



**INSTITUTE FOR
META-SYNTHESIS**

Activity Workbook



Module 1 Activities

Activity 1c.1. Understanding Thematic Synthesis

Read [Ong et al. \(2020\)](#) (est. time to read 45 mins.). Take 10–15 minutes to answer the questions below.

Questions to Answer

What makes this synthesis systematic?

- What makes it thematic?

Activity 1c.2. Understanding Types of Synthesis

Skim [Booth et al.'s \(2016\)](#) article (est. time 10–15 mins). Then, study their classification of synthesis methods (pp. 20–21). Take 20–25 minutes to answer the questions below with your synthesis project idea in mind.

Questions to Answer

- What synthesis method would you choose for your project? Why?

Are there any elements in your synthesis project that you could modify to fit it into one of the types listed in the classification?



Module 2 Activities

Activity 2a.1: Creating a Synthesis Question

Consider the types of synthesis questions in the tables below, Tables 2a.1 (Pearson et al., 2005) and 2a.2 (Finfgeld-Connett, 2018) and read the examples provided. Identify what best aligns with the topic you have in mind for your synthesis. At the bottom of the page, draft your synthesis question using language from an example in the table.

Table 2a.1. Types of synthesis questions identified by Pearson et al. (2005) with synthesis question examples

Type of Synthesis Question	Example
Revolves around effectiveness of a program	What is known about the effectiveness of program X among population A?
Understands program feasibility	What is known about the feasibility of program X to address issue A?
Understands the appropriateness of a program or intervention	What is known about the appropriateness of program X to address issue A?
Focuses on meaningfulness of a given phenomenon from the perspective of a specific population	What is known about the role of phenomenon X in the experiences of population A?

Table 2a.2. Types of synthesis questions identified by Finfgeld-Connett (2018) with synthesis question examples

Type of Synthesis Question	Example
Theory development	How does the literature support, contradict, or extend X theory? How does the existing literature contribute to the understanding of phenomenon X?
Explicating a process	What is known about the main phases that constitute process X?
Describing the attributes of a process	What is known about the attributes of process X?

Questions to Answer

- Referring to the tables above, what type of synthesis question is your synthesis project addressing?

Notes:

- Draft your synthesis question here.

Notes:



Institute for Meta-Synthesis

Activity 2a.2.: Refining Your Synthesis Question

Frame and refine your synthesis question using the **SPICE** framework designed by [Booth \(2006\)](#). Take 15-30 minutes to look over the initial synthesis question that you drafted in activity 2a.1 and answer the questions below.

Questions to Answer

- **Setting** – Does your synthesis question include a specific geographic location or setting? Where is your synthesis question situated (e.g., higher education setting, elementary schools, U.S. hospitals)?
- **Perspective** – Who is this synthesis for? What population is being studied? Whose perspective are you considering?
- **Intervention/Phenomena of Interest** – What intervention or phenomena of interest are you looking to examine?
- **Comparison** – What are you comparing this intervention or phenomena of interest to (either explicitly or implicitly)?
- **Evaluation** – What result are you looking to examine (e.g., graduation rates, retention)?

Using key words from your responses, **refine your synthesis question here:**

Synthesis Question:

For an example of the use of the SPICE framework, see Appendix 2a.2 in the user guide.

Activity 2a.3. Identifying your Theoretical Framework¹

Take 30 minutes to consider what theoretical framework might work best for your synthesis. Make sure to align the selected theoretical framework with your synthesis question(s) and include references. Use the space below to take any notes.

¹ This activity is not included in the first edition of the user guide (Ong et al., 2024).

Activity 2b.1. Creating Search, Selection, and Critical Appraisal Criteria

Take 45-60 minutes to create a list of search, selection, and critical appraisal criteria that would be appropriate for your topic, based on the synthesis question(s) you developed in Sub-Module 2a and the focus of your synthesis project.

Search Criteria

Notes:

-

Selection Criteria

Notes:

-

Critical Appraisal Criteria

Notes:

-

Activity 2c.1. Identifying Search Engines, Databases, and Other Tools

With your specific meta-synthesis project in mind, take 45-60 minutes to create a list of search engines, databases, or other tools that would be appropriate for your selected topic.

Search Engines

Notes:

-

Search Databases

Notes:

-

Other Tools

Notes:

-

Activity 2c.2. Researching Boolean Rules

Once you have created your list of search engines, databases, and other tools from Activity 2c.1, take 45-60 minutes to research the Boolean rules of each and record them. We will revisit these Boolean rules in Sub-Module 2d: Search Terms, Boolean Rules, & Strings.

