

Rethinking Graduateness? How students' relations to knowledge change over the course of their Chemistry and Chemical Engineering Degrees

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graduateness**

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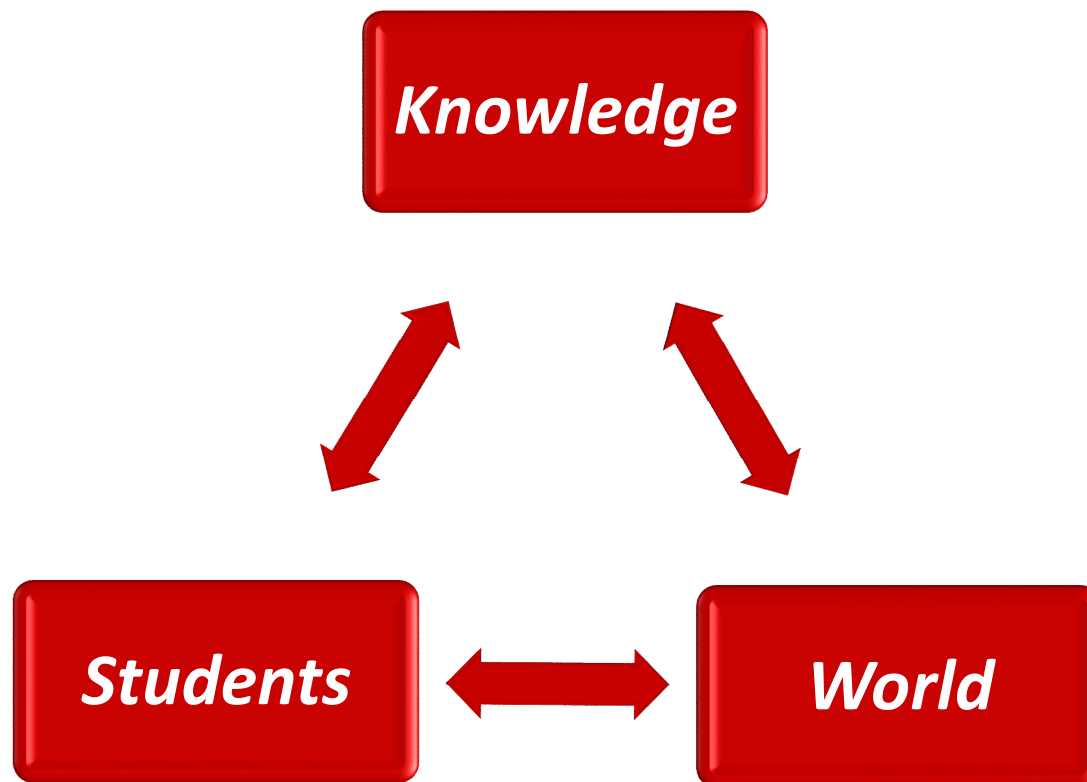
Overview of argument

- Ways of thinking about graduate-ness have been dominated by oversimplified accounts of what students gain from studying at University.
- This has made us lose sight of the different ways in which students benefit from studying at University and the transformational aspects of higher education.

Ways of measuring graduate-ness

- Generic graduate attributes;
- Graduate salaries

The transformative power of higher education for students



Understanding Knowledge and Student Agency (UKSA) Project

- Longitudinal study of students studying Chemistry and Chemical Engineering over the 3 or 4 years of their undergraduate degree;
- In 12 departments in the UK, South Africa and US;
- Interviews with around 10 case study students per department in each year of their degree;
- Supported by video recordings of teaching and interviews with the teachers, analysis of curriculum documentation, examples of students' assessed assignments; institutional, national and disciplinary policy documents.

International Research Team

*UK Team: Paul Ashwin, Jan McArthur,
Janja Komljenovic, Kayleigh Rosewell,
Dee Daghli.*

*South Africa Team: Reneé Smit,
Margaret Blackie, Ashish Agrawal.*

*US Team: Jenni Case, Nicole Pitterson,
Alaa Abdalla, Benjamin Goldschneider.*

Focus of analyses

- ***Student Agency:*** Jenni Case, Alaa Abdalla, Ashish Agrawal, Jan McArthur.
- ***Student Identity:*** Reneé Smit, Ashish Agrawal, Paul Ashwin, Benjamin Goldschneider.
- ***Students' relations to Society:*** Jan McArthur, Margaret Blackie, Nicole Pitterson, Kayleigh Rosewell.
- ***Students' relations to Knowledge:*** Paul Ashwin, Margaret Blackie, Nicole Pitterson, Reneé Smit.

Discipline	Studies	Least inclusive Account	'Watershed' account	Most Inclusive account
Accountancy	Sin et al. 2012	Routine work	Meaningful work	Moral work
Geography	Bradbeer et al. 2004	General world	Structured into parts	Interactions
Geoscience	Stokes 2011	Composition of earth	Interacting systems	Relations earth and society
Law	Reid et al. 2006	Content	System	Extension of self
Music	Reid 2001	Instrument	Meaning	Communicating
Mathematics	Wood et al. 2012	Numbers	Models	Approach to life
Sociology	Ashwin et al. 2014	Developing opinions	Study of Society	Relations people and societies

Outcomes

Discipline	Least inclusive Account	'Watershed' account	Most Inclusive account
Chemistry	Doing chemistry	Interactions between molecules	Interactions between chemistry and the world
Chemical Engineering	Solving problems	Solving problems in open systems	Optimising solutions to societal problems

Where next?

- Tracking students' development of ways of seeing through their undergraduate degrees;
- Relating these to the design of their degree programmes;
- Following case study students through the first few years post-graduation, as part of transition funding for CGHE.
- Can we use these to generate knowledge-specific graduate attributes that reflect the contributions that graduates make to their societies?

References

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