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Preliminary Findings of a phenomenographic research study into academic conceptions of the term professional skills

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CREATE Seminar

PhD Candidate: Una Beagon

Preliminary Findings of a phenomenographic research study into academic conceptions of the term professional skills

Supervisor: Prof. Brian Bowe

21st March 2019

Outline

- 1) Aims of research
- 2) Overall Methodological Approach
- 3) Methods
- 4) Findings to date
- 5) Next steps
- 6) Issues arising

Aims of Research

Better prepare students for the workplace

More opportunities to develop professional skills

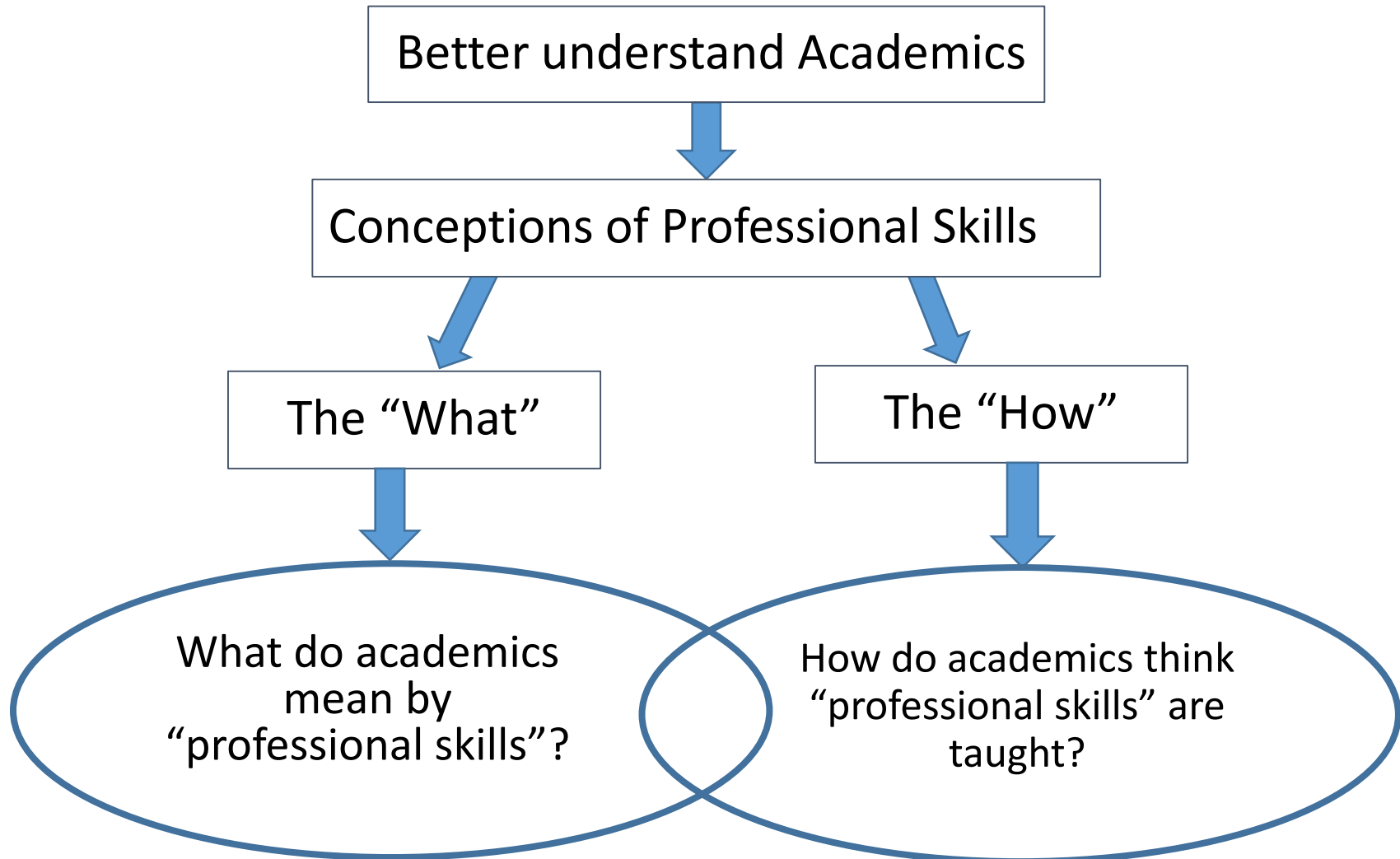
Curriculum Reform

Convince Academics

Better understand Academics



Overall Methodological Approach



My approach

Phenomenography

First proposed by Marton (1981)

