

# The State of the Union in U.K. Physics Teaching

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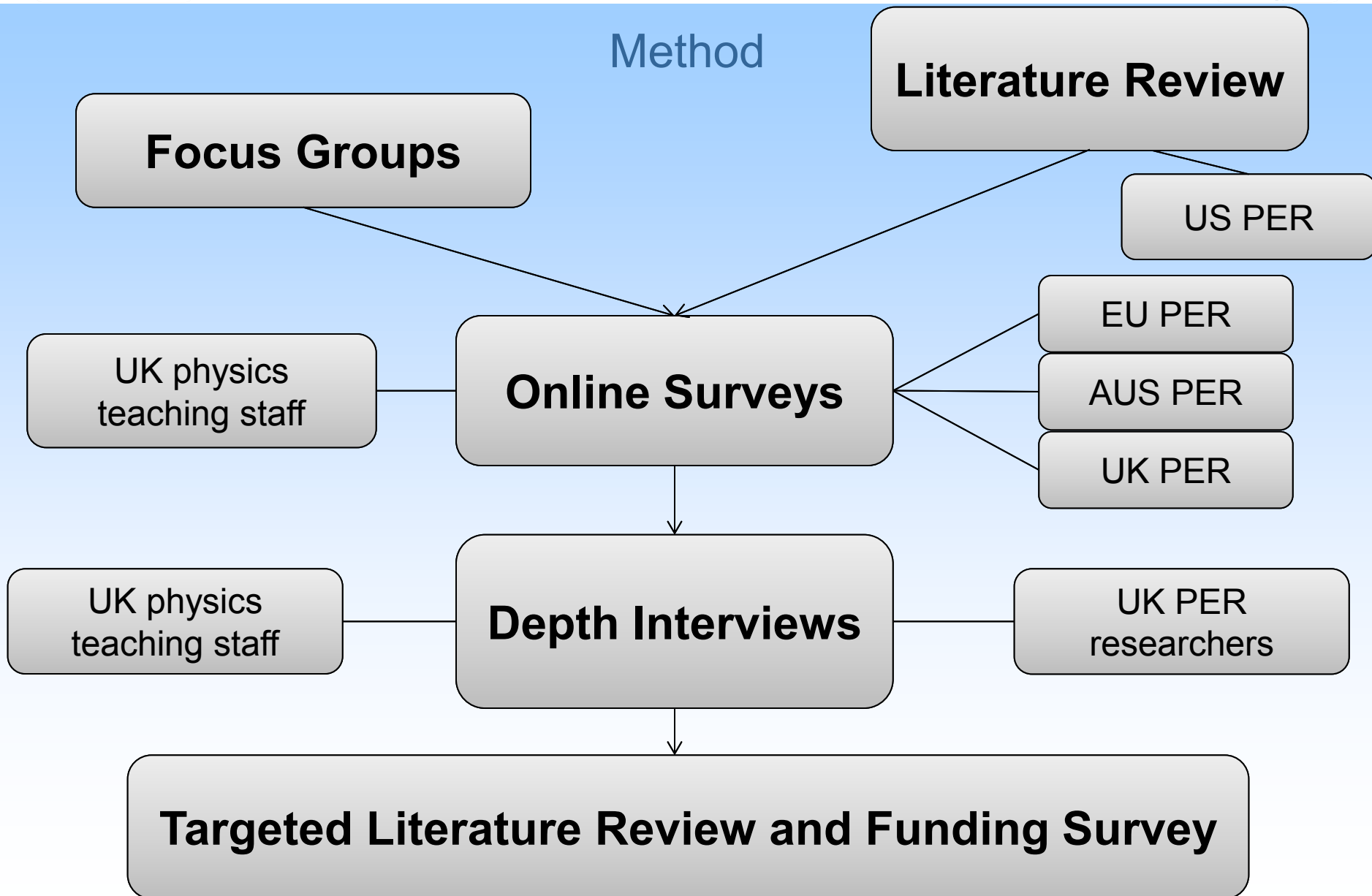
# The Fostering Learning Improvements in Physics (FLIP) project

National level study, commissioned by Institute of Physics and the Economic and Social Research Council.

How are advances in teaching of physics in higher education achieved?

