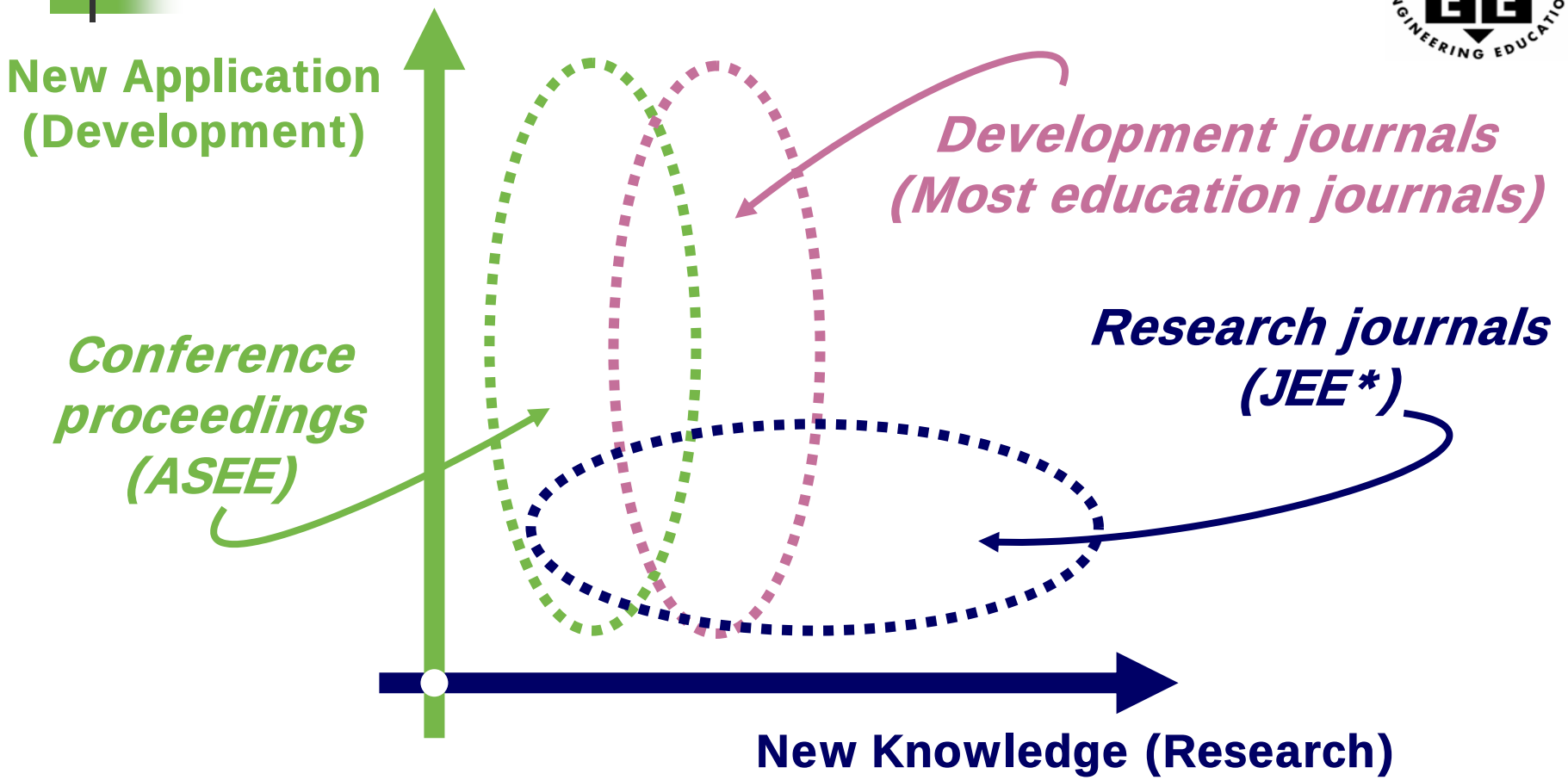
Abstract

- **Concise and descriptive <u>of the paper</u>?**
  - Abstracts should not be shortened Introductions!
- **Elements to look for…**
  - What was the problem addressed?
  - How was it addressed?
  - What was learned?

References

- **What is their nature?**
- **Elements to look for…**
  - Number
  - Currency
  - Sources (e.g., proceedings, journals, books)
  - Authors/Titles (e.g., self-citations, well known works)

Paper focus



* *JEE* adopted a research mission, January 2003.

Time to put this to practice!

Overview

- **Two papers**
  - "An Alternative Method to Teach HVAC"
  - "The Impact of PDAs on Freshman Engineering Student Performance"
- **Two part exercise**
  - Calibrate the papers
  - Apply ten suggested criteria

Share in pairs

- **Pair up with someone next to you**
- **Take 10 minutes**
  - Refresh your memory of the papers
  - Calibrate the papers (jot some notes to yourself)
  - Share your observations with each other
- **Open discussion will follow**

What are your observations?

- Title
- Author(s)
- Abstract
- References
- Paper focus

Share in pairs

- **Take 10 minutes**
  - Rate the papers according to the ten criteria
  - One person rate the HVAC paper,
    the other person rate the PDA paper
  - Share your ratings with each other
- **Open discussion will follow**

What are your observations?

- **Content and contribution**
  - Audience
  - Topic
  - Related work
  - Approach
  - Results
- **Composition and presentation**
  - Exposition
  - Layout
  - Attention
  - Illustrations
  - Composition

Thank you!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CONTENTS

- **Papers are welcome!**
- **Reviewers are welcome!**
- **More information, see**

www.asee.org/publications/jee