# IMPLEMENTING AN INTEGRATED STEM PROGRAM FOR GIRLS: ONE SCHOOL'S JOURNEY

Kate Wilson[a]

Contact Author: Kate Wilson (Kathleen.m.wilson@det.nsw.edu.au)

[a]Sydney School of Education and Social Work, The University of Sydney, NSW, 2006, Australia

## THEME:

Teacher education and professional learning in STEM

## BACKGROUND AND AIMS

Although there has been acknowledgement that inspiring girls to become more engaged in STEM education and to aspire towards a career in the STEM workforce, they have continued to opt out in large numbers and at the earliest opportunity (Kennedy, Quinn, & Lyons, 2020). To determine reasons for this and to identify programs and practices that would facilitate girls' positive attitudes to STEM, this study investigated how a year-long professional learning program supported teams of primary school teachers design and implement integrated STEM programs for their students (Anderson & Tully, 2020). Although the overall study explored the approaches of six schools, this presentation will detail the journey of one school and describe how their team of teachers worked collaboratively to facilitate change in STEM curriculum and pedagogical approaches to support change in attitudes and aspirations for their female students.

## METHODOLOGY OR PROCESS(ES) UNDERTAKEN

The selection of the six case study schools from 29 participating schools was based on students' responses to an attitudes/aspirations survey before and after the STEM program, a range of demographic factors, the provision of detailed documentation, and willingness for the researcher to visit the school and conduct interviews with the Principal, participating teachers and a small group of students.

## RESULTS AND CONCLUSIONS

Questionnaire data from students at the Forest School revealed improved positive attitudes to the STEM subjects. School reports and presentations revealed several key themes supported the improvement of STEM student attitudes and aspirations including: the development of a STEM integrated curriculum, increased opportunities for community connections, increased use of inquiry-based learning through collaborative projects, the development of a school culture that embraced change and provided time for teacher planning, and the use of STEM role models, particularly involving females working in STEM careers. Overall, teachers and students reported increased enthusiasm for STEM education.

## REFERENCES

Anderson, J., & Tully, D. (2020). Designing and evaluating an integrated STEM professional development program for secondary and primary school teachers in Australia. In J. Anderson, & Y. Li (Eds.), *Integrated approaches to STEM education: An international perspective* (pp. 403-426). Singapore: Springer Nature.

Kennedy, J., Quinn, F., & Lyons, T. (2020). The keys to STEM: Australian year 7 students' attitudes and intentions towards science, mathematics and technology courses. *Research in Science Education*, 50, 1805-1832.

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