The Question Improvement Model
A Simple and Scalable Model for Improving the Question Formulation Skills of Ph.D. Students
An EAGER Project

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The Right Question Institute and Brandeis University

Being able to formulate and refine good questions lies at the heart of all research.

The Question Improvement Model
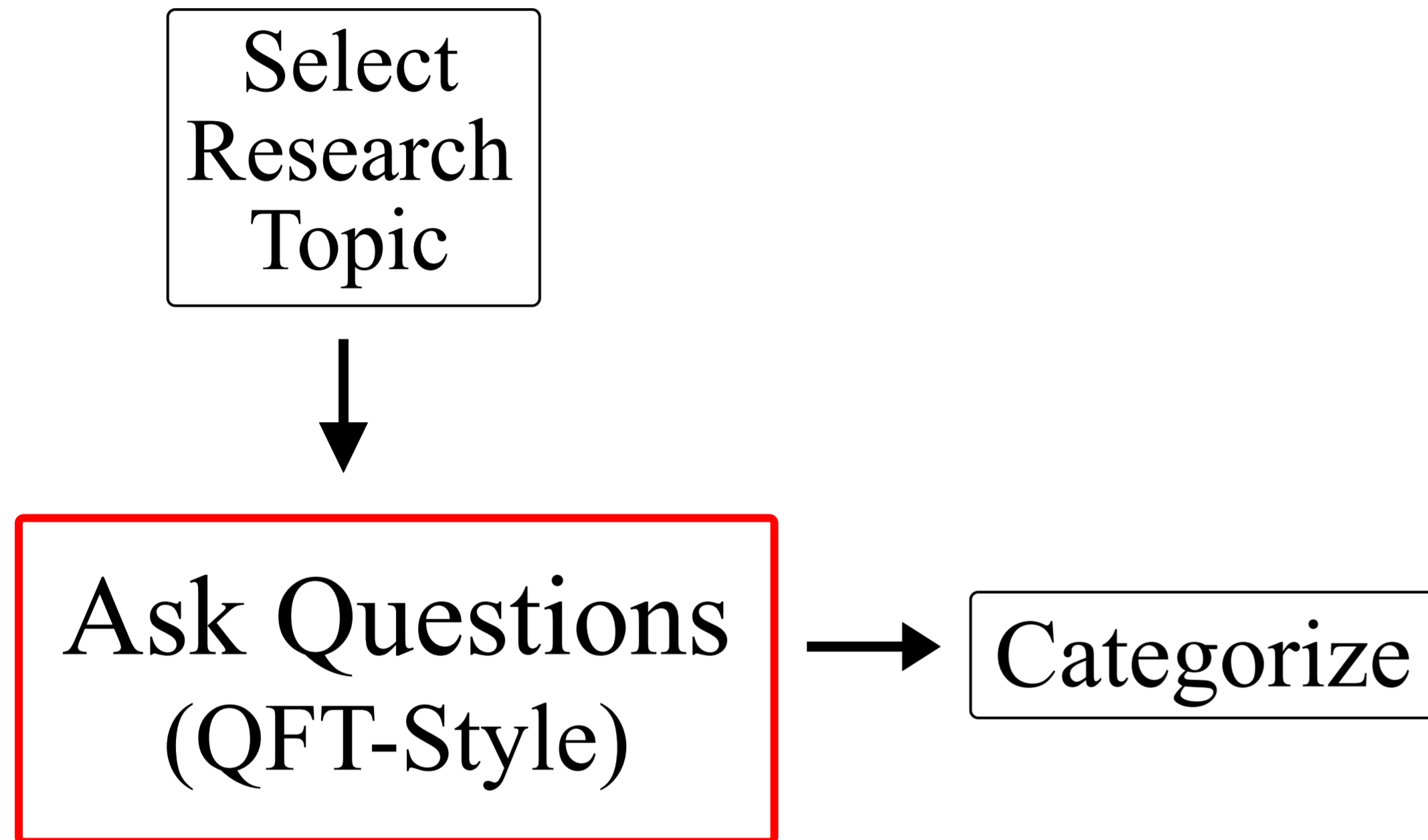
Ask Questions
(QFT-Style)

