Framework for Conducting and Writing a Synthetic Literature Review

Article · April 2018

DOI: 10.5296/ije.v10i1.12799

1 author:

Barbara R. Schirmer
Concenter Group
41 PUBLICATIONS **483** CITATIONS

SEE PROFILE

Macrothink Institute™

International Journal of Education
ISSN 1948-5476
2018, Vol. 10, No. 1

Framework for Conducting and Writing a Synthetic Literature Review

Barbara R. Schirmer[1,*]

[1]College of Education and Leadership, Walden University, PO Box 6094, Monroe Township, NJ 08831, United States

*Correspondence: College of Education and Leadership, Walden University, PO Box 6094, Monroe Township, NJ 08831, United States. Tel: 1-513-309-0239. E-mail: barbara.schirmer@waldenu.edu

Received: March 9, 2018 Accepted: March 23, 2018 Published: March 31, 2018

doi:10.5296/ije.v10i1.12799 URL: https://doi.org/10.5296/ije.v10i1.12799

Abstract

The framework presented in this article supports researchers in translating the copious information gleaned from the research literature into a coherent synthesis and critical analysis of the state of knowledge on the topic, identification of gaps and inconsistencies in the body of research, and recognition of the next logical steps in the line of research inquiry. The framework sequence guides the researcher in a step-by-step fashion from selecting the research literature to be reviewed to analyzing the studies, identifying the patterns and trends in the literature, writing the literature review narrative, and drawing conclusions and implications. The framework approach ensures that the literature review will reflect the quality indicators expected of this kind of research whether the end product is the rationale for an empirical study or a freestanding synthetic literature review.

Keywords: literature review, research literature

In the first phase of every research study, the researchers must become so familiar with the professional literature on the topic that they become expert in what is known and yet unknown. Though every phase involved in designing and carrying out a research investigation is time consuming, conducting the literature review is arguably the most labor intensive given how much time is needed for culling through databases and other sources to assure that all relevant publications are accessed, analyzing each source and synthesizing across sources, summarizing findings from the body of literature, and identifying a gap in theory, knowledge, or practice that is worth pursuing as a next step in the line of research inquiry about the topic.

The preponderance of the published information on conducting literature reviews is aimed at novice researchers who are taking an introductory research methods course or preparing to work on a master's thesis or doctoral dissertation. These books and chapters are designed to assist with understanding the role of literature reviews in making a case for the importance of a given research study and articulating the steps involved in the process of carrying out a literature review. Commonly, these steps include (a) formulating the problem, (b) searching databases and other sources to identify pertinent literature, (c) gathering and analyzing information from the studies, (d) evaluating the studies, (e) synthesizing information across studies, (f) summarizing and interpreting the information, and (g) writing the results (e.g., Cooper, 2017; Creswell, 2015; McMillan & Schumacher, 2009). The most challenging task involved in carrying out these steps is not identifying sources but rather transforming the voluminous information from numerous relevant publications into manageable and meaningful segments for analysis, synthesis, and critique. Common suggestions include an outline with major headings and subheadings into which references can be sorted (Mills & Gay, 2016), literature map for graphically displaying the relationships among the sources (Creswell, 2014), electronic or paper note cards that can be sorted and resorted for various commonalities between articles (Schreiber & Asner-Self, 2011), and article summary sheets that can be organized by themes and issues (Lodico, Spaulding, & Voegtle, 2010). Whatever form the notes take, the amount of information is still quite copious and the tools themselves offer no guidance for turning notes into a narrative.

One other approach for organizing literature reviews was proposed by Cooper in 1988 and is frequently promoted as an organizational structure for literature reviews and particularly reviews designed to be freestanding rather than as part of the rationale for empirical studies (Imel, 2011; Randolph, 2009; Torraco, 2016). In this approach, literature reviews are characterized as predominantly one of six types: focus (i.e., review concentrates on research outcomes, research methods, theories, or applications of findings), goals (i.e., purpose of the review is for synthesis, critique, or identification of problems or controversies central to past reviews), perspective (i.e., author takes a neutral stance in gathering and analyzing sources or an advocacy stance in accumulating and synthesizing particular literature to present a specific point of view), coverage (i.e., selection of sources is exhaustive, exhaustive but only selected ones are cited, representative, or pivotal in providing direction for the topic), organization (i.e., literature is discussed historically with the earliest studies first, conceptually by abstract ideas that are central to the studies, or methodologically by research design), and audience (i.e., review is written for specialized researchers, general researchers, practitioners, policy makers,

or the public). Though originally designed primarily as a taxonomy for evaluating the quality of literature reviews and secondarily for prospective authors in designing their literature reviews, there is no evidence that the approach has been widely used for either purpose.