- Prevalence of and support for physics education research (PER)
- Impact of PER on teaching and learning enhancement and how teaching develops in practice

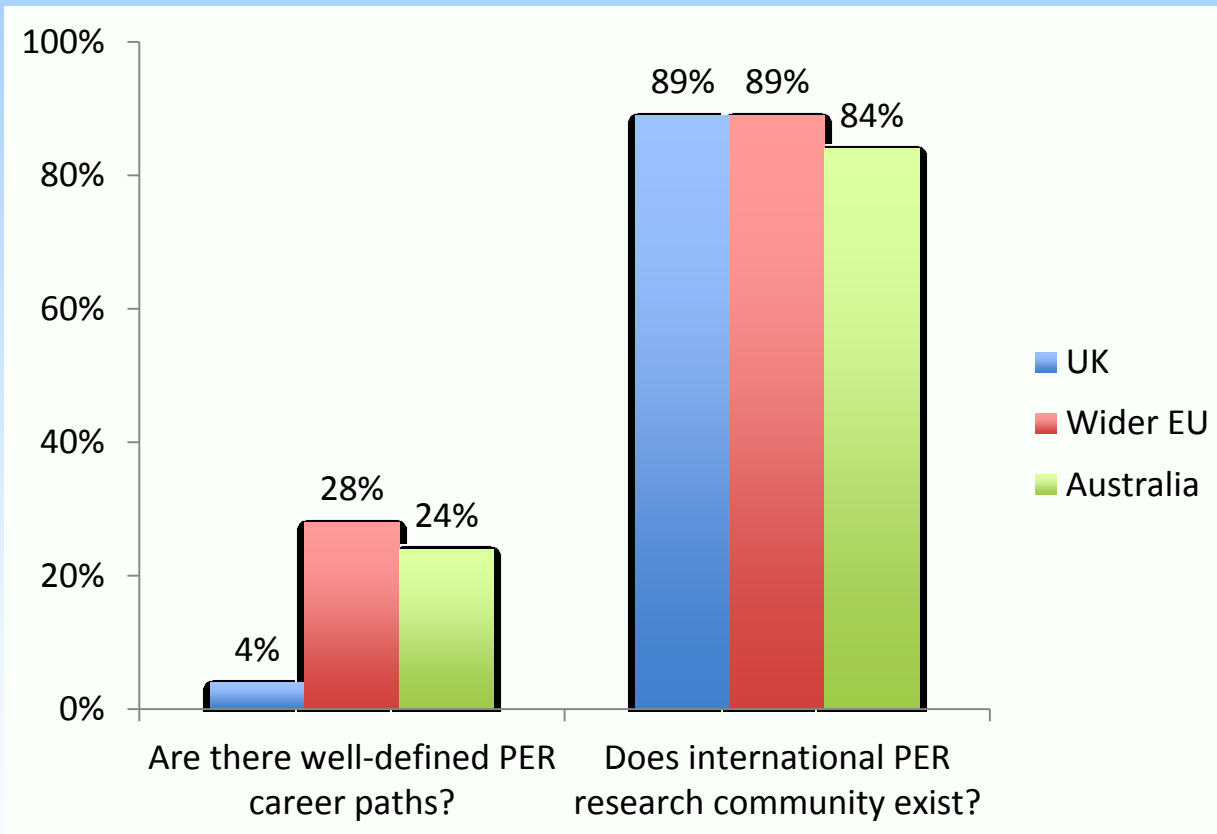
Method



## U.K. Physics Education Research

- Reasonably widespread (in ~ 40% of physics departments)
- Mostly small numbers (very few ‘groups’)
- Handful of PhD students
- Essentially no post-docs
- Extremely limited funding (median grant value ~ \$12000)
- ‘Cottage industry’

## PER careers and community



## Awareness of and use of PER among U.K. teaching faculty

Aware that PER exists?		Aware of specific PER-informed teaching techniques?		Applied these in own teaching practice?	
Yes	95%	Yes, at least one	64%	Regularly / occasionally	60%
No	5%	Yes, but don't know much about them	30%	Tried but stopped	6%
		No	6%	Never tried	34%

## Challenges to effective teaching

- Common problems
  - Large classes
  - Widely varying student ability
  - Limited mathematical skills
- Poor faculty engagement with teaching training/development
  - No equivalent to *AAPT New Faculty Workshop*
  - Training seen as too generic / not relevant to physics
  - ‘Edu-speak’ is off-putting

# Fostering Learning Improvements in Physics

FLIP project website with final project report:

[www.ph.ed.ac.uk/flip](http://www.ph.ed.ac.uk/flip)

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