



Network for Information and Digital Access

The impact of Science Literacy delivery methods - what works?

Bibliography

Websites | 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

- Bayram, Hale, and Arif Comek. "Examining the Relations between Science Attitudes, Logical Thinking Ability, Information Literacy and Academic Achievement through Internet Assisted Chemistry Education." *Procedia - Social and Behavioral Sciences* 1, no. 1 (2009): 1526–32. <https://doi.org/10.1016/j.sbspro.2009.01.269>.
- Brewer, Hannah, E. Mitchell Church, and Steven L. Brewer. "The Impact of Content-Based Network Technologies on Perceptions of Nutrition Literacy." *American Journal of Health Education* 47, no. 4 (July 3, 2016): 243–52. <https://doi.org/10.1080/19325037.2016.1178609>.
- Diviani, Nicola, and Corine S. Meppelink. "The Impact of Recommendations and Warnings on the Quality Evaluation of Health Websites: An Online Experiment." *Computers in Human Behavior* 71 (June 2017): 122–29. <https://doi.org/10.1016/j.chb.2017.01.057>.
- Duncan, Mitch J, Corneel Vandelanotte, Richard R Rosenkranz, Cristina M Caperchione, Hang Ding, Marcus Ellison, Emma S George, et al. "Effectiveness of a Website and Mobile Phone Based Physical Activity and Nutrition Intervention for Middle-Aged Males: Trial Protocol and Baseline Findings of the ManUp Study." *BMC Public Health* 12, no. 1 (December 2012). <https://doi.org/10.1186/1471-2458-12-656>.
- Mackinnon, Andrew, Kathleen M. Griffiths, and Helen Christensen. "Comparative Randomised Trial of Online Cognitive–Behavioural Therapy and an Information Website for Depression: 12-Month Outcomes." *British Journal of Psychiatry* 192, no. 02 (February 2008): 130–34. <https://doi.org/10.1192/bjp.bp.106.032078>.
- Mahdizadeh, Jamileh, Ali Valinejadi, Behnoosh Pooyesh, Fatemeh Jafari, and Mehdi Kahouei. "Students' Attitudes towards Impact of the Health Department Website on Their Health Literacy in Semnan University of Medical Sciences." *Electronic Physician* 10, no. 1 (January 25, 2018): 6164–71. <https://doi.org/10.19082/6164>.
- School of Business Management Binus University, Enggal Sriwardiningsih, Siswono, and Lisa. "Interaction E-Learning Website, Curriculum Material Products, Motivation And Digital Literacy Influence to Satisfaction and The Attitude Understanding Student Learning." *IOSR Journal of Business and Management* 16, no. 6 (2014): 37–41. <https://doi.org/10.9790/487X-16643741>.
- Schultz, Jennifer Anne. "Community-Based Nutrition Education: Documentation and Evaluation of Effectiveness." Master's thesis, Iowa State University, 2015. <https://doi.org/10.31274/etd-180810-4266>.
- Tse, Carrie KW, Susan M Bridges, Divya Parthasarathy Srinivasan, and Brenda SS Cheng. "Social Media in Adolescent Health Literacy Education: A Pilot Study." *JMIR Research Protocols* 4, no. 1 (March 9, 2015): e18. <https://doi.org/10.2196/resprot.3285>.

Descriptive Resources

- Byrne, Patrick F., Deana M. Namuth, Judy Harrington, Sarah M. Ward, Donald J. Lee, and Patricia Hain. "Increasing Public Understanding of Transgenic Crops through the World Wide Web." *Public Understanding of Science* 11, no. 3 (July 2002): 293–304. <https://doi.org/10.1088/0963-6625/11/3/306>.
- Czaja, Sara J, Joseph Sharit, Chin Chin Lee, Sankaran N Nair, Mario A Hernández, Neysarí Arana, and Shih Hua Fu. "Factors Influencing Use of an E-Health Website in a Community Sample of Older Adults." *Journal of the American Medical Informatics Association* 20, no. 2 (March 2013): 277–84. <https://doi.org/10.1136/amiajnl-2012-000876>.

