

Mastering the Skill of Question Formulation for Learning and Research

Dan Rothstein

Co-founder of the Right Question Institute (RQI) & Co-Director of RQI's
Democracy-Building Program, Cambridge, MA

Tomoko Ouchi

Manager of the Question Formulation Theory Program

Overview of sessions

Session 1
February 2

Faculty and graduate students (11:00 am - 1:00 pm)
Introduction to the Question Formulation Technique

[virtual facilitation]

Session 2
February 7

Faculty (2:30 pm - 4:30 pm)
The Art and Science of the Question Formulation Technique: applying the QFT for teaching and learning purposes

Graduate students (1:00 pm - 2:20 pm)
The Question Formulation Technique for Research

[on-site facilitation]

Session 3

Faculty **March 6 (2:30 pm - 4:30 pm)**
Lessons from QFT Practice and introduction to Question Formulation Theory

Graduate students **February 28 (1:00 pm - 2:30 pm)**
Exploring how to get to better questions

[virtual facilitation]

Symposium
May 8

CSLA - RQI Symposium presenting applications and advances in question formulation for learning and research. Presentations by both faculty and students

[on-site facilitation]

Day 2: The Question Formulation Technique for Research

February 7, 2024

Today's Agenda

1. New thoughts about questions, learning and research
2. QFT for Research on one slide
3. Experience QFT for Research
4. Next steps

Since last Friday, what are some examples of new ways or thoughts that you might have had about any of the following:

- question formulation
 - learning
 - the use of questions in your life
 - research
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Acknowledgments

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The QFT For Research on One Slide



Identify research topic

Produce questions

Work with questions

Rework questions

Prioritize and further explore

Develop research questions and agenda

Reflect

The QFT For Research on One Slide



Identify research topic

Produce questions

Work with questions

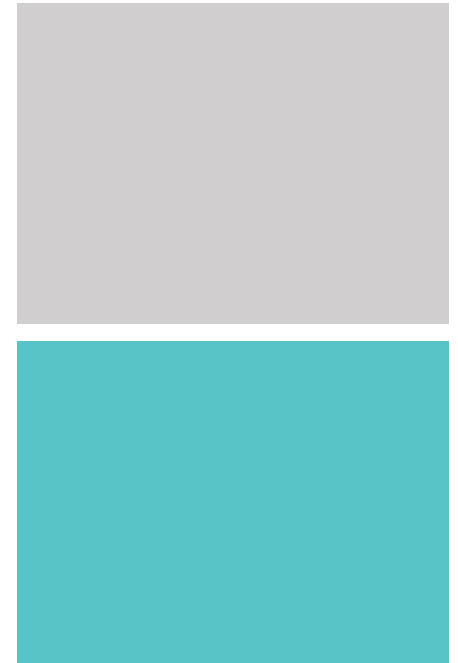
Rework questions

Prioritize and further explore

Develop research questions and agenda

Reflect

An Experience in
the Question Formulation Technique
for Research (QFT-R)



Getting ready

- Get out a piece of paper and pen/pencil

Or

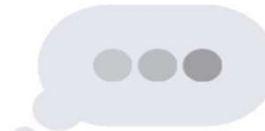
- Open up a blank Word/Google document

Or

- Use a notepad application on your handheld device like a tablet/phone/etc.
-

Identify Research Topic

1. Identify/Name a field of study – a subject area
 2. List several topics covered in the subject area that are of interest to you.
 3. Name which of these topics you are doing research on or might want to research.
 4. Choose one of the topics and write this topic at the top of a new piece of paper.
-



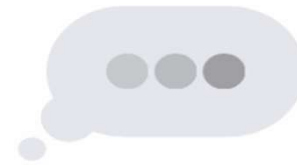
Rules for Producing Questions

- Ask as many questions as you can about your research topic
- Do not stop to answer, analyze, or judge questions
- Write down every question exactly as it comes to mind
- Change any statements into questions

➤ How might following these rules be different from how you usually produce research questions?