Sample Search Engine: Google Scholar

Boolean Rules: <https://library.acg.edu/how-to-guides/google-scholar/advanced-searching>

- Boolean Operators: AND/OR/NOT/AROUND (#)

Search Engine 1: [name here]

Boolean Rules:

-

Search Engine 2: [name here]

Boolean Rules:

-

Search Engine 3: [name here]

Boolean Rules:

-

Activity 2c.3. Creating a Search Engine Tracker

Using Table 2c.1., start your own spreadsheet file to keep track of the various search engines, directories, databases, and meta-engines you test for your meta-synthesis project.

Use one excel tab per search engine, database, directory, or meta-engine.

Table 2c.1. Template for Search Engine Tracker

Search Engine Name					
Link					
Terms Used	Number of Total Hits	Approximate Number to Keep	Description: Types of Literature, Topics Covered, etc.	Recommendation (Keep Engine or Not Keep)	Notes

If you are interested in a pre-made template, you can find it here: [Search Engine Testing Template.xlsx](#)

Activities 2d.1. and 2d.2. Developing Search Terms

With your specific meta-synthesis project in mind, take 45-60 minutes to list the main categories of search terms that you will need to use. Then list the relevant search terms for each of them.

Category 1: [name here]

Relevant search terms:

-

Category 2: [name here]

Relevant search terms:

-

Category 3: [name here]

Relevant search terms:

-

Activity 2d.3.Constructing Search Strings

Take 45-60 minutes to begin constructing and testing search strings using Boolean operators and truncation.

(CATEGORY 1 SEARCH TERMS)(CATEGORY 2 SEARCH TERMS)(CATEGORY 3 SEARCH TERMS)(CATEGORY 4 SEARCH TERMS)

SAMPLE:



Module 3 Activities

Activities 3a.1. and 3a.2. Testing Search Strings

Using the search engines and other tools you selected and the search strings that you created in Module 2, take 30-45 minutes to conduct a few searches for your literature start set, then answer the questions below.

Questions to Answer

- What do you notice about the results of your searches?
- Is there a type of study or literature format that is not coming up in your searches?
- Are there other search engines, databases, or other tools that would be helpful to find this type of literature

Activities 3b.1. and 3b.2. Tracking Filters 1 and 2

Using Tables 3b.1. and 3b.2. as examples, take 45-60 minutes to generate your own tracking forms for Filter 1 and 2 using the search and selection criteria you developed in Module 2. Then apply your search and selection criteria to the search results from Sub-Module 2b using your tracking form for Filters 1 and 2.

Table 3b.1. Filter 1 (F1) tracker with examples

Reference	Pub. Date	Women	Of Color	Engineering	Undergraduate	US Pop.	Intersection	Empirical Study	F1 Decision
Alonso	2012	1	1	1	1	1	1	1	Keep
Fleming	2008	1	1	1	1	1	1	Unclear	Keep

Table 3b.2. Filter 2 tracker with examples

Reference	Pub. Date	Women	Of Color	Engineering	Undergraduate	US Pop.	Intersection	Empirical Study	Filter 2 Decision
Alonso	2012	1	1	1	1	1	1	1	Keep
Fleming	2008	1	1	1	1	1	1	0	Discard

If you are interested in a pre-made template, you can find it here: [Filtering Template](#)

Activities 3c.2. and 3c.3. Developing and Testing Critical Appraisal Criteria

Take 45-60 minutes to develop critical appraisal criteria. Articulate to yourself the reasons for including, or excluding, each criterion you consider. Add your critical appraisal criteria in the Filtering template you started in Activity 3b.1.

After developing critical appraisal criteria, conduct a critical appraisal of two pieces of literature you are considering for your start set (that you found in the activity in Sub-Module 3a). Answer the questions below as you test your critical appraisal criteria.

After testing your critical appraisal criteria, adjust the criteria as needed. Then, continue critical appraisal until achieving your start set.

Critical Appraisal Criteria Ideas

Notes:

Testing Critical Appraisal Criteria

Questions to Answer

- What do you notice about the literature you appraise?
- Are there any criteria that are not commonly fulfilled by your literature?

Activities 3d.1., 3d.2, and 3d.3. Conducting Forward and Backward Snowballing

Prior to this activity, you should have conducted Filter 1, Filter 2, and Critical Appraisal on all the literature you collected for your synthesis project to achieve your start set. Using the literature pieces in your start set, spend 45 – 60 minutes conducting forward and backward snowballing using a literature piece in your start set and answer the question below.

