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EBL 101

Research Methods: Triangulation

Virginia Wilson
Director, Centre for Evidence Based Library and Information Practice (C-EBLIP)
University Library
University of Saskatchewan
Saskatoon, Saskatchewan, Canada
Email: virginia.wilson@usask.ca

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Triangulation refers to using more than one particular approach when doing research in order to get richer, fuller data and/or to help confirm the results of the research. Denzin via Flick (2002) points out four different types of triangulation:

1. Data triangulation: using different sources of data. This includes different times for data collection, difference places from which to collect the data, and different people who could be involved in the research study. Flick (2002) indicates that "the starting point is to purposively and systematically involve personas and study groups, local and temporal settings in the study" (p. 226).
2. Investigator triangulation: using several people (or at least more than one) in the data gathering and data analysis processes. This would be a "systematic comparison of different researchers' influences on the issue and the results of the research" (Flick, 2002, p. 226).
3. Theory triangulation: approaching the data with multiple theories or perspectives in mind to "extend the possibilities for producing knowledge" (Flick, 2002, p. 227).

4. Methodological triangulation: two subtypes are noted – within-method and between-method. Using more than one method to gather data.

Triangulation initially was undertaken as a way to increase the validity of research results. However, Flick (2002) states that "triangulation is less a strategy for validating results and procedures than an alternative to validation which increases scope, depth and consistency in methodological proceedings" (p. 227). Triangulation can be used in quantitative and qualitative research and it even seems as though triangulation is just another term for mixed-methods research. The *Journal of Mixed Methods Research* has a special issue devoted to analyzing and exploring the various ways triangulation is used in mixed-methods research, obviously differentiating the two terms. This topic was chosen for the special issue "based on the claims made by many scholars in the field that triangulation provides a justification for the use of mixed methods" (Mertens & Hesse-Biber, 2012, p. 76).

Triangulation has been taken to task on a couple of occasions. Given the philosophical and epistemological nature of the various positions taken regarding triangulation, it is too complex to delve into in this relatively brief column. In brief, triangulation has been criticized for "subscribing to a naive realism that implies that there can be a single definitive account of the social world" as well as for assuming that "sets of data deriving from different research methods can be unambiguously compared and regarded as equivalent" (Bryman, 2004, p. 3). Despite possible controversies, triangulation in whatever form it takes (although the most common is probably methodological triangulation), has become a staple in social science research.

Examples of studies using triangulation:

Wahl, D., Avery, B., & Henry, L. (2013). Studying distance students: Methods, findings, actions. *Journal of Library & Information Services in Distance Learning 7* (1-2), 183-209. doi: 10.1080/1533290X.2012.705656

Zuze, H. & Weideman, M. (2013). Keyword stuffing and the big three search engines. *Online Information Review 37*(2), 268-286. doi: 10.1108/OIR-11-2011-0193

Bitso, C. & Fourie, I. (2012). An investigation of information-seeking behaviour of geography teachers for an information service intervention: The case of Lesotho. *Information Research 17*(4). Retrieved 23 Feb. 2014 from http://www.informationr.net/ir/17-4/paper549.html#.Uwo1i-ZFDIU

Resources:

O'Cathain, A., Murphy, E., & Nicholl,J. (2010). Three techniques for integrating data in mixed methods studies. *BMJ 341* doi: http://dx.doi.org/10.1136/bmj.c4587 (Published 17 September 2010).

Denzin, N. K. (19708). Strategies of multiple triangulation. In N. K. Denzin (Ed.), *The research act: A theoretical introduction to sociological methods*. (pp.). Chicago, IL: Aldine.

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Bryman, A. (2004). Triangulation and measurement. Retrieved 11 Feb. 20134 from http://www.referenceworld.com/sage/socialscience/triangulation.pdf

Flick, U. (2002). *An introduction to qualitative research* (2nd ed.). London: Sage Publications.

Mertens, D. M. & Hesse-Biber, S. (2012). Triangulation and mixed methods research: Provocative positions. *Journal of Mixed Methods Research 6*(2), 75-79. doi:10.1177/1558689812437100