

Writing Mixed Research Reports

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Abstract

For many researchers, writing the research report is among the most difficult steps. When writing about a mixed methods research study, researchers have had little guidance for how to structure the manuscript. Thus, the purpose of this article is to present multiple approaches to reporting information from a mixed research study. Recommendations for mixed research writing from the extant literature are delineated, and 12 themes that were identified across these texts are presented. The multitude of approaches and organizational possibilities for the mixed research report are explored. Emphasis is placed on allowing the researcher to be creative in her or his presentation of a mixed methods research report.

Keywords

mixed methods, mixed research reports, report writing

The research process has multiple steps (literature review, data collection, analysis, etc.) that can be challenging. For many researchers, writing the research report is among the most difficult. The research report is important as “the merits of a study [lie] in the ability of writers to persuade readers of its merits” (Sandelowski, 2003, p. 321). When writing about a purely quantitative research study, researchers have directives from many associations and books, including the American Psychological Association’s (APA’s; 2010) manual, the American Educational Research Association’s (AERA’s) two guides for conducting and reporting research (i.e., *Standards for Reporting on Empirical Social Science Research in AERA Publications* [AERA, 2006] and *Standards for Reporting on Humanities-Oriented Research in AERA Publications* [AERA, 2009]), and the reporting standards from APA (cf. APA Publications and

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Communications Board Working Group, 2008). Similarly, when reporting findings from qualitative research studies, researchers can also benefit from AERA's two reporting guidelines (AERA, 2006, 2009). Additionally, there are numerous books (i.e., Downing, 2007; Wolcott, 2008) to assist in the process of writing about a qualitative research study.

For researchers writing about mixed methods research studies (herein referred to as "mixed research"), until recently, there has been little guidance for how to structure a mixed research manuscript. For the past few years, there has been concern over the lack of available information regarding how to write a mixed research report. In the second edition of the *Handbook of Mixed Methods in Social and Behavioral Research* (Tashakkori & Teddlie, 2010), one chapter discusses the dearth of available information on writing mixed research studies (Leech, 2010). Leech (2010) interviewed the early founders of mixed research and found the lack of guidelines for writing mixed research was of concern to several of those interviewed. Fortunately, there are currently mixed research books that are first or second editions that have included sections or chapters on writing mixed research studies (e.g., Creswell & Plano Clark, 2011; Dahlberg, Wittink, & Gallo, 2010; Greene, 2007; Hesse-Biber, 2010; Johnson & Onwuegbuzie, 2011; Morse & Niehaus, 2009; O'Cathain, 2009; Sandelowski, 2003; Teddlie & Tashakkori, 2009). Thus, the purpose of this article is to present multiple approaches to reporting information from a mixed research study. First, the literature on writing mixed research reports is summarized. Second, based on Leech and Onwuegbuzie (2010), possible information to include in a mixed research report is presented. Third, traditional, nontraditional, and non-commonly used writing approaches are briefly described. Fourth, organizational approaches for structuring a mixed research report are delineated. Finally, some integrative conclusions based on the above are formed for presenting mixed methods research reports. Emphasis is placed on allowing the researcher to be creative in her or his presentation of a mixed methods research report. It is hoped that the discussion of these points will assist researchers and hopefully move the literature on writing mixed research forward.

Summary of Extant Literature on Writing Mixed Research Reports

To understand the current thoughts on writing mixed research reports, textbooks that included a section or chapter on writing mixed research reports were investigated. The following nine textbooks and chapters were identified: Creswell and Plano Clark (2011); Dahlberg, Wittink, and Gallo (2010); Greene (2007); Hesse-Biber (2010); Johnson and Onwuegbuzie (2011); Morse and Niehaus (2009); O'Cathain (2009); Sandelowski (2003); and Teddlie and Tashakkori (2009). Each section/chapter was read, and a brief summary of each can be found in Table 1.