“Phenomenography is a research method adapted for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them” (Marton, 1986, p.31)

Examples :

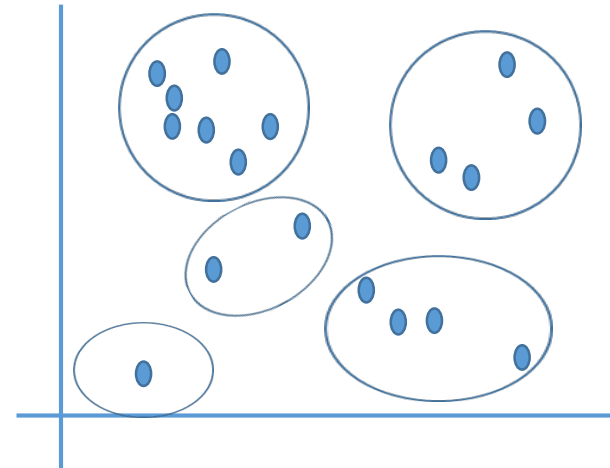
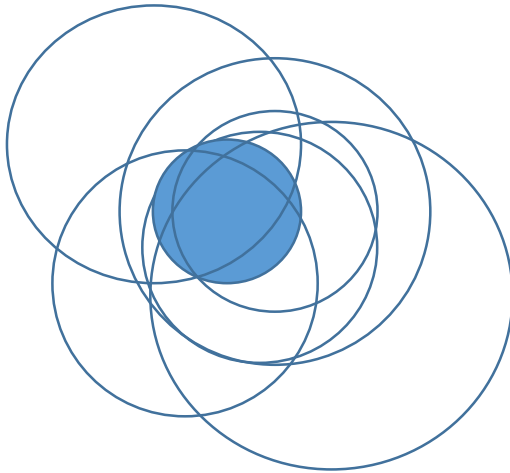
- Surface and deep learning (Marton & Säljö, 1976)
- Approaches to Teaching Inventory (Trigwell et al., 2005)
- Academics Conceptions of Lecturing (Daniel, 2015)

