Literature Synthesis and Organizational Alignment to Project Interventions and Implementation

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CHAPTER OBJECTIVES

1. Examine the process for synthesizing literature findings to form the basis for project development and dissemination.
2. Design a matrix to facilitate a synthesis of literature and evidence.
3. Use the synthesis matrix to align the literature and evidence with project objectives to create a seamless transition.

KEY TERMS

Evidence	Project Interventions
Organization and Alignment	Synthesis Matrix

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ROLES

Faculty	Manager
Leader	Reviewer

PROFESSIONAL VALUES

Quality	Synthesis, Writing, and Organization
Evidence Evaluation and Grading	

CORE COMPETENCIES

Analysis	Design
Synthesis	Development
Alignment	

▶ Introduction

Synthesizing and organizing relevant literature that is aligned or can be aligned to your project objectives and implementation plan is an essential component of translating evidence into practice and designing quality improvement projects. Synthesis is defined as "the composition or combination of parts or elements so as to form a whole" (Synthesis, n.d.). Ultimately, the result of synthesis is the development of a new, higher level of knowledge regarding a subject of interest. The compelling attributes of synthesis are that it involves higher-order thinking skills and focuses on the production of something new and unique—something that has not occurred before—like your project.

Individuals synthesize information on a daily basis. New parents review multiple daycare agencies, synthesize the evidence, and choose the best one for them and their child. Students synthesize information from peers and relevant sources to determine which professor's course they will take. Busy mothers synthesize information about their work schedule and their children's activities so that they can assure they have constructed an appropriate plan of attack.

The skill of synthesis thinking and writing is essential to the development of new ideas and forms the basis of quality improvement projects such as those conducted by doctor of nursing practice (DNP), clinical nurse leader (CNL), and nurse executive students. Synthesis thinking and writing seeks to address a gap in evidence or clinical practice (Hain & Kear, 2015). You may not have developed your synthesis writing skill set yet; however, it is integral to your combination of critical thinking and creative reasoning in the development of a unique project. In the following pages, the aspects of analyzing and categorizing evidence into relevant structures; the synthesis of available evidence into new, unique projects; and the **alignment** of the

evidence to your project objectives/implementation plan will be discussed in detail. Such evidence includes "best research evidence, clinical expertise, and values of the patient or subject" (Roberts, 2013, p. 5). Finally, tools, guidelines, and techniques for categorizing and synthesizing evidence that aligns with your project will be presented.

▶ Literature Synthesis and Best Available Evidence

The primary aspect of literature synthesis begins with the supporting evidence. Writers must search for and critically appraise all available evidence in order to clearly identify what is known and not known about the topic, to establish a reliable knowledge base, and to highlight opportunities for the new project (Briner & Denyer, 2012). According to Glasgow, Green, Taylor, and Stange (2012), "translation of . . . evidence to . . . practice has been conceptualized as a linear process—a pipeline or roadmap which is slow and inconsistent" (p. 646). These authors propose a different way to conceptualize translation processes, an evidence integration triangle to align science with practice. Similarly, Kilbourne, Neumann, Pincus, Bauer, and Stall (2007) proposed a replicating-effective-programs framework to facilitate the implementation of evidence-based interventions proposed through research or quality improvement projects. All of these mechanisms were predicated on effective collection and critical appraisal of the evidence.

A clear, comprehensive review of the literature is based on synthesis writing. Drew University has an online resource for writers regarding synthesis writing and describes the process as "combining two or more summaries in a meaningful way" that supports the writer's thesis. Synthesis involves integrating themes or ideas from the literature into your thinking/writing and allows you to create a new, unique outcome. Synthesis is dependent on analysis of concepts, classifications, and categorizations but does not stop there. Synthesis involves the "search for links between materials for the purpose of constructing a thesis or theory" (Drew University, n.d.). which brings the disparate ideas and concepts into harmony, creating a meaningful new structure.

Synthesis writing can be achieved using an "explanatory" or an "argumentative" approach (Kelly, 2017). In the explanatory synthesis option, the writer is simply describing objectively without presenting a position or opinion. Argumentative synthesis writing involves the writer selecting a position and providing justification for that position. The argumentative option is more suitable for quality improvement or innovation projects because they require the writer to propose a new idea that is supported by existing literature but does not duplicate that literature. The idea is new and unique but is well founded in current evidence (Drew University, n.d.).

