Why It Works: Using Qualitative Methods in Economic Education Research

William Bosshardt, Amanda Jennings, Peter Davies

Motivation

- Associate editor at IREE and now JEE
- Common issue:
  - Prof tries something new
  - It works!
  - Prof writes up article sends to JEE or IREE
  - Heartless editors reject
- Why?
  - As pure pedagogy, a novel idea might be fine.
  - Some measure of effectiveness better.
  - Research article requires.

Quantitative vs. Qualitative

- Rendigs Fels, an early pioneer into economic education research, "who advocated for research that used quantitative methods and, at times, economic theory, to address questions about the teaching and learning of economics. He thought this research was superior to the ad hoc thinking and casual empiricism that many economists used when they discussed teaching with colleagues, even though they demanded more rigorous scholarship in other areas of economics."
- Allgood et al (2019)

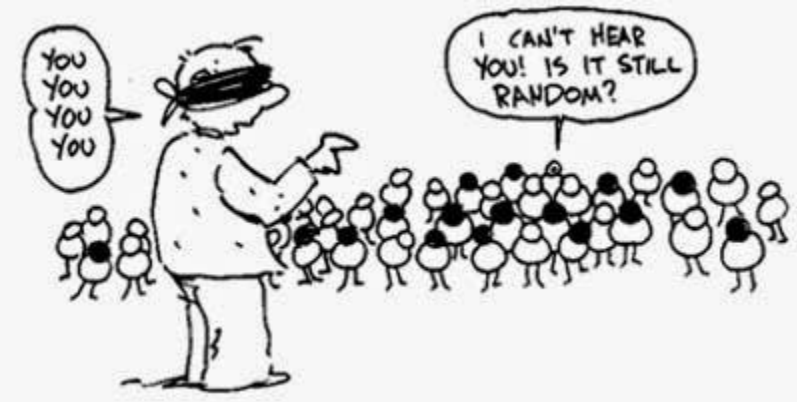
Economist's Logic

- Quantitative = rigorous, scientific, nonambiguous, unbiased, mathematical, utopian

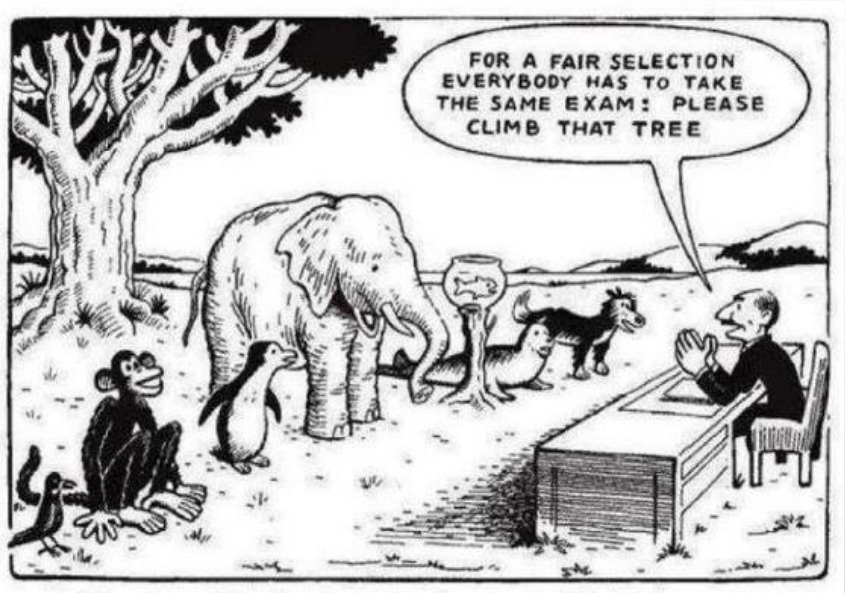
- Qualitative = messy, séance, fuzzy, prejudiced, rough, dystopian

Issues with Quantitative Studies in Econ Ed

Estimation difficulties:

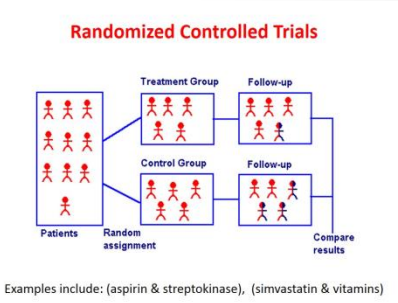


- Sample selection issues
- Measurement of outcomes
  - Comparable
  - Standardized tests
- Perception of outcomes
  - Students
  - Instructor