Produce Questions

➤ Ask questions about the topic you chose



- Follow the rules
 - Ask as many questions as you can about your research topic
 - Do not stop to answer, analyze, or judge questions
 - Write down every question exactly as it comes to mind
 - Change any statements into questions
 - Number the questions as you produce them
-

Work with Closed and Open-ended Questions

Definitions

- **Closed-ended** questions can be answered with a “yes,” “no,” or with one word.
 - **Open-ended** questions require more explanation and cannot be answered with a “yes,” “no,” or with one-word.
-
- What did you learn from the discussion about O/C ended questions in groups last week?
 - Label your closed-ended questions with a “**C**” and your open-ended questions with an “**O**.”



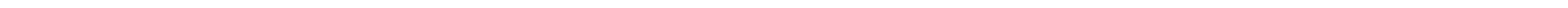
Work with Closed and Open-ended Questions

Closed-ended questions	
Advantages	Disadvantages



Work with Closed and Open-ended Questions

Open-ended questions	
Advantages	Disadvantages



Work with Closed and Open-ended Questions

Take one **closed-ended question** and change it into an **open-ended question**.



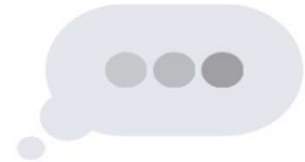
Take one **open-ended question** and change it into a **closed-ended question**.



- Add your new questions to the bottom of your list of questions.
-

Rework Your Questions

Do you have questions that you would like to rework?



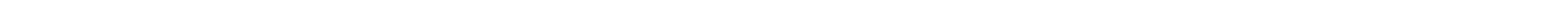
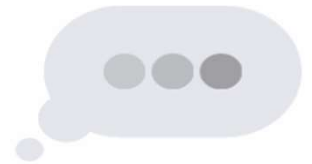
- If so, rework your questions and add them to the bottom of your list.



Prioritize

Choose three questions that can best help you shape your research.

- Keep in mind the research topic you identified earlier
- Select your three questions

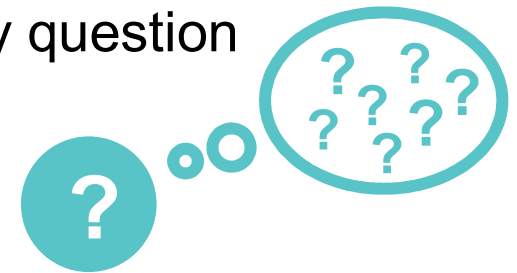
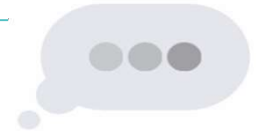


Share

- Where are your priority questions in the sequence of your questions? (e.g. 7,9,15 out of 20)
 - Your rationale for why you chose these questions
-

Further Explore

- Choose **one** priority question that can best help you shape your research.
- Write the priority question at the top of a new page to record questions.
- Produce additional questions about your priority question
 - Follow the rules
 - Number the questions as you produce them



Develop Your Research Questions and Research Agenda - I

- Review your list of questions



If they spark any new questions or you want to revise any of them, write additional questions at the bottom of the page.

Develop Your Research Questions and Research Agenda - II



From the *whole list* of questions

➤ Identify:

Three questions you are pleased that you were able to produce by going through the process



➤ Identify:

Three questions that can best help you shape your research.