Figure 1 presents the 12 themes that were identified across the summaries by using constant-comparison analysis (Glaser & Strauss, 1967). These themes represent a synopsis of the central ideas presented in these works. Most of the textbooks included

Table 1. Recommendations for Mixed Research Writing From the Extant Literature

Author(s)	Chapter/ section	Recommendations for mixed research writing
Creswell & Plano Clark (2011)	Chapter	<p>Keep audience in mind</p> <p>Use the writing to educate others about mixed research (i.e., include definitions for mixed research terms)</p> <p>Clearly delineate the procedure, the purpose, and use headings for the qualitative and quantitative sections</p> <p>The two databases need to be linked through the storytelling of the study</p> <p>Choose the point of view(s) from which to write each section (i.e., first person, second person, or third person)</p> <p>The structure of the manuscript should mirror the type of design</p> <p>Think through the organization of the report before the study, and also be open to the design emerging</p> <p>Includes possible outlines for dissertation/thesis proposals and final manuscripts, proposals for federal funding, and empirical journal articles</p> <p>Includes evaluation criteria for mixed research studies</p>
Dahlberg, Wittink, & Gallo (2010)	Chapter	<p>Presents one way, but not the only way, to write about mixed research studies</p> <p>Be clear about your epistemological assumptions that have been made in the study</p> <p>The “research question drives the data collection, data analysis, and inference methods” (p. 777)</p> <p>Develop a framework for the manuscript by a detailed outline, and allow for creativity during the writing process</p> <p>Use the following headings: introduction, methods, results, and discussion</p> <p>Describe why a mixed research study is necessary</p> <p>Provide rationales for decisions made during the study</p> <p>Organize the data analysis presentation by type of data collected, phases of collection, or steps and include the possible meta-inferences</p> <p>The results section should be aligned with the methods section (i.e., presented in the same order)</p> <p>Include a final section that integrates the results</p>
Greene (2007)	Chapter	<p>Includes information on writing a mixed research proposal</p> <p>Need to respect the different traditions while integrating them</p> <p>Convey respect for the different communities that participated in the study and who may read the material</p> <p>Adopt a mixed methods approach while writing (i.e., mix via the voice, the language, etc.)</p> <p>Good mixed methods writing includes “marbling” of the perspectives, voices, etc.</p>

(continued)

Table 1. (continued)

Author(s)	Chapter/ section	Recommendations for mixed research writing
Hesse-Biber (2010)	Two sections	<p>Barriers to publishing mixed methods research are presented</p> <p>Start with the research question(s)</p> <p>Present the results and analysis from each component (i.e., qualitative and quantitative) and include the amount of integration</p> <p>Practice reflexivity: (a) know your biases, including whether you are more qualitative or quantitative in your thinking; (b) know whether you are competent working with both qualitative and quantitative methods; (c) take time to work in a research team (if you so choose) and be sure to consider how the findings will be integrated; (d) be sure to focus on “issues of race, class, gender, and so on” (p. 85); and (e) have a plan for divergent findings</p>
Johnson & Onwuegbuzie (2011)	Section	<p>There are multiple ways to write a mixed research study</p> <p>Write for your audience</p> <p>Include your mixed research philosophy and synthesis</p> <p>Include varied perspectives of the research phenomenon</p> <p>Respect the thinking of the different approaches, especially with an equal status research design</p> <p>Integrate ideas into meta-inferences, keeping in mind how the findings can be utilized to increase social justice</p> <p>Using APA format, organize the report based on the research questions, research paradigm, or separate subreports</p>
Morse & Niehaus (2009)	Four-plus pages	<p>Create a proposal for the study (opposed to using an emergent design)</p> <p>Develop research questions that identifies if the project is qualitatively or quantitatively driven</p> <p>Present whether the study is conducted inductively or deductively and whether it is “QUAL or QUAN” (p. 83)</p> <p>Describe and justify the analysis and how data sets will be combined</p> <p>Present results by component (i.e., qualitative and quantitative) and then synthesize the results</p> <p>Be sure to edit your writing</p>
O’Cathain (2009)	Chapter	<p>Use an integrative style of writing (opposed to sequential)</p> <p>Incorporate both paradigms voice and style—use pragmatism (using the voice and style for different parts of the report) or subtle realism (use of first person and acknowledgement of the researcher)</p> <p>Write to be accessible to all audiences and not “[depict] one method as inferior or apologizing for a ‘lack’ in one method (Sandelowski 2003)” (p. 140)</p>

