

Journal for STEM Education Research

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The *Journal for STEM Education Research* is an interdisciplinary journal in subject content education focusing on research in STEM (Science, Technology, Engineering, and Mathematics) education. The *Journal* aims to promote interdisciplinary, empirically grounded STEM education research through contributions that blend content expertise and educational endeavors. Relevance to the *Journal's* goals is a non-negotiable requirement for review. The *Journal* strongly emphasizes interdisciplinary (transdisciplinary, or multi-disciplinary) perspectives in terms of the nature of a contribution, its discussion, and interpretation. Single-discipline contributions should nonetheless identify significant implications for other disciplines. In ambiguous cases, authors might profitably include a justification in their letter of submission.

Author Guidelines

I. Manuscript Requirements

With the exception of the title page, all manuscripts described below should be prepared and submitted “blinded,” i.e., removal of the names of authors, and their prior publications in the body of the text and the end-of-manuscript references omitted or marked merely as “Author, <date>”.

Information about text formatting and style can be found at the journal’s website, under [“Instructions for Authors”](#).

(1) Research Articles

Criteria

Research articles should mainly offer original interdisciplinary research contributions, featuring empirical data that inform findings. Research articles should present the questions being addressed, explaining how account has been taken of prior knowledge on the topic in framing them. The relevant theory should be presented, the research design decisions should be justified, and the research methods should be described in sufficient detail to permit an evaluation of quality. The interpretation of results must be supported by the data. The conclusions should explain the significance of the results and their contribution in advancing STEM education research or practice.

Note: manuscripts focused on the development of theory or methods in STEM education are also welcomed and can be submitted as Research Articles or Research Briefs.

Length of the Article

Up to 10,000 words including references, with exceptions only in the case of compelling rationale.

Preparing Your Manuscript

Abstract

The abstract should be brief (100 to 200 words) and include all relevant and important elements, such as the purpose of the research, main results and contribution. The abstract should be able to stand alone,

even when the manuscript itself is not accessible. The abstract should not contain any undefined abbreviations or unspecified references.

Keywords

Four to six keywords representing the main content of the manuscript.

Authors can use the outline below that is typical for a standard study, and may use variations of the outline depending on the nature of the study (e.g., for theoretical or methodological manuscripts), but in any case, should include all of the listed topics with regard to the research.

Introduction

The Introduction section should explain the background to the study, its aims, a summary of the existing literature and why this study was necessary.

Research questions should be clearly identified and stated.

Methods (including experimental design, as needed)

The Methods section should include:

- Design and setting of the study
- Characteristics of participants or description of materials
- Clear description of all processes and methodologies employed; for human subjects, pseudonyms should generally be used.
- Type of quantitative and/or qualitative analyses used, including needed justifications and a power calculation of statistical analysis if appropriate; for mixed methods, include how different types of data were mixed

Studies involving human participants, data or tissue or animals must include statement on ethics approval and consent.

Results

The Results section should include the findings of the study including, if appropriate, results of statistical analyses, which must be presented either in the text or as tables and figures.

Discussion

For empirical studies, this section should discuss the implications of the findings in the context of existing research and highlight limitations of the study. For methodology manuscripts, authors may also include a discussion of any practical or operational issues involved in performing the study and any issues not covered in other sections.

Conclusions

This section should state clearly the main conclusions along with any implications and recommendations for further research as well as a discussion explaining the importance and relevance of the study to the field.

(2) Research Reviews

Criteria

Research reviews should include, but are not limited to, the following types of articles:

- Systematic and substantial syntheses of specific research areas in integrated STEM education,
- Evaluation of progress in specific topic areas in integrated STEM education,
- Critical assessments with respect to issues within the scope of *Journal for STEM Education Research*.

Length of the Article

Up to 10,000 words including references, with exceptions only in the case of compelling rationale.

Preparing Your Manuscript

Abstract

The abstract should be brief (100 to 200 words) and include all relevant and important elements, such as the purpose of the research, main results and contribution. The abstract should be able to stand alone, even when the manuscript itself is not accessible. The abstract should not contain any undefined abbreviations or unspecified references.

Keywords

Four to six keywords representing the main content of the manuscript.

Authors may use the following as an outline, but in any case, all elements should be covered.

Introduction

The Introduction section should explain the background to the article, its aims, a summary of a search of the existing literature and the issue/question under discussion.

Main text

This part should contain the body of the manuscript, and may also be broken into subsections with short, informative headings.

Conclusions

This section should state clearly the main conclusions and include an explanation of their relevance or importance to the field.

(3) Research Briefs

Criteria

Research briefs are a feature of the journal that can include, but are not limited to, the following types of articles:

- Presentation of research that extends previously published research in STEM education, including the reporting of additional controls and confirmatory results in other settings, as well as negative results;
- Well-designed pilot studies in integrated STEM education with a small sample;
- Brief reports of evidence-based changes in STEM curricula or pedagogical practices in different educational systems around the world.

Length of the Article

Up to 5,000 words including references, with exceptions only in the case of compelling rationale.

Preparing Your Manuscript

Abstract

The abstract should be brief (100 to 200 words) and include all relevant and important elements, such as the purpose of the research, main results and contribution. The abstract should be able to stand alone, even when the manuscript itself is not accessible. The abstract should not contain any undefined abbreviations or unspecified references.

