

# PROFESSIONAL LEARNING COMMUNITIES: SUPPORTING INTERDISCIPLINARY TEACHING IN STEM

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## THEME:

Teacher education and professional learning in STEM

## BACKGROUND AND AIMS

Secondary school teachers often face challenges implementing an interdisciplinary approach to teaching having been trained to teach specific subject areas (e.g., science, math) (Shernoff et al., 2017). In this study, we explored how professional learning can support teachers through these challenges. Given the existing research citing the positive effects of professional learning communities (PLCs) on professional learning (Vangrieken et al., 2017), we specifically explored the question: How can a PLC support STEM teachers seeking to implement interdisciplinary teaching into their practice?

## METHODOLOGY

The research took place as part of a long-term school-university partnership focused on integrated approaches to STEM teaching and learning. Using a case-study approach (Yin, 2011), the participants of this study were two STEM teachers seeking to implement interdisciplinary projects in their classes. Both teachers were part of a PLC that met regularly to share, discuss, and debrief ongoing initiatives and experiences with interdisciplinary teaching. The PLC was comprised of teachers from different subject areas (e.g., science, math, art, English Language Arts). Qualitative data were collected via 1) PLC meetings, 2) semi-structured interviews, and 3) teacher reflective journals.

## FINDINGS AND CONCLUSIONS

The PLC supported the STEM teachers in implementing interdisciplinary teaching in two ways. First, the PLC provided the teachers with emotional support. The teachers were nervous and concerned about their ability to effectively adopt these new approaches into their teaching practice. The PLC served as a source of encouragement, reminding the teachers of their strengths and celebrating their successes. Second, the PLC provided the STEM teachers with disciplinary knowledge beyond their domain. Learning from their colleagues' areas of expertise allowed the teachers to develop more authentic and meaningful interdisciplinary projects. Findings reinforce the value of teacher collaboration for teachers seeking to improve their practice. Implications for practice include the promise of PLC's collaborative efforts to support teachers' professional development in practice.

## REFERENCES

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