Remember to filter all new literature pieces identified through snowballing using Filter 1, Filter 2, and Critical Appraisal. Track the articles you collect from snowballing in an excel document like this one: [Snowballing Template](#).

Complete forward and backward snowballing on all literature pieces in your start set.

Questions to Answer

- What do you notice about the results of each snowballing technique?

Activities 4c.1. and 4c.2. Developing Analytical Memos

Take 20 minutes to select one piece of literature from your set, select one topic identified by the author(s) and write a Summary by Memo Writer with all the elements described above. Once you have this summary, identify and quote the Summary by the Author(s) followed by evidence (e.g., quotes, images). Then complete a full analytical memo for the same piece.

Consider the following questions:

Are analytical memos a useful strategy to use in my meta-synthesis?

Are there other sections that I would add to my analytical memo to make it more useful for my meta-synthesis?²

² This activity is not included in the first edition of the user guide (Ong et al., 2024).

Activities 5c.1. and 5c.2. Developing Deductive Codes

Take 20–30 minutes to choose a theoretical article that you identify as key to the topic you chose for your meta-synthesis. Create a list of deductive codes with definitions and examples based on this article to begin developing your own codebook.

Once you develop your deductive codes, test them on an analytical memo or piece of literature and adjust the definitions as necessary. You may find that there are instances where your deductive codes do not apply to excerpts in the literature. Note these instances and consider them for inductive codes, which you will practice in the next activity (5d.1).

Developing a Codebook: Deductive Codes

- [Name of code 1]: definition
 - Example of what the code is
 - Example of what the code is not
- [Name of code 2]: definition
 - Example of what the code is
 - Example of what the code is not
- [Name of code 3]: definition
 - Example of what the code is
 - Example of what the code is not
- [Name of code 4]: definition
 - Example of what the code is
 - Example of what the code is not

Activities 5d.1. Practicing Inductive Coding

Using your analytical memos from Sub-Module 4c, or a piece of literature from your meta-synthesis study, take 60 minutes to practice inductive coding. Note any inductive codes in your codebook.

Developing a Codebook: Inductive Codes

- [Name of code 5]: definition
 - Example of what the code is
 - Example of what the code is not
- [Name of code 6]: definition
 - Example of what the code is
 - Example of what the code is not
- [Name of code 7]: definition
 - Example of what the code is
 - Example of what the code is not
- [Name of code 8]: definition
 - Example of what the code is
 - Example of what the code is not

Activities 5e.1, 5e.2, and 5e.3. Considering Hybrid Coding

After practicing coding using deductive and inductive codes, examine the codes you developed deductively (Sub-Module 5c) and inductively (Sub-Module 5d). Answer the questions below, then adjust your codebook as needed. After considering your responses to the questions, practice hybrid coding of 1-2 more literature pieces in your data set.

Questions to Answer

- Are there codes that you had in both sets of codes? Which ones? Why do you think that is the case?
- Are there codes that you had in one set of codes but not the other? Which ones? Why do you think that is the case?
- Are there codes that complement, provide nuances, or describe different dimensions of the same idea? How do you structure the new hybrid code using primary and secondary codes?
- Which codes do you decide to put in the *Parking Lot*?
- Now that you have experienced inductive, deductive, and hybrid coding, which of these approaches to coding is appropriate for your meta-synthesis? Why?



Activities for Module 6



Activities 6a.1. and 6a.2. Developing Descriptive Themes³

Take 60 minutes to make connections between codes to develop descriptive themes that stay close to the original studies in your literature set. Create at least one theme, using evidence from your meta-synthesis data.

Now, look at your descriptive themes and identify how these can be clustered into analytical themes. Ensure you have evidence from your meta-synthesis data to support your analytical themes.

³ These activities are not in the first edition of the user guide (Ong et al., 2024).

Activity 6b.1. Outlining your Findings

Take 60 minutes to create an outline of your initial findings, including examples from your meta-synthesis data. Then start to draft your initial findings below.

Activity 6b.2. Drafting your Discussion

Take 60 minutes to draft a discussion section for your meta-synthesis by:

- Reviewing your synthesis question and writing about how the findings address it.
- Using your theoretical framework to talk about the findings.
- Reflecting on how your methodological choices impacted your findings.

Use the space below to take notes.