- Davies, Bethan. "Are Websites and Blogs an Effective Outreach Tool for Academics?" *AntarcticGlaciers.Org* (blog), May 11, 2013. <http://www.antarcticglaciers.org/2013/05/are-websites-and-blogs-an-effective-outreach-tool-for-academics/>.
- Eveland, William P., and Sharon Dunwoody. "Users and Navigation Patterns of a Science World Wide Web Site for the Public." *Public Understanding of Science* 7, no. 4 (October 1998): 285–311. <https://doi.org/10.1088/0963-6625/7/4/003>.
- Hawkins, Amy J., and Louisa A. Stark. "Bringing Climate Change into the Life Science Classroom: Essentials, Impacts on Life, and Addressing Misconceptions." *CBE—Life Sciences Education* 15, no. 2 (June 2016): fe3. <https://doi.org/10.1187/cbe.16-03-0136>.
- Iding, Marie, Robert E. Landsman, and ThanhTruc T. Nguyen. "Critical Evaluation of Scientific Websites by High School Students." In *Networking the Learner*, edited by Deryn Watson and Jane Andersen, 373–82. Boston, MA: Springer US, 2002. https://doi.org/10.1007/978-0-387-35596-2_37.
- Lachance, Christina R, Lori A H Erby, Beth M Ford, Vincent C Allen, and Kimberly A Kaphingst. "Informational Content, Literacy Demands, and Usability of Websites Offering Health-Related Genetic Tests Directly to Consumers." *Genetics in Medicine* 12, no. 5 (May 2010): 304–12. <https://doi.org/10.1097/GIM.0b013e3181dbd8b2>.
- McInerney, Claire R., and Nora J. Bird. "Assessing Website Quality in Context: Retrieving Information about Genetically Modified Food on the Web." *Information Research: An International Electronic Journal* 10, no. 2 (January 2005). <https://eric.ed.gov/?q=Assessing+Website+quality+in+context%3a+retrieving+information+about+genetically+modified+food+on+the+Web&id=EJ1082045>.
- Meppelink, Corine S., Julia C.M. van Weert, Anna Brosius, and Edith G. Smit. "Dutch Health Websites and Their Ability to Inform People with Low Health Literacy." *Patient Education and Counseling* 100, no. 11 (November 2017): 2012–19. <https://doi.org/10.1016/j.pec.2017.06.012>.
- Naidoo, Segarani, and Jaya Raju. "Impact of the Digital Divide on Information Literacy Training in a Higher Education Context." *South African Journal of Libraries and Information Science* 78, no. 1 (November 16, 2012): 11. <https://doi.org/10.7553/78-1-46>.
- Pouchieu, Camille, Caroline Méjean, Valentina A Andreeva, Emmanuelle Kesse-Guyot, Philippine Fassier, Pilar Galan, Serge Herberg, and Mathilde Touvier. "How Computer Literacy and Socioeconomic Status Affect Attitudes Toward a Web-Based Cohort: Results From the NutriNet-Santé Study." *Journal of Medical Internet Research* 17, no. 2 (February 2, 2015): e34. <https://doi.org/10.2196/jmir.3813>.
- Szwajcer, Andrea, Kerry Macdonald, and Brent Kvern. "Health Literacy Training for Family Medicine Residents." *Journal of the Canadian Health Libraries Association / Journal de l'Association Des Bibliothèques de La Santé Du Canada* 35, no. 3 (December 1, 2014): 128. <https://doi.org/10.5596/c14-033>.
- Welborn, Victoria, and Bryn Kanar. "Building Websites for Science Literacy." *Issues in Science & Technology Librarianship* 25, no. Winter (2000). <http://www.istl.org/00-winter/article2.html>.