(continued)

Table 1. (continued)

Author(s)	Chapter/ section	Recommendations for mixed research writing
		Plan with all authors for how the final manuscript will incorporate the different aspects of the study Use tables, graphs, quotes and theory figures Methods for critiquing a mixed report Presenting findings in segregated or integrated models Presentation based on type of design (dominant/equal and sequential/concurrent)
		Describes the challenges of writing and reading mixed methods studies, including: (a) there are no uniform understandings of words, such as qualitative and quantitative; (b) clarity regarding if, how, and what has been mixed; (c) delineation of why mixing was needed or helpful; (d) the overall presentation of the material; (e) the conflict between science and art; (f) whether to use visual displays, numbers, and/or quotes; (g) write so that both qualitative and quantitative researchers understand the study
Teddlie & Tashakkori (2009)	Section	Clearly state research questions Present why a mixed methods study is appropriate and needed for the present study Review published mixed methods studies and include similar sections What to present in a dissertation is delineated

There are multiple ways to present a mixed research study
 Start with and clearly state the research questions
 Know and write for your audience
 Work from an outline and allow for possible emergent changes
 Know and state your epistemological assumptions
 Respect both paradigms
 Be aware of issues regarding social justice
 Delineate why a mixed research study design was used
 Discuss how the data are combined and integrated
 Use displays (e.g., tables, quotes, etc.) when presenting the findings
 Be sure to integrate your results and include meta-inferences
 If you use a research team, be sure to communicate, especially about the integration

Figure 1. The 12 Themes Extracted from the Chapters/Sections

information on how the results should be presented and the importance of integrating the results. Furthermore, many texts discussed how research questions should be clearly stated and the importance of knowing and writing for your audience.

Table 2. Writing Stages Based on Collins, Onwuegbuzie, and Sutton’s (2006) Framework

Writing stages	Collins, Onwuegbuzie, and Sutton’s stages	Steps included
Research questioning	Research formulation	Goal Objective Rationale Purpose Research question(s)
Research planning	Research planning	Sampling design Research design
Research implementation and integration	Research implementation	Data collection Analysis validation/legitimation Interpretation Report writing Reformulation

Possible Information to Include in a Mixed Research Report

When writing a mixed research report, it is important to include information regarding the study so the reader understands the study and results (Gliner, Morgan, & Leech, 2009). A helpful metaphor to consider when writing a research report is a cooking recipe: All necessary ingredients, as well as the process (i.e., the actions taken by the researcher), need to be clearly delineated. A mixed research report will most likely be longer than a monomethod report due to the complexity of the study; therefore, researchers should be careful to clearly delineate in the report all aspects of the study.

To assist researchers in writing a mixed research report, Leech and Onwuegbuzie (2010) created guidelines for possible content to include in a mixed research report. These guidelines were based on Collins, Onwuegbuzie, and Sutton’s (2006) framework for conducting mixed research studies, which is comprised of three major stages of the mixed research process. The stages are presented in Table 2 with Collins et al.’s labels as well as new labels for using the framework specifically for the writing process.

The Leech and Onwuegbuzie (2010) guidelines delineated possible content to include in a mixed research report to help ensure studies are warranted and transparent (AERA, 2006, 2009). For example, when presenting information from the research planning stage, Leech and Onwuegbuzie suggested eight specific areas that could be addressed in the report. These include the following: (a) the initial and final sample sizes for both the qualitative and quantitative portions of the study, (b) information regarding sample size considerations (i.e., a priori power), (c) the sampling scheme for both the qualitative and quantitative sections, (d) the sampling scheme for the mixed sample (i.e., concurrent-identical, concurrent-parallel, concurrent-nested, concurrent-multilevel, sequential-identical, sequential-parallel, sequential-nested, and sequential-multilevel), (e) the type of generalization to be made in relation to the sampling scheme

and sample size, (f) the mixed research design, (g) the quantitative research design (i.e., descriptive, correlational, quasi-experimental, and experimental), and (h) the qualitative research design (e.g., biography, ethnographic, auto-ethnography, oral history, phenomenological, case study, grounded theory) (Leech & Onwuegbuzie, 2010). By using these guidelines researchers can ensure that all pertinent aspects of the study are clearly presented in the report and, at the same time be creative with the presentation.