Activities 6c.1., 6c.2., and 6c.3. Developing Conclusions and Recommendations

Take 60 minutes to list all the topics you would like to include in your conclusion and recommendation sections. Ensure that your conclusion and recommendations are grounded by the findings of your meta-synthesis project and for future research, policy implications, and practitioners in the field. As you develop these sections, review the guidelines of the journal you would like to submit to determine if the conclusions and recommendations are within the same section or in two separate sections. To jumpstart the writing for these sections, consider looking at the recommendations included in your literature to develop your own.



Activities for Module 7

Activities 7a.1. and 7a.2. Reflecting on your Writing Practice

Take 30 minutes to reflect on and write about your current writing practice. Answer the questions below. Then look at your calendar for the next month. Identify regular blocks of time to write given your schedule and block them out and set realistic weekly goals that you can meet.

Questions to Answer

- What do you notice about your practice?
- How do you prepare to write?
- Do you work alone or in a team?
- How do you get started writing? (e.g., outlines)
- How do you revise your work?
- What do you think you need to work on or get help with?

Activities 7b.1. and 7b.2. Identifying Journals for your Meta-Synthesis Manuscript

Spend 60 minutes searching, comparing, and selecting 2-3 journals that you would consider sending a manuscript of your meta-synthesis project. Make sure to check the journal's Scimago page (<https://www.scimagojr.com/>) and the journal's website. As you search, create a table that tracks the journals you think are the best fit for your publication. Make sure to include the key information that you are interested in tracking, such as impact factor, whether they have published syntheses in the past, and potential fit for your manuscript. Spend some time reviewing their author guidelines and peer review process.

Title of Journal and Website	Aim, Scope, or Mission	Quartile Ranking	Impact Factor	Publishes Syntheses? (yes/no)	Fit with Our Synthesis (strong/medium/weak)	Overall Rank (Our Priority: 1, 2, 3, etc.)

Activities 7c.1. Examining Published Meta-Syntheses

Take 30 minutes to select and skim one of the following meta-synthesis articles. Identify and study the sections of the article we have discussed in this sub-module.

Winterer, E. R., Froyd, J. E., Borrego, M., Martin, J. P., & Foster, M. (2020). Factors influencing the academic success of Latinx students matriculating at 2-year and transferring to 4-year US institutions—implications for STEM majors: a systematic review of the literature. *International Journal of STEM Education*, 7(1), 1–23. <https://stemeducationjournal.springeropen.com/articles/10.1186/s40594-020-00215-6> Denton, M.,

Borrego, M., & Boklage, A. (2020). Community cultural wealth in science, technology, engineering, and mathematics education: A systematic review. *Journal of Engineering Education*, 109(3), 556–580. <https://onlinelibrary.wiley.com/doi/full/10.1002/jee.20322>

List what sections are included and not included below and then consider how you would outline your meta-synthesis manuscript.

Activities 7c.2. Outlining Your Methods Section of your Meta-Synthesis Manuscript

Based on the decisions you made in Modules 2 through 6, take 60 minutes to outline the methods section of your meta-synthesis manuscript. Do not forget to address both data collection (e.g., selected search engines, criteria for search, selection, and critical appraisal of the literature, snowballing) and data analysis (e.g., types of coding and overall analysis strategy).

Pre-Search

Notes:

-

Data Collection

Notes:

-

Data Analysis

Notes:

Activities 7c.2. Outlining Your Methods Section of your Meta-Synthesis Manuscript

Based on the decisions you made in Modules 2 through 6, take 60 minutes to outline the methods section of your meta-synthesis manuscript. Do not forget to address both data collection (e.g., selected search engines, criteria for search, selection, and critical appraisal of the literature, snowballing) and data analysis (e.g., types of coding and overall analysis strategy).

Spend 60 minutes working on your Introduction, Synthesis Question, and Theoretical Framework.⁴

For your introduction, take 30 minutes to outline the nature and context of your meta-synthesis. Ensure that you describe your objectives and rationale for conducting this meta-synthesis.

Synthesis Question and Theoretical Framework: Take XX minutes to review your synthesis question and theoretical framework which you developed and selected at the beginning of conducting your meta-synthesis project. Ensure that both align with your methods and findings.

⁴ This activity is not included in the first edition of the user guide (Ong et al., 2024).

Activities 7c.3. and 7c.4. Writing your Positionality Statement and Limitations

Take 60 minutes to draft two separate sections: a positionality statement and a limitations section. When developing your positionality statement, ensure that you situate yourself within the context of your meta-synthesis project. Consider the following question:

How does your background and identities influence or bias the interpretations and claims presented in the manuscript?