What is missing from the extensive published advice about writing literature reviews is a technique for translating the copious background material gathered from the professional literature into a coherent and compelling written document. The purpose of this paper is to address this gap with a framework that guides the prospective author in fashioning a literature review that accomplishes the goal of moving knowledge and practice forward by pulling together what is known about a problem in order to provide a foundation for future research.

Let me provide one caveat to the purpose of this paper. Synthetic literature reviews are just one type of methodology designed to examine prior research. Meta-analyses, like synthetic literature reviews, are methodological designs used to examine a body of research. However, whereas synthetic literature reviews are qualitative in nature, meta-analyses use quantitative measures. In a meta-analysis, findings from separate studies that all investigated a particular intervention or instructional approach are quantified into a single numerical value known as effect size (Kavale, 2001; Schmidt & Hunter, 2015). For group experimental studies, effect sizes are generally calculated using the magnitude of difference in scores between the experimental and control groups. For single subject experimental studies, the magnitude of effect is determined through the percentage of nonoverlapping data (i.e., the percentage of intervention points that do not overlap with the highest or lowest data point in the baseline condition; Scruggs & Mastropieri, 2001). After calculating the effect sizes, the researchers then apply standards for interpreting their strength. According to Cohen (1988), a small effect size is less than .20, medium is less than .50, and large is greater than .80. For interpreting nonoverlapping data in single subject studies, Scruggs & Mastropieri (2013) posit that the intervention is not effective below 50%, minimally effective between 50-70%, moderately effective between 71-90%, and highly effective above 90%. As important as meta-analyses are as a research design, they are not included in this paper as writing the results of a meta-analysis is relatively straightforward when compared to the task of writing a synthetic literature review.

1. Framework Sequence

1.1 Selecting the Research and Theoretical Literature

The first step in conducting a literature review involves developing a plan for which databases and other sources will provide the most representative, comprehensive, or exhaustive set of data for understanding the state of knowledge about the topic. Every research methods textbook offers suggestions about identifying key terms, searching electronic databases, manually examining selected journals, and reviewing important books and other publications on the topic. The key piece of information that is often omitted in this advice is the importance of keeping a record of every step in the search process so that when writing the literature review, the author can list the search terms, name every database and all other sources that were searched, and provide the number of publications that comprised the first round of potentially relevant articles

and other publications. As publications are read and then reread, some will be discarded as not sufficiently pertinent. Ultimately, the author must be able to explain this process of culling through the literature and provide the final number of publications that comprise the literature review.

As part of this step, the author must also decide in advance the criteria that will be used for selecting studies to review and to be able to justify the choice of criteria. The social sciences typically include the following criteria:

- Peer reviewed (also known as refereed) to ensure that the publication has been vetted for quality.
- Reports of primary research to ensure that the descriptions have not been distilled by someone who did not actually conduct the research. Secondary sources or others' reviews of the literature are included only as supplemental to the published research and when writing the literature review, the author must make it clear when discussing a secondary source.
- Journal articles predominantly because professional scientific journals are the principal venue for research publications and offer the most stringent peer review. Book chapters and monographs are used with caution depending on assurance of peer review, and books and websites are only used to supplement what is learned through the research published in journals.
- Recently published to ensure the currency of the findings. It has become increasingly common for reviews to cover the most recent five years in order to assure the research is contemporary. However, if the time period is not mandated by others, such as the doctoral program or journal, I would urge authors to ensure that they explore older research that is seminal to the topic or will support the theoretical or conceptual orientation of the study. As Weintraub (1997) wrote for the 72nd and final issue of the *Annual Summary of Investigations Relating to Reading*, "One of the purposes of the summary that Gray and Robinson had intended was to make it easier for a researcher to identify research that had preceded, so it would not be repeated, but could be built upon. There is still a very real need to do this. Often, the ability to do this means searching far enough back to find the beginnings of what we want to study" (p. xi).
- Representative, comprehensive, or exhaustive selection of the recent research on the topic depending on which approach is needed for the particular literature review.
- How-to, program descriptions and evaluations, opinion, and conceptual sources only as supplemental to the body of research included in the review and when using these sources, a distinction is made between ideas for which there is no data from primary research studies and ideas which are based on descriptions of data collection and data analysis.

