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*References List*

Leading quality STEM teaching and learning

# DEVELOPING STEM CAPABILITIES

CORE MODULE

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MODULE 3  
DEVELOPING STEM CAPABILITIES

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## REFERENCES

- English, L. D. (2016). STEM education K-12: Perspectives on integration. *International Journal of STEM Education*, 3(3), 1-8. <https://doi.org/10.1186/s40594-016-0036-1>
- Fitzallen, N. (2015). STEM education: What does mathematics have to offer? In M. Marshman (Ed.), *Mathematics education in the margins*. (Proceedings of the 38th annual conference of the Mathematics Education Research Group of Australasia (pp. 237–244). Sunshine Coast, Australia: MERGA. Retrieved from [https://www.merga.net.au/Public/Public/Publications/Annual\\_Conference\\_Proceedings/2015\\_MERGA\\_CP.aspx](https://www.merga.net.au/Public/Public/Publications/Annual_Conference_Proceedings/2015_MERGA_CP.aspx)
- Gapminder Foundation. (n.d.). *Gapminder*. Retrieved from <https://www.gapminder.org/tools/>
- Geiger, V., Beswick, K., & Fraser, S. (2017). *A Model for principals' STEM leadership capability* (working title). [unpublished].
- Goos, M., Geiger, V. & Dole, S. (2010). Auditing the numeracy demands of the middle years curriculum. In L. Sparrow, B. Kissane, & C. Hurst (Eds.), *Shaping the future of mathematics education* (Proceedings of the 33rd annual conference of the Mathematics Education Research Group of Australasia, pp. 210-217). Fremantle: MERGA.
- Goos, M., Dole, S. and Geiger, V. (2012). Auditing the numeracy demands of the Australian curriculum. In J. Dindyal, L. Chen & S. F. Ng (Eds.), *Mathematics Education: Expanding horizons* (Proceedings of the 35th annual conference of the Mathematics Education Research Group of Australasia, pp. 210-217). Singapore: MERGA.
- Maass, K., Garcia, J., Mousoulides, N., & Wake, G. (2013). Designing interdisciplinary tasks in an international design community. In C. Margolinas (Ed.), *Task design in mathematics education* (Proceedings of ICMI-22 study conference, pp. 367-376). Oxford: ICMI. Retrieved from [https://hal.archives-ouvertes.fr/file/index/docid/837488/filename/ICMI\\_STudy\\_22\\_proceedings\\_2013-FINAL\\_V2.pdf](https://hal.archives-ouvertes.fr/file/index/docid/837488/filename/ICMI_STudy_22_proceedings_2013-FINAL_V2.pdf)
- STEM Task Force. (2014). *IINNOVATE: A Blueprint for Science, Technology, Engineering, and Mathematics in California Public Education, a Report to the State Superintendent of Public Instruction*. Retrieved from <https://www.cde.ca.gov/pd/ca/sc/documents/innovate.pdf>
- Venville, G. J., Wallace, J., Rennie, L. J., Malone, J. A. (2002). Curriculum integration: Eroding the high ground of science as a school subject? *Studies in Science Education*, 37, 43-84. doi: <https://doi.org/10.1080/03057260208560177>
- Wade-Leeuwen, B., Vovers, J., & Silk, M. (2018, June 11). Explainer: What's the difference between STEM and STEAM? *The Conversation*. Retrieved from <https://theconversation.com/explainer-whats-the-difference-between-stem-and-steam-95713>

## LICENSED THIRD-PARTY CONTENT

English, L. D. (2016). STEM education K-12: Perspectives on integration. *International Journal of STEM Education*, 3(3), 1-8. <https://doi.org/10.1186/s40594-016-0036-1>

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Geiger, V., Beswick, K., & Fraser, S. (2017). *A Model for principals' STEM leadership capability* (working title). [unpublished]. The framework is adapted from a model of numeracy for the 21st century (Goos, M., Geiger, V. & Dole, S., 2010) and Auditing the numeracy demands of the Australian curriculum (Goos, M., Dole, S. and Geiger, V. (2012).

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Goos, M., Geiger, V. & Dole, S. (2010). Auditing the numeracy demands of the middle years curriculum. In L. Sparrow, B. Kissane, & C. Hurst (Eds.), *Shaping the future of mathematics education* (Proceedings of the 33rd annual conference of the Mathematics Education Research Group of Australasia, pp. 210-217). Fremantle: MERGA. Used with permission.

© 2010 Mathematics Education Research Group of Australasia (MERGA).

Goos, M., Dole, S. and Geiger, V. (2012). Auditing the numeracy demands of the Australian curriculum. In J. Dindyal, L. Chen & S. F. Ng (Eds.), *Mathematics Education: Expanding horizons* (Proceedings of the 35th annual conference of the Mathematics Education Research Group of Australasia, pp. 210-217). Singapore: MERGA. Used with permission

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