When writing your limitations section, consider the challenges you encountered in conducting your meta-synthesis project.

Ensure you look at the author guidelines for the selected journal you would like to publish and confirm whether there are additional sections required in the manuscript. Develop these sections as necessary.⁵

⁵ This activity is not in the first edition of the user guide (Ong et al., 2024).

Activities 7d.1. Examining Author Guidelines and Peer Review Process

Visit the websites of 2-3 journals that you are considering for a manuscript submission. Spend X minutes reviewing their author guidelines and peer review process.

Activities 8a.1 and 8a.2. Examining Requests for Proposals

Look at the following sample solicitation: (<https://www.nsf.gov/pubs/2021/nsf21588/nsf21588.pdf>). Spend 30 minutes doing an exercise identifying key pieces of information in a solicitation and answer the questions below.

Then, take 60 minutes to search for current RFPs in your field. If there are any that invite synthesis proposals, identify the topics funded, expectations for proposal content (i.e., details that must be in the proposal), and deadlines. Identify an RFP to potentially apply to for your meta-synthesis project.

Questions to Answer

- Does this solicitation accept synthesis proposals?
- On what topics or areas are funders seeking proposals?
- What elements of the proposal are required?
- What supplementary documents are required?
- What is the deadline?
- Does the RFP mention the amount of the award?

Activities for Module 8b.1., 8b.2., 8b.3., & 8b.4.

Proposal writing can be overwhelming, so consider developing portions of your proposal separately. Consider writing the following sections in this order:

Research vision statement (3-5 sentences)

Rationale (1-2 pages)

Include some citations of the major theories upon which you will be drawing.

Goals and objectives

Be sure to check that your goals directly relate to your synthesis question, and that your objectives describe practical steps towards achieving each goal.

Outcomes and impact statement

Be sure to check that they are related to your goals and objectives.

Activity 8c.1.

Take 1.5–2 hours to identify a theoretical framework for your proposal. If you did the theoretical framework activity in Sub-Module 2a, it may take you less time; simply transfer and refine it.

Activity 8c.2.

Take 60–90 minutes to draft a methods section for your proposal. If you have done the activities related to methods in Modules 2 through 6, transfer and refine here. Ensure that you are describing your search and selection process and data analysis methods. When developing this section for your proposal, make sure you have cited relevant methods and theoretical literature that connect back to your meta-synthesis project.⁶

⁶ This note is not included in the first edition of the user guide (Ong et al., 2024).

Activity 8d.1.

Take 30–45 minutes to draft the “Prior Work Closely Related to the Proposed Project” section of a proposal. Use the space below to take notes.

Activity 8d.2.

Take 10–20 minutes to create an ideal list of personnel for your meta synthesis project, including yourself, your project team members, partners, evaluators, and advisory board members. Next to their names, list their areas of expertise and skill sets related to your meta-synthesis project. Use the space below to take notes.

Activity 8d.3.

Take 30–40 minutes to draft your bio that would be part of the “Key Personnel” section in your proposal. Use the space below to take notes.

Activity 8d.4.

Take 10–20 minutes to create an ideal list of evaluators and/or advisory board members. Next to their names, list their areas of expertise and skill sets related to your meta-synthesis project. Use the space below to take notes.

Activity 8d.5.⁷

Take 20 minutes to identify the resources that your institution has to support your proposed meta-synthesis. Ensure you identify whether your institution has the relevant technology support, library access, and an institutional review board to provide ethical overview of the project. Then take 15 minutes to draft a brief paragraph about how your institution will support your proposed meta-synthesis project. Use the space below to take notes.

⁷ This activity is not included in the first edition of the user guide (Ong et al., 2024).

Activity 8e.1.

Take 10–20 minutes to research and select 1-2 specific possibilities for **traditional** dissemination (e.g., name of a journal or conference) and 1-2 possibilities for **non-traditional** dissemination for your meta-synthesis findings. Use the space below to take notes.

Activity 8e.2.

Take 15–30 minutes to check if your institution has a communications department. If it does, reach out to see if they have resources or social media channels that are potential avenues to share your meta-synthesis findings. Get specific data (e.g., number of Twitter/X followers, email listserv recipients) to report in your proposal. Use the space below to take notes.

Activity 8e.3.

Take about an hour to develop a Gantt chart or table timeline for the completion of your meta-synthesis project. Use the space below to take notes.