



Network for Information and Digital Access

The impact of Science Literacy delivery methods - what works?

Bibliography

Multiliteracy | Group 6. Multiliteracies/Multimodalities

Ver. 2.00

Date: May 2019

Introduction

This thematic bibliography is the result of research to survey existing literature available on Science Literacy delivery methods.

The search was carried out by retrieving documents and articles from a wide range of sources, including research databases, Google Scholar, ResearchGate, subject databases, open access repositories etc. using keyword combinations.

The results of the resource discovery are divided into two groups: one containing impact assessments using qualitative, quantitative or mixed method (both qualitative and quantitative) approaches to data collection and a second including descriptive resources, which encompass, for example, reviews, guides, handbooks, reports and project reports.

This bibliography is work in progress and is not designed to be fully exhaustive or complete. We will be pleased to receive suggestions and recommendations for additions that can contribute to the understanding of science, its applications and, to the promotion of science literacy.

Groups and methods list

During the first part of the Desk Research phase of this project (i.e. Task 1), the team identified 42 single-mechanism approaches, 2 composite approaches and 1 related approach that were relevant to the delivery and dissemination of scientific information. The list of single mechanisms was further organised into 7 thematic groups, as presented in the following Table.

Single mechanism approach	Group
Exhibitions, Expo, Festivals, Movies, Picnics, Science fairs, Seminars, Talks, TED Talks, Theatre, Workshops	1. Events, meetings, performances
Colloquia, Courses, Curricula, E-learning, Webinars	2. Education and training – including online
Animations, Books, Brochures, Cartoons, Comics, Games, Graphics, Posters, Publications, Radio, Reports, TV, Videos	3. Traditional publishing and journalism – print and broadcast
Competitions, Experiments, Makerspaces, Mobile classrooms, Mobile laboratories	4. Activities and services
Blogs, E-books, E-zines, Mobile Apps, Podcasts, Social media, Websites, Wikis	5. Online interactions
Composite approaches	
Multiliteracies	
Multimodalities	
Related approach	
Citizen Science	

Attribution 4.0 International (CC BY 4.0)