In either type of synthesis writing, the writer first proposes a one-sentence thesis statement, not a question, that will be the focus of the project (Drew University, n.d.). The thesis statement reflects the synthesis of supporting literature while identifying the innovation or improvement. The remainder of the paper is composed of paragraphs that provide detail from the literature and other evidence to help the reader see the information in a new way. Each paragraph reflects a blending of reference material, not a summary of each source, and is linked to one or more key elements or subtopics associated with the idea or project. The paper ends with a conclusion that addresses the "so what" and links back to the thesis (Kelly, 2017).

Synthesis writing is accurate, organized, and helps the reader make sense of information so that they can clearly see the overlaps and gaps in the available data. Again, to accomplish these aspects of synthesis writing, the writer must locate all studies, positive, negative, supportive, and contradictory, creating a clear path forward that is fully supported by existing evidence (Briner & Denyer, 2012). The paragraphs in a synthesized document are organized by topic or subtopic rather than by source and present a coherent assessment of the subject. Synthesis writing answers the question "what do we know about . . . (*the topic*)? The ultimate goal is to demonstrate that the writer is highly knowledgeable about the topic, has developed a perspective and/or interpretation of the evidence, and can assert that "no one has addressed XX," which will, in turn, become writer's project.

▶ Organization of Evidence

The guiding principle in organizing evidence is to lead the reader to the fact that your project is the only logical conclusion to the problem. Several tools and teaching methods exist in the literature that propose strategies for synthesis writing. Synthesize eLecture, Lippincott's Nursing Center.com, as well as several university writing centers provide writing advice and tools to help writers organize and effectively present evidence.

Most of the articles and websites propose beginning with a thesis statement worded similarly to this example: This project is going to address (*topic/issue/problem*) through (*strategy*). Writers can use this basic template and fill in the blanks with specifics related to their project.

Developing outlines is an effective way of organizing thoughts and events and will serve as an effective guide to writing the literature review. Some outlines are chronological; however, in the case of synthesis writing, the outline is based on the primary topics associated with the project or idea being proposed. Outlines may be more effective after content is organized using a synthesis matrix such as the one proposed in the Tools, Guidelines, and Techniques for Literature Synthesis and Project Alignment section later in the chapter.

▶ Aligning Evidence with Project Interventions and Implementation

Aligning supporting evidence with project interventions and implementation requires that the writer be very knowledgeable regarding the subject matter and all aspects of the project. The writer should locate all available resources, published and unpublished, that are linked to the project ideas and appraise the quality and relevance of the evidence to inform the project (Gough, 2007). The intent is to clearly establish that the writer is fully conversant with what is known and not known about the topic. Therefore, even negative and contradictory evidence must be unearthed and reviewed carefully. The writer should assure that all information in the review of the literature is supported by existing evidence. Evidence is broader than research findings alone and encompasses current clinical practices, the strategies that have worked in the individual agency or institution in prior projects, and even the writer's personal experiences (Glasgow et al., 2012). Ultimately, the object of aligning the existing

evidence to the project objectives and implementation plan is to clearly highlight a "gap" in the knowledge base, which presents an opportunity for the project being proposed (Briner & Denyer, 2012).

Synthesis involves putting together ideas into a new or unique product or plan that presents a solution to a previously unanswered problem (Kelly, 2017). Glasgow et al. (2012) promote the use of a "straightforward and systematic" path from new idea to integration into practice (p. 646). Typical action verbs associated with synthesis thinking include create new ideas; predict, modify, or change a mechanism; and organize, adapt, elaborate, and draw conclusions regarding a topic or set of topics.
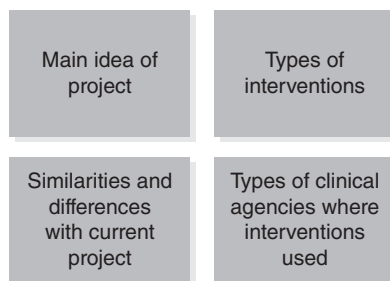
▶ Tools, Guidelines, and Techniques for Literature Synthesis and Project Alignment Cognitive Maps

According to wisegeek.com, cognitive mapping is the "means through which people process with environment, solve problems and use memory." While cognitive maps are generally used to help learners connect new information to that previously learned, they can also be useful for writers trying to express a disparate data set. Synthesis writing uses topics and subtopics to organize a literature review. The cognitive map shown below (**FIGURE 5-1**) can also be used to diagram topics and subtopics prior to writing about them.