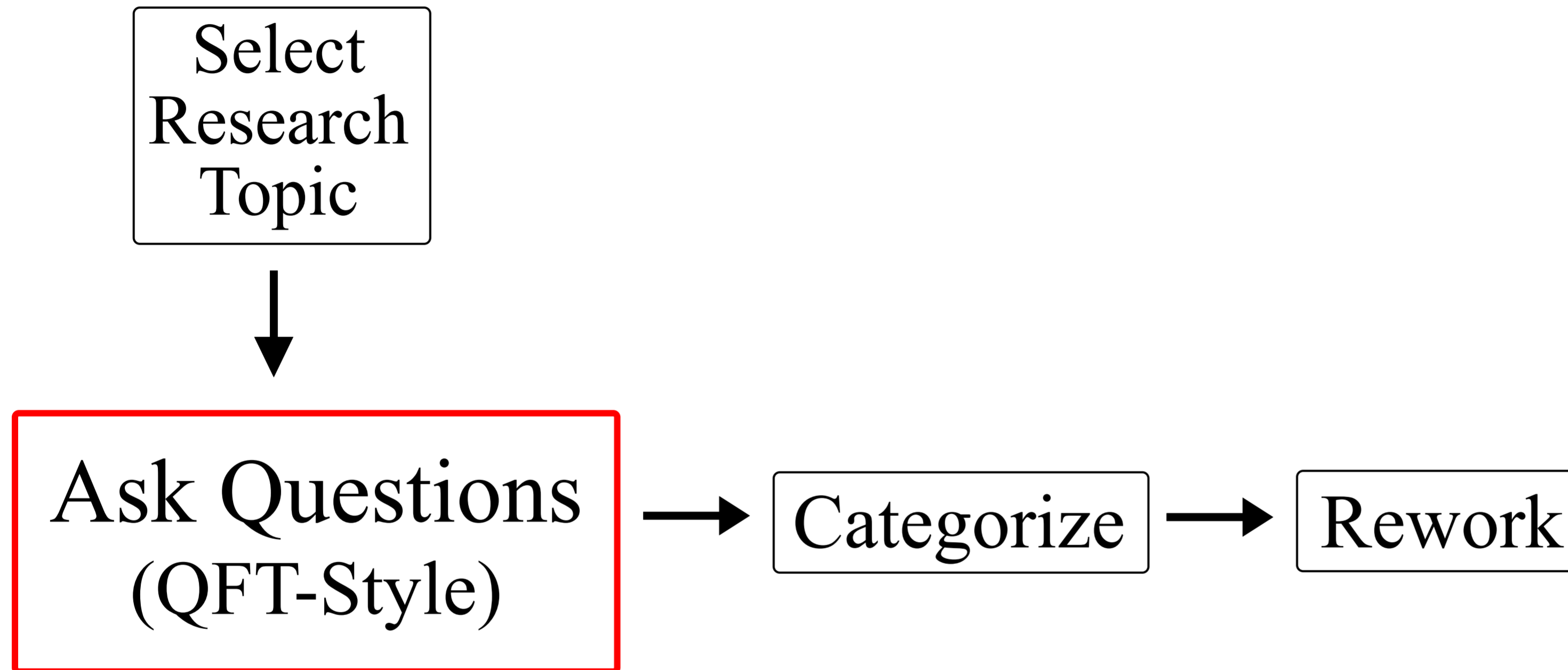# The Question Improvement Model

Select
Research
Topic

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