

GUIDELINES FOR IHPER AUTHORS

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HANDBOOK OVERVIEW AND VISION

The *International Handbook of Physics Education Research* (IHPER) will provide an up-to-date and thorough review of research on topics in PER. As the field of PER grows and diversifies, it is increasingly difficult for newcomers to the field, or researchers entering new areas, to gain an appreciation of the major findings across all sub-domains, to discern global themes, and to recognize gaps in the literature. We believe that a synthesis of the research could play an important role for both researchers and practitioners. Our goal is to produce a resource that addresses the following central questions:

- What has PER contributed to our current knowledge of teaching and learning of physics?
- What would we be lacking today without decades of continued PER?
- How has PER evolved over the decades (in terms of research questions, instruments employed, methodologies used, etc.)? What were the major turning points?
- How has physics teaching and learning changed over the decades due to the direct impact of PER?
- How has PER benefited from other disciplines (e.g. cognitive psychology, educational psychology, pedagogical research, instructional design research, etc.) and vice versa?

PUBLISHER AND CONTRACTS

The IHPER will be published through the *American Association of Physics Teachers* (AAPT) and the *American Institute of Physics* (AIP). The publisher will sign contracts with each author, and pay US\$500 per chapter (to be shared among authors) upon acceptance of a completed manuscript in Summer of 2021.

CHAPTER SCOPE AND CONTENTS

As the overall vision for the Handbook suggests, chapters should present a comprehensive overview of the literature with an emphasis on major achievements and highly influential studies. They might also feature important work that is not widely familiar in the PER community. Chapters should identify areas where the literature is sparse, conflicting, or out-of-date, or cases in which conclusions assumed to be well-established actually have thin support. Moreover, chapters should provide enough historical perspective to allow readers to grasp not only where we

are now, but how we got here. Here are some examples of what readers might be able to identify (not all Chapters will include all of these):

- the most influential work(s) in the area
- the most significant trends
- relevant theoretical, empirical, and philosophical perspectives (and how those have evolved)
- both the most robust and the most contested claims
- the influence of pivotal events (e.g., technological developments, the release of international test results, etc.)
- the difference research has made to practice, if any

It is important to keep in mind that the *Handbook* is not attempting to survey all of physics education. We do not need to cover innovations in physics teaching that were not strongly driven by research, or rigorously validated. Nor do we need to refer to articles that present unsubstantiated claims or opinions about physics teaching. It is also important to keep in mind that the Handbook's focus is on *physics* education research. While science education research articles may be relevant, comprehensive handbooks already exist to survey that literature. For IHPER, priority should be given to research in which physics teaching is an intrinsic element. Also, while physics educators might find it valuable, IHPER is aimed at the research community. Therefore the discussion can be at a technical level that is accessible to researchers in closely related areas, but not necessarily educators with no research expertise. Finally, while the handbook is international in scope, chapters should include only literature published in English, except for publications of exceptional significance.

When in doubt, it may be useful to ask yourself questions from the perspective of a researcher new to the topic: *Does the chapter quickly tell me what is already known, what is not known, and what is disputed? Are the criteria for including or excluding references clear? Does the chapter provide an entry point to the broader literature? Does the literature featured represent a broad spectrum of authors, nationalities, levels of seniority, etc.?*

TECHNICAL SPECIFICATIONS

Formatting:

A full set of formatting guidelines can be found [here](#). There is one important exception: references are to be in [APA style](#). In addition to those specifications, please use Times New Roman, 12 pt.

Length:

Chapters are limited to a maximum of 15000 words, including references.

Style:

Writing both in the first- or third-person are accepted. The publisher will conduct final copy-editing but authors should make every effort to ensure that grammar and spelling are correct (for US English). If multiple authors are involved, one author should take responsibility for ensuring a unified and coherent “voice.” We urge authors to consult the 7th edition of [APA Publication Manual](#). Documents explaining the essentials of the APA style are uploaded on the IHPER

website for your perusal. Some important points to note while you are writing your review are included in Box 1 below.

BOX 1: APA writing style recommendations

Publication Manual of the American Psychological Association* gives all the details of how to cite and reference previously published works of all forms. Besides it provides guidelines for efficient scholarly writing. One important point to raise here is *Economy of Expression* (APA 2010, pp. 67-70). The APA motto is “Say only what needs to be said.” APA encourages authors to “...tighten long papers by eliminating redundancy, wordiness, jargon, evasiveness, overuse of the passive voice, circumlocution, and clumsy prose. Weed out overly detailed descriptions of apparatus, participants, or procedures (..); elaborations of the obvious; and irrelevant observations or asides.”