▶ Synthesis Matrix

TABLE 5-1, adapted from a chart located at http://www.ncsu.edu/tutorial_center/writespeak, provides a tabular view of the same information. To use the chart, enter comprehensive information as you review each article/reference. Once all the references are entered into the chart, you can develop an outline or write directly from the chart.

As you work through all the evidence you have collected, you may need to modify the matrix. Once the matrix is complete, it will serve to guide writing. As you enter the information into the matrix, you will begin to see how the data relate, or not. Not all sources will have information that fits into the matrix completely. Some may

| Main idea of project | Types of interventions |
| Similarities and differences with current project | Types of clinical agencies where interventions used |

FIGURE 5-1 Cognitive Map

TABLE 5-1 Synthesis Matrix for Literature Review					
Author/ Title	Purpose of Project	Framework	Similarities/ Controversies to Your Project	Results	Implications for Practice, Research, and Theory

have more information; some may have less. If your completed matrix has gaps or areas where little or no information is included, these areas may guide your thinking about what is known and what is not known about the topic. Patterns of information may become readily visible within the matrix. All of this information will guide your synthesis of the evidence.

▶ Summary

- This chapter discusses a literature synthesis, methods of organizing the evidence, purposeful synthesis writing, and aligning evidence with the project interventions and implementation.
- Tools, guidelines, and techniques to assist the writer are provided to give a new perspective and interpretation of the evidence surrounding the project.

Reflection Questions

1. Why is it essential for the writer to identify, read, and synthesize data that both support and do not support the project?
2. What action verbs associated with synthesis writing provide the writer with a way to design an appropriate quality improvement project?
3. How is synthesis writing different from other types of writing? How does that difference impact aligning the evidence with project interventions and implementations?

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Case Exemplars

▶ Case Study 1

Synthesis Writing (Hand Hygiene)

The DNP student has identified a rise in hospital-acquired infections that is limited to the medicalsurgical units. Hand-hygiene protocols are in place on all units throughout the facility. The DNP student wishes to compare the protocol to actual practice and identify a gap for project development. The first step is to identify and synthesize the literature and evidence from practice.

Sample of Synthesis Writing Related to Hand Hygiene

Hand hygiene is one of the most effective methods for preventing infection (Aziz, 2013; Mortell, 2012; Spruce, 2013). In the mid-1800s, Dr. Semmelweis was one of the first physicians to recognize the importance of hand hygiene for preventing infection (Aziz, 2013; Molinari, 2017; Mortell, 2012). There is a lack of adherence to hand-hygiene protocols among healthcare workers (Aziz, 2013; Mortell, 2012). This can lead to an increase in healthcare-associated infections, spreading drug-resistant micro-organisms (Molinari, 2017; Mortell, 2012). Some reasons for nonadherence to hand hygiene include a lack of priority, allergy to or intolerance of antiseptics, and a lack of leadership (Mortell, 2012; Spruce, 2013). It is important to increase hand-hygiene compliance because it can improve patient outcomes (Molinari, 2017; Mortell, 2012).

Identification of Gap

The standard hand-hygiene protocols currently in place need to be assessed to determine compliance and to improve health outcomes.

Thesis Statement for Project Development

This project will compare current standard hand hygiene protocol to clinical practice on three specific medical surgical units to determine compliance.

References

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Molinari, J. A. (2017). Effective, sensible, and safe hand hygiene: Poor compliance among clinicians still leads to associated infections. *RDH*, *37*(10), 62–65.

Mortell, M. (2012). Hand hygiene compliance: Is there a theory-practice-ethics gap? *British Journal of Nursing*, *21*(17), 1011–1014.

Spruce, L. (2013). Back to basics: Hand hygiene and surgical hand antisepsis. *AORN Journal*, *98*(5), 449–460. doi:10.1016/j.aorn.2013.08.017

▶ Case Study 2

A community-based, nurse-led, family-centered practice is experiencing increased numbers of patients exhibiting hypertensive issues. The vulnerable, low-income, and predominately African American patient population has been provided with literature on best practices with regard to management of hypertension. Nutritionists have provided evidence-based meal plans for each of the patients. Pharmacological treatments have been prescribed for all.

Yet, the majority of patients are not experiencing a decrease in their blood pressure. The Clinical Nurse Leader student is interested in this issue and has devised a protocol to identify causes, relational factors, and patient views as a basis for a clinical innovation project.

Reflection Questions

1. What process should she follow?
2. What literature does she need to review?
3. What practice policies does she need to review?
4. What practice standards exist that may or may not be being used in this practice?
5. What steps does the CNL student need to take to assure comprehensiveness of the project?