An alternative view on PhD learning

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Northumbria University NEWCASTLE

Motivation - 1;

Reflecting upon my experience of the constantly changing landscape of UK higher education since completing my own PhD some 32 years ago.

Informed by my experience of PhD supervision, internal and external examination, QA processes, academic development and my perspective as an autistic academic.

Motivation - 2;

Why PhD learning?

1.1 The degree of PhD is awarded to a student who has:

a) undertaken a piece of supervised research; critically investigated and evaluated an approved topic resulting in an independent and original contribution to knowledge **and understanding** (i.e. worthy of publication and peer review by the academic community);

b) successfully completed training in, and demonstrated an **understanding of research methods appropriate** to the field;

c) submitted the work for examination presented to a professional standard;

d) defended the submission by viva voce (oral) examination to the satisfaction of the examiners.

https://livenorthumbriaac.sharepoint.com/sites/risintranet/gs/Documents/Academic%20Regulations%20for%20Research%20Awards%202024_25.pdf#search=awards

Why inclusive approaches to learning?

What would you consider, and seek to evidence during an interview, as to be attractive attributes for a PhD student?

attention to detail, memory for detail, pattern recognition, focussing on a single topic for long periods, strives for precision and perfection, firm and honest with their opinions?

Would your interview likely consider as ‘just down to nerves’ indications of challenging social, communication and organisational skills? and are those conducting the interview made aware of inclusive interview techniques?

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If so, you may well select a candidate with a non-visible disability (NVD).

So how many PhD students have a NVD?

And how many disclose, seek accommodations or just have a bad experience?

The Equality Act makes this important.

And some evidence is suggesting that we already have data we can act upon if it were shared.

Tudor, J. & Penlington, R., 3 Jan 2020, *The Proceedings of the 7th Annual Conference of the UK & Ireland Engineering Education Research Network: Excellence in Engineering Education for the 21st Century:The Role of Engineering Education Research*. Andrews, J., Knowles, G. & Clark, R. (eds.). Coventry: WMG, University of Warwick, p. 164-175 11

If;

Estimate of UK working age population declaring a disability = 17%

Estimate of UK working age population declaring a disability in work = 11.3%

Estimate of degree qualified UK working age population declaring a disability = 9.8%

(DWP & DHSC, 2017)

And if;

Overall percentage of UK PhD students declaring a disability = 9%

Overall percentage of UK engineering PhD students declaring a disability = 5.8%

(HESA, 2019)

And If;

Overall percentage of academic staff declaring a disability = 4.3%

Overall percentage of engineering academic staff declaring a disability = 2.9%

(AdvanceHE, 2019b)

So;

As it may be assumed that engineering academics will be degree educated and are also becoming largely recruited from a PhD qualified pool then;
9.8% : 5.8% : 2.9%
therefore it is proposed that disability may be undeclared by a factor of 3

What does this mean for supervision? - 1

So, what about those indications of challenging social, communication and organisational skills?

Just consider how significant these aspects are to the supervisory relationship and therefore absolutely central to the student experience, and also potentially the final academic outcome.

What does this mean for supervision? - 2

One approach is to also consider how many supervisors have a NVD, whether they know it or not…..

This would then introduce consideration of the "double empathy problem" (Milton, 2012) and its application to peer to peer communication (Compton et al, 2020)

