



Network for Information and Digital Access

The impact of Science Literacy delivery methods - what works?

Bibliography

Wikis | Group 5. Online interactions

Ver. 1.00

Date: November 2018

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

- Archambault, Patrick Michel, Pierre Beaupré, Laura Bégin, Audrey Dupuis, Mario Côté, and France Légaré. "Impact of Implementing a Wiki to Develop Structured Electronic Order Sets on Physicians' Intention to Use Wiki-Based Order Sets." *JMIR Medical Informatics* 4, no. 2 (May 17, 2016): e18. <https://doi.org/10.2196/medinform.4852>.
- Astall, Chris, and Jackie Cowan. "Experiences of Using Wiki as a Participatory Learning Tool in Teacher Education." *American Journal of Educational Research* 4, no. 6 (April 23, 2016): 459–71. <https://doi.org/10.12691/education-4-6-4>.
- Biasutti, Michele, and Heba EL-Deghaidy. "Using Wiki in Teacher Education: Impact on Knowledge Management Processes and Student Satisfaction." *Computers & Education* 59, no. 3 (November 2012): 861–72. <https://doi.org/10.1016/j.compedu.2012.04.009>.
- Chang, Yun-Ke, Miguel Angel Morales-Arroyo, Hla Than, Zarchi Tun, and Zhujun Wang. "Collaborative Learning in Wikis." *Education for Information* 28, no. 2–4 (December 16, 2011): 291–303. <https://doi.org/10.3233/EFI-2010-0910>.
- Chen, Tung-Liang, and Liwen Chen. "Utilizing Wikis and a LINE Messaging App in Flipped Classrooms." *Eurasia Journal of Mathematics, Science and Technology Education* 14, no. 3 (2017): 1063–74. <https://doi.org/10.12973/ejmste/81548>.
- Clarke, James B., and James R. Coyle. "A Capstone Wiki Knowledge Base: A Case Study of an Online Tool Designed to Promote Life-Long Learning through Engineering Literature Research." *Issues in Science and Technology Librarianship* 65, no. Spring 2011 (2011). <https://eric.ed.gov/?id=EJ937279>.
- Cobus, Laura. "Using Blogs and Wikis in a Graduate Public Health Course." *Medical Reference Services Quarterly* 28, no. 1 (January 28, 2009): 22–32. <https://doi.org/10.1080/02763860802615922>.
- Crist, Courtney A., Susan E. Duncan, and Laurie M. Bianchi. "Incorporation of Cross-Disciplinary Teaching and a Wiki Research Project to Engage Undergraduate Students' to Develop Information Literacy, Critical Thinking, and Communication Skills: Critical Thinking and Communication...." *Journal of Food Science Education* 16, no. 3 (July 2017): 81–91. <https://doi.org/10.1111/1541-4329.12111>.
- DeWitt, Dorothy, Norlidah Alias, and Saedah Siraj. "Wikis for Collaborative Learning: A Case Study of Knowledge Management and Satisfaction among Teacher Trainees in Malaysia." *Procedia - Social and Behavioral Sciences* 141 (August 2014): 894–98. <https://doi.org/10.1016/j.sbspro.2014.05.156>.
- Elliott, Meghan J., Sharon E. Straus, Neesh Pannu, Sofia B. Ahmed, Andreas Laupacis, George C. Chong, David R. Hillier, et al. "A Randomized Controlled Trial Comparing In-Person and Wiki-Inspired Nominal Group Techniques for Engaging Stakeholders in Chronic Kidney Disease Research Prioritization." *BMC Medical Informatics and Decision Making* 16, no. 113 (December 2016): 12. <https://doi.org/10.1186/s12911-016-0351-y>.
- Forte, Andrea, and Amy Bruckman. "Constructing Text:: Wiki as a Toolkit for (Collaborative?) Learning." In *Proceedings of the 2007 International Symposium on Wikis - WikiSym '07*, 31–42. Montreal, Quebec, Canada: ACM Press, 2007. <https://doi.org/10.1145/1296951.1296955>.
- . "Writing, Citing, and Participatory Media: Wikis as Learning Environments in the High School Classroom." *International Journal of Learning and Media* 1, no. 4 (November 2009): 23–44. https://doi.org/10.1162/ijlm_a_00033.
- Gilbertson, JohnR, JiYeon Kim, ThomasM Gudewicz, and AnandS Dighe. "The Pathology Informatics Curriculum Wiki: Harnessing the Power of User-Generated Content." *Journal of Pathology Informatics* 1, no. 1 (2010): 10. <https://doi.org/10.4103/2153-3539.65428>.