Impact Assessment

- Allison, Elizabeth, and M. Jenice Goldston. 2018. "Modern Scientific Literacy: A Case Study of Multiliteracies and Scientific Practices in a Fifth Grade Classroom." *Journal of Science Education and Technology* 27 (3): 270–83. <https://doi.org/10.1007/s10956-017-9723-z>.
- Allison, Elizabeth Rowland. 2015. "Exploring Multiliteracies, Student Voice, and Scientific Practices in Two Elementary Classrooms." PhD thesis, Tuscaloosa, Alabama: The University of Alabama. <http://adsabs.harvard.edu/abs/2015PhDT.....104A>.
- Bavonese, Janet Leigh. 2014. "Determining the Impact of a Multiliteracies Workshop on TPACK Knowledge of Elementary Preservice Teachers." Master's thesis, Tuscaloosa, Alabama: University of Alabama Libraries. <http://ir.ua.edu/handle/123456789/2155>.
- Buckley-Walker, Kellie, Jim Tognolini, Lori Lockyer, Ian Brown, and Peter Caputi. 2017. "Evaluating the Validity of the Online Multiliteracy Assessment Tool." *Australian Journal of Education* 61 (3): 305–27. <https://doi.org/10.1177/0004944117729056>.
- Cheung, H., S. K. W. Chu, N. Fong, P. T. Y. Wong, and D. Fung. 2011. "Developing Multiple Literacies for BSc Information Management Students." In , 14. Hong Kong. <http://hdl.handle.net/10722/161200>.
- Fuchs, Carolin, Mirjam Hauck, and Andreas Müller-Hartmann. 2012. "Promoting Learner Autonomy through Multiliteracy Skills Development in Cross-Institutional Exchanges." *Language Learning & Technology* 16 (3): 82–102. <http://llt.msu.edu/issues/october2012/fuchsetal.pdf>.
- Hilton, A, K Nichols, and C Gitsaki. 2010. "Multiliteracies in Secondary Chemistry: A Model for Using Digital Technologies to Scaffold the Development of Students' Chemical Literacy." In *Multiliteracies and Technology Enhanced Education: Social Practice and the Global Classroom*, 186–208. IGI Global. [doi:10.4018/978-1-60566-673-0.ch012](https://doi.org/10.4018/978-1-60566-673-0.ch012).
- Kai Wah, Samuel Chu, Randolph Chan Chun Ho, and Celina Lee Wing Yi. 2012. "Developing Undergraduate Students' Multiliteracies with an Outcomes-Based Education Approach." In , 1–10. Baltimore, MD. <https://tlearn-test.cetl.hku.hk/wp-content/resources/tdg-deliverables/87-3.pdf>.
- Molyneux, Paul, and Sally Godinho. 2012. "'This Is My Thing!': Middle Years Students' Engagement and Learning Using Digital Resources." *Australasian Journal of Educational Technology* 28 (8): 21. <https://doi.org/10.14742/ajet.782>.
- Parthasarathy, Divya S., Susan M. Bridges, Colman Patrick Joseph McGrath, Terry Kf Au, Hai Ming Wong, and Cynthia Kar Yung Yiu. 2014. "The Relation Between Caregivers' Multiliterate Reading Habits and Their Children's Oral Health Status." *Interactive Journal of Medical Research* 3 (3): 1–10. <https://doi.org/10.2196/ijmr.3210>.
- Savva, Stefania. 2016. "The Potential of a Museum-School Partnership to Support Diversity and Multiliteracies-Based Pedagogy for the 21st Century." PhD thesis, UK: University of Leicester. <https://ira.le.ac.uk/handle/2381/38818>.
- Willis, Linda-Dianne. 2009. "A Multiliteracies Project in the Middle School : Parents as Coteachers." In *Faculty of Education*, 23. Wrest Point Conference Centre, Hobart. <http://www.englishliteracyconference.com.au/index.php?id=28&year=09>.
- Wimmer, Jennifer Joy. 2010. "Negotiating the Integration of New Literacies in Math and Science Content: The Lived Experience of Classroom Teachers." PhD thesis, Las Vegas, NV, USA: University of Nevada. <https://digitalscholarship.unlv.edu/thesesdissertations/350>.