APA Publication Manual further stresses that “Short words and short sentences are easier to comprehend than are long ones. A long technical term, however, may be more precise than several short words, and technical terms are inseparable from scientific reporting. Yet the technical terminology in a paper should be readily understood by individuals throughout each discipline. An article that depends on terminology familiar to only a few specialists does not sufficiently contribute to the literature.”

We highly recommend IHPER authors to read pages 67-70 of the APA Publication Manual and familiarize themselves with recommended clear and precise writing style practices.

*American Psychological Association (2010). Publication Manual of the American Psychological Association (6th ed.). Washington, DC: Author. (pp. 67-70)

Inclusion of Figures:

Each chapter should include a figure that will be a flow chart that shows the seminal works in the area to illustrate the origins of the field and how new branches and directions or trends emerged over time. (See [example](#)). If your institution provides access to [Microsoft Visio](#), it might be useful but other tools are acceptable. Other figures are optional as your review necessitates.

Inclusion of previously published work:

Please be sure that your work has not been previously published in any form and does not infringe on any existing copyright, and you have appropriate written documentation if you use any copyrighted material (e.g., figures) in your chapter.

Chapter Abstracts:

The chapter abstract should be 120-200 words in length and provide a clear and concise overview of the content of the chapter. Abstracts should be self-contained, without abbreviations, footnotes, or incomplete references. See Box 2 below for a sample abstract.

BOX 2: Sample Abstract

While the importance of technology is undeniable and under the circumstances (with worldwide hindrance of covid-19 pandemic) unavoidable for education its implementation is in and outside of the classroom for instructional benefits is full of difficulties and unbearable burdens on the teachers' part. In this review, we first delineate what the framework of *Technology, Pedagogy, and Content Knowledge* (TPACK) is and lay out its origins and development in physics education. Our purpose is to show how the literature advanced in this domain through its short lifetime until now, and what we know how teachers at different levels acquire and develop their TPACK. Furthermore, we aim to show if students are benefiting from teachers with developed TPACK in learning physics better. In addition, we discuss existing TPACK models and emerging key ideas. Finally, we provide an analysis of the gaps in the literature and implications for further research.

Chapter Synopsis:

The synopsis should include origins of the domain reviewed as well as major trends and developments and their relationship with PER (by providing key citations and their references). Writing the synopsis will also enable the author to produce the diagram which will be embedded in the synopsis.

Author ORCID numbers:

All authors must provide an "ORCID ID." ORCID is a digital identifier that distinguishes you from every other researcher, no matter how common your name is. If you do not already have one, registration is fast and free at orcid.org.

TIMELINE:

Register at the IHPER website	Upon agreement to write a chapter
Finalize title and co-authors with Section Editor	As soon as possible
Provide contact info for primary author (for contract)	As soon as possible
Abstracts due	As soon as possible
Synopsis due	June 15th, 2021
First Drafts due	March 1st, 2022*
<i>Review and revision of chapters</i>	<i>April - May, 2022</i>
Final Drafts due	June 15th, 2022
<i>Copy-editing</i>	<i>August – September 15th, 2022</i>
Final Manuscripts due	December 31st, 20212

*** Authors who started earlier should try to submit their first drafts as soon as possible and not wait until the very last day of the deadline in order to allow sufficient time for editorial review and processing.**

SUBMISSION OF MANUSCRIPTS:

Abstracts, synopses and manuscripts will be submitted through the online manuscript management system created for IHPER at <http://ijpce.org/index.php/IHPER>. You must first register on the system.

REVIEW PROCESS:

After first drafts have been submitted we will be obtaining reviews of each chapter, as well as reviewing them ourselves. These reviews are only intended to offer feedback to help ensure that chapters are readable, comprehensive and well aligned with the rest of the Handbook. You are likely to be asked to review another chapter, so if you have a preference, please let us know.

COMMUNICATION WITH EDITORS:

We prefer to use <http://ijpce.org/index.php/IHPER> for submission of the manuscripts and further communication with section editors. Once an author registers and creates a submission further questions/enquiries and comments/suggestions can be entered by using the [Add discussion] button to share with the editors. In this way all author and editor communications will be recorded in IHPER editorial system.