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# Teachers' interdisciplinary education in the Australian context

Selected bibliography

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### *About*

This selected bibliography was created as a part of the initial scoping review for the project “Developing teachers’ interdisciplinary expertise”, funded by the NSW Department of Education Strategic Leveraging grant (G21 2673) and led by a research team from the University of Sydney and the University of Queensland Lina Markauskaite, Peter Goodyear, Cara Wrigley, Teresa Swist, and Genevieve Mosely.

The authors are solely responsible for the content of the paper.

*Project website:* <https://interdisciplinaryexpertise.org/developing-teachers-interdisciplinary-expertise>



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## Selected bibliography

- ACARA. (2016). *ACARA STEM connections project report*. Sydney, Australia: Australian Curriculum, Assessment Reporting Authority (ACARA)
- 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. 403-425). Cham: Springer International Publishing.
- Barlow, J. L., & Ellis, D. (2016). *Are the T and E dimensions being recognised in the Australian STEM education discourse?* Paper presented at the Biennial International Conference on Technology Education Research, Magill Campus, University of SA, Australia.
- Blackley, S., & Howell, J. (2015). A STEM narrative: 15 years in the making. *Australian Journal of Teacher Education*, 40(7), 102-112.
- Buchanan, J. (2012). Sustainability education and teacher education: Finding a natural habitat? *Australian Journal of Environmental Education*, 28(2), 108-124. doi:10.1017/aee.2013.4
- Burgess, C., & Harwood, V. (2021). Aboriginal cultural educators teaching the teachers: mobilising a collaborative cultural mentoring program to affect change. *The Australian Educational Researcher*. doi:10.1007/s13384-021-00493-1
- Carter, D., & Buchanan, J. (2022). Implementing the general capabilities in New South Wales government primary schools. *Curriculum Perspectives*, 42(2), 145-156. doi:10.1007/s41297-022-00169-5
- Dyment, J. E., & Hill, A. (2015). You mean I have to teach sustainability too?: Initial teacher education students' perspectives on the sustainability cross-curriculum priority. *Australian Journal of Teacher Education (Online)*, 40(3), 21-35.
- Ellis, D., & Williams, P. J. (2020). STEM policy in Australia. In *Handbook of research on STEM education* (pp. 428-442): Routledge.
- Evans, N., Stevenson, R. B., Lasen, M., Ferreira, J.-A., & Davis, J. (2017). Approaches to embedding sustainability in teacher education: A synthesis of the literature. *Teaching and Teacher Education*, 63, 405-417. <https://doi.org/10.1016/j.tate.2017.01.013>
- Ferreira, J.-A., Evans, N., Davis, J. M., & Stevenson, R. (2019). *Learning to embed sustainability in teacher education*: Springer.
- Ferreira, J. A., Ryan, L., & Tilbury, D. (2007). Mainstreaming education for sustainable development in initial teacher education in Australia: a review of existing professional development models. *Journal of Education for Teaching*, 33(2), 225-239. doi:10.1080/02607470701259515
- Fraser, S., Beswick, K., & Crowley, S. (2019). Responding to the demands of the STEM education agenda: The experiences of primary and secondary teachers from rural,

- regional and remote Australia. *Journal of Research in STEM Education*, 5(1), 40-59. doi:10.51355/jstem.2019.62
- Gilbert, R. (2019). General capabilities in the Australian curriculum: promise, problems and prospects. *Curriculum Perspectives*, 39(2), 169-177. doi:10.1007/s41297-019-00079-z
- Hataru, V., Fraser, S., & Beswick, K. (2020). My picture is about opening up students' minds beyond our school: School principals' perceptions of STEM learning environments. *Journal of Research in STEM Education*, 6(1), 18-38. doi:10.51355/jstem.2020.79
- Hobbs, L., Doig, B., & Plant, B. (2019). The successful students STEM project: A medium scale case study. In B. Doig, J. Williams, D. Swanson, R. Borromeo Ferri, & P. Drake (Eds.), *Interdisciplinary Mathematics Education: The State of the Art and Beyond* (pp. 209-227). Cham: Springer International Publishing.
- Hudson, P. (2012). A model for curricula integration using the Australian Curriculum. *Teaching Science*, 58(3), 40-45.
- Hunter, J. (2020). Integrated STEM in Australian public schools: Opening up possibilities for effective teacher professional learning. In J. Anderson & Y. Li (Eds.), *Integrated Approaches to STEM Education: An International Perspective* (pp. 469-489). Cham: Springer International Publishing.
- Jacobs, B. (2022). Improving primary STEM education by integrating the Australian Curriculum. *Curriculum Perspectives*, 42(2), 135-143. doi:10.1007/s41297-022-00163-x
- Leonard, S. N. (2022). The arrival of STEM in the science and mathematics curriculum increases the epistemic demands on teachers. *Curriculum Perspectives*, 42(2), 191-194. doi:10.1007/s41297-022-00173-9
- Lowe, K., & Galstaun, V. (2020). Ethical challenges: the possibility of authentic teaching encounters with indigenous cross-curriculum content? *Curriculum Perspectives*, 40(1), 93-98. doi:10.1007/s41297-019-00093-1
- MacDonald, A., Hunter, J., Wise, K., & Fraser, S. (2019). STEM and STEAM and the spaces between: An overview of education agendas pertaining to 'disciplinarity' across three Australian states. *Journal of Research in STEM Education*, 5(1), 75-92. doi:10.51355/jstem.2019.64
- MacGill, B. (2022). The Australian Curriculum, Assessment, and Reporting Authority (ACARA)—holding responsibility: the arts curriculum and the cross-curriculum priorities. *Curriculum Perspectives*, 42(2), 185-189. doi:10.1007/s41297-022-00172-w
- Mockler, N. (2018). Curriculum integration in the twenty-first century: some reflections in the light of the Australian curriculum. *Curriculum Perspectives*, 38(2), 129-136. doi:10.1007/s41297-018-0047-9

- Moss, J., Godinho, S., & Chao, E. (2019). Enacting the Australian curriculum: Primary and secondary teachers' approaches to integrating the curriculum. *Australian Journal of Teacher Education*, 44(3), 24-41. doi:10.14221/ajte.2018v44n3.2
- Pharo, E., Davison, A., McGregor, H., Warr, K., & Brown, P. (2014). Using communities of practice to enhance interdisciplinary teaching: lessons from four Australian institutions. *Higher Education Research & Development*, 33(2), 341-354. doi:10.1080/07294360.2013.832168
- Prinsley, R., & Johnston, E. (2015). *Transforming STEM teaching in Australian primary schools: everybody's business. Position paper*. Retrieved from Canberra, Australia:
- Timms, M. J., Moyle, K., Weldon, P. R., & Mitchell, P. (2018). Challenges in STEM learning in Australian schools: Literature and policy review.
- Tytler, R., Prain, V., & Hobbs, L. (2021). Rethinking disciplinary links in interdisciplinary STEM learning: a temporal model. *Research in Science Education*, 51(1), 269-287. doi:10.1007/s11165-019-09872-2
- Tytler, R., Williams, G., Hobbs, L., & Anderson, J. (2019). Challenges and opportunities for a STEM interdisciplinary agenda. *Interdisciplinary mathematics education*, 51-81.
- Wise, K., MacDonald, A., Badham, M., Brown, N., & Rankin, S. (2022). Interdisciplinarity for social justice enterprise: intersecting education, industry and community arts perspectives. *The Australian Educational Researcher*. doi:10.1007/s13384-022-00516-5