Issues with Quantitative Studies in Econ Ed

Resource and logistical difficulties:



- Random control trials expensive
- Small, liberal arts institutions could take years to reach reasonable N
- One school sample

Issues with Quantitative Studies in Econ Ed

Identifying Causality

- Even with RCT, the actual mechanism may not be fully understood

- Qualitative opens the black box

Issues with Quantitative Studies in Econ Ed

Identify the causes of causality

- What are the causes of effectiveness of the technique?
  - Identify, not necessarily quantify
- Under what circumstance or with which students will the technique be effective?
  - Realist evaluation seeks to provide specific details on when, where, and with whom a technique will be effective
  - Particularly in economic education contexts

Past use of qualitative data in economic education

- First, in most cases, qualitative methods are combined with quantitative ones, resulting in a mixed methods approach.
  - Quantitative results were presented first (and primarily), with qualitative data used to augment and interpret the findings of the quantitative results. In any case, sole reliance on qualitative methods is rare.
- Second, techniques used:
  - An interview with structured questions or
  - A survey that solicited free response answers to specific questions.
  - Rarer are focus groups or unstructured interviews.
- Third, many of the studies are actually textbook analyses.

How can qualitative research help economics educators?

What are the issues in this clip from an MIT lecture in introductory economics?

MIT Introduction to micro

How can qualitative research help economics educators?

- Lecturers **have** to make assumptions about what students already understand.
- Good teaching **must** take adequate account of the journey students have to travel between what they already know and what the lecturer wants them to know.

How can qualitative research help economics educators?

1. Qualitative research to tell us what students understand (example using Jägerskog, Davies & Lundholm, 2019)
2. Qualitative research to help design interventions (example using Euler & Collenberg, 2018).

Qualitative research to tell us what students understand

Q1. Over the last decade there has been a significant increase in downloading film. What effects may this have on the price of movie tickets at cinemas and why? Explain and give arguments for your answer and use both words and a diagram to explain your thoughts.

Qualitative research to tell us what students understand

Focus on an event that students will have experienced.

Q1. **Over the last decade there has been a significant increase in downloading film**. What effects may this have on the price of movie tickets at cinemas and why? Explain and give arguments for your answer and use both words and a diagram to explain your thoughts.

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Question designed to allow students to express well developed economic reasoning

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Fine to provide guidance on the format of the response but not the form (so asking for an S&D diagram is too much). Question could be in an interview or as here a written answer.

Analysing responses

"Price must increase if demand decreases. If fewer people go to the cinema, the cinemas will make less money and the price on the tickets being sold must then be higher so that the cinemas make a profit."

"Because demand for cinema tickets decreases, prices will decrease. When price decreases people will again be attracted to go to the cinemas."

Analysing responses

Both responses show belief that demand for cinema tickets will fall.

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"Price must increase if demand decreases. **If fewer people go to the cinema, the cinemas will make less money and the price on the tickets being sold must then be higher** so that the cinemas make a profit."

One response says this will cause rise in price and one says it will cause fall in price

"Because demand for cinema tickets [illegible] **prices will decrease**. When price decreases people will again be attracted to go to the cinemas."

Analysing responses

Effect of change in Qs, Qd on P	Slope of demand curve	Slope of supply curve	Producer or market focus	Causal process
None: price depends on product	Not recognised	Not recognised	Price set by firm	Qd affects Qs (no ref to P)
Qs changes P	Negative effect of P on Qd	Negative effect of P on Qs	Price set in Market	Qs/Qd affects P **OR** P affects Qs, Qd
Qd changes P	Effect of P on Qd varies	Positive effect of P on Qs	Price set through interactions between markets	Qsd and P affect each other
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Size of P change depends on relative size of change in Qs, Qd				

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One 'dimension of variation' showing a hierarchy of qualitatively distinct conceptions

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A misconception that will be left unaddressed by teaching that assumes a blank slate

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Persistent thinking about supply in terms of break-even for individual firm

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Dimensions that are frequently left inexplicit in teaching

Qualitative research to help design interventions

Focusing on the example described in

Euler, D. & Collenberg, M. (2018). Design-based research in economic education. ***EDeR - Educational Design Research*****, 1(1), 1-18.** **http://dx.doi.org/10.15460/eder.2.2.1268.**

2 Examples of combining design-based research with phenomenographic analysis of learning:

Pang, M. F., & Marton, F. (2003). Beyond``lesson study'': Comparing two ways of facilitating the grasp of some economic concepts. *Instructional Science*, *31*(3), 175-194.

