



University of Vermont Graduate Writing Center Developing a Research Question

Research and scholarship in the sciences, social sciences, and humanities begins not just with identifying a broad topic but with a focused question that arises from a gap you've identified in the existing research. To move from broad topic to focused question, try out these initial prompts to reach a clearer understanding of the question that will guide your research and writing:

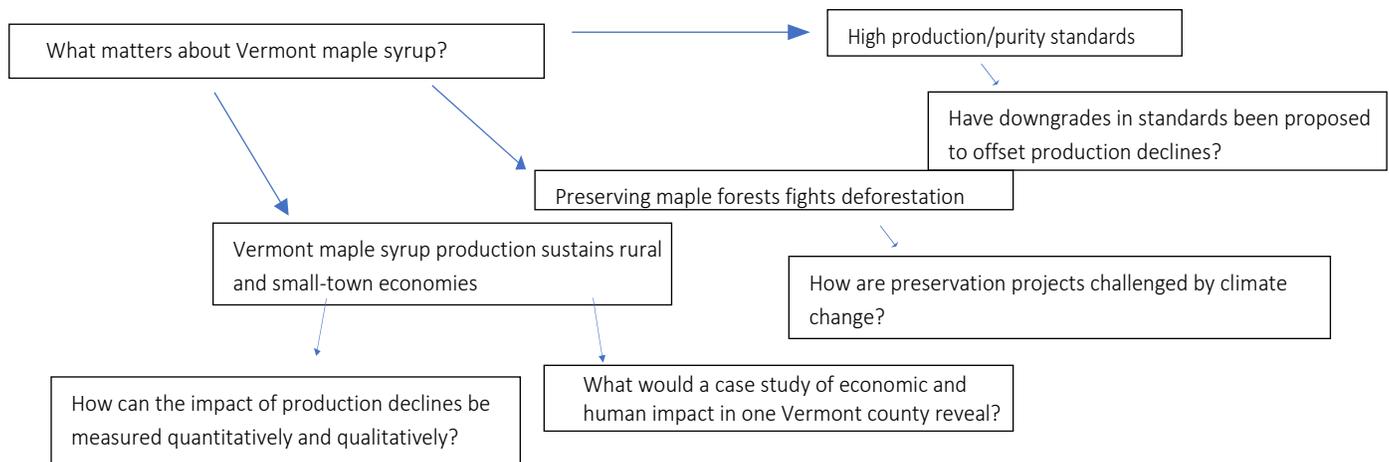
- What conversations, debates, and concerns in your field are you most involved with and interested in?
 - For instance, a Food Systems researcher might respond, "I'm interested in Vermont maple syrup production."
- What is the urgency or importance of this topic for people in your field?
 - A Food Systems researcher might respond, "Climate change threatens maple syrup production in the short-term and healthy maple tree stock in the longer-term."
- What's the "status quo" or "state of affairs" about this topic in your field?
 - A Food Systems researcher might respond, "Current research documents the negative impact of freeze-and-thaw cycles on maple syrup production."
- What are the gaps—unasked or unanswered questions or problems—that you can identify in the existing research?
 - Our Food Systems researcher might respond, "Food Systems scholars have proposed solutions to the threat of a warming climate to Vermont maple syrup production but have not yet made the case to policy-makers and the public for why safeguarding Vermont maple syrup into the future matters."
- What change in the status quo do you hope your research and scholarship will help bring about?
 - For instance, "By addressing the question 'What matters about Vermont maple syrup?', I seek to make the case for public funding to defend this industry from the effects of climate change."

If your research question remains too broad, try a concept map or flow chart to identify further options for more focused questions:

For example, in the following mind map, the student has identified the big question, "What matters about Vermont maple syrup?" They have then broken that down into three major categories, "High production/purity standards," "Preserving maple forests fights deforestation," and "Vermont maple syrup production sustains rural and small-town economies." Each of these categories leads to its own set of questions that allow the student to further identify what matters about Vermont maple syrup. "High production/purity standards," leads to, "Have downgrades in standards been proposed to offset production declines?" "Preserving maple forests fights deforestation," leads to, "How are preservation projects challenged by climate change?" Finally, "Vermont maple syrup production sustains rural and small-town economies," leads to both, "What would a case study of economic and human impact in one Vermont county reveal?" and, "How can the impact of production declines be measured quantitatively and qualitatively?"



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From your flow chart, multiple avenues, pursued singly or in combination, for a focused researchable and supportable question should become visible.

- For instance, *How does maple tree cultivation mitigate deforestation in Vermont?* might be paired with *How are maple tree cultivation efforts in Vermont challenged by climate change?* In this case, the first question provides the background (status quo) pointing to the gap or urgent question the researcher proposes to take up.

If you are in the health sciences, formulate a PICO(T) question:

- Who are the **Patients** and their relevant demographic markers?
- What is the **Intervention**, the treatment, management strategy, diagnostic test etc. that interests you?
- Is there a **Control** or alternative strategy you can identify for comparison and contrast?
- What **Outcomes** are relevant for this patient group?
- (Optional) What **Time** periods or **Types** of treatment options or medical fields might be relevant to your question formulation?

Try these templates (from the Northern Arizona University libraries) to formulate your PICO(T) question:

1. Intervention: In _____ (P), how does _____ (I) compared to _____ (C) affect _____ (O) within _____ (T)?
2. Diagnostic: In _____ (P) are/is _____ (I) compared with _____ (C) more accurate in diagnosing _____ (O)?
3. Etiology: Are _____ (P) who have _____ (I) compared with those without _____ (C) at _____ risk for/of _____ (O) over _____ (T)?
4. Prevention: For _____ (P) does the use of _____ (I) reduce the future risk of _____ (O) compared with _____ (C)?
5. Prognosis: In _____ (P), how does _____ (I) compared to _____ (C) influence _____ (O) over _____ (T)?
6. Quality of Life: How do _____ (P) diagnosed with _____ (I) perceive _____ (O) during _____ (T)?

If you are in the humanities or a field on the boundary between the humanities and social sciences, see our guide for “Entering the Conversation” to explore how the strategies of forwarding, illustrating, countering, and taking an approach can help you join—and advance—the conversation among scholars about your chosen text or topic.