

Computer Science Education

Call for authors and reviewers
for a special issue featuring
**Registered Report
Replication Studies**

Guest Editors

Neil Brown, King's College London, UK. neil.c.c.brown@kcl.ac.uk

Eva Marinus, Pädagogische Hochschule Schwyz, Switzerland. eva.marinus@phsz.ch

Aleata Hubbard Cheuoua, WestEd, USA. ahubbar@wested.org



Introduction

We are delighted to announce a special issue of the Computer Science Education journal which will exclusively feature Registered Report replication studies in any area of computer science education.

Replication is at the heart of science: replicating the results of other researchers can give us increased confidence in the effects we observe, or provide useful caveats on when these effects occur. It allows us to build future research on a reliable foundation of knowledge. Replication is applicable to many styles of research: quantitative, qualitative and mixed method studies can all be replicated. Sometimes replication is not valued highly enough, with novel results deemed more appealing. This special issue aims to redress the balance by only accepting replications.

Registered reports are a new way of structuring the research and publication process. Peer review is moved from the end of the process -- after analysis -- to before data collection has begun. This means that comments on the research design can still be addressed before the study has taken place. It also means that the accept/reject decision is made in principle before the data has been collected, which removes worry on the researchers' part as to whether the study will result in a publication, and removes any pressure to present novel results.

This style of publication and reviewing is new for the field of Computer Science education. Therefore, we make a call for papers *and* a call for reviewers (applying for both is acceptable and encouraged) below. If you have any questions about either aspect, please do not hesitate to get in touch with the special issue editors.

Call for Papers

This special issue does not have a specific topic focus. All topics that are usually of interest to the Computer Science Education journal (see <https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=ncse20>) are suitable for submission to this special issue. This explicitly includes qualitative, quantitative and mixed methods work. The only restrictions are that the submissions must be replications and submitted as a Registered Report.

Submissions must be replications of existing work

Submissions must propose to replicate an existing study that has been described in previous publication(s). This may range from a very close replication -- such as using identical materials and methods to collect new data -- to a replication that improves an existing method to investigate the same question.

For example, a submission may propose to use a programming education technique that produced an effect at a university to see if it works in an adult education setting. Or a submission may use the same open-ended survey questions as an existing study, on a similar population but develop their own coding scheme during analysis.

Publication will be done in a Registered Report style

Registered reports differ from standard publications as to when peer review is performed. Submissions to this special issue must be made *before data acquisition has begun*. Reviewers will then examine and judge the research plan. The decision for each paper will either be a reject, or an acceptance in-principle with suggested and required changes to the research plan. If researchers follow the original plan plus the required changes, and the write-up is of reasonable quality, the paper will be accepted into the special issue regardless of the result of the replication.

Key dates

- **November 1st 2020:** Submission of the stage 1 manuscript due, containing the introduction, methods and analysis plan (no data at this stage, and thus no results, or discussion).
- **February 1st 2021:** Decisions returned to authors with individualised deadlines for each accepted paper (based on data collection schedule)
- **Late 2021/Early 2022:** Full papers submitted to editors for approval and publication.

Further information

Because of the novelty of the replication and Registered Report we will be publishing additional details and FAQs on the journal's website shortly.

Call for Reviewers

The essence of reviewing remains the same with Registered Reports as without: reviewers must evaluate the design and rationale of the research study. The difference is that rather than retroactively spotting flaws in what has been done, the reviewer must foresee flaws in what is proposed to be done. For example, if a study proposes to evaluate a programming education intervention in two classes (one control, one intervention), a reviewer might request that the authors have a mechanism in place to check for (and act upon) differences in the class's prior experience of programming. If a study proposes to use interviews with prompts and a single rater doing the coding, a reviewer might request multiple coders and a plan for what happens if the raters cannot agree.

In anticipation of these differences in reviewing, the editors of the special issue will provide additional resources and training for reviewers of the special issue. This will take the form of written guidance, and a live webinar (with opportunity for questions). We hope this training and the overall reviewing experience will be a useful benefit to reviewers who take part. Due to the novel nature of the reviewing, we do not intend to use the journal's standard reviewing pool exclusively, and instead ask for reviewers to volunteer specifically for this special issue. Even if you have reviewed for CSE in the past, please do actively indicate your interest in reviewing for the special issue by filling out the reviewer interest form here: <https://forms.gle/eHmobeUvY4oyDJE86> We welcome prospective authors taking part as reviewers, and authors may find the training beneficial for writing their registered report.

We anticipate reviewing will take place in November and December 2020.