

SOUTHEAST ASIAN JOURNAL OF STEM EDUCATION PROJECT DESCRIPTION

The *Southeast Asian Journal of STEM Education* (SEAJSE) will be a peer-reviewed Open Source journal whose mission is to encourage the sharing of research and practices in evidence-based STEM education and to develop a body of knowledge that advances STEM education in Southeast Asia.

BACKGROUND

The purpose of this publication project is to provide K-12 and higher education STEM educators (in science, technology, and mathematics) in Southeast Asia with quality academic articles about successful STEM programs in Southeast Asia and around the world on which to model potential programs in regional schools. This is critical because there is now no other comparable academic journal that is a resource for STEM educators in the ASEAN region. The journal already has a highly qualified review board and associate editors who are willing to support and sustain the publication (See Appendix I). The end result will be a high-quality STEM education journal that classroom practitioners, school administrators, higher education faculty, government policy makers and researchers in Thailand and the region can access for up to date information on effective evidence-based STEM education classroom practices and research findings.

OBJECTIVES

The *Southeast Asian Journal of STEM Education* intends to be a professional academic platform for STEM education practitioners and researchers on which they can share effective classroom practices and key research studies of STEM Education, focusing on schools and institutions in the ASEAN region, as well as soliciting manuscripts from educators and researchers in other countries. In addition, the journal strives to support the SEAMEO Regional Centre for STEM Education's (SEAMEO STEM-ED's) mission of improving STEM education in Southeast Asia by encouraging manuscripts from professionals in the region.

SCOPE OF THE PROJECT

The scope of the project is prioritized as region-wide in Southeast Asia but will also solicit papers from the global STEM Education academic community. In order to be relevant to the entire region, the project must:

1. Apply for an International Standard Serial Number (ISSN) (in process now);
2. Identify a network of STEM education professionals and policy makers in the region for dissemination of the journal's content and to help solicit manuscripts from STEM education professionals in each country in the region;
3. Encourage the participation of university STEM educators in the region;
4. Make use of the Centre's network of STEM professionals around the world;

5. Maintain a double-blind, peer-review policy in order to ensure a quality publication;
6. Have periodic feedback sessions from associate editors and the in-house editorial team;
7. Share publication issues and news on the Centre's website and other related sites as well as with all SEAMEO centers in the region (for dissemination to each country's STEM professional community).

Proposed Journal Sections

- Research
- Policy and practice (evidence-based): projects, curricula, evaluations, Leadership, "promising practices"
- Book reviews
- Interviews with leaders and innovators in STEM education
- Editorials, including articles and essays from the Centre
- STEM Resources
- What works in STEM Education: STEM education around the world

Author guidelines

The journal has an extensive set of rigorous guidelines to ensure quality articles in STEM education. See Appendix II.

SEAMEO STEM-ED Editorial staff

- Editor in Chief: John Stiles
- Information and
Technology Manager: Jirayu Arayaprayoon
- Editorial assistant: Khwanhathai Vividhwara
- Copy editor: Sarit Sanguanwongse
- Advisors: Tom Corcoran
Sattiya Langkapin

DELIVERABLES

The deliverables for the project will be three issues per year initially, with expected quarterly publications in the future.

EXPECTED BENEFITS

The benefits are expected to be:

1. Improved teacher efficacy in regional schools;

2. Increased visibility of SEAMEO STEM-ED;
3. A growing network of STEM education professionals world-wide;
4. Potential collaboration with STEM professionals.

STAKEHOLDERS AND BENEFICIARIES

The journal's main target audience are K-12 teachers of STEM education, school leaders, STEM researchers, and STEM educators in higher education institutions, with an emphasis on educators in the ASEAN region.

The primary stakeholders (which are also the beneficiaries) in the project will be school STEM teachers, school leaders, such as principals, academic heads and department chairs, and education policymakers. University researchers will also be urged to develop studies of regional projects and programs and submit research papers to the journal.

The Centre will also be a beneficiary of the journal. It will advertise Centre events and products and bring educators to the Centre website.

PROJECT TIMELINE AND SOURCES OF FUNDS

- The project will be internally funded and developed by salaried staff and specialists.
- Potential for paid sponsorships (with logos on the publication home page) are being discussed.
- The project has already been progressing with page design and application for an ISSN.
- The project will be ongoing.

