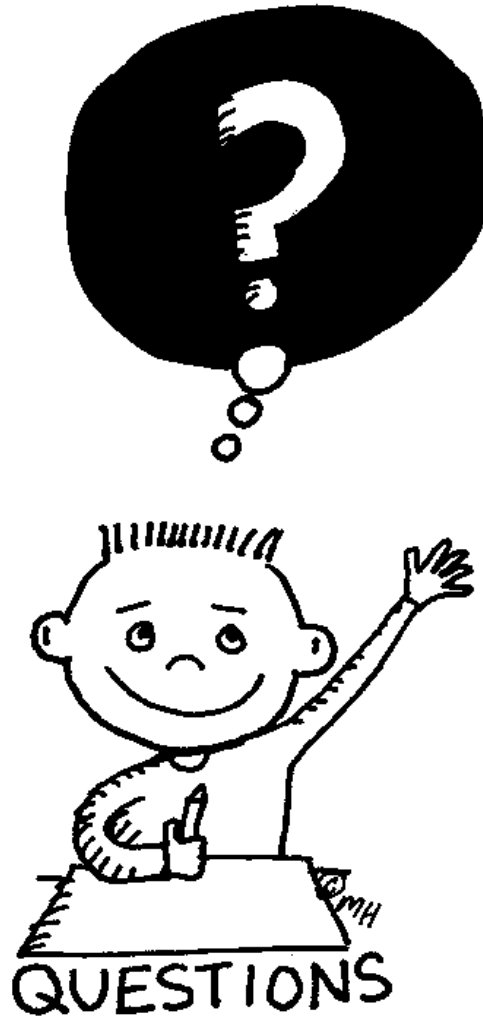


Writing a research paper in science/physics education

The first episode!

Apisit Tongchai



Why do we publish?

Why do we publish?

- **Share/convey** your research findings/ideas-> your work will be used more
- **Get comments/suggestions from peers/reviewers** (people who are doing similar research area)->the feedback you get from others will be useful for improving your research project

Why do we publish?

- For your profile record/CV-> then you could get grant/funding easily in the future
- Perhaps, you could win a prize from our institute
- Certainly, Ph.D. graduation requirement!

The greatest ideas are worthless if you keep them to yourself only.

How can we write a research paper?

Types of research papers

- Misconceptions - alternative conceptions, teacher conceptions
- Attitude/ perception -> Both students and teachers
- Teaching methods- e.g. conceptual change, conceptual development, instructional approaches
- Instructional tools- material, laboratory
- Test developments- conceptual tests, surveys, multiple choice, two-tier
- Review of research papers- ??
- **What else?**

How to choose data from our research project for writing a paper?

- What kind of research project we are working on?
 - Misconceptions?
 - Teaching methods?
 - Instructional tools, material?
 - Are you developing a test?
 - Surveying something?
 - **What else?**
- Normally, we choose only some parts of our research project for writing a paper. So we could write at least two papers for one research project.

Writing tips/techniques will be presented next time

**Where should we submit a
paper?**

Which journals should we consider (for Ph.D. graduation)?

- **Consider the content of your paper**
 - Misconceptions, instructional approaches, teaching tools, tests etc.?
- **Consider journals**
 - themes/purposes/objectives/aims/scope of the journal
 - (show an example, e.g. IJSE website)
- **Consider Mahidol Univ's data base!** – you can't graduate if the journal does not belong to Mahidol Univ's data base

How to check Mahidol's database?