Phenomenography

Phenomenology

v's

Phenomenography



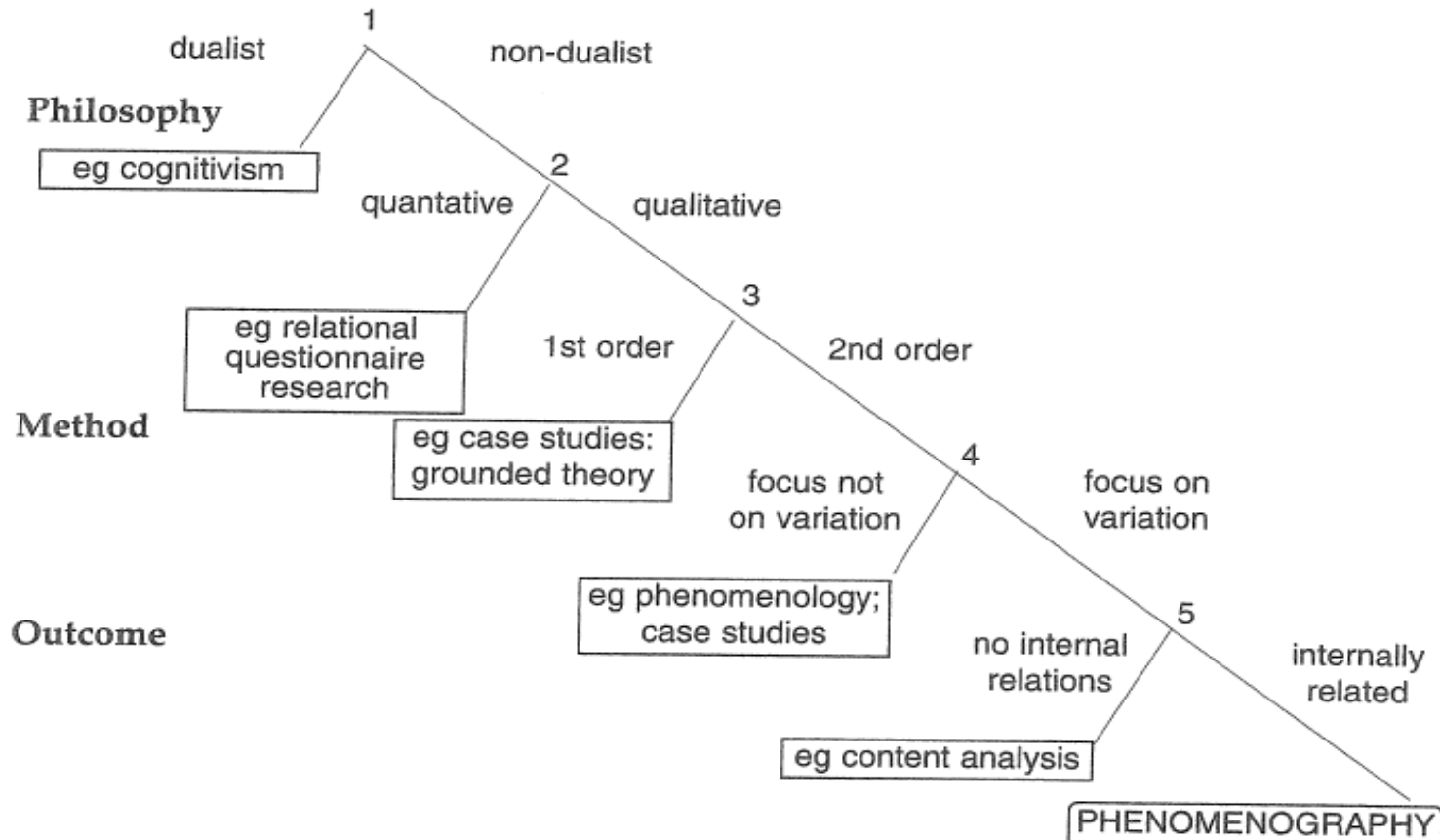
Similarities

v's

Differences

Phenomenography

Phenomenology v's Phenomenography



Phenomenography in relation to other research approaches (Trigwell, 1999)

Research Questions

What are the qualitatively different ways that academics experience the teaching of professional skills in engineering programmes in Ireland?

Sub Questions

What are the qualitatively different ways that academics;

- conceptualise teaching and learning (generally)
- approach teaching and learning (generally)

- conceptualise what is meant by professional skills
- approach teaching professional skills

Methodology

Phase 1: Online Survey - complete

Purpose: To gather general information, provide data for triangulation and to provide a purposeful sample for Phase 2 interviews.

Phase 2: Phenomenographic interviews – Pilot interviews underway

Purpose: To collect the varied ways in which academics conceptualise and experience the teaching of professional skills.