Review timeline

1. Screening by journal in-house team;
2. Return for clarification as noted by editorial team;
3. If acceptable, send to two reviewers (double blind review): one month review deadline;
4. Editor determines next step depending on reviewer recommendations (accept, re-write, or reject);
5. If re-written, editor shares revisions with reviewers for comments (2 week deadline);
6. If reviewers and editor accept revised manuscript, copywriter and editor cross-proofread and return to author(s) for review, revision or approval;
7. Upon final approval by author(s), copywriter and editor cross-proofread;
8. Manuscript sent to information manager for layout.

Tentative website link: The link is not yet live, but will be linked to the SEAMEO STEM-ED's URL: www.seameo-stemed.org/journal

APPENDIX I

Associate Editors

Craig A. Berg, University of Wisconsin-Milwaukee, USA

Arthur Eisenkraft, University of Massachusetts-Boston, USA

Edward Kemp, St Stephen's International School, Bangkok, Thailand

Yoshizuke Kumano, Shizuoka University, Shizuoka, Japan

Chuttaya Udomcharoenchaikit, Bangkok, Thailand

Sami Kahn, Princeton University, USA

Review Board

David L Byrum, Ruamrudee International School (Retired), Bangkok, Thailand

Barbara Bilgre, Lincoln Community School, Accra, Ghana

Peter J Foley, Student-Centered Learning Thailand, & Srinakharinwirot University, Bangkok, Thailand

Rebecca Monhardt, Loras College, Dubuque, Iowa, USA

Edward Reeve, Utah State University, Logan, Utah, USA

Babette Moeller, Education Development Center, New York, NY, USA

Craig A. Berg, University of Wisconsin-Milwaukee, USA

Pradeep M. Dass, Northern Arizona University, USA

Julie A. Luft, University of Georgia, USA

Benjamin Herman, University of Missouri, USA

Arun K. Sharma, Wagner College, Staten Island, New York, USA

P John Williams, Science and Math Education Center, Curtin University, Perth, Australia

Zsolt Lavicza, Johannes Kepler University STEM Education Center, Linz, Austria

Paula A. Magee, Indiana University School of Education, Indianapolis, Indiana, USA

Jonathan Pullin, Paideia Model Charter School, Charlotte, North Carolina, USA

Sueanne E McKinney, Old Dominion University, Norfolk, Virginia, USA

Bhaskar Upadhyay, University of Minnesota, Minneapolis, Minnesota, USA

Todd Campbell, University of Connecticut, Storrs, Connecticut, USA

APPENDIX II

Author Guidelines

Southeast Asian Journal of STEM Education (SAJSE)

A peer-reviewed online professional Open Source publication supported by the Southeast Asian Ministers of Education Organization Regional Centre for STEM Education, Bangkok (SEAMEO STEM-ED)

Expected date of first issue: 1 September 2020

Published three times per year (January, May, September).

Editor in Chief: John Stiles

We welcome manuscripts from anyone who has interesting insights, ideas, projects or research in STEM Education that are applicable in STEM classrooms and help to improve teacher classroom practice. Manuscripts from practitioners, STEM educators and researchers in Southeast Asia are particularly encouraged.

DEFINITION OF STEM EDUCATION

SEAMEO Regional Centre for STEM Education has adopted the following definition of STEM Education:

"STEM education is a teaching and learning approach, which emphasizes the connections among--or the integration of--knowledge and skills in science, technology, engineering, and mathematics to address problems facing our communities as well as larger global issues that require a skilled workforce and knowledgeable citizens."

We encourage the following types of manuscripts about STEM education:

- STEM pedagogy, including assessment;
- Research papers of STEM education studies;
- Articles *about* STEM research findings (written for classroom teachers);
- Feature articles about established STEM education programs or projects, or descriptions of collaborative STEM models, such as those between schools, private sector, and/or government agencies;
- Action research undertaken by classroom teachers;
- Book reviews.