Descriptive Resources

- Abilock, Debbie. 2017. "Teaching Infographics as Multiliteracy Arguments." Education Resources. OER Commons. August 25, 2017. <https://www.oercommons.org/courseware/module/16449>.
- Al-Hazza, Tami Craft, and Robert Lucking. 2012. "An Examination of Preservice Teachers' View of Multiliteracies: Habits, Perceptions, Demographics and Slippery Slopes." *Reading Improvement* 49 (2): 59–72. <http://www.projectinnovation.biz/ri.html>.
- Alvermann, Donna E. 2004. "Multiliteracies and Self-Questioning in the Service of Science Learning." In *Crossing Borders in Literacy and Science Instruction*, 226–38. Arlington VA: NSTA Press. <http://neamathisi.com/literacies/chapter-12-literacies-to-think-and-to-learn/further-reading>.
- Anstey, Michèle. 2018. *Foundations of Multiliteracies: Reading, Writing and Talking in the 21st Century*. 1st ed. Abingdon, Oxon; New York, NY: Routledge, 2018.: Routledge. <https://doi.org/10.4324/9781315114194>.
- Bezerra, Fábio Alexandre Silva, and Roseli Gonçalves do Nascimento. 2013. "The Role of Multimodality Labs in Multiliteracy Projects." *Ilha Do Desterro A Journal of English Language, Literatures in English and Cultural Studies* 0 (64): 38. <https://doi.org/10.5007/2175-8026.2013n64p135>.
- Boivin, Nettie, Rozanna Noraini Albakri, Zuraiyah Bt Mohd Yunus, Hendon Mohammed, and Nirmala Muniandy. 2016. "Assessing Emergent, Social, and Multiliteracy Practices in Urban Malaysian Homes." *Malaysian Journal of ELT Research* 10 (2): 21. <https://journals.melta.org.my/index.php/majer/article/view/128>.
- Bridges, Susan M., Divya S. Parthasarathy, Terry K.F. Au, Hai Ming Wong, Cynthia K.Y. Yiu, and Colman P. McGrath. 2014. "Development of Functional Oral Health Literacy Assessment Instruments: Application of Literacy and Cognitive Theories: Oral Health Literacy Assessment Instruments." *Journal of Public Health Dentistry* 74 (2): 110–19. <https://doi.org/10.1111/jphd.12033>.
- Buckley-Walker, Kellie, Jim Tognolini, Lori Lockyer, Ian Brown, and Peter Caputi. 2017. "Evaluating the Validity of the Online Multiliteracy Assessment Tool." *Australian Journal of Education* 61 (3): 305–27. <https://doi.org/10.1177/0004944117729056>.
- Chandler-Olcott, Kelly, and Donna Mahar. 2003. "'Tech-Savviness' Meets Multiliteracies: Exploring Adolescent Girls' Technology-Mediated Literacy Practices." *Reading Research Quarterly* 38 (3): 356–85. <https://www.jstor.org/stable/4151823>.
- Clement, Tanya. 2013. "Charting Multiliteracies in the Digital Humanities." https://rebeccafrostdavis.files.wordpress.com/2013/02/multiliteracies_chart_adapted.pdf.
- Cooper, Natalie, Lori Lockyer, and Ian Brown. 2013. "Developing Multiliteracies in a Technology-Mediated Environment." *Educational Media International* 50 (2): 93–107. <https://doi.org/10.1080/09523987.2013.795350>.
- Cope, Bill, and Mary Kalantzis. 2001. "Putting 'Multiliteracies' to the Test." *Newsletter of Australian Literacy Educators' Association*, February, 2. <https://www.alea.edu.au/documents/item/59>.
- . 2009. "'Multiliteracies': New Literacies, New Learning." *Pedagogies: An International Journal* 4 (3): 164–95. <https://doi.org/10.1080/15544800903076044>.
- . 2016. *A Pedagogy of Multiliteracies: Learning by Design*. Springer. <https://www.palgrave.com/gb/book/9781137539717>.
- Cummins, Jim. 2010. "Transformative Multiliteracies Pedagogy: School-Based Strategies for Closing the Achievement Gap." *Multiple Voices for Ethnically Diverse Exceptional Learners* 11 (2): 38–56. [/doi/abs/10.5555/muvo.11.2.2420352213232u47](https://doi.org/10.5555/muvo.11.2.2420352213232u47).