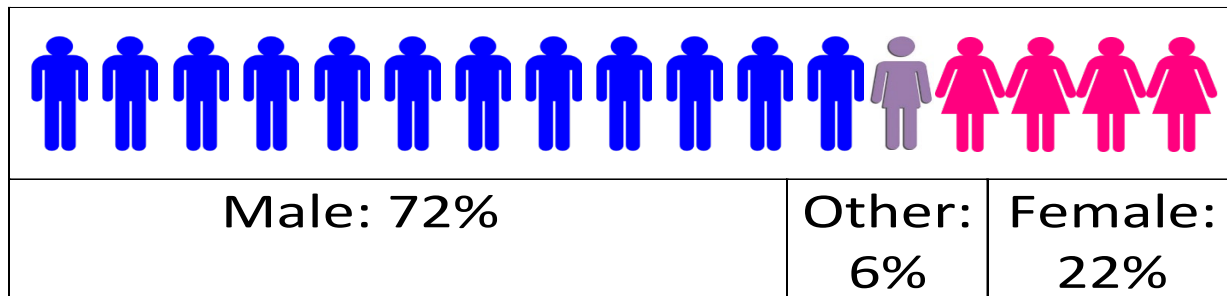
Phase 3: Phenomenographic Analysis

Purpose: To create outcome spaces to describe the varied ways in which academics conceptualise and experience the teaching of professional skills in engineering programmes in Ireland.

Survey content

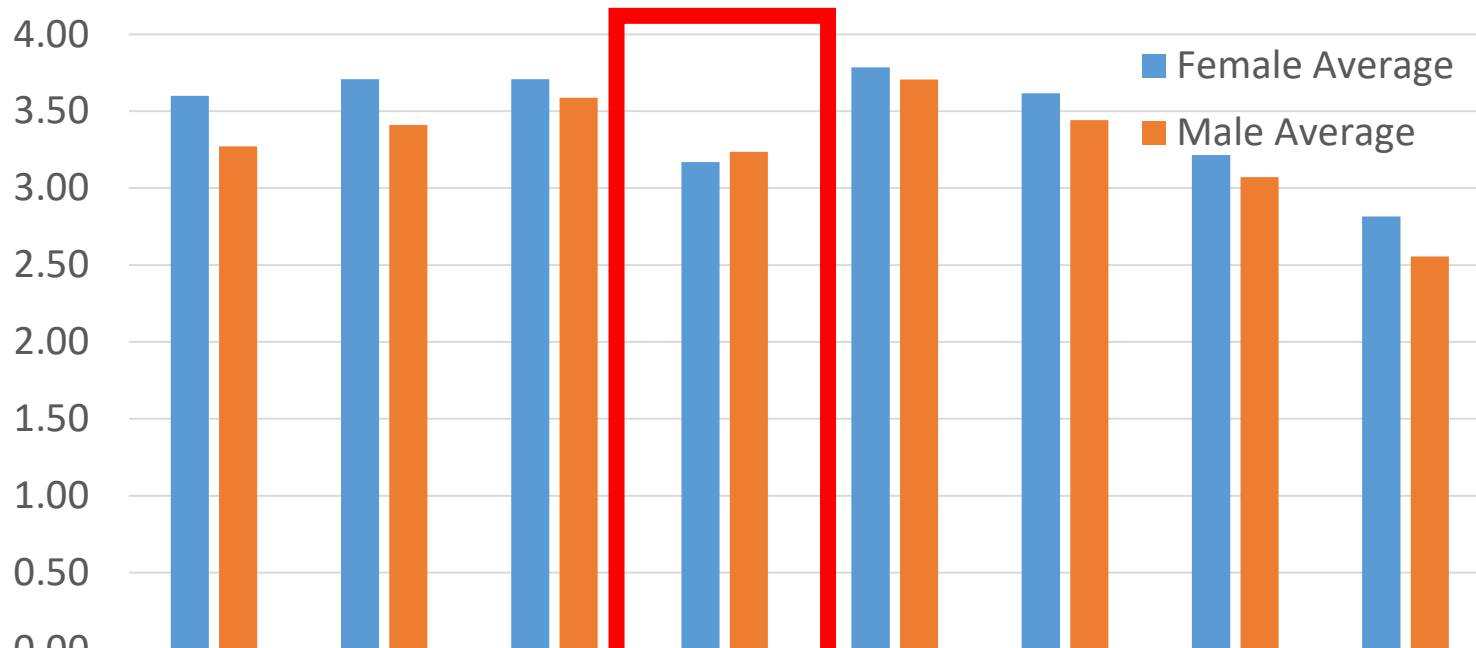
- Gender
- Educational Qualifications
- Industry Experience
- Academic Experience
- Engineers Ireland Accreditation
- Approaches to Teaching Inventory (Trigwell and Prosser,1996)
- Importance of specific skills *
- Provocative statements