The QFT for Research on One Slide



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Produce questions

Work with questions

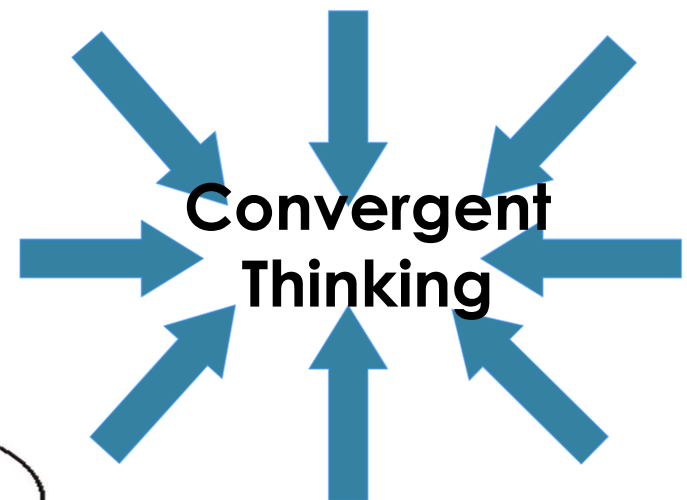
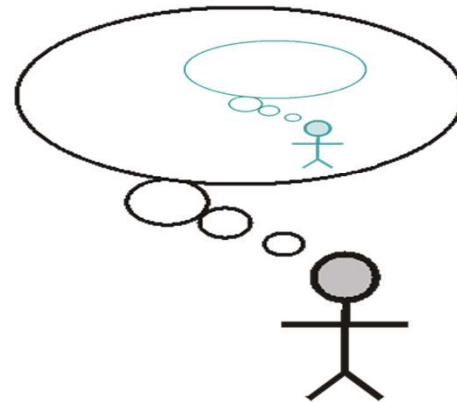
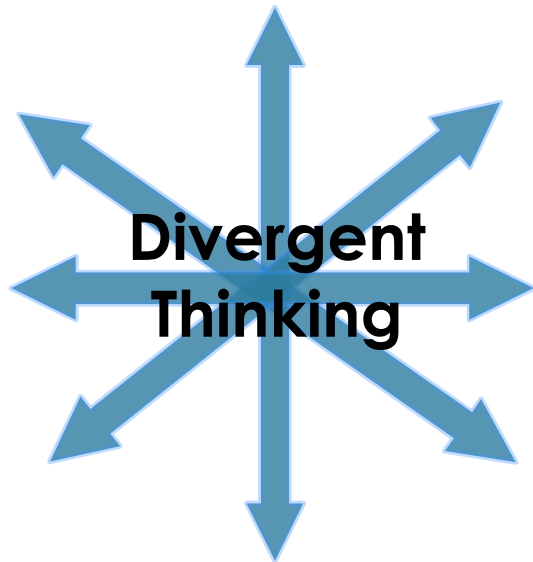
Rework questions

Prioritize and further explore

Develop research questions and agenda

Reflect

Three thinking abilities with one process



Metacognition

Reflection and post-session survey



1. What did you learn?
2. What did you notice about the quality of the questions you formulated?
3. What was helpful about this process of producing and working with questions?
4. What was challenging about this process of producing and working with questions?
5. How might this process affect your ability to ask questions in the future?

<https://bit.ly/NJIT2024-02-07>

"How does someone, a scientist, arrive at the questions that determine the course of the rest of his or her life?"

.... We have seen that choosing the question is the essential act in science.

It may then be surprising that this so often happens in what is described as a flash of insight, an "ah-ha" moment, an epiphany.

But like many such experiences, careful reflection shows that there was, in fact, a long, if clandestine, preparation for the moment of recognition."

Stuart Firestein, Columbia University, *Ignorance: How It Drives Science* (Oxford U. Press 2012) p, 151

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For the next session on February 28

Use the two priority questions from the first prioritization that you did not choose to explore further in our session and:

1. Apply the 'explore further' step of producing new questions about those two other priority questions
2. Do it separately for each of the two questions
3. Identify three questions that can best help you shape your research and think about rationale for choosing them

Please bring your list of questions to the next session. (We are not going to ask you to share your questions, but you will need to refer to them as we work on exploring how to get to "better questions.")

Office hours

We have office hours before the next session on February 28.

- 1:30 pm - 2:30 pm on Wednesdays
- 12 pm - 1 pm on Fridays

➤ Please sign up for a 30 minute session at <https://bit.ly/RQIOfficeHours>



Thank you.

Please contact tomoko.ouchi@rightquestion.org for any questions!

Free resources available at www.rightquestion.org

Using & Sharing RQI's Resources



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