- Dawson, Shane, and George Siemens. 2014. "Analytics to Literacies: The Development of a Learning Analytics Framework for Multiliteracies Assessment." *International Review of Research in Open and Distance Learning* 15 (4): 284–305. <https://eric.ed.gov/?id=EJ1039824>.
- Everett, Tammy Ewing. 2006. "Multiliteracies in Early Childhood Education: The Modes and Media of Communication by First Grade Students." PhD thesis, Iowa City, Iowa, USA: University of Iowa. <https://doi.org/10.17077/etd.9ewlj5fj>.
- Exley, Beryl E. 2008. "The Senses of Scientific Literacies in a Middle Years Multiliteracies Project." *Australian Journal of Middle Schooling* 8 (1): 12–16. <https://eprints.gut.edu.au/14991/>.
- Fuchs, Carolin, Mirjam Hauck, and Andreas Müller-Hartmann. 2012. "Promoting Learner Autonomy through Multiliteracy Skills Development in Cross-Institutional Exchanges." *Language Learning & Technology* 16 (3): 82–102. <http://ilt.msu.edu/issues/october2012/fuchsetal.pdf>.
- Gardiner, Veronica. 2014. "Multiliteracies Book Club: A Participatory Context for Australian Public Primary School Teachers to Negotiate Literacy." Master's thesis, Perth, Australia: Murdoch University. <http://researchrepository.murdoch.edu.au/id/eprint/24853/>.
- Godinho, Sally, and Paul Molyneux. 2010. "Learning Online: Multiliteracies and Inquiry-Based Digital Pedagogies for the Middle Years." In , 15. Melbourne, Australia. <https://www.aare.edu.au/data/publications/2010/2479GodinhoMolyneux.pdf>.
- Greco, Daniel C. 2015. "Multiliteracies: Bringing Multimodality into Schools." Master's thesis, USA: The College at Brockport: State University of New York. https://digitalcommons.brockport.edu/ehd_theses/630.
- Henderson, Robyn. 2008. "It's a Digital Life! Digital Literacies, Multiliteracies and Multimodality." *Literacy Learning: The Middle Years* 16 (2): 11–15. <http://search.informit.com.au/fullText;dn=168962;res=AEIPT>.
- Hernelahti, Sanna, and Susanna Kolehmainen. 2014. "Creative Literacy as a Way for Multiliteracy." In *IFLA World Library and Information Congress*, 1–5. Lyon, France. <http://library.ifla.org/846/1/169-hernelahti-en.pdf>.
- Hesterman, Sandra. 2013. "Early Childhood Designs for Multiliteracies Learning." *Australian Journal of Language and Literacy*, The 36 (3): 158. <http://search.informit.com.au/documentSummary;dn=629405692145613;res=IELHSS>.
- Howell, Emily. 2015. "Creating Arguments Using a Multiliteracies Approach: A Formative Experiment." PhD thesis, South Carolina, USA: Clemson University. https://tigerprints.clemson.edu/all_dissertations/1582.
- Hu, Hua-fang. 2017. "A Research on Status Quo of Multimodality and Multiliteracies Cultivating." *DEStech Transactions on Social Science, Education and Human Science*, no. etmi (June): 5. <https://doi.org/10.12783/dtssehs/etmi2016/11154>.
- Jacobs, Gloria E. 2013. "Designing Assessments: A Multiliteracies Approach." *Journal of Adolescent & Adult Literacy* 56 (8): 623–26. <https://doi.org/10.1002/JAAL.189>.
- Kalantzis, Mary, and Bill Cope. 1997. *Multiliteracies: Rethinking What We Mean by Literacy and What We Teach as Literacy the Context of Global Cultural Diversity and New Communications Technologies*. Haymarket, N.S.W.: Centre for Workplace Communication and Culture. <http://www.voced.edu.au/content/ngv%3A4951>.
- Kalantzis, Mary, Bill Cope, and Andrew Harvey. 2003. "Assessing Multiliteracies and the New Basics." *Assessment in Education: Principles, Policy & Practice* 10 (1): 15–26. <https://doi.org/10.1080/09695940301692>.