Approaches to Writing a Mixed Research Report

There are many different available approaches to presenting a mixed research report. To date, there is no standard or written expectation in the field for how a mixed research report is written. Therefore, mixed methods researchers who conduct mixed research studies have the opportunity to present their research in multiple ways. One should use a form that appropriately and effectively conveys the information from the study to the different readers. In fact, “authors from a number of disciplines . . . consider how to present their work through a variety of forms and by choosing carefully the rhetorical devices that best elicit their intended meaning” (Ely, Vinz, Downing, & Anzul, 1997, p. 55). These include, but are not limited to, narrative turns (e.g., vignettes, anecdotes, etc.), layered stories, pastiche (i.e., simultaneously referring to multiple perspectives), APA format, and others. Similar to the importance of constructing or designing the best research design (i.e., qualitative, quantitative, or mixed research), researchers should carefully consider the “best” approach to writing a mixed research report for their information context.

Mixed methods researchers can strive to have interesting, exciting, and informative research reports: not stodgy, stuffy, or boring manuscripts. As Richardson and St. Pierre (2005) state, it seems

foolish at best, and narcissistic and wholly self-absorbed at worst, to spend months or years doing research that [ends] up not being read and not making a difference to anything but the author’s career. . . . Learning to write in new ways does not take away one’s traditional writing skills any more than learning a second language reduces one fluidity in one’s first language. (p. 960)

When writing a mixed research report, it is important to include enough information so the reader can fully understand how the research was conducted. In addition, presenting the study in a creative and artful manner can possibly increase the readers’ understanding of the content and, perhaps, increase the number of readers. Any approach for writing can potentially be used for presenting a mixed research report, regardless of the type of mixed research design (Leech & Onwuegbuzie, 2009) that has been used in the study.

When considering different approaches to writing, it is important to consider the stakeholders and audiences who have an interest in or might read the work (Creswell & Plano Clark, 2011; Johnson & Onwuegbuzie, 2011; O’Cathain, 2009; Richardson,

1990, 1994; Sandelowski, 2003). Researchers who tend to conduct and read from only one paradigm (i.e., only qualitative or quantitative research studies) might have different ideas for what type of presentation is appropriate or appealing (Golden-Biddle & Locke, 1993; Sandelowski, 2003). Yet as the field of mixed research grows (Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007), it is important for the field of mixed research to find its own niche for presentation styles. Thus, to assist the mixed methods researcher, traditional and nontraditional writing approaches are briefly described. The following approaches will be briefly explained: standard APA format / Linear-Analytic approach, approaches based on order and/or events, and approaches based on narrative. It is important to note that multiple approaches to writing can be used in a mixed research report, especially if the qualitative results section is separated from the quantitative results section. For example, the quantitative section might rely on the traditional APA statistical results format, and the qualitative section might rely on an alternating emic-etic format (to list just one possibility). This presentation is by no means exhaustive, and it is hoped that researchers will create their own approaches and presentation styles that best fit their mixed research studies. Then, over time, another article (such as this one) summarizing, evaluating, and recommending practices will be helpful.

The Standard APA Format / Linear-Analytic Approach

Similar to Yin's (2008) Linear-Analytic report structure is the standard APA format report. For some mixed research studies, the standard APA (2010) format will be appropriate. This approach involves the linear use of the following ordered sections: introduction, literature review, method, results, and discussion. Using the traditional APA format has several benefits. First, the APA format approach includes clear sections that can assist authors and readers in knowing what information will appear in each section. Second, some readers are accustomed to this approach. Third, some journals will require this approach. Additionally, the APA format approach is relatively concise. Even though this approach is probably the most commonly used approach for quantitative and mixed research reports, there are some disadvantages to this approach. Because it is frequently used and well known by most researchers, readers might skip to the section of interest (i.e., the discussion) and miss much of the content of the study. Furthermore, when utilizing this approach for mixed research studies, this linear approach can limit complexity and creativity in report writing; it also disallows difference in the writing and presentation.

