Why It Works: Using Qualitative Methods in Economic Education Research

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Motivation

- Associate editor at IREE and now JEE
- Common issue:
 - Prof tries something new
 - o 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.









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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

Estimation difficulties:

• Sample selection issues



- Measurement of outcomes
 - o Comparable
 - Standardized tests
- Perception of outcomes
 - o Students
 - o Instructor



Resource and logistical difficulties:

Random control trials expensive





Examples include: (aspirin & streptokinase), (simvastatin & vitamins)

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

Identifying Causality

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



Qualitative opens the black box

Identify the causes of causality

- What are the causes of effectiveness of the technique?
 - o 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? <u>MIT Introduction to micro</u>

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).

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.

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.

Focus on an event that students will have experienced.

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.

"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."

Both responses show belief that demand for cinema tickets will fall. "Price must increase <u>if demand</u> <u>decreases</u>. If fewer people go to the cinema, the cinemas will make less

money and the price on the tickets being rold must then be higher so that the rinemas make a profit."

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

One response says this will cause rise in price and one says it will cause fall in price "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 prices will decrease. When price decreases people will again be attracted to go to the cinemas."

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	Qsd and P affect each other
Qs and Qd change P		Positive effect of P on Qs varies	between markets	
Size of P change depends on relative size of change in Qs, Qd				

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		P on	Positive effect of P on Qs	Price set through interactions between markets	Qsd and P affect each other
			Positive effect of P on Qs varies		
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Effect of change in Qs, Gd 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)
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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. <u>http://dx.doi.org/10.15460/eder.2.2.1268</u>.

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.

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.

Establish a theoretical justification for the form of the intervention

Identify the problem to be addressed e.g. Get students to focus on firm/market decision by examples which compare pricing with one firm/many firms/ or allowing movement between markets or not (only vary what matters)
...Use a published framework for developing ethical competencies.

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

Establish a theoretical justification for the form of the intervention

Identify the problem to be addressed Identify ways in which the intervention could be improved

> Gather systematic evidence of students' thinking and the intervention process

Design

Intervention

Trial Intervention

Rationale: published framework for PBL in ethical context

Problem: teaching ethical competencies *Analysis:* relationships between students' work, intervention features and expectations

> *Data:* observation; post-lesson interviews; documents

Design:

Choosing

urban

problems e.g.

where to live

Trial: 4 teachers, 8 classes

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.

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Thank you

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