- Katsarou, Eleni. 2009. "A Multiliteracy Intervention in a Contemporary 'Mono-Literacy' School in Greece." *The International Journal of Learning: Annual Review* 16 (5): 55–66. <https://doi.org/10.18848/1447-9494/CGP/v16i05/46285>.
- Khadka, Santosh. 2014. "New Media, Multiliteracies, and the Globalized Classroom." PhD thesis, New York, USA: Syracuse University. <https://surface.syr.edu/etd/55>.
- Leander, Kevin, and Gail Boldt. 2013. "Rereading 'A Pedagogy of Multiliteracies': Bodies, Texts, and Emergence." *Journal of Literacy Research* 45 (1): 22–46. <https://doi.org/10.1177/1086296X12468587>.
- Liu, Yu. 2010. "Teaching Multiliteracies in Scientific Discourse: Implications from Symbolic Construction of Chemistry*." *K@ta* 11 (2): 14. <https://doi.org/10.9744/kata.11.2.128-141>.
- Louisy, Terry. 2013. "Multiliteracies, Identity Construction and the Marginalized: Understanding Information and Communication Technologies (ICTs) As a Tool to Bridge the Knowledge Society Divide." Master's thesis, Ontario, Canada: University of Toronto. <https://tspace.library.utoronto.ca/handle/1807/35562>.
- MacKay, Tiffany Grace. 2014. "Multiliteracies Theory Into Practice: An Inquiry Into Junior Level Literacy Classrooms." PhD thesis, Ontario, Canada: University of Toronto. <http://hdl.handle.net/1807/68868>.
- Main, Kristin Lee. 2011. "Mapping Multiliteracies onto the Pedagogy of K-12 Teachers." PhD thesis, Ontario, Canada: University of Toronto. <https://tspace.library.utoronto.ca/handle/1807/27590>.
- Mills, Kathy Ann. 2010. "A Review of the 'Digital Turn' in the New Literacy Studies." *Review of Educational Research* 80 (2): 246–71. <https://doi.org/10.3102/0034654310364401>.
- Miyata, Cathy Marie. 2017. "Enacting a Pedagogy of Multiliteracies: A Study of Six Literacy Teacher Educators." PhD thesis, Ontario, Canada: University of Toronto. <https://tspace.library.utoronto.ca/handle/1807/80698>.
- Moffat, Paula. 2012. "Narratives of 'Dynamic Movement' in Disciplinary Literacy." *Language and Literacy* 14 (3): 46. <https://doi.org/10.20360/G2GP47>.
- Moore, M.R. 2005. "Multiliteracies for a Digital Age." *IEEE Transactions on Professional Communication* 48 (4): 427–29. <https://doi.org/10.1109/TPC.2005.859723>.
- Morrison, Andrew, and Idunn Sem. 2009. "Stretching Multiliteracies: Production-Based Education & New Media." *Nordic Journal of Digital Literacy* 3 (03): 179–201. https://www.idunn.no/dk/2008/03/stretching_multiliteracies_production-based_education_new_media.
- Naylor, Charlie. 2015. "Understanding the Concept and Evolution of the Multiliteracies Literature since 1996, with a Consideration of Its Relevance to a Canadian Teacher Union Engaged in a Multiliteracies Collaborative Research Project." *British Columbia Teachers' Federation*, September, 24. <http://www.bctf.ca/uploadedFiles/Public/Issues/21CL/MultiliteraciesNaylor.pdf>.
- Odom, Mary Lou. 2017. "Multiliteracies and Meaning-Making: Writing to Read Across the Curriculum." In *What Is College Reading?*, 255–70. <https://wac.colostate.edu/books/atd/collegereading/>.
- Palsa, Lauri, and Heli Ruokamo. 2015. "Behind the Concepts of Multiliteracies and Media Literacy in the Renewed Finnish Core Curriculum: A Systematic Literature Review of Peer-Reviewed Research." *Seminar.Net* 11 (2): 19. <https://journals.hioa.no/index.php/seminar/article/view/2354>.
- Pugh, Erin Lynn. 2017. "Multiliteracies in Early Childhood Education: Engagement and Meaning-Making in Primary Classrooms." Bachelor thesis, Victoria, Canada: University of Victoria. <https://dspace.library.uvic.ca/handle/1828/8013>.
- Pullen, Darren Lee, and David R. Cole, eds. 2009. *Multiliteracies and Technology Enhanced Education: Social Practice and the Global Classroom*. IGI Global. <https://doi.org/10.4018/978-1-60566-673-0>.