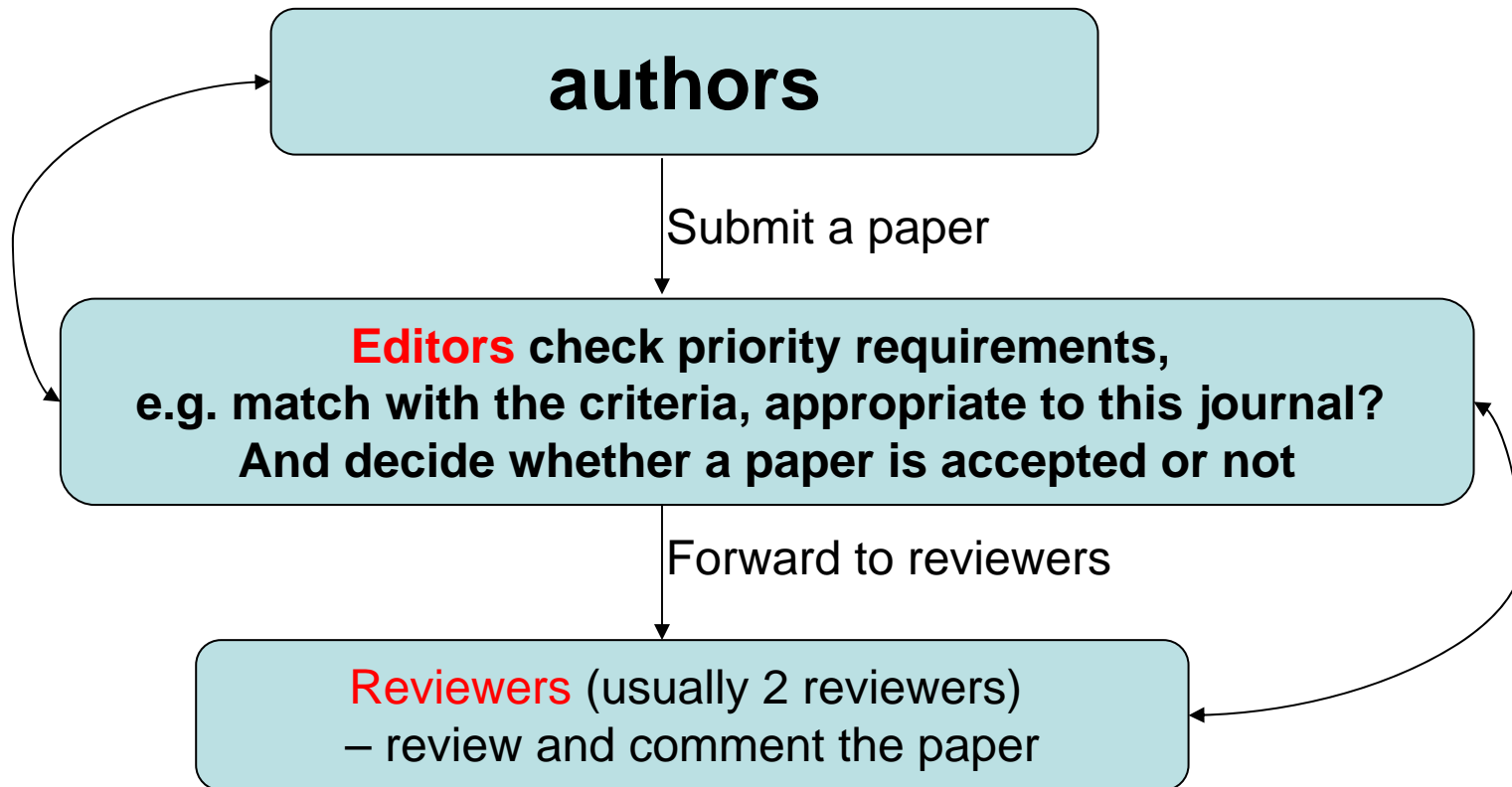
See website Stang.