Please read the following guidelines carefully before submitting a manuscript. **There is no charge to authors for publishing in the Journal.** Contact us at stemjournal@seameo-stemed.org if you have questions. Thank you for your interest in the *Southeast Asian Journal of STEM Education!*

ARTICLES ABOUT STEM PEDAGOGY

1. The article must be the original work of the author(s).
2. The article must not have been published in any other print or online journal. Exception: A research article that has been previously published in a SEAMEO or SEAMEO Regional STEM Centre-organized Conference Proceedings may be used, but it will be noted that it is a reprint with permission. Articles from other conference proceedings will not be considered.
3. Articles must be in English. Please ensure proper usage before submitting. If the original manuscript is written in a language other than English, the author should provide a properly translated English version. The journal will publish only in English. The journal editors can help authors in ASEAN countries locate a translator in a SEAMEO centre.
4. The article must conform to the “STEM” theme (Science, Technology, Engineering [innovative design / problem solving], and Mathematics), and should involve integration of at least two of the S-T-E-M strands, with additional interdisciplinary links encouraged. Articles describing exemplary examples that connect science, mathematics and technology to real-world problem solving (“Engineering design”) will be given priority.
5. The article must appeal to classroom teachers, school administrators, STEM consultants, and STEM educators, who are the main readers of this publication.
6. General articles that report *about research studies and their results* should use language that reflects readership (see #5). Please refer to guidelines below for *research findings*.
7. The article should be no longer than 6 single-spaced standard letter size (8.5 x 11”) pages (This does not apply to research articles). Exceptions may be granted depending on substance and importance for understanding content. Manuscripts are to be written single-spaced using 12-point font type.
8. Include an abstract of fewer than 200 words.
9. Citations required if referencing other sources. Use APA (See guidelines here: [OWL Purdue Online Writing Lab](#))
10. Images of children require signed release forms. If a school has the signatures on file, please so state when submitting. This is the responsibility of the authors.
11. Links to animations, videos and other visuals are encouraged, with proper credits noted.
12. Editors reserve the right to alter manuscripts for formatting, length, and readability.
13. Authors have final approval of reviewed, revised and edited manuscripts.
14. **Authors retain copyright for their article, but transfer copyright to *Southeast Asian Journal of STEM Education* for publication.**
15. To submit a manuscript, please send two copies: one in .doc or .docx format for editing, and one pdf.

RESEARCH PAPERS

- The research report must be of a STEM education study.
- **The manuscript.** Please refer to the educational research article guidelines for writing reports:
<https://libguides.bc.edu/c.php?g=44037&p=279684>
- **Methodology.** The research methodology is expected to use rigorous standards of design, data collection and analysis, which include the following:
 1. Rigorous research methods;
 2. Adequate sample size to permit generalization;
 3. Detailed description of research methods;
 4. Inclusion of means and standard deviations;
 5. Preference given to studies with a counterfactual (control or comparison group);
 6. Preference given to studies reporting effect size.
 - Please refer to the AERA standards for research methodology at:
https://www.sagepub.com/sites/default/files/upm-binaries/13127_Standards_from_AERA.pdf
 - The article should be no longer than 10 single-spaced standard letter size (8.5 x 11" or A4) pages. Length may be extended if necessary, at the discretion of the editors.
 - To submit a manuscript, please send two copies: one in .doc or .docx format for editing, and one pdf.

GENERAL ARTICLES ABOUT RESEARCH FINDINGS

Researchers who wish to write articles for general readership may do so, using the guidelines above (ARTICLES ABOUT STEM PEDAGOGY), but should include data, graphs and tables, etc. that help to illustrate points, and must use proper APA format citations. The article does not have to follow research paper guidelines and should be no longer than 6 single-spaced pages. Exceptions for length are negotiable.

ACTION RESEARCH

Action research refers to a study undertaken by a classroom teacher during instructional time in order to answer a question about an issue involving teaching and learning, such as efficacy of methodology, student outcomes, student attitudes, etc. in order to improve the teacher's effectiveness. For this journal, the action research must be done during a STEM lesson or series of lessons, or a STEM project. The manuscript should not be longer than 6 single-spaced pages.

For information about writing an action research report, visit

<https://jalt-publications.org/node/4985/articles/5631-linking-research-action-simple-guide-writing-action-research-report>

FEATURE ARTICLES

Feature articles about programs, projects, or models of collaborative efforts should be written in a narrative style that explains details of the program, project, or collaboration model so that other educators may benefit from them. Please include contact information of project leaders. Photographs (jpegs) are encouraged but not required (any photo of students must have a permission form and is the responsibility of the author[s]). Research support should be noted and properly cited. The manuscript should be no longer than 6 single-spaced pages. See guidelines for STEM PEDAGOGY above.

BOOK REVIEWS

Book reviews must be of publications that are specifically about STEM education and that would be helpful to classroom teachers. For guidelines and tips about writing book reports, refer to http://www.indiana.edu/~wts/pamphlets/book_reviews.shtml

Send all manuscripts to stemjournal@seameo-stemed.org