- Halsey, Shawna Dee. "Time to Wiki : A Tool to Build Students' Science Vocabulary." Master's thesis, Montana State University, 2012. <https://scholarworks.montana.edu/xmlui/handle/1/1415>.
- He, Wu. "Using Wikis to Enhance Website Peer Evaluation in an Online Website Development Course: An Exploratory Study." *Journal of Information Technology Education: Innovations in Practice* 10 (2011): 235–47. <https://eric.ed.gov/?id=EJ965118>.
- Holtman, Lorna. "Using Wikis in the Teaching of a Short Course on the History and Philosophy of Science." *Journal of Instructional Technology and Distance Learning* 6, no. 1 (2009): 29–36. http://itdl.org/journal/jan_09/article03.htm.
- Ng, Eugenia M.W., and Chi Lai Yui. "An Exploratory Study on Using Wiki to Foster Student Teachers' Learner-Centered Learning and Self and Peer Assessment." *Journal of Information Technology Education: Innovations in Practice* 11 (2012): 071–084. <https://doi.org/10.28945/1565>.
- O'Sullivan, Edwin Duncan. *Distributed Scaffolding: Wiki Collaboration among Latino High School Chemistry Students*. ProQuest LLC, 2013. <https://eric.ed.gov/?id=ED563165>.
- Payne, Lisa. "Using a Wiki to Support Sustainability Literacy." *Innovation in Teaching And Learning in Information and Computer Sciences* 8, no. 1 (February 2009): 45–52. <https://pdfs.semanticscholar.org/38f4/03da892fd318d02eb245f5daeaf7b3c44bcf.pdf>.
- Pence, Laura E., and Harry E. Pence. "Using Wikis To Develop Collaborative Communities in an Environmental Chemistry Course." *Journal of Chemical Education* 92, no. 1 (January 13, 2015): 86–89. <https://doi.org/10.1021/ed5001137>.
- Perger, Christoph, Ellsworth LeDrew, Linda See, and Steffen Fritz. "Geography Geo-Wiki in the Classroom: Using Crowdsourcing to Enhance Geographical Teaching." *Future Internet* 6, no. 4 (September 29, 2014): 597–611. <https://doi.org/10.3390/fi6040597>.
- Plaisance, Ariane, Holly O. Witteman, Annie LeBlanc, Jennifer Kryworuchko, Daren Keith Heyland, Mark H. Ebell, Louisa Blair, et al. "Development of a Decision Aid for Cardiopulmonary Resuscitation and Invasive Mechanical Ventilation in the Intensive Care Unit Employing User-Centered Design and a Wiki Platform for Rapid Prototyping." Edited by Joanna Hart. *PLOS ONE* 13, no. 2 (February 15, 2018): e0191844. <https://doi.org/10.1371/journal.pone.0191844>.
- Quartermaine, Lynne, Sheena O'Hare, and Audrey Cooke. "Using Wikis for Effective Peer Assessment." In *Engaging Students with Learning Technologies*, 65–76. Perth, WA: Curtin University, 2012. <http://hdl.handle.net/20.500.11937/7870>.
- Racine, Louise, Lorraine Holtslander, Barbara Schindelka, and Ryan Banow. "Using Wikis in an Online Asynchronous Graduate Nursing Theories Course: Description of an Innovative Educational Experience." *Canadian Journal of Nursing Informatics* 10, no. 3 (December 17, 2015): 1–8. <http://cjni.net/journal/?p=4244>.
- Røsvik, Kjersti, and Thor Arne Haukedal. "Wikis as Digital Learning Resources in Nursing Education." *Nordic Journal of Digital Literacy* 12, no. 01–02 (June 21, 2017): 31–46. <https://doi.org/10.18261/issn.1891-943x-2017-01-02-04>.
- Shwartz, Y., and D. Katchevitch. "Using Wiki to Create a Learning Community for Chemistry Teacher Leaders." *Chemistry Education Research and Practice* 14, no. 3 (2013): 312–23. <https://doi.org/10.1039/C3RP20180E>.
- Snelling, Catherine, and Sophie Karanicolas. "Why Wikis Work: Assessing Group Work in an on-Line Environment." *ATN Assessment Conference 2008* 1, no. 1 (November 6, 2008): 8. <https://doi.org/10.21913/ATNA.v1i1.298>.