Recommended journals for PER publication

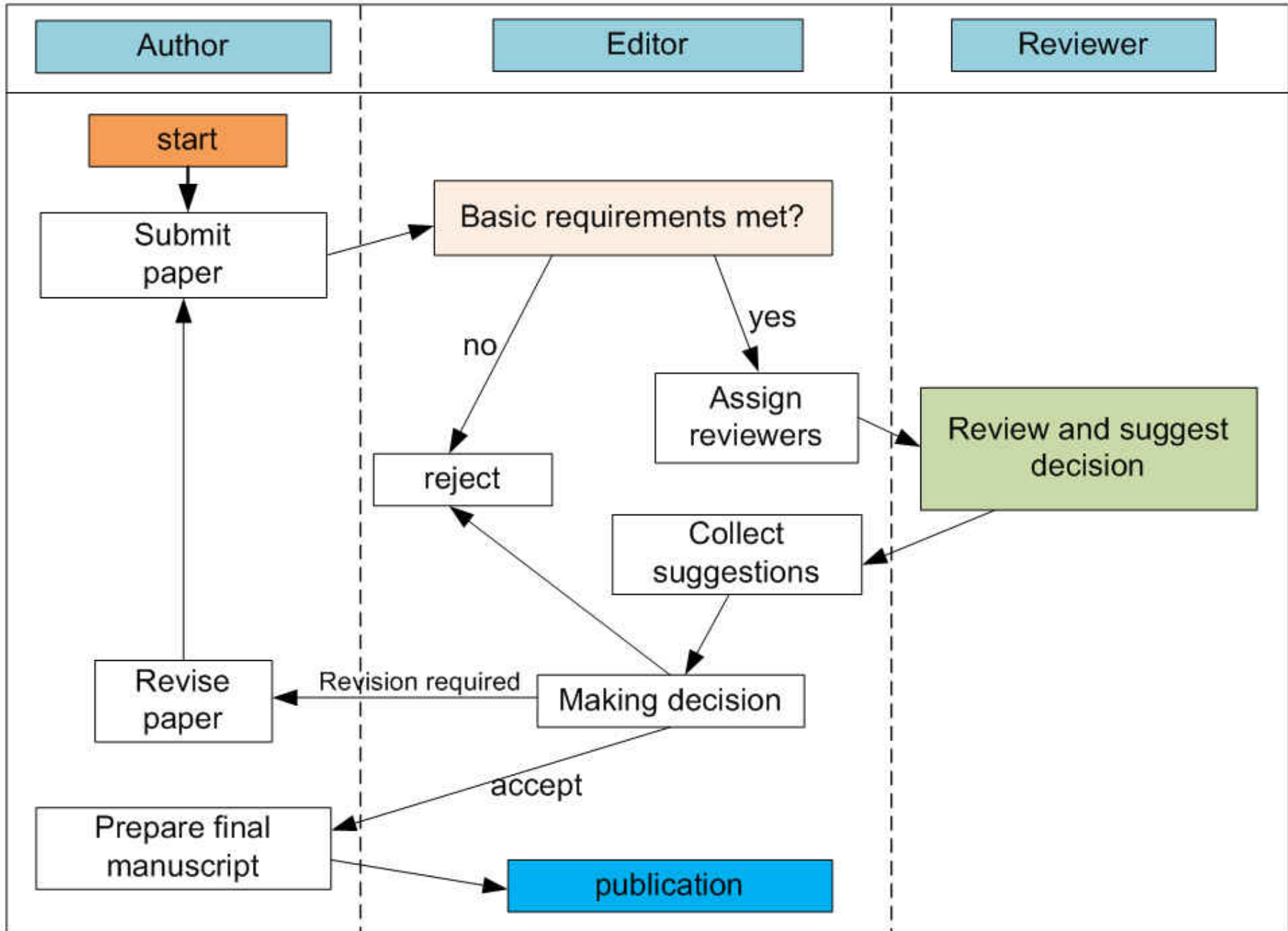
- American journal of physics.
- Physical review: special topic PER
- Physics teacher
- Physics education
- Science education
- International journal of science education
- Research in science education
- Science education and technology
- Research in science education and technology
- Journal of research in science teaching
- What else?

Reviewing process

Basic reviewing process



Generally, it takes **at least 3 months** for reviewing process

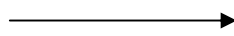


Editor's decision making

- *Reject*
 - can happen in only a week if a paper does not match with the priority criteria of the journal
 - Can also happen after the reviewers have reviewed
- *Reject, but resubmit*
 - Usually means that the paper is good to be published, but a lot of work need to be done.
- *Major revision*
 - The paper is very good, but many points need to be revised, so just revise, don't need to resubmit
- *Minor revision*
 - Just a few things need to be revised
- *Accepted?* I have never heard that a paper has been accepted without a revision

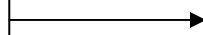
Who are the reviewers and editors?

Editors



See editorial boards of the journal

reviewers



Mostly, cannot see on the journal website, they are assigned by the editors (expert database), based on the content of the paper we submitted

Although, a paper has been accepted, it still takes a long time to proof the manuscript before publication

What does a referee do?

- Reviewers generally support the editor in making a decision by providing:
 - Significance of contribution.
 - Originality of the work.
 - Coverage of relevant literature.
 - Clarity of writing: readability, organization, conciseness, and technical quality of the paper.
 - Appropriate title and abstract.
 - Appropriate use of well-designed figures and tables.
 - Sound conclusion and discussion.

Some common authors' mistakes at first submission (priority requirements):

- Not adhering to the journal's paper formatting and layout guidelines (e.g., using the wrong font size, line spacing, page numbering, etc.)
- Exceeding maximum paper length (word count, page count).
- The paper's thematic focus is not within the scope of the journal's subject areas.

*If a paper does not match with the journal's basic requirements, the paper will be directly **rejected regardless of its scientific contribution and quality***

Next episode! – Techniques/Tips for
writing a research paper

See you next time