Nontraditional Approaches to Writing

Mixed research studies can also be presented in more non-traditional styles (Sandelowski, 2003). For example, an approach based on order and/or events can be used. Table 3 includes a list and brief description of nontraditional approaches to writing. This list is by no means exhaustive. The rest of this section will focus on the

Table 3. Brief Descriptions of Nontraditional Writing Approaches

Writing approach	Brief description
Tales	
Realist tales	The author is the authority and are absent from the text with "interpretive omnipotence" (Van Maanen, 1988)
Confessional tales	Authors are the interpreter of the data
Impressionist tales	Draws from phenomenology, post-structural theory, and feminist theory and presents a multivocal view of the culture as the researcher experienced it
Critical tales	Draws from neo-Marxist perspectives and concern is expressed for the oppressed in capitalistic societies
Formal tales	Theory is built or tested and participants are viewed scientifically
Illustrative structures	
Comparative structure	The study is presented two or more times in different ways and then compared
Theory-building structure	Each section presents a new aspect of the theoretical argument
Suspense structure	The results of the study are presented first and then the remainder of the text explains the results
Unsequenced structure	The sequence of the sections could be changed and not affect the overall description of the study
Order and/or events	
Chronological order	Describes the order in which events occurred during the study
Progressive focusing	Moves from a broad view of the study to a detailed view
Day-in-the-life	A typical day in the life of one of the participants is retold
Critical or key event	Focuses on the most important aspect of the study
Narrative	
Plot and characters	Introduces the main characters and then the plot
Groups in interaction	Starts with a description of the groups involved in the study, and then a presentation of how they interact with one another
Analytical framework	Using a conceptual framework as the structure of the presentation
Rashomon Effect	Accounts from multiple people are presented and each appears to be the "truth"
Mystery or drama	The problem of the research study becomes the mystery to be solved
Others	
Alternating between emic and etic perspectives	Alternating between emic (i.e., from the participants) and etic (i.e., from the researcher) perspectives
Judicial metaphor	Protagonists defend their positions with the integrated position at the end
Dialectical logic	Each component (i.e., qualitative and quantitative) is presented and then critique by the other with the mixed perspective at the end

following nontraditional methods: (a) chronological order, (b) researcher or narrator order, (c) progressive focusing, (d) day-in-the-life, (e) critical or key event approach, (f) the plot and characters approach, (g) the groups in interaction approach, (h) the analytical framework approach, (i) the Rashomon Effect approach, and (j) the mystery or drama approach. Each of these approaches is briefly described.

The chronological order approach (Clandinin & Connelly, 2000) is a method of writing where the researcher describes the order in which events occurred during the study. This retelling of the events can be from the beginning of the study to the end, or it can be told in reverse order. The researcher or narrator order approach (Van Maanen, 1988) is where the researcher describes the story from her or his perspective, in the order that she or he learned information and gained insights into the phenomenon. When writing using a progressive focusing approach (Czarniawska, 2004; Denzin, 1989), the reader is taken from a broad view of the study to a detailed view. This is also considered the funnel approach to writing the story of the study. The day-in-the-life approach is a method of presenting the information from a study where a typical day in the life of one of the participants is retold. This retelling of a typical day can be a conglomerate of multiple participants' experiences. Finally, the critical or key event approach (Denzin, 1989) is a good way to tell the most important aspect of the study, especially when the entire story may be too long or detailed to include in the report.

It is important when presenting a mixed research report using an approach based on order and/or events that the information is presented in a scholarly manner, and that all the relevant information (see Leech & Onwuegbuzie, 2010) is included. Appendices can be included if relevant information does not fit into the writing style. Be sure to respect the participants by using pseudonyms for their names. Furthermore, ensure that confidentiality is met, especially for data that is specific and not aggregated.

The plot and characters approach (Ely et al., 1997) is a basic storytelling method of introducing the main characters and then the plot, or story, which presents the research. For example, in a mixed research report, this approach may be used to describe a day spent in qualitative fieldwork. The groups in interaction approach to writing a mixed research study starts with a description of the groups involved in the study, and then a presentation of how they interact with one another. The analytical framework approach (Strauss & Corbin, 1990) uses a conceptual framework as the structure of the presentation. For example, in a mixed research report, a conceptual framework of ethnography could be used, wherein the presentation includes the actions and perspectives of the participants.