- Snodgrass, Suzanne. "Wiki Activities in Blended Learning for Health Professional Students: Enhancing Critical Thinking and Clinical Reasoning Skills." *Australasian Journal of Educational Technology* 27, no. 4 (August 10, 2011): 563–80. <https://doi.org/10.14742/ajet.938>.
- Tepe, Tansel, Nail Ilhan, and Mustafa Murat Inceoglu. "Using WebQuest and Wiki Activities in Chemistry Courses: Pre-Service Elementary Teachers' Views and Their Motivation to Learn Chemistry / Primjena WebQuest i Wiki Sustava u Nastavi Kemije: Stavovi Budućih Učitelja i Njihova Motivacija Za Učenje Kemije." *Croatian Journal of Education - Hrvatski Časopis Za Odgoj i Obrazovanje* 18, no. 3 (September 28, 2016): 35. <https://doi.org/10.15516/cje.v18i3.2001>.
- Wheeler, Steve, Peter Yeomans, and Dawn Wheeler. "The Good, the Bad and the Wiki: Evaluating Student-Generated Content for Collaborative Learning." *British Journal of Educational Technology* 39, no. 6 (November 2008): 987–95. <https://doi.org/10.1111/j.1467-8535.2007.00799.x>.

Descriptive Resources

- Alias, Norlidah, Dorothy DeWitt, Saedah Siraj, Sharifah Nor Atifah Syed Kamaruddin, and Mohd Khairul Azman Md Daud. "A Content Analysis of Wikis in Selected Journals from 2007 to 2012." *Procedia - Social and Behavioral Sciences* 103 (November 2013): 28–36. <https://doi.org/10.1016/j.sbspro.2013.10.303>.
- Archambault, Patrick M, Tom H van de Belt, Francisco J Grajales III, Marjan J Faber, Craig E Kuziemy, Susie Gagnon, Andrea Bilodeau, et al. "Wikis and Collaborative Writing Applications in Health Care: A Scoping Review." *Journal of Medical Internet Research* 15, no. 10 (October 8, 2013): e210. <https://doi.org/10.2196/jmir.2787>.
- "Assessing with Wikis | UNSW Teaching Staff Gateway." UNSW Sydney, 2018. <https://teaching.unsw.edu.au/assessing-wikis>.
- Ben-Zvi, Dani. "Using Wiki to Promote Collaborative Learning in Statistics Education." *Technology Innovations in Statistics Education* 1, no. 1 (2007): 18. <https://cloudfront.escholarship.org/dist/prd/content/qt6jv107c7/qt6jv107c7.pdf?t=kro2d7>.
- Berman, Elizabeth, Allison Level, and Maribeth Slebodnik. "Information Literacy Across the Disciplines: Using the Science Information Literacy Wiki as a Collaborative Tool in Agriculture, Natural Resources, and Science Librarianship." *Journal of Agricultural & Food Information* 12, no. 1 (January 31, 2011): 58–64. <https://doi.org/10.1080/10496505.2011.539513>.
- Brabazon, Tara. "The Google Effect: Googling, Blogging, Wikis and the Flattening of Expertise." *Libri* 56, no. 3 (January 22, 2006): 157–67. <https://doi.org/10.1515/LIBR.2006.157>.
- Brox, Hilde. "What's in a Wiki?: Issues of Agency in Light of Student Teachers' Encounters with Wiki Technology." *Nordic Journal of Digital Literacy* 12, no. 04 (December 18, 2017): 129–42. <https://doi.org/10.18261/issn.1891-943x-2017-04-03>.
- Brulet, Alexandre, Guy Llorca, and Laurent Letrilliart. "Medical Wikis Dedicated to Clinical Practice: A Systematic Review." *Journal of Medical Internet Research* 17, no. 2 (February 19, 2015): e48. <https://www.ncbi.nlm.nih.gov/pubmed/25700482>.
- Bruns, Axel, and Sal Humphreys. "Wikis in Teaching and Assessment: The M/Cyclopedia Project." In *Proceedings of the 2005 International Symposium on Wikis - WikiSym '05*, 25–32. San Diego, California: ACM Press, 2005. <https://doi.org/10.1145/1104973.1104976>.
- Chizek, Lisa M. "Constructivist Learning Through Wikis in the Writing Classroom." *Language Arts Journal of Michigan* 23, no. 2 (January 1, 2008): 7. <https://doi.org/10.9707/2168-149X.1121>.