(n=273)



Findings to date – survey result

Average score of importance of skills by gender



	Character and Interpersonal Skills	Teamwork & Collaboration Skills	Communication	Excellence in Technical Skills	Problem Solving	Self Direction	Project Management	Leadership
■ Female Average	3.60	3.71	3.71	3.17	3.78	3.62	3.22	2.82
■ Male Average	3.27	3.41	3.59	3.23	3.71	3.44	3.07	2.56

Selection criteria for interviews

Each respondent was given a Priority Tag if they fell into the following categories;

- Female
- No industry experience OR > 20 years industry experience
- Recruited, trained or worked with graduate engineers
- Above the threshold for the Approaches to Teaching Inventory
 - > 26 score for Conceptual Change / Student Focussed OR
 - > 26 score for Information Transfer / Teacher Focussed
- Qualifications
 - PhD/DEd OR no PhD/DEd
 - Educational qualification OR no Educational Qualification
- Academic Experience
 - < 5 years OR > 20 years
 - Mainly Lecturing OR Mainly Researcher

Selection criteria for interviews

- Chartered Engineer OR not a member of Eng Ireland
- Involved in accreditation OR not involved in accreditation
- Outlier opinion on Provocative Statements
- Outlier opinion on importance of relevant skills

Respondent ID	P1 (Female)	P2 (No Industrial Experience)	P3 (>20 yrs industry)	P4 (Worked with graduates)	P5 (Outlier ATI results)	P6 (PhD)
6546217763			P3 (>20 yrs industry)	P4 (Worked with graduates)	P5 (Outlier CCSF)	
6487080580	P1 (Female)				P5 (Outlier ITTF and CCSF)	
6551935959	P1 (Female)			P4 (Worked with graduates)	P5 (Outlier CCSF)	
6545611312			P3 (>20 yrs industry)	P4 (Worked with graduates)		
6536058873			P3 (>20 yrs industry)	P4 (Worked with graduates)		
6532813430				P4 (Worked with graduates)	P5 (Outlier CCSF)	
6530132268	P1 (Female)	P2 (No Industrial Experience)			P5 (Outlier ITTF)	
6528333966	P1 (Female)			P4 (Worked with graduates)		
6508432726	P1 (Female)	P2 (No Industrial Experience)				P6 (PhD or DEd)
6508305707			P3 (>20 yrs industry)	P4 (Worked with graduates)	P5 (Outlier CCSF)	P6 (PhD or DEd)
6501015956			P3 (>20 yrs industry)	P4 (Worked with graduates)	P5 (Outlier CCSF)	P6 (PhD or DEd)
6500542113	P1 (Female)			P4 (Worked with graduates)		P6 (PhD or DEd)
6490636805	P1 (Female)			P4 (Worked with graduates)		
6489864197		P2 (No Industrial Experience)				
6480180134			P3 (>20 yrs industry)			

Check on minimum criteria

*Respondents selected for interview based on highest no of priority tags
 Extremities used to identify outliers with opinions on skills requirements*

Attribute	Range	Initial suggestion of min number to be selected	Actual number included within sample of 33 respondents	Notes
Gender	Male Female Other /Prefer not to say	8 8 all	16 16 1	Not appropriate to include all respondents (16no) who selected 'Other/Prefer not to say@
Age	Less than 25 25 to 34 35 to 44 45 to 54 55 or older	1 2 2 2 2	0 5 7 13 8	No respondents indicated an age of less than 25 years old.

Refer to handout

Findings to date (2 interviews)

- RQ1: (The “what”)

What are the qualitatively different ways that academics conceptualise “professional skills” in engineering graduates?

Professional skills as being independent of technical skills

Professional skills as being a combination of technical skills and soft skills

Professional skills as being a subset of technical skills, an enabler to carry out technical skills

Next steps

- Confirmation report (Easter)
- Confirmation Exam (May/June)
- Interviews (March – June)
- Analysis (Ongoing - December)
- Write up - ongoing

Issues arising

- Time

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