The quality of the literature review is dependent on the attributes of the studies that comprise the corpus of literature. With this in mind, it is essential that searches are conducted methodically and only studies that meet selection criteria are ultimately included in the review.

As an example, Strassman and Schirmer (2013) were interested in whether approaches to writing instruction with deaf students were similar to approaches used with hearing students. Prior research had found that the texts typically produced by deaf students are comprehensible but lacking in organization and supporting detail, choppy, and immature (e.g., Albertini & Schley, 2011; Antia, Reed, & Kreimeyer, 2005; Mayer, 2010; Paul, 2008) and that many deaf students are placed in writing remediation classes when they enter college (Schley & Albertini, 2005). These findings from the research on the writing development and achievement of deaf students suggested why it was important to determine whether research offered evidence for the effectiveness of instructional approaches that might improve these outcomes.

At this point in their article, Strassman and Schirmer (2013) listed the electronic databases they searched, search terms they used, and names of the journals they examined manually. They identified 16 studies that met their criteria of being an empirical study that investigated an instructional intervention designed to improve the writing of deaf students and published in a peer-reviewed venue within the past 25 years.

1.2 Analyzing the Studies

Table 1. Article Analysis Tool

Citation	Rationale		Methodology				Analysis	Results	Conclusions and Implications
	Authors' Literature Review	Purpose, Research questions / Hypotheses, and Theoretical/ Conceptual Framework	Participants and Setting	Design	Procedure	Measures			
Write the full reference citation in adherence to appropriate style guidelines for the professional field.	Explain very briefly the reasons the authors give for why they conducted their research study.	State the purpose of the study, research questions, and/or hypotheses, and theoretical or conceptual framework. that the authors present.	Write the number of participants and any other key information about them (such as age or grade level), how they were selected, and the setting of the study.	Write the name of the specific quantitative, qualitative, or mixed methods methodological design.	Summarize briefly the steps in the carrying out the study. If an intervention was implemented, briefly describe it.	Write the types or names of the measures used to collect data (e.g., tests, interviews, questionnaires, observations, historical documents).	Explain briefly what the authors did to analyze the data they collected.	Explain briefly the findings and whether all research questions or hypotheses were answered.	Explain briefly the conclusions drawn from findings and implications for practice and future research.

The second step is to analyze the research studies with a technique that will enable the author to transition straightforwardly from analysis to summary, interpretation, critical analysis, description of gaps and inconsistencies, and identification of methodological limitations in the body of research. For this step, the Article Analysis Tool is proposed as a technique for identifying key components of each study (see Table 1). As shown in the example from one of the research studies in the Strassman and Schirmer review, the analysis provides a synopsis of the gap in knowledge or practice cited by the authors to support the importance of their study, their purpose and research questions, the theoretical or conceptual framework that grounds the study, steps in the procedure and description of the intervention, methods for data analysis,

findings as pertinent to the purpose or research questions, and conclusions and implications for future research (see Table 2; Wolbers, Dostal, & Bowers, 2012).

In the next step, the patterns and trends in the literature review are discerned by comparing analyses for each component across the corpus of studies. Examples are taken from the published synthetic literature review by Strassman and Schirmer (2013; excerpts reprinted by permission of SAGE publications).