- Dove, Edward S, Yann Joly, and Bartha M Knoppers. "Power to the People: A Wiki-Governance Model for Biobanks." *Genome Biology* 13, no. 5 (2012): 158. <https://doi.org/10.1186/gb-2012-13-5-158>.
- Duffy, Peter D., and Axel Bruns. "The Use of Blogs, Wikis and RSS in Education: A Conversation of Possibilities." In *Creative Industries Faculty*, 31–38. Brisbane: Queensland University of Technology, 2006. <https://eprints.qut.edu.au/5398/>.
- Goldstein, Olzan, and Yehuda Peled. "Pedagogical Aspects of Integrating Wikis in Pre-Service Teacher Education." *Technology, Pedagogy and Education* 25, no. 4 (August 7, 2016): 469–86. <https://doi.org/10.1080/1475939X.2015.1077884>.
- Guertin, Laura. "Generating SEG Wiki Articles to Improve Student Geoscience Content and Literacy." *The Leading Edge* 35, no. 3 (March 2016): 274–76. <https://doi.org/10.1190/tle35030274.1>.
- Higdon, Jude, and Chad Topaz. "Blogs and Wikis as Instructional Tools: A Social Software Adaptation of Just-in-Time Teaching." *College Teaching* 57, no. 2 (April 2009): 105–10. <https://doi.org/10.3200/CTCH.57.2.105-110>.
- Khalid, Irfan. "Role of Web 2.0 Technologies for Knowledge Building in Higher Education." Master's thesis, Linnaeus University, 2010. <http://urn.kb.se/resolve?urn=urn:nbn:se:lnu:diva-6307>.
- Kirkham, Dixie. "Wikis in Education." Master's thesis, University of Central Missouri, 2014. https://centralspace.ucmo.edu/bitstream/handle/123456789/365/Kirkham201430_RP_Wikis.pdf?sequence=7&isAllowed=y.
- Konieczny, Piotr. "Wikis and Wikipedia as a Teaching Tool: Five Years Later." *First Monday*, August 25, 2012. <https://doi.org/10.5210/fm.v0i0.3583>.
- Krebs, Mathias, Matthias Ludwig, and Wolfgang Müller. "Learning Mathematics Using a Wiki." *Procedia - Social and Behavioral Sciences* 2, no. 2 (2010): 1469–76. <https://doi.org/10.1016/j.sbspro.2010.03.220>.
- Kurt, Serhat. "Wikis in Education: How Wikis Are Being Used in the Classroom." *Educational Technology*, September 13, 2017. <https://educationaltechnology.net/wikis-in-education/>.
- Lundin, Rebecca Wilson. "Teaching with Wikis: Toward a Networked Pedagogy." *Computers and Composition* 25, no. 4 (January 2008): 432–48. <https://doi.org/10.1016/j.compcom.2008.06.001>.
- Mansour, Osama, Mustafa Abu Salah, and Linda Askenäs. "Wiki Collaboration in Organizations: An Exploratory Study," 1–13. Helsinki, Finland: European Conference on Information Systems, 2011. http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1160270&dsid=0707_68.
- Moran, Mike, Jeff Seaman, and Hester Tinti-Kane. "Blogs, Wikis, Podcasts and Facebook. How Today's Higher Education Faculty Use Social Media." Boston, MA: Pearson Learning Solutions and Babson Survey Research Group, 2012. <https://www.onlinelearningsurvey.com/reports/blogswikispodcasts.pdf>.
- Notari, Michele, Rebecca Reynolds, Samuel Kai Wah Chu, and Beat Dobeli Honegger. *The Wiki Way of Learning: Creating Learning Experiences Using Collaborative Web Pages* | ALA Store. ALA Editions, 2016. <https://www.alastore.ala.org/content/wiki-way-learning-creating-learning-experiences-using-collaborative-web-pages>.
- Palomo-Duarte, Manuel, Juan Manuel Dodero, Antonio García-Domínguez, Pablo Neira-Ayuso, Noelia Sales-Montes, Inmaculada Medina-Bulo, Francisco Palomo-Lozano, Carmen Castro-Cabrera, Emilio J. Rodríguez-Posada, and Antonio Balderas. "Scalability of Assessments of Wiki-Based Learning Experiences in Higher Education." *Computers in Human Behavior* 31 (February 2014): 638–50. <https://doi.org/10.1016/j.chb.2013.07.033>.

