Differences in Reporting of Outreach Research Data between CS Education and STEM Education

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Abstract: (Maximum of 300 words, including references)

In previous systematic literature reviews of computing education [1, 2], we identified key shortcomings in the reporting of data and information for research studies concerning pre-college computing activities (sometimes called outreach). In the context of a larger project to provide a repository and resources for those interested in pre-college computing activities, a more thorough extraction of data was undertaken [4], the results of which are currently available through https://csedresearch.org.

As an additional reference point, we sought to compare computing education work in this area with other STEM fields. As such, a systematic literature review [3] of 21 STEM education journals and conference venues was conducted spanning the years 2014-2016 inclusive. This literature review identified 162 candidate articles to analyze for comparison data. The same variables used in the computing education literature review [4] were extracted from these STEM articles.

This work presents the initial findings in the comparison of the outreach literature of computing education and STEM education, identifying points of similarity as well as points of difference between the frequency of reporting and the style of reporting of the identified variables across the two sets of articles.

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[2] Decker, A., McGill, M. (2017) "Pre-College Computing Outreach Research: Towards Improving the Practice", *Proceedings of SIGCSE 2017* March 8-11, 2017, Seattle, WA, pp. 153-158.

[3] Khan, K.S., Kunz, R., Kleijnen, J., Antes, G. 2003. Five steps to conducting a systematic review. J R Soc Med. 96, 3, 118–121. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC539417/

[4] McGill, M., Decker, A., Abbott, Z. (2018) "Improving Research and Experience Reports of Pre-College Computing Activities: A Gap Analysis", *Proceedings of SIGCSE 2018*, February 21-24, 2018, Baltimore, MD, pp. 964-969.