The Rashomon Effect approach comes from Heider (1988). The concept of the Rashomon Effect is based on a film by Akira Kurosawa, where four people witness the same event, but have very different accounts of what happened. Each of these accounts is presented as the truth,

but unlike the familiar detective story on film, where accounts that are later impeached are given only verbally, Rashomon commits itself to, and convinces us of, the truth of each version in turn. And unlike the detective story, we are not given an explanation wrapped up nicely in truth at the end. (Heider, 1988, p. 74)

Finally, the mystery or drama approach (Ely et al., 1997) is where the problem of the research study becomes the mystery to be solved. For example, in a mixed research report, the research question might be presented as a mystery to be solved and the data that are collected are used as clues to solve the mystery. When using the mystery or drama approach, the last section would resolve the mystery.

Organizational Approaches for Mixed Research Reports

There are a multitude of organizational approaches for mixed research reports. When writing a mixed research report, a researcher should strive to be thoughtful, creative, and use their imagination. To assist researchers in writing mixed research reports, I have delineated five organizational approaches to consider. These include the following types of organizational approaches: (a) whether a dominant or equal status design was used, (b) whether a concurrent or sequential design was used, (c) where the integration is presented, (d) organizing the report around the research questions, and (e) organizing the report around the steps in a mixed research project. Each of these types of organizational approaches will be briefly discussed.

The organization and writing of a mixed research report can vary according to whether a dominant or equal status design was used (Creswell & Plano Clark, 2011; Morse & Niehaus 2009). A dominant status design is one where the qualitative (QUAL) or quantitative (QUAN) component has more emphasis. Thus, using Morse's (1991) notation, the following are combinations of dominant status designs: QUAL+quan (i.e., the qualitative component has more emphasis and comes before the quantitative component), QUAN+qual (i.e., the quantitative component has more emphasis and comes before the qualitative component), qual+QUAN (i.e., the quantitative component has more emphasis and comes after the qualitative component), quan+QUAL (i.e., the qualitative component has more emphasis and comes after the quantitative component), and QUAL+QUAN (i.e., both components have equal emphasis). When writing a mixed research report with a dominant status design, the dominant component will have major emphasis and thus, will most likely have more text and may influence the writing style of the entire report. Furthermore, when the dominant component is first, as with QUAL+quan and QUAN+qual, the dominant component may be presented in the first section of the report. When the dominant component is after the nondominant component, as in qual+QUAN and quan+QUAL, the nondominant component may be presented first. It would also be interesting to present dominant status designs by mixing and integrating the two components, yet giving the dominant component more emphasis. Regardless of the type of dominant component design, the nondominant component must be well respected. In an equal status design, both QUAL and QUAN writing styles issues should be given full and equal emphasis.

Similar to how the organization and writing can vary based on dominant status designs, organization and writing of a mixed research report can vary according to whether a concurrent or sequential design was used (Creswell & Plano Clark, 2011).

Concurrent designs include those where both the qualitative and quantitative components were conducted at the same time, whereas sequential designs are those where the qualitative or quantitative components are conducted one after the other. A concurrent design could be presented in a mixed research report by presenting both components at the same time. For example, the methods and results sections would not be split between the qualitative and quantitative components. Instead, the methods and results from the qualitative and quantitative components would be integrated and presented together. A sequential design could be presented in the order it was conducted. Thus, if the qualitative component was conducted first, it would be presented first, and the quantitative component would be presented afterwards, and vice versa.

It is important for integration to be provided in all mixed research reports (Hesse-Biber, 2010; Johnson & Onwuegbuzie, 2011). One approach is to integrate the different components throughout the manuscript. Another approach is to include a section near the end that provides meta-inferences and focuses specifically on integration. Whether the integration is presented throughout or in one section, this information needs to be included in all mixed research reports.