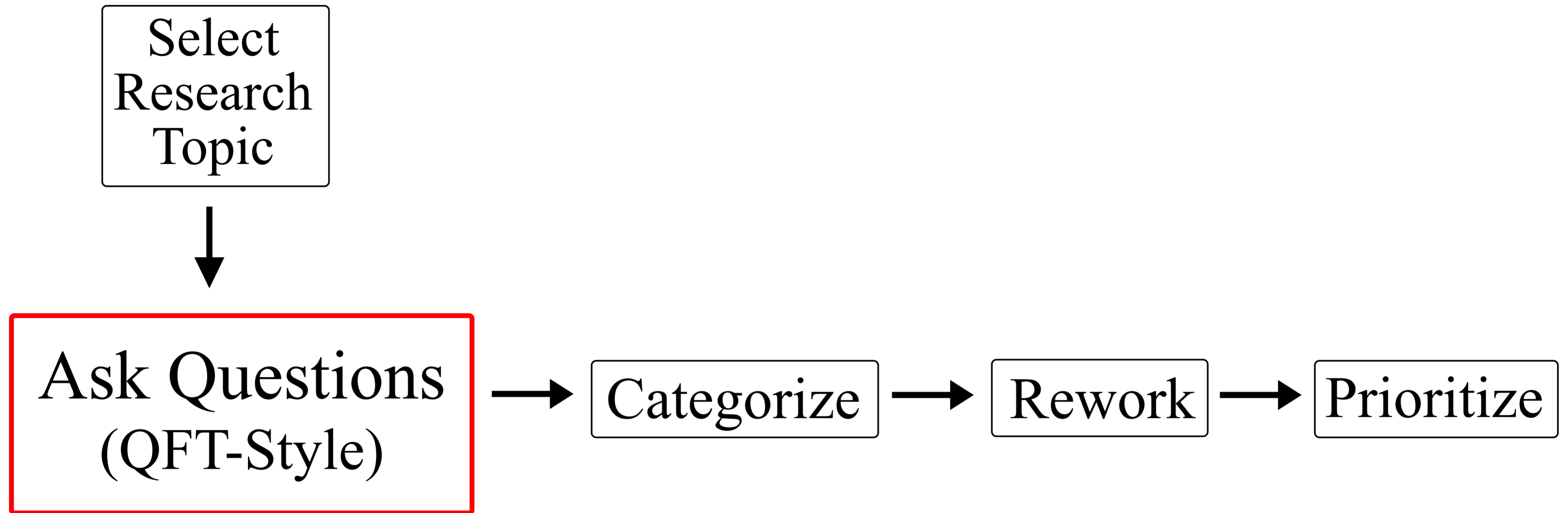Ask Questions
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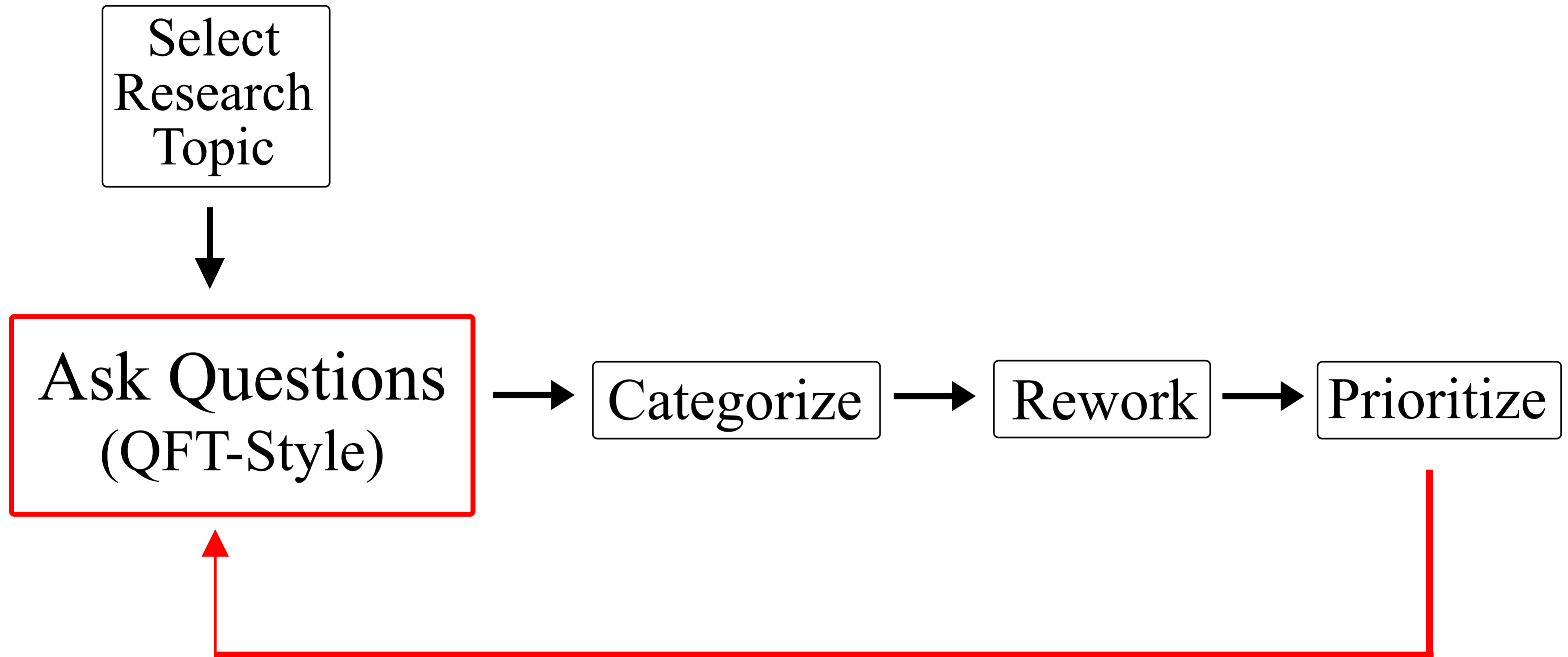# The Question Improvement Model