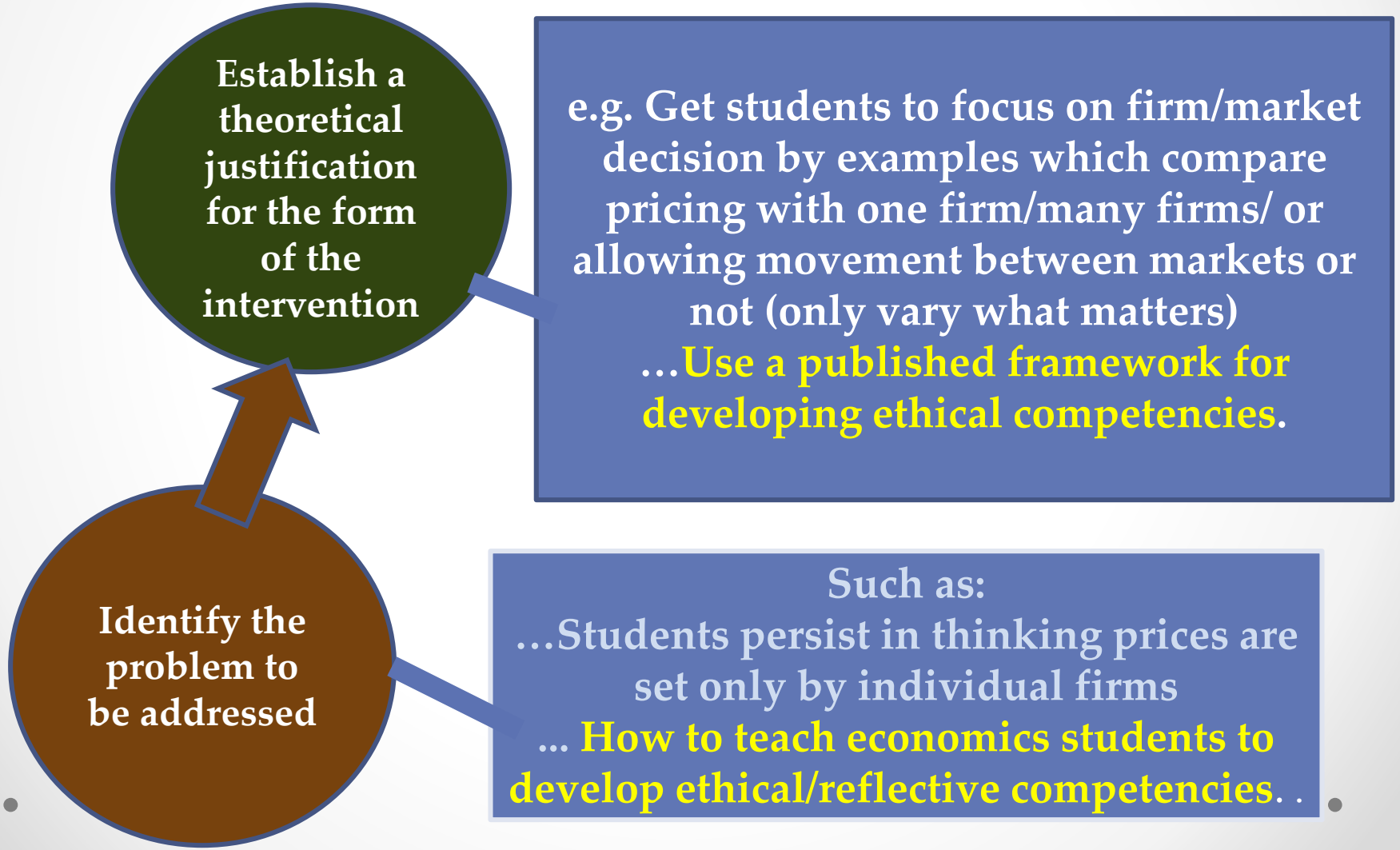
Pang, M. F., & Marton, F. (2005). Learning theory as teaching resource: Enhancing students' understanding of economic concepts. *Instructional science*, *33*(2), 159-191.