Another approach for organizing the report is to present information based on the research questions (Johnson & Onwuegbuzie, 2011). Many textbook and chapter authors (Dahlberg et al., 2010; Hesse-Biber, 2010; Johnson & Onwuegbuzie, 2011; Morse & Niehaus, 2009; Teddlie & Tashakkori, 2009) discuss the importance of research questions in mixed research studies and how the research questions can drive the study. In many mixed methods studies there are multiple research questions; thus, the report can be organized by answering each in turn.

A fifth approach for organizing a mixed research report is to consider first which steps in the research process best fit the type of presentation style. Collins et al. (2006) conceptualized the mixed research process into 13 steps. These steps are outlined in Table 2. For beginning mixed research writers, it is especially helpful to consider each of the steps so that no key type of information is omitted. Also, when writing a mixed research report, it can be helpful to think through these steps and consider which writing approach (or combination of approaches) will work best with each step. For example, the 13 steps could be organized into the following sections of a report. The introduction might include the goal of the study, the research objective(s), the rationale(s), the research purpose(s), and the research question(s). Next the method section might include a reiteration of the research question(s), the sampling design, the mixed research design, and how the data were collected. The results section might include how the data were analyzed and the results of the analyses. Finally, the discussion section might include validating/legitimizing the data interpretations, interpreting the data, and reformulating the research question(s), which can also be presented as ideas for further studies. Another way the 13 steps could be utilized in a mixed methods study report is by using the 13 steps as a list for checking what needs to be included. The reader can creatively generate other possibilities for the writing approach to use with each of the 13 steps of a mixed research study.

Mixing Approaches to Writing a Mixed Research Report

In this section I briefly discuss some ways in which the writing approach might vary within a mixed research report, including (a) changing the writing approach based on the section of the report (i.e., introduction, methods, results, discussion), (b) changing the writing approach based on the place in the research process, and (c) changing the approach based on the nature of the research questions.

One method of mixing the writing approaches is to change the writing approach based on the section of the report (i.e., introduction, methods, results, discussion). For example, the introduction could be written utilizing the plot and characters approach by introducing a few of the participants, the scene (i.e., where the research took place), and the plot (i.e., the main research question). Then, the results could be written utilizing the APA format approach. Next, the discussion section could be written with the critical or key event approach with the discussion starting with a key event that occurred during the research study.

There are benefits of changing the writing approach based on the section of the report (i.e., introduction, methods, results, discussion). First, the expected breaks in the flow of the writing (e.g., the break from the introduction to the methods) create a natural transition from one type of writing approach to another. And second, as the writer, it can be easier to think about utilizing a different writing approach when presenting specific information. Downsides to changing the writing approach based on the section of the report include confusion for the reader by changing the writing approach, having the flow of the entire manuscript interrupted, and the possible difficulty in conveying all of the important information. Yet despite these drawbacks, utilizing multiple types of writing approaches can enhance the overall presentation of the mixed research report.

Where to Go From Here

The field of mixed research is still evolving and changing (Johnson & Onwuegbuzie, 2004; Johnson et al., 2007). Researchers who conduct mixed research studies have the fortune to be creative and utilize multiple types of writing approaches in their presentation of their reports. When writing a mixed research report, researchers can present the material in the way that best conveys the information from the study to the reader. Researchers should take the lead in this endeavor and strive to find writing approaches that best work for mixed research studies. Hopefully this article will give researchers who are writing mixed research reports several ideas for how to structure their writing to improve their manuscripts and will therefore move the field of mixed research forward.

