

Publishing Educational Research in the Area of STEM

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MATHEMATICS AND SCIENCE EDUCATION



Goals

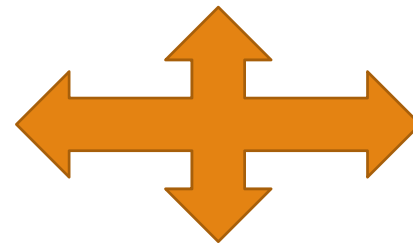
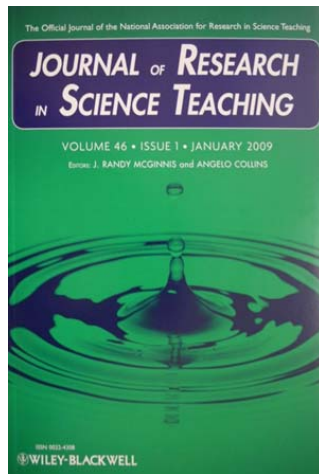
Know a few basics about the publishing process in education

Know the structure of an educational research article

Ready to share your work!

Discipline-Based Journals

Research Journals



General Journals



Practitioner Journals

Select a journal that aligns with the work you want to share

Let's look at a few different journals

Who are these journals trying to reach?

What do you notice about the writing? Components?

What are one or two differences between the journals?

Research	Research -DBER	Practitioner	Practitioner DBER
Journal of Research in Science Teaching	Journal of Chemical Education; CBE- Life Sciences Education	Journal of College Science Teaching	American Biology Teacher

Look at the guidelines in the journal

- Focus of the journal
- Suggestions for the structure of articles
- Length of the articles
- Submission guidelines
 - Style manual – APA, Chicago
 - Blind submission
- Review process
- Publication costs

Getting the article ready: How should I structure a research article?

Introduction

Theory/Conceptual Framework

Literature Review

Methodology

Findings

Discussion/Conclusion

Implications

With a partner, sort the following cells into the different parts of a research article

Introduction

Short

Provides a general overview to the problem (STEM-focused)

Provides the research question(s)

May suggest the importance of the findings

Theoretical Framework

Orients the reader to the assumptions about the data

Offers a way to look at phenomena, with the researcher adding understanding

Describes the lens for understanding your data

- **Positivist**
 - Motivation
 - Theory of reasoned action
- **Interpretivism**
 - Constructivist learning
 - Transformative learning theory
 - Teacher development
- **Critical Theory**

Conceptual framework

Contains factors, variables, and suggests relationships between the variables

It may be a well-reasoned model

This may come from a review of research (but it is not a review of research)

May be constructed by the author

Literature review

Comprehensive

Critical of the studies cited

Points to the need for your research

May have multiple sections

Methodology

Quantitative, Qualitative, Mixed Methods

Overview of study (e.g., intervention)

Results of the pilot study

Participants & Setting

Methods of data collection (e.g, instruments)

Methods of data analysis

Reliability, validity, triangulation

Limitations



Findings

Analyses

- Quotes
- Statistics
- Graphs

Point out certain trends

DO not discuss the data, just present the findings

Discussion

Answer your questions and connect to the literature review, theory/
conceptual framework

Indicate how your findings enhance our knowledge in STEM fields

Suggest what might be studied next

Implications

Specific suggestions you have based upon your data

Do not overstep your data

How do these connect to one another?

Submit & Wait

Follow the guidelines

Write a short letter to the editor

- Potential reviewers
- Importance of the article

Submit the article

- Sometimes it comes back



When you finally get a response

Accepted (with or without revisions)

Reject but resubmit

Reject

Accept or Revise and Resubmit

Pay attention to the return date

Pay attention to the letter from the editors

- You don't have to revise everything!

Responding to the editors

- Describe the changes or reasons for not making the change

Accept – make sure the document is in final form

Major reasons that articles are rejected

Wrong journal for the study

Lack of coherence

No contribution to the field

Not about STEM

Methodological issues (limited data, bad design)

Inadequate literature review or theoretical framing

Great resources for publishing