Table 2. Example Article Analysis

Citation	Rationale		Methodology				Analysis	Results	Conclusions and Implications
	Authors' Literature Review	Purpose, Research questions / Hypotheses, and Theoretical/ Conceptual Framework	Participants and Setting	Design	Procedure	Measures			
Wolbers, K., Dostal, H., & Bowers, L. (2012). ''I was born full deaf.'' Written language outcomes after 1 year of strategic and interactive writing instruction. *Journal of Deaf Studies and Deaf Education, 17*, 19-38.	Writing instruction with deaf students traditionally focused on grammar and structured language approaches. Recent approaches have shifted to a writing process approach and more emphasis on meaning than structure. Given the limited benefit of either approach in improving the writing of deaf students, there is a need for research on an approach that incorporates focus on both structure and meaning. The SIWI approach balances meaning and form in teaching writing and incorporates practices found to be effective with all students along with specialized components addressing the language needs of deaf students.	Purpose: To extend on previous promising research of SIWI with deaf students by adding a longitudinal component, including low- and high-achieving deaf students, and examining the language patterns of growth for children with different first language experiences. Research questions: 1) Do students receiving SIWI make significant gains in writing length, sentence complexity, sentence awareness, and function words over time? 2) Do low- and high-achieving students make significantly different gains over time? 3) In what ways do students with different L1 language experiences exhibit different patterns of growth in function words? Theoretical framework: Input hypothesis which suggests that second languages can be acquired implicitly but cannot be learned through explicit teaching alone because language systems are too complex to be learned one rule at a time.	29 deaf students in 5 middle grades (6-8) language arts classes taught by 1 teacher; setting was a school for the deaf	Within-subjects design with one between-subjects factor	- Teacher had received training on the SIWI approach one year prior to the beginning of the study. - Researcher observed instruction 7 times over a period of 1 school year for assessing instructional fidelity. - Students were categorized as low- and high-achieving and by expressive language (severely language delayed, ASL, English-based sign, sign supported speech, and contact sign with ASL tendencies). - SIWI instruction took place during 45-minute sessions 3-4 per week in personal narrative and narrative writing during the first semester and expository and persuasive writing during the second semester of the school year. - SIWI instruction incorporates 7 principles: 1) explicit instruction in the processes of expert writers, 2) teacher-student interaction during guided and shared writing, 3) balanced attention to meaning and form, 4) gradual transfer from guided to independent writing, 5) visual scaffolds to remember and apply skills and strategies, 6) implicit and explicit instruction in English, and 7) authentic audience for writing products.	Writing samples for all 4 genres were collected at the beginning, middle, and end of the school year. Samples were analyzed for writing length, sentence complexity, sentence awareness, and function words (articles and prepositions).	Descriptive statistics and Repeated measures ANOVA with time of written sample as within-subjects factor and low- and high-achieving as between-subjects factor	- Statistical significance and large effect size for total number of words and no difference between low- and high-achieving groups. - Statistical significance and large effect size and no difference between low- and high-achieving groups for one measure of sentence complexity and no significance for the other two measures. - Statistical significance and medium effect size for one measure of sentence awareness and no difference between low- and high-achieving groups and no significance for the second measure. - No significance for percentage of articles correct, incorrect, and omitted.	Given growth in several measures of writing skills regardless of literacy levels at the outset of the study and irrespective of students' communication method, and in light of prior positive findings for the SIWI approach, the authors concluded that the SIWI approach is an effective approach for teaching writing to diverse deaf students. Future research should be aimed at investigating the diverse writing needs of deaf and hard of hearing students.

1.3 Identifying the Patterns and Trends in the Literature

When all articles have been analyzed using the article analysis tool, the result is a visual representation of the key components of the studies. By examining each of the columns, studies can be grouped by common patterns or trends in purposes, methodological designs, demographics of participants, measures, procedures, interventions when applicable, approaches to data analysis, findings, conclusions, or any one or a few of these. Regardless of whether the review is representative, comprehensive, or exhaustive, the number of patterns and trends may be as few as three or as many as eight. Any greater number typically means that some patterns or trends more logically fit as subcategories.

The patterns identified by Strassman and Schirmer in the corpus of 16 studies were based in part on an *a priori* scheme culled from three expert sources on writing research with hearing students (Bazerman, 2008; Graham & Perin, 2007; MacArthur, Graham, & Fitzgerald, 2006). The patterns reflected four critical elements for writing instruction: teaching the process approach, instruction on characteristics of quality writing, writing for content learning, and use of feedback, with two of these patterns including subcategories and two patterns being stand-alone. By arranging and rearranging the corpus of 16 studies according to similarities in addressing each of these patterns and subcategories, the final organizational framework enabled Strassman and Schirmer to examine the 16 studies grouped by common features.

1.4 Writing the Literature Review Narrative

At this point, the material for writing the literature review narrative is organized in a manner that has transformed the voluminous body of information into manageable units. In applying the framework, each pattern comprises a heading under which the pertinent articles are discussed.