Keywords

Four to six keywords representing the main content of the manuscript.

Authors may use the following as an outline, but in any case, all elements should be covered.

Main text

This part should contain the body of the manuscript, and may also be broken into subsections with short, informative headings. The section structure can be similar to that of Research Articles discussed above.

(4) Book Reviews

Criteria

A book review can be a full review of a single volume, a thematic review of several closely related books from a book series or a collection of closely related books that are all relevant to STEM education. A review shall not only present a succinct summary of the book(s), but provide evaluative discussion related to its scholarly quality, significance, and potential impact to the development of STEM education research and practice.

Interested contributors should contact the Editor first and provide review copies of books for further consideration.

Length of the Article

Up to 2,000 words including references, with exceptions only in the case of compelling rationale.

Preparing Your Manuscript

Abstract

The abstract is optional for book reviews. If included, it should be brief (100 to 200 words) and should be able to stand alone, even when the manuscript itself is not accessible. The abstract should not contain any undefined abbreviations or unspecified references.

Keywords

Four to six keywords representing the main content of the manuscript.

Main text

This part should contain the body of the manuscript, and may also be broken into subsections with short, informative headings.

II. Consent for Publication

For all manuscripts that include details, drawings, or images related to individual participants, written informed consent for the publication of these must be obtained from the participants (or their parent or legal guardian in the case of “minors” (under age 18) or “protected populations” (e.g., prisoners), and a statement to this effect should appear in the manuscript. If the participant is deceased, then consent for publication must be sought from the next of kin of the participant. Documentation showing consent for publication must be made available to the Editor on request, and will be treated confidentially. In cases where images are entirely unidentifiable and there are no details on individuals reported within the manuscript, consent for publication of images may not be required. The final decision on whether consent to publish is required lies with the Editor.

III. Prepare Supporting Information

Please make sure you have the following information available when submitting your manuscript:

Author information

Provide full names and email addresses of all co-authors on your manuscript.

Cover letter

A cover letter should include the following information:

- Manuscript title
- Full names, institutional addresses and email addresses for all authors;
If a collaborative group should be listed as an author, please list the Group name as an author and include the names of the individual members of the Group in the “Acknowledgements” section
- Name of the corresponding author

- An explanation of why your manuscript should be published in the *Journal for STEM Education Research*
- An explanation of any issues relating to journal policies
- A declaration of any potential conflict of your interest
- Confirmation that all authors have approved the manuscript for submission
- Confirmation that the content of the manuscript has not been published, or submitted for publication elsewhere
- Specific name of a particular special issue, if the manuscript is being submitted to a special issue

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IV. Authorship

Please note that if your manuscript is accepted, you will not be able to make any changes to the authors, or order of authors, of your manuscript once the editor has accepted your manuscript for publication. If you wish to make any changes to authorship before you resubmit your revisions, please reply to the email from the journal's editorial office and ask for a 'Request for change in authorship' form, which should be completed by all authors (including those to be removed) and returned to that email address. Once you have completed and returned the form, your request will be considered and you will be advised whether the requested changes will be allowed.

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V. Peer Review Policy

Peer review is the system used to assess the quality of a manuscript before it is published. Independent researchers in the relevant research area assess submitted manuscripts for originality, validity and significance to help editors determine whether the manuscript should be published in the journal. You can read more about the peer-review processes [here](#).

The *Journal for STEM Education Research* uses a double-blind peer-review system, where the reviewers do not know the names or affiliations of the authors and the reviewer reports provided to the authors are anonymous.

The benefit of double-blind peer review is that it allows reviewers to judge the manuscript based on content alone, and they are not unconsciously biased by knowledge of who the authors are. Submitted manuscripts will generally be reviewed by two or more experts who will be asked to evaluate whether the manuscript is scientifically sound and coherent, whether it duplicates already published work, and whether or not the manuscript is sufficiently clear for publication. The editors will reach a decision based on these reports and, where necessary, they will consult with members of the Editorial Board.

Reviewers are asked to choose one of the following four recommendation terms:

- Accept
- Minor revision
- Major revision
- Reject

VI. Review Criteria

Questions to consider about the scholarly quality of a manuscript:

- Does the manuscript provide a new and meaningful contribution to STEM education research?
- Does the manuscript have clearly identified and stated research problems, questions or objectives that are important in (integrated) STEM education?
- Does the manuscript develop new insights into relevant research topics in (integrated) STEM education?

- Does the manuscript include a review of previous relevant studies and does it consider the relevant literature across disciplinary boundaries?
- Does the manuscript present an adequate selection, development, and/or use of a theoretical framework that is pertinent to the research problems, questions or objectives?
- Does the manuscript show an adequate selection, development, and /or use of a research methodology/method that is feasible to address the research problems, questions or issues in (integrated) STEM education?
- Do the data and results provide convincing argumentations to address the research problems, questions or objectives?
- Are the results interpreted in a larger cross-disciplinary context in (integrated) STEM education?
- When feasible, does the manuscript elaborate on its important and insightful contribution to practice in STEM education?
- Does the manuscript have an adequate and appropriate title?
- Can the abstract stand alone to provide all important information that is needed?
- Does the manuscript present a clear structure with adequate and appropriate headings and sub-headings?
- Is the writing clear and lucid with a logic flow?
- Are all the figures and tables adequate with acceptable quality?
- Are the references clearly included and appropriately cited?



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