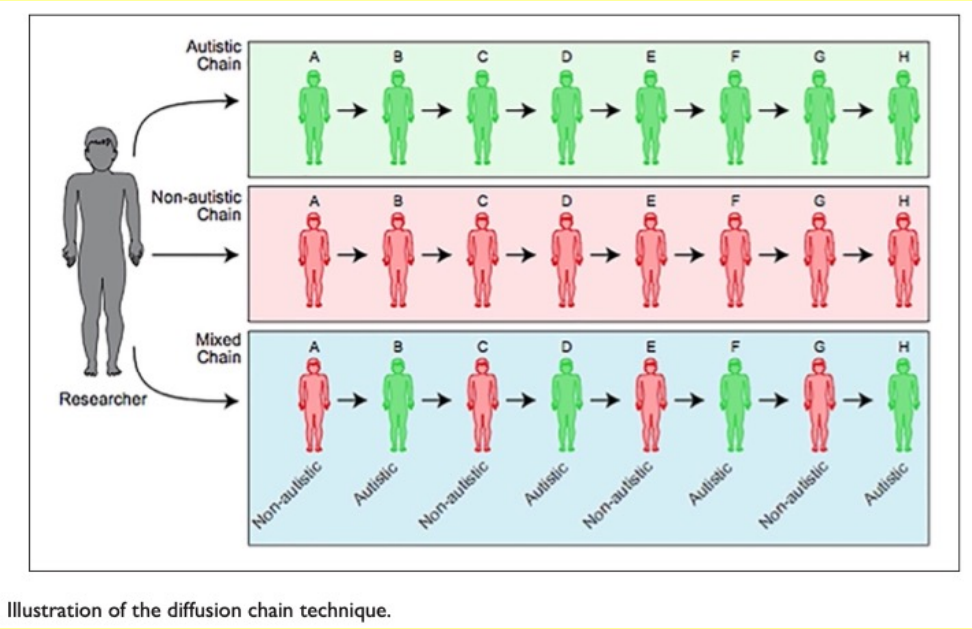

Illustration of the diffusion chain technique.

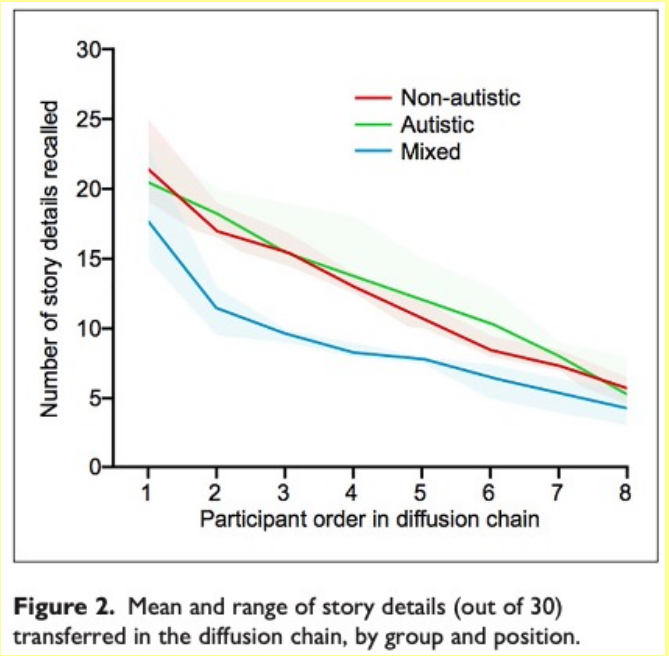

Figure 2. Mean and range of story details (out of 30) transferred in the diffusion chain, by group and position.

Milton, D.E.M. (2012). On the ontological status of autism: The 'double empathy problem'. Disability & Society, 27, pp883–887

Compton, C.J., Ropar, D. Evans-Williams, C.VM., Flynn, E.G., Fletcher-Williams, S,. (2020) Autistic peer-to-peer information transfer is highly effective. Autism. 24(7) pp1704-1712

What does this mean for supervision? - 3

Additional factors to consider are again related supervision to learning, focussing on development of understanding beyond just statement of new knowledge.

Areas to explore could include expressing Engineering Habits of Mind (Lucas & Hanson, 2016), Empathy and Professional Ways of Being (Walther et al 2017).

I have also observed that little emphasis is given to descriptive learning and speaking to non-technical audiences which are core inclusive competencies.

Lucas, B., Hanson, J., (2016) Thinking like an Engineer: using engineering habits of mind and signature pedagogies to redesign engineering education. International Journal of Engineering Pedagogy 6(2) pp4-12
Walther, J., Miller, S.E., Sochacka, N.W., (2017) A model of empathy in engineering as a core skill, practice orientation, and professional way of being. Journal of Engineering Education. 106(1) pp123-148

Thank you,

any questions or comments?