The narrative within each pattern includes the following segments:

- The first paragraph introduces the pattern,
- Every study is summarized in its own paragraph using the synopses written in the article analysis tool, and
- The final paragraph synthesizes key findings across studies for that pattern.
- A separate heading is then used for the methodological considerations found in the full corpus of research.

This approach to writing the literature review narrative ensures synthesis of common themes across studies, critical analysis of the studies, and identification of gaps, inconsistencies, and flaws in the body of the research literature.

For example, the pattern for *teaching the process approach* in the Strassman and Schirmer literature review included a subcategory for the approach of *cognitive apprenticeship*. Following the organizational framework for writing the narrative, Table 3 shows how they introduced the pattern (in this case, the subcategory of the pattern), summarized each relevant study, and summarized key findings for this pattern.

Table 3. Excerpt of Literature Review Narrative

Introduction

The heart of cognitive apprenticeship is that through instructional discourse and teacher think-alouds (i.e., the teacher problem solves aloud while completing a writing task), the children attain insights about the writing process and how to create quality finished compositions. (Strassman & Schirmer, 2013, p. 172)

One article summary.

Wolbers, Dostal, and Bowers (2012) expanded on previous investigations of Strategic and Interactive Writing Intervention (SIWI) in a year-long single-group experimental study of one middle school teacher and 29 of her sixth to eighth grade students at a school for the deaf. For purposes of this research, the students were classified for the study in two ways: 1) low or high-achieving students as indicated by the teacher's language and writing objectives for each student and 2) expressive language: severely language delayed, ASL, English-based sign, sign-supported speech, and contact sign with ASL tendencies (students who were not clearly users of ASL or English-based sign). The teacher implemented 45-minute SIWI instructional sessions with personal narrative, narrative, expository, and persuasive writing for 3-4 times each week. As new writing skills were introduced, the classes were led through guided, shared, and independent writing via the SIWI approach. Personal narratives collected at the beginning, middle, and end of the year were analyzed for length, sentence complexity, sentence awareness, and function words. The researchers found that the students made significant gains in the length, complexity, and grammatical accuracy of their writing. These improvements were found in both the low and high-achieving groups of students and were independent of beginning literacy levels and language group. The researchers concluded that SIWI intervention is appropriate for students across ability and communication levels. While the approach was effective for teaching some grammatical features it was not effective for all features or equally as beneficial to each language group (Strassman & Schirmer, 2013, pp. 172-173).

Summary of Teaching the Process Approach.

The research on writing process teaching with deaf students includes a variety of techniques found to be effective in teaching writing to hearing students. The studies of environmental structuring and word processing are dated in terms of the strategies they employ (Kluwin & Kelly, 1992; Mander, Wilson, Townsend, & Thompson., 1995) and though are historically interesting, offer little in the way of implications for practice today when the writing process approach is widely known and word processing is a given. The one study of community of practice in which dialogue journals are shared between pairs of hearing and deaf students (Kluwin & Kelly, 1991) is also dated (though potentially could be updated with the more current technology of email, blogs, wikis, etc.), although results were modest and it is not possible to know how much of the writing improvement was due to the dialogue journal activity and how much was due to classroom instruction. Easterbrooks and Stoner's (2006) study of a procedural facilitation tool suggests promising results for improvement in writing. Of all of the writing process studies, the studies of the SIWI cognitive apprenticeship approach conducted by Wolbers (2008a, 2008b, 2010) and Wolbers et al. (2012) offer the most compelling evidence for effectiveness. (Strassman & Schirmer, 2013, p. 173)

After completing the analysis of the studies, Strassman and Schirmer identified a number of methodological considerations in the body of research on writing instruction with deaf students; these included datedness of almost half of the studies in the corpus, few studies employing rigorous experimental designs, few replications and follow-up studies, no research on strategy instruction, no discussion of treatment fidelity, and no consideration of the participants' writing maturity or metacognition about writing in assessing effectiveness of the writing interventions.

1.5 Writing the Conclusions

Whether the literature review is part of the rationale section of a research study or a freestanding synthetic literature review, the researchers summarize what is known and still unknown about the topic in the final section. This summary should lead logically to the purpose of a current study or offer direction for creating future studies that fill in gaps, extend on prior research, and are stronger methodologically than the prior research.