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┌──────────┐
│  Select  │
│ Research │
│  Topic   │
└──────────┘
     │
     ▼
┌──────────────┐      ┌────────────┐      ┌──────────┐      ┌────────────┐
│ Ask Questions│ ───▶ │ Categorize │ ───▶ │  Rework  │ ───▶ │ Prioritize │
│ (QFT-Style)  │      └────────────┘      └──────────┘      └────────────┘
└──────────────┘                                                   │
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                                                              │ Reflect  │
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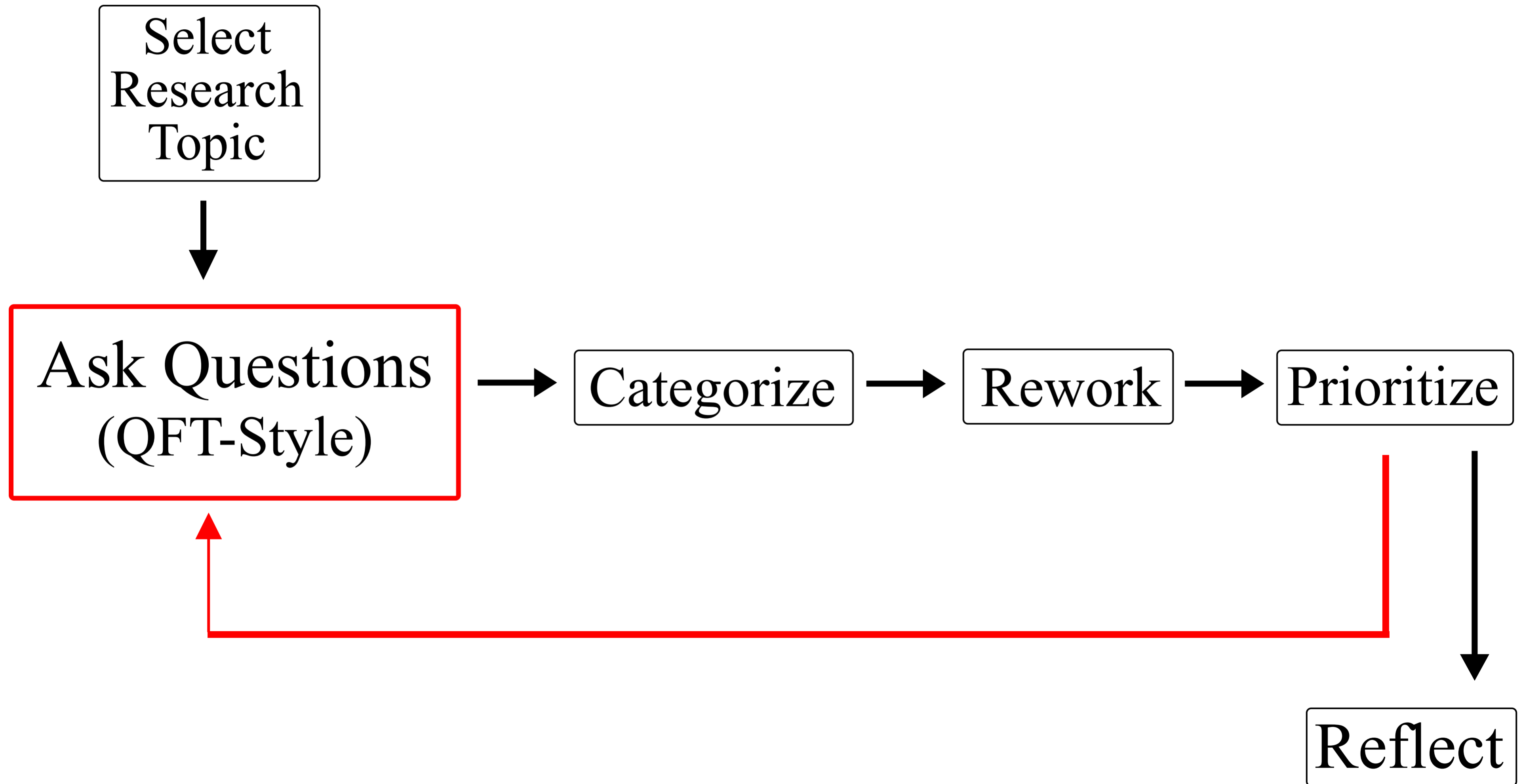
How to create an effective training session

- Integration with first year coursework

- Buy-in from students' advisors

- Faculty introducing the training session

- Students understanding why we are asking them to take part – and what is in it for them