Qualitative research to help design interventions

Identify the problem to be addressed

Such as:
…Students persist in thinking prices are set only by individual firms
..How to teach economics students to develop ethical/reflective competencies.

Qualitative research to help design interventions



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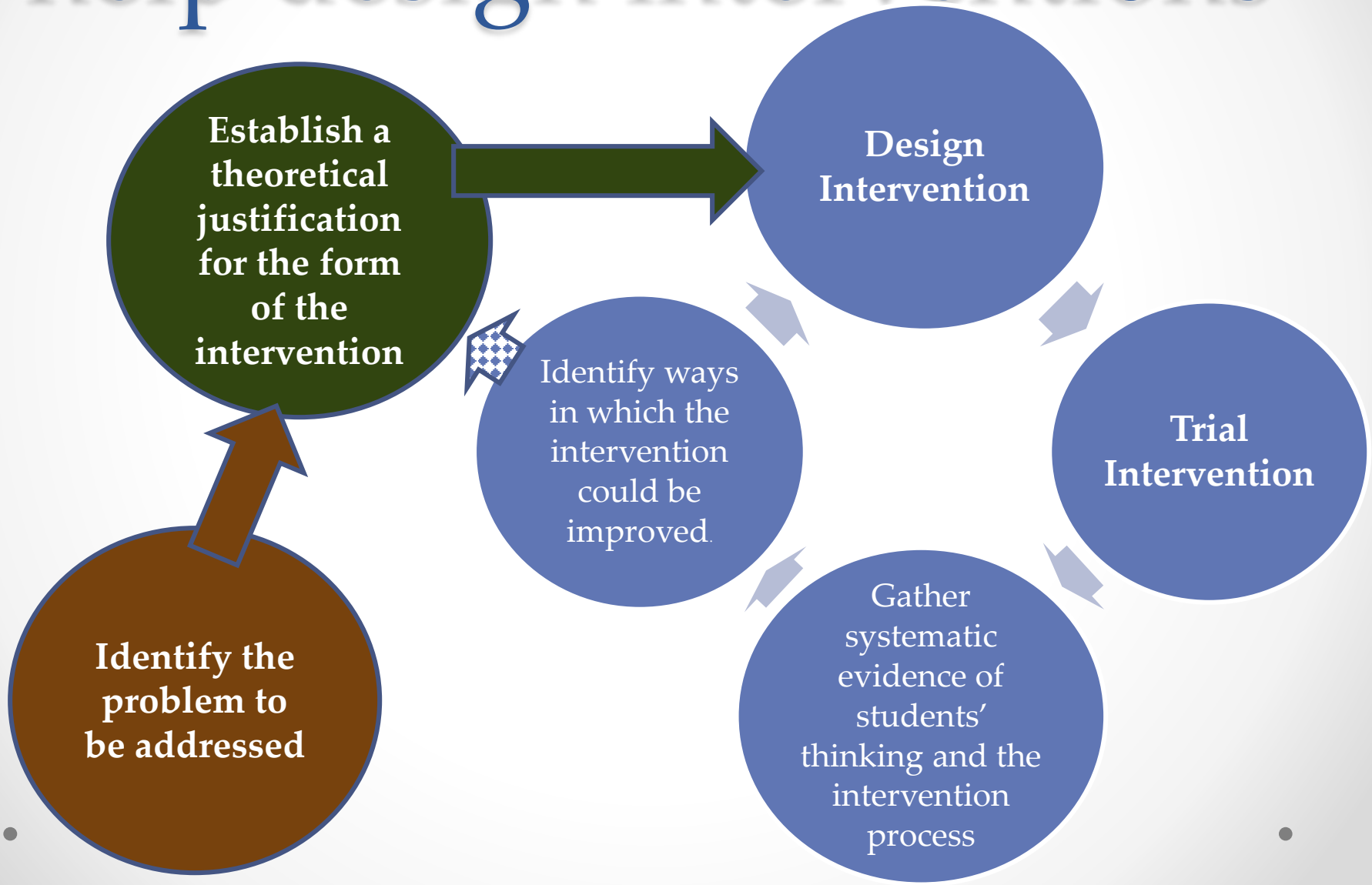