For example, Strassman and Schirmer found few studies conducted on any given approach with deaf students, lack of follow-up and replication studies, and weaknesses in most of the methodological designs. They offered a few cautious implications for practice based on findings that were more promising than definitive and implications for future research given the small and fragmented base of research on writing instruction with all students.

2. Quality Indicators for Literature Reviews

When completed, the synthetic literature review should reflect the following quality indicators. Before moving forward with an empirical study or seeking publication for a freestanding literature review, the researchers should assess the quality of their work by determining if it incorporates the essential elements for any literature review.

1. The problem is contextualized theoretically, historically, and/or practically.
2. The scope of the prior research to be examined is clear and reasonable.
3. The phenomena of interest are identified.
4. Criteria for including and excluding research studies are provided and consistently applied.
5. Methods used to search for past research studies are comprehensive and systematic.
6. Explanation of how research studies are coded and analyzed is provided.
7. Major studies are discussed in detail.
8. Analysis and critique of the studies are offered using explicit criteria that are explicitly and consistently applied.
9. Studies are compared and contrasted using an appropriate and consistent method.
10. Trends and patterns in the literature are identified.
11. Opinion is distinguished from data-based results and conclusions.
12. Strengths and weaknesses in the present state of knowledge on the topic are offered.

3. Conclusions

The framework presented in this article supports researchers in translating the copious information gleaned from the research literature into a coherent synthesis and critical analysis of the state of knowledge on the topic, identification of gaps and inconsistencies in the body of research, and recognition of the next logical steps in the line of research inquiry. The framework sequence guides the researcher in a step-by-step fashion from selecting the research literature to be reviewed to analyzing the studies, identifying the patterns and trends in the literature, writing the literature review narrative, and drawing conclusions and implications. The framework approach ensures that the literature review will reflect the quality indicators expected of this kind of research whether the end product is the rationale for an empirical study or a freestanding synthetic literature review.

References

Albertini, J. A., & Schley, S. (2011). Writing: Characteristics, instruction and assessment. In M. Marschark & P. E. Spencer (Eds.), *The Oxford handbook of deaf studies, language and education,* (Vol. I, 2nd ed., pp. 130-143). New York: Oxford University Press.

Antia, S. D., Reed, S., & Kreimeyer, K. H. (2005). Written language of deaf and hard-of-hearing students in public schools. *Journal of Deaf Studies and Deaf Education*, *10*, 244-255. https://doi.org/10.1093/deafed/eni026

Bazerman, C. (2008). *Handbook of research on writing: History, society, school, individual, text*. New York, NY: Erlbaum.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nded.). Hillsdale, NJ: Lawrence Erlbaum.

Cooper, H. (2017). *Research A synthesis and meta-analysis: A step-by-step approach* (5th ed.). Los Angeles: Sage.

Cooper, H. M. (1988). Organizing knowledge syntheses: A taxonomy of literature reviews. *Knowledge in Society*, *1*, 104-106. https://doi.org/10.1007/bf03177550

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Los Angeles: Sage.

Creswell, J. W. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (5th ed.). Boston: Pearson.

Easterbrooks, S. R., & Stoner, M. (2006). Using a visual tool to increase adjectives in the written language of students who are deaf or hard of hearing. *Communication Disorders Quarterly*, *27*, 95-109. https://doi.org/10.1177/15257401060270020701

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools – A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Imel, S. (2011). Writing a literature review. In T. S. Rocco & T. Hatcher (Eds.), *The handbook of scholarly writing and publishing* (pp. 145-160). San Francisco: Jossey-Bass/Wiley.

Kavale, K. A. (2001). Meta-analysis: A primer. *Exceptionality, 9,* 177-183. https://doi.org/10.1207/s15327035ex0904_2

Kluwin, T. N., & Kelly, A. B. (1991). The effectiveness of dialogue journal writing in improving the writing skills of young deaf writers. *American Annals of the Deaf, 136,* 284-291. https://doi.org/10.1353/aad.2012.0436

Kluwin, T. N., & Kelly, A. B. (1992). Implementing a successful writing program in public schools for students who are deaf. *Exceptional Children, 59,* 41-53. https://doi.org/10.1177/001440299205900105

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational research: From theory to practice* (2nd ed.). San Francisco: Jossey-Bass/Wiley.