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References

- American Educational Research Association. (2006). Standards for reporting on empirical social science research in AERA publications. *Educational Researcher*, 35(6), 33–40. doi: 10.3102/0013189X035006033
- American Educational Research Association. (2009). Standards for reporting on humanities- oriented research in AERA publications. *Educational Researcher*, 38(6), 481–486. doi:10.3102/0013189X09341833
- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.
- APA Publications and Communications Board Working Group on Journal Article Reporting Standards. (2008). Reporting standards for research in psychology: Why do we need them? What might they be? *American Psychologist*, 63, 839–851. doi: 10.1037/0003-066X.63.9.839
- Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco, CA: Jossey-Bass.
- Collins, K. M. T., Onwuegbuzie, A. J., & Sutton, I. L. (2006). A model incorporating the rationale and purpose for conducting mixed methods research in special education and beyond. *Learning Disabilities: A Contemporary Journal*, 4, 67–100.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Design and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: SAGE.
- Czarniawska, B. (2004). *Narratives in social science research*. Thousand Oaks, CA: SAGE.
- Dahlberg, B., Wittink, M. N., & Gallo, J. J. (2010). Funding and publishing integrated studies: Writing effective mixed methods manuscripts and grant proposals. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral science* (2nd ed.). Thousand Oaks, CA: SAGE.
- Denzin, N. K. (1989). *Interpretive interactionism*. Newbury Park, CA: SAGE.
- Downing, M. (2007). *On writing qualitative research* [Kindle ed.]. Retrieved from <http://www.amazon.com/>
- Ely, M., Vinz, R., Downing, M., & Anzul, M. (1997). *On writing qualitative research: Living by words*. New York, NY: Routledge.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.
- Gliner, J. A., Morgan, G. A., & Leech, N. L. (2009). *Research methods in applied settings: An integrated approach to design and analysis* (2nd ed.). New York, NY: Taylor & Francis.
- Golden-Biddle, K., & Locke, K. (1993). Appealing work: An investigation of how ethnographic texts convince. *Organization Science*, 4, 595–616. doi:10.1287/orsc.4.4.595
- Greene, J. C. (2007). *Mixed methods in social inquiry*. San Francisco, CA: Jossey-Bass.
- Heider, K. G. (1988). The Rashomon effect: When ethnographers disagree. *American Anthropologist*, 1, 73–81. doi: 10.1525/aa.1988.90.1.02a00050

- Hesse-Biber, S. (2010). *Mixed methods research: Merging theory with practice*. New York, NY: Guilford.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33, 13–36. doi:10.3102/0013189X033007014
- Johnson, R. B., & Onwuegbuzie, A. J. (2011). Mixed research. In R. B. Johnson & L. B. Christensen (Eds.), *Educational research: Quantitative, qualitative, and mixed approaches* (4th ed., pp. 439–459). Thousand Oaks, CA: SAGE.
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1, 112–133. doi:10.1177/1558689806298224
- Leech, N. L. (2010). Interviews with the early developers of mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral sciences* (2nd ed., pp. 253–272). Thousand Oaks, CA: SAGE.
- Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Quality and Quantity: International Journal of Methodology*, 43, 265–275. doi:10.1007/s11135-007-9105-3
- Leech, N. L., & Onwuegbuzie, A. J. (2010). Guidelines for conducting and reporting mixed research in the field of counseling and beyond. *Journal of Counseling and Development*, 88, 61–69.
- Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, 120–123. doi:10.1097/00006199-199103000-00014
- Morse, J. M., & Niehaus, L. (2009). *Mixed method design: Principles and procedures*. Walnut Creek, CA: Left Coast Press.
- O’Cathain, A. (2009). Reporting mixed methods projects. In S. Andrew & E. J. Halcomb (Eds.), *Mixed methods research for nursing and the health sciences*. Oxford, UK: Wiley/Blackwell.
- Richardson, L. (1990). *Writing strategies: Reaching diverse audiences*. Newbury Park, CA: SAGE.
- Richardson, L. (1994). Writing: A method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 516–529). Thousand Oaks, CA: SAGE.
- Richardson, L., & St. Pierre, E. A. (2005). Writing: A method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 959–978). Thousand Oaks, CA: SAGE.
- Sandelowski, M. (2003). Tables or tableaux? The challenges of writing and reading mixed methods studies. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral sciences*. Thousand Oaks, CA: SAGE.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: SAGE.
- Tashakkori, A., & Teddlie, C. (2010). *Handbook of mixed methods in social and behavioral sciences* (2nd ed.). Thousand Oaks, CA: SAGE.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Thousand Oaks, CA: SAGE.
- Van Maanen, J. (1988). *Tales of the field: On writing ethnography*. Chicago, IL: University of Chicago Press.

Wolcott, H. F. (2008). *Writing up qualitative research*. Thousand Oaks, CA: SAGE.

Yin, R. K. (2008). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: SAGE.

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