- Rowse, J., and Maureen Walsh. 2011. "Rethinking Literacy Education in New Times :Multimodality, Multiliteracies & New Literacies." *Brock Education Journal*, 53–62. https://researchbank.acu.edu.au/fea_pub/1331.
- Rowse, Jennifer, Clare Kosnik, and Clive Beck. 2008. "Fostering Multiliteracies Pedagogy through Preservice Teacher Education." *Teaching Education* 19 (2): 109–22. <https://eric.ed.gov/?id=EJ811911>.
- Rycroft, Katherine F. 2014. "Graphic Novels: Preparing for a Multitmodal and Multiliterate World." *Inquiries Journal* 6 (08): 1–5. <http://www.inquiriesjournal.com/articles/907/graphic-novels-preparing-for-a-multitmodal-and-multiliterate-world>.
- Sandretto, Susan, and Jane Tilson. 2013. "Reconceptualising Literacy: Critical Multiliteracies for 'New Times.'" Project Report. Dunedin, New Zealand: Teaching & Learning Reserach Initiative. http://www.tlri.org.nz/sites/default/files/projects/Sandretto_Summary_final_1.pdf.
- Sanford, Kathy, and Leanna Madill. 2007. "Understanding the Power of New Literacies through Video Game Play and Design." *Canadian Journal of Education / Revue Canadienne de l'éducation* 30 (2): 432. <https://doi.org/10.2307/20466645>.
- Sang, Yuan. 2017. "Expanded Territories of 'Literacy': New Literacies and Multiliteracies." *Journal of Education and Practice* 8 (8): 16–19. <https://eric.ed.gov/?id=EJ1139059>.
- Schaenen, Inda Lynn. 2010. "Structure and Flow: Toward an Organic Approach to Critical Multiliteracies in a Writing Workshop." PhD thesis, Missouri, USA: University of Missouri St. Louis. <https://irl.umsl.edu/dissertation/494>.
- Silvers, Penny, Mary Shorey, and Linda Crafton. 2010. "Critical Literacy in a Primary Multiliteracies Classroom: The Hurricane Group." *Journal of Early Childhood Literacy* 10 (4): 379–409. <https://doi.org/10.1177/1468798410382354>.
- Song, Ji. 2012. "Teaching Multiliteracies: A Research Based on Multimodality in a PPT Presentation." *Theory and Practice in Language Studies* 2 (1): 113–17. <https://doi.org/10.4304/tpls.2.1.113-117>.
- Tan, Jennifer Pei-Ling, and Erica McWilliam. 2009. "From Literacy to Multiliteracies: Diverse Learners and Pedagogical Practice." *Pedagogies: An International Journal* 4 (3): 213–25. <https://doi.org/10.1080/15544800903076119>.
- University of South Australia School of Education, Education South Australian Department of, Children's Services, and Australian Research Council. 2004. "Mapping Multiliteracies : Children of the New Millennium : Report of the Research Project 2002-2004." Research project. Magill, S. Aust. : University of South Australia. http://www.unisanet.unisa.edu.au/staff/suehill/mapping_multiliteracies.pdf.
- Unsworth, Len. 2001. *Teaching Multiliteracies Across The Curriculum: Changing Contexts of Text and Image in Classroom Practice*. UK ed. edition. Buckingham England ; Phildelphia: Open University Press. https://www.researchgate.net/publication/247701560_Teaching_Multiliteracies_Across_the_Curriculum.
- Watson, Glenice, and Greer Johnson. 2004. "Towards a Greater Understanding of Multiliteracies: A Multimodal Methodology for Capturing and Analysing Young People's out-of-School Computer Game Playing." In , 9. Melbourne. https://www.researchgate.net/publication/29453359_Towards_a_greater_understanding_of_multiliteracies_A_multimodal_methodology_for_capturing_and_analysing_young_people's_out-of-school_computer_game_playing.
- Williams, P. John. 2009. "Technological Literacy: A Multiliteracies Approach for Democracy." *International Journal of Technology and Design Education* 19 (3): 237–54. <https://doi.org/10.1007/s10798-007-9046-0>.
- Wimmer, Jennifer Joy. 2010. "Negotiating the Integration of New Literacies in Math and Science Content: The Lived Experience of Classroom Teachers." PhD thesis, Las Vegas, NV, USA: University of Nevada. <https://digitalscholarship.unlv.edu/thesedissertations/350>.