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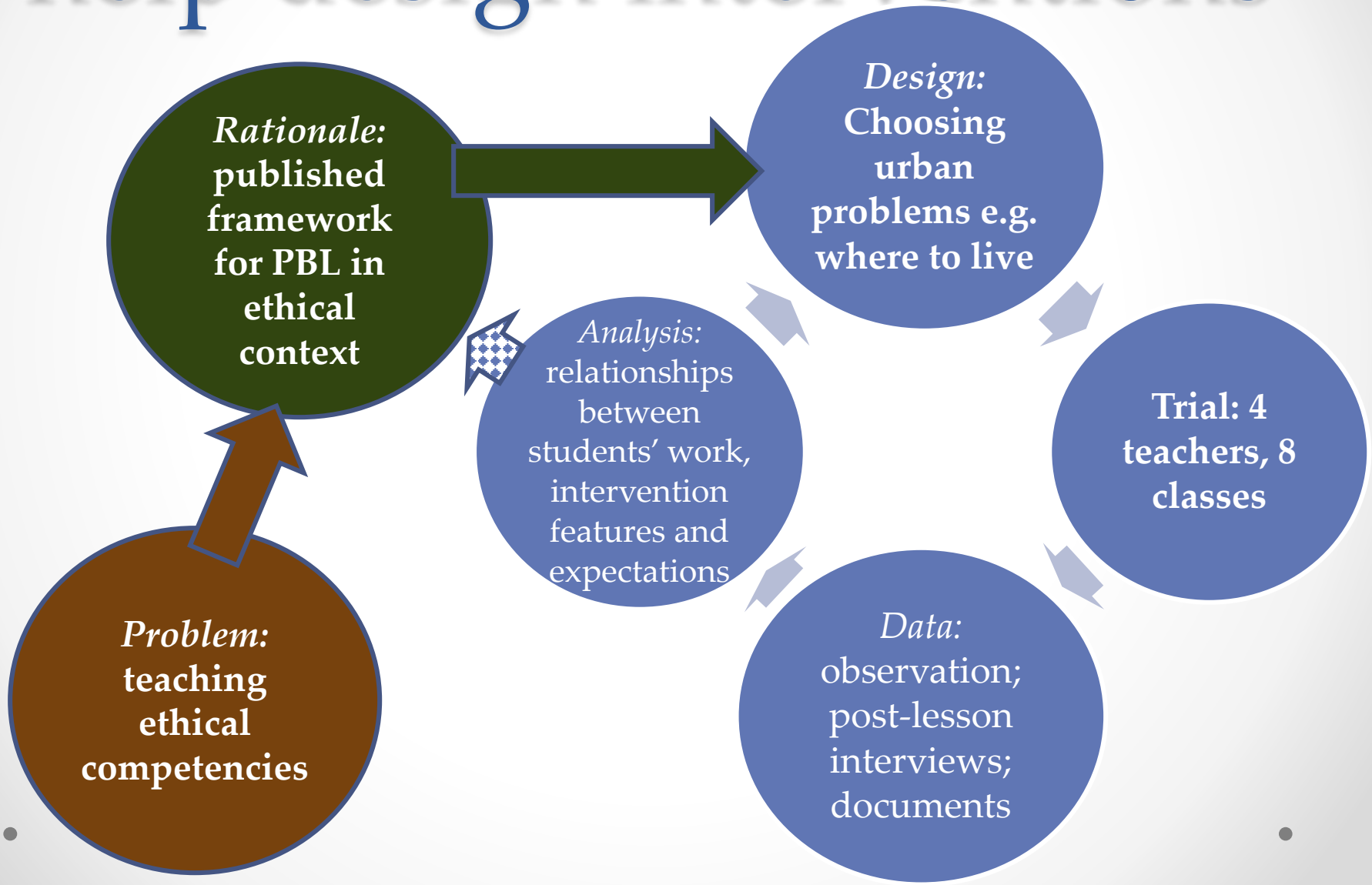

Conclusions

Qualitative research offers economics educators opportunities to look **inside the black box** to:

1. Get a much clearer idea about the journey teachers want students to make and the journey they are actually making.

2. Understand the process by which teaching is affecting learning and to make adjustments to teaching on the basis of systematic field evidence.

References

Euler, D. & Collenberg, M. (2018). Design-based research in economic education. *EDeR - Educational Design Research*, 1(1), 1-18. http://dx.doi.org/10.15460/eder.2.2.1268

Jagerskog, a-S, Davies P. & Lundholm, C. (2019). Studentts' understanding of causation in pricing: a phenomenographic analysis. *Journal of Social Science Education*. 3/2019.

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Thank you

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