

Magic to conjure up academic skills: a gamification approach to dissertation support

Paul Rice, Amy West and Emma Kimberley

Why magic?

Benefits of magic

- Emotion – motivation, positive affects, surprise, curiosity
- Cognition – divergent thinking; disrupting schemata; need for cognition
- (Wiseman, Wiles and Watt, 2021; Moss *et al.*, 2017)

Magic as a metaphor

- Tricks should be relevant to the task (Wiseman *et al.*, 2020)
- Making abstract ideas more concrete
- Making learning more memorable

Student as magician

- Opening up participation and reflection
- Thinking about mastering a skill