- Plessis, André. "Wikis and Powerpoint as Cognitive Development Tools in Scientific Literacy: A Proposed Heuristic." *Problems of Education in the 21st Century* 57 (2013).
http://www.scientiasocialis.lt/pec/node/files/pdf/vol57/25-47.DuPlessis_Vol.57.pdf.
- Rasmussen, Ingvill, Andreas Lund, and Ole Smørdal. "Visualisation of Trajectories of Participation in a Wiki: A Basis for Feedback and Assessment?" *Nordic Journal of Digital Literacy* 7, no. 01 (March 22, 2012): 20–35. <https://www.idunn.no/dk/2012/01/art07>.
- Richardson, Will. *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms*. Third edition. Thousand Oaks, Calif: Corwin, 2010. <https://www.amazon.co.uk/Blogs-Wikis-Podcasts-Powerful-Classrooms/dp/1412977479>.
- Sanden, S., and J. Darragh. "Wiki Use in the 21st-Century Literacy Classroom: A Framework for Evaluation – CITE Journal." *Contemporary Issues in Technology and Teacher Education* 11, no. 1 (2011): 6–20. <https://www.citejournal.org/volume-11/issue-1-11/english-language-arts/wiki-use-in-the-21st-century-literacy-classroom-a-framework-for-evaluation>.
- Sormunen, Eero, Heidi Eriksson, and Tuuli Kurkipää. "Wikipedia and Wikis as Forums of Information Literacy Instruction in Schools." *Wikipedia and Wikis as Forums of Information Literacy Instruction in School*, 2012, 311–28. <http://tampub.uta.fi/handle/10024/100053>.
- Trocky, Nina M., and Kathleen M. Buckley. "Evaluating the Impact of Wikis on Student Learning Outcomes: An Integrative Review." *Journal of Professional Nursing* 32, no. 5 (September 2016): 364–76. <https://doi.org/10.1016/j.profnurs.2016.01.007>.
- University of Delaware IT User Services. "Wikis in Higher Education: An Exploratory Report about the Value of Wikis in Higher Education, From a Faculty Perspective." University of Delaware, 2008. http://udel.edu/~mathieu/wiki/resources/2008-5-23_Wikis_in_Higher_Education_UD.pdf.
- University of Southern California, Ann Majchrzak, Universidad Ramon Llull, Christian Wagner, City University of Hong Kong, Dave Yates, and United States Air Force. "The Impact of Shaping on Knowledge Reuse for Organizational Improvement with Wikis." *MIS Quarterly* 37, no. 2 (February 2, 2013): 455–69. <https://doi.org/10.25300/MISQ/2013/37.2.07>.
- Van Hoeck, Michele, and Debra Hoffmann. "From Audience to Authorship to Authority: Using Wikipedia to Strengthen Research and Critical Thinking Skills." In *Proceedings American Library Association.*, 217–29. Indianapolis, IN, USA, 2011. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2013/papers/VanHoeckHoffmann_FromAudience.pdf.
- Wake, Donna Glenn, and Virginia B. Modla. "Using Wikis with Teacher Candidates: Promoting Collaborative Practice and Contextual Analysis." *Journal of Research on Technology in Education* 44, no. 3 (March 2012): 243–65. <https://doi.org/10.1080/15391523.2012.10782589>.
- "Wisdom in Wiki Production/Different Uses of Wikis/Wikis in Education - Wikibooks, Open Books for an Open World." Wiki. Wikibooks, 2012. https://en.wikibooks.org/wiki/Wisdom_in_wiki_production/Different_uses_of_wikis/Wikis_in_education.