Publishing Biology Education Scholarship: Culture & Practice
(focus: journal articles)

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Message

Biology faculty need help with the practice of education publishing because they have not been involved in the culture of education publishing.
ASM Biology Scholars Program-Writing Residency

Biology Scholars.org

What was confirmed:

- Biology faculty are publishing education scholarship at increasing rates
- Quality of submissions is improving
- However, many faculty still need a good deal of help with their submissions
- Others are surprised to know this
Professor Dewey wishes to publish his findings - strengths, limitations?

Asset - knows

- publication process
- how to write a scientific research paper
- how to analyze data
However, in contrast to publishing his biology research, there is much he is not familiar with and does not know!

Culture of publishing biology education scholarship
Issues

• Which journals?

• Context & Background - interesting questions, critiques

• Literature

• Colleagues
What we see as editors

- Many faculty use a few "standard" references (e.g. NRC - *How People Learn*)
- May be missing some core, relevant work
- Conception of how their work fits into a larger context is often limited
- May need help with qualitative analysis
Implications

• Editors & reviewers need to work with many faculty to help them write better articles

• Biology faculty need help with the whole process of publishing their education scholarship - our professional societies can play an important role here
Role of Biological Professional Societies

- Workshops at meetings - repeated
- Publication(s)
- Coordination between societies about this issue and what to do - oversight committee that includes education journal editors
Fundamental barriers

Faculty member is going to quickly face issues of time & motivation. Why publish education scholarship? Will it be worth the
REWARD SYSTEM
How do we see ourselves?
Journals that publish biology education scholarship

• Professional Society Education Journals
• Biology Research Journals
• Education Research Journals
## Biological Society Peer-reviewed Publications

<table>
<thead>
<tr>
<th>Journal/Publication</th>
<th>Society</th>
<th>First Published</th>
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<tbody>
<tr>
<td>Cell Biology Education</td>
<td>American Society of Cell Biology</td>
<td>2002</td>
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<tr>
<td>Advances in Physiology Education</td>
<td>American Physiological Society</td>
<td>1989</td>
</tr>
<tr>
<td>Biochemistry &amp; Molecular Biology Education</td>
<td>International Union of Biochemistry &amp; Molecular Biology</td>
<td>1972</td>
</tr>
<tr>
<td>Teaching Issues &amp; Experiments in Ecology</td>
<td>Ecological Society of America</td>
<td>2004</td>
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<tr>
<td>Journal of Molecular &amp; Biology Education</td>
<td>American Society for Microbiology</td>
<td>2000</td>
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<tr>
<td>Journal of Nutrition Education and Behavior</td>
<td>Society for Nutrition Education</td>
<td>2001</td>
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Advances in Physiology Education Published by American Physiological Society:
- Classroom/lab innovations, Essays, Reviews
- K-12, College, Professional
- Quarterly
- Freely available online
- Pay for print subscriptions
Life Sciences Education published by The Amer. Soc. Cell Biology (formerly Cell Biology Education)

- Free, online quarterly (High Wire Press)
- Features, Articles, Essays
- K-12, undergrad. grad
- Supported by HHMI
Teaching Issues & Experiments in Ecology (TIEE) published by Ecological Society of America

- Electronic, free
- Research, Practice (field, lab classroom), Reviews
- Supported by CCLI grants
- In transition
Scientific Journals

• *BioScience (AIBS)* - Forum, Overview

• *Science (AAAS)* - Education Forum
Summary:

- Biologists are publishing education research; often in their society’s education journal
- In these journals submissions rates are increasing and quality is improving
- Faculty need help writing education papers; editors and reviewers are helping them
- Biological professional societies could work together provide more guidance and resources for faculty