Sustaining CBE—Life Sciences Education

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Dear LSE Readers:

CBE—Life Sciences Education (LSE) is now 16 years old. The journal was started by biologists as a place to share lessons learned about teaching and learning and has matured into a robust, well-respected biology education journal read by both researchers and practitioners. The journal publishes features, essays, and articles describing both evaluation studies and more basic and applied research on biology teaching and learning. The journal is also publishing a growing body of interdisciplinary scholarship with implications for biology education.

Since its inception, *LSE* has been open access, meaning that all of its content is freely available. Maintaining open access of the journal has been a priority for its publisher, the American Society for Cell Biology (ASCB), and its external funder, the Howard Hughes Medical Institute (HHMI). Open access ensures that biology educators in diverse positions and from diverse institution types can make use of evidence-based teaching strategies, are able to adapt or adopt pedagogical innovations for use with their own students, and can keep current on teaching and learning research. Open access is increasingly important as colleges and universities continue to reduce their numbers of journal subscriptions.

To ensure the journal's open access status, HHMI and ASCB, and more recently the Genetics Society of America (GSA), have covered the costs of publishing *LSE*. Publishing the journal requires covering the cost of peer review software, copyediting, typesetting, online hosting, long-term archiving of content, and staff time. *LSE* expenses, which are approximately \$250,000 per year, also include marketing and community development to reach new cadres of educators who may benefit from the journal's content. Although HHMI, ASCB, and GSA are proud to support *LSE*, these organizations cannot absorb the entire cost of publishing indefinitely. To ensure the journal's long-term sustainability, it is necessary to diversify its revenue streams.

ASCB remains committed to maintaining open access to *LSE*. The important contributions of volunteer editorial board members and reviewers help to keep costs low, yet open access journals still require financial support. This generally occurs through the payment of a fixed article-processing fee by the authors (i.e., "article charge"). Instituting page charges is an alternative to an article charge, but this disadvantages certain kinds of education scholarship, such as qualitative and mixed-methods studies, which tend to be lengthier.

Following extensive discussions of potential revenue streams, thorough analysis of sources of funding for work published in the journal, and careful review of peer journals, we have made the difficult decision to institute an article charge of \$1900 for each essay and article published in *LSE* for submissions on or after January 1, 2018. We hope the timing of this announcement will allow authors to begin to include article fees in grant proposal budgets. This amount is comparable to the fees of journals we consider to be peers, such as *Physical Review–Physics Education Research*. This fee is less than open access fees of subscription-based journals such as the *Journal of Research in Science Teaching* and *Bioscience*, which charged authors open access article fees of \$3000 and \$3750, respectively, at the time this editorial was written.

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To mitigate the burden of article charges, especially for authors who do not have extramural or institutional funding for publishing, we will grant requests to reduce or waive fees when authors provide appropriate justification. It is critical to both ASCB and HHMI that any negative effects of this change are mitigated, including any effects on who is able to publish their work in LSE and what kinds of work get published in the journal. Thus, we strongly encourage authors who do not have a source of funding for publishing their scholarship to request waivers or fee reductions. A mechanism to make waiver or fee reduction requests will be incorporated into the submission process. Requests will be considered on a case-by-case basis, but in general we anticipate that waivers will be granted to authors whose work is entirely unfunded and that fee reductions will be granted in cases where the work is funded but no funds are earmarked specifically for publication fees. Authors may be asked to provide a letter from their dean or department chair describing the available funding.

The ability of authors to pay article charges and any decisions regarding fee waivers will *not* be a factor in *LSE*'s editorial review process. The editorial review process will be entirely separated from article charges. Neither the editorial board nor reviewers will be privy to whether a fee waiver has been requested or granted. ASCB and *LSE*'s editorial board will carefully review journal metrics to track the impacts of the decision to collect article charges, including publication rates

for authors who hold different types of positions at diverse institution types.

About 60% of essays and articles published in *LSE* over the past three years cite funding from HHMI, the National Institutes of Health, or the National Science Foundation. It is important to note that even if fees were collected for 60% of the articles *LSE* publishes in a typical year, the resulting funds would cover only a portion of the journal's costs. Although we believe that article charges will be an important source of support for the journal, the extent to which they can offset expenses is difficult to predict accurately. We are therefore fortunate that HHMI recently agreed to backstop this funding experiment for three years while we develop a more complete model of how the journal will ultimately be supported. Whatever that model may be, it is very unlikely that article charges will make the journal self-sustaining. Thus, ASCB will continue to invest in the journal and seek funding to support its continued excellence and open

Recent evaluation studies of *LSE* indicate that the journal has been a major influence in fostering and supporting excellent scholarship in the biology education community. Although budgets are tight for the entire community, this is an opportunity for all of us to help maintain open access to our work and thus its potential to influence the education, professional development, and success of all biology learners. Thank you for your support.