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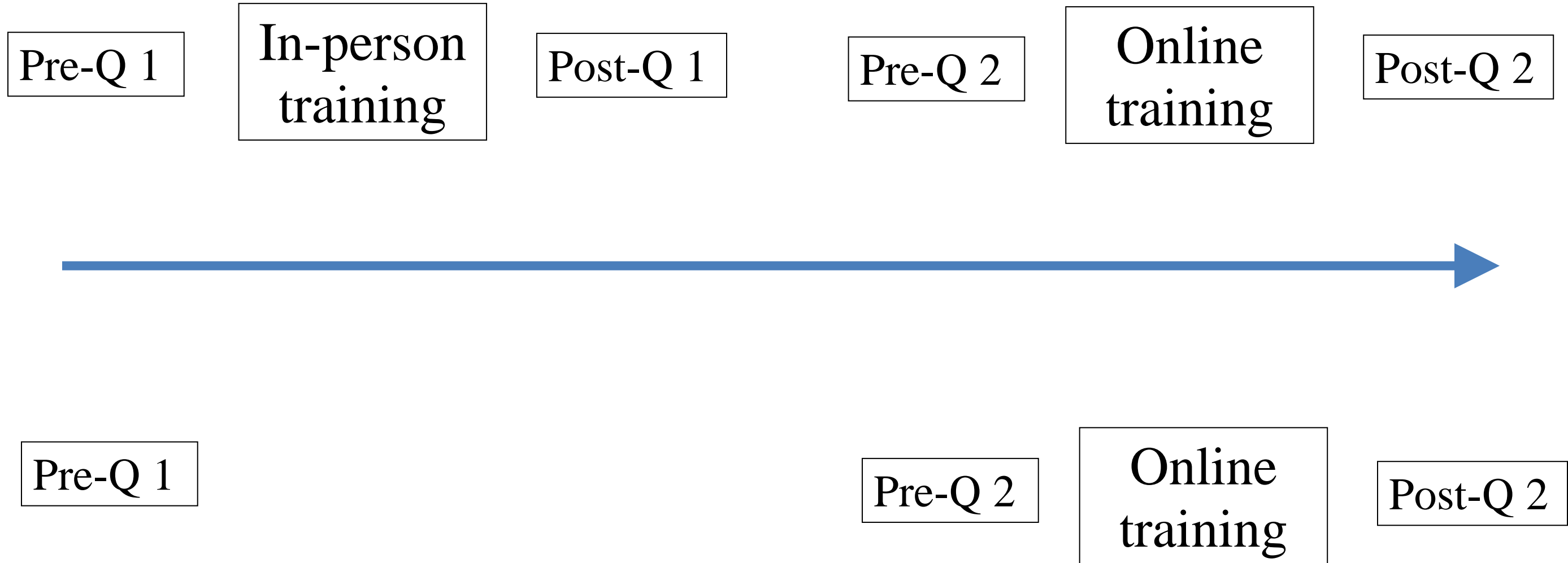- **Make sure the pizza arrives on time**

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Two Groups of Participants

January

April

Pre-Q 1

In-person training

Post-Q 1

Pre-Q 2

Online training

Post-Q 2

Pre-Q 1

Pre-Q 2

Online training

Post-Q 2

Factors leading to high quality research
(in the minds of young PhD students, N = 20)

% 1's (top choice) in pre-questionnaire

Asking the best research questions	**45%**
Finding the right collaborators and mentors	**40%**
Identifying or designing the best research protocol	10%
Utilizing the best analyses and statistical methods	5%
Being immersed in the relevant literature of the field	0%
Investing time in writing the best manuscript possible	0%

Impact of a Single QIM Training Session

In-person and online training (N = 18)

Through my use of the QIM, I believe that my ability to _____

will show Great/Moderate/Slight/No improvement.

Improved Ability	% Great/Moderate Improvement
Formulate questions	61%
Work with and revise questions	56%
Generate valuable research projects	56%
Write proposals and grants	50%
Prioritize questions	44%

Which aspects of the session did you find most interesting and/or valuable?

Which aspects of the session did you find most interesting and/or valuable?

It was remarkable how very unique and unexpected questions can be generated with this process.

Revising questions, trying to ask new questions about other questions, it helped me start thinking about the topic.

I liked the metacognition aspect. It's a good way to understand the strengths and limitations of my thought process.

And from an advanced doctoral student…

… I began producing my questions and as I was going further along in the process, all of a sudden, I realized I was asking important questions and I worried that someone might see them and take them…. So I had to go back and cross out some of what I had written.

Further Questions/Steps

How and when to link individual students to peers and advisors for feedback?

What is the timing of different elements?

Expand to other departments and universities.

Thoughts from a senior professor.