MacArthur, C. A., Graham, S., & Fitzgerald, J. (Eds.). (2006). *Handbook of writing research*. New York, NY: Guilford.

Mander, R., Wilton, K. M., Townsend, M. A. R., & Thomson, P. (1995). Personal computers and process writing: A written language intervention for deaf children. *British Journal of Educational Psychology, 65,* 441-453. https://doi.org/10.1111/j.2044-8279.1995.tb01164.x

Mayer, C. (2010). The demands of writing and the deaf writer. In M. Marschark & P. E. Spencer (Eds.), *Oxford handbook of deaf studies, language and education: Volume 2* (pp. 144-155). New York: Oxford University Press.

McMillan, J. H., & Schumacher, S. (2009). *Research in education: Evidence-based inquiry* (7th ed.). Boston: Pearson.

Mills, G. E., & Gay, L.R. (2016). *Educational research: Competencies for analysis and applications* (11th ed.). Upper Saddle River, NJ: Merrill/Pearson.

Paul, P. V. (2008). *Language and deafness* (4thed.). Sudbury, MA: Jones and Bartlett.

Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical Assessment, Research and Evaluation, 14*(13), 1-13.

Schirmer, B. R., Schaffer, L., Therrien, W. J., & Schirmer, T. N. (2015). Effect of the Reread-Adapt and Answer-Comprehend intervention on the reading achievement of middle and high school readers who are deaf. *Reading Psychology, 37,* 650-663. doi: 10.1080/02702711.2015.1105338

Schley, S., & Albertini, J. (2005). Assessing the writing of deaf college students: Reevaluating a direct assessment of writing. *Journal of Deaf Studies and Deaf Education, 10,* 96-105. https://doi.org/10.1093/deafed/eni006.

Schmidt, F. L., & Hunter, J. E. (2015). *Methods of meta-analysis: Correcting error and bias in research findings* (3rd ed.). Thousand Oaks, CA: Sage.

Schreiber, J., & Asner-Self. (2011). *Educational research: The interrelationships of questions, sampling, design, and analysis*. San Francisco: Wiley.

Scruggs, T. E., & Mastropieri, M. A. (2001). How to summarize single participant research: Ideas and applications. *Exceptionality, 9,* 227-244. https://doi.org/10.1207/s15327035ex0904_5

Scruggs, T. E., & Mastropieri, M. A. (2013). PND at 25: Past, present, and future trends in summarizing single-subject research. *Remedial and Special Education, 34,* 9-19. https://doi.org/10.1177/0741932512440730

Strassman, B. K., & Schirmer, B. R. (2013). Teaching writing to deaf students: Does research offer evidence for practice? *Remedial and Special Education, 34,* 166-179. https://doi.org/10.1177/0741932512452013

Torraco, R. J. (2016). Writing integrative literature reviews: Using the past and present to explore the future. *Human Resource Development Review, 15,* 404-428. https://doi.org/10.1177/1534484316671606

Weintraub, S. (1997). Introduction: The *Annual Summary of Investigations Relating to Reading*: A historical note, a note of thanks, and a reflective note. In S. Weintraub (Ed.), *Annual Summary of Investigations Relating to Reading, July 1, 1995 to June 30, 1996* (pp. vii-xii). Newark, DE: International Reading Association.

Wolbers, K. (2008a). Strategic and interactive writing instruction (SIWI): Apprenticing deaf students in the construction of English. *ITL, International Journal of Applied Linguistics, 156,* 299-326. https://doi.org/10.1075/itl.156.26wol

Wolbers, K. (2008b). Using balanced and interactive writing instruction to improve higher order and lower order writing skills of deaf students. *Journal of Deaf Studies and Deaf Education, 13,* 257-277. https://doi.org/10.1093/deafed/enm052

Wolbers, K. (2010). Using ASL and Print-based sign to build fluency and greater independence with written English among deaf students. *Educational Studies in Language and Literature, 10,* 99-125. https://doi.org/10.1093/deafed/enm052.

Wolbers, K., Dostal, H., & Bowers, L. (2012). ‘‘I was born full deaf.’’ Written language outcomes after 1 year of strategic and interactive writing instruction. *Journal of Deaf Studies and Deaf Education, 17,* 19-38. https://doi.org/10.1093/deafed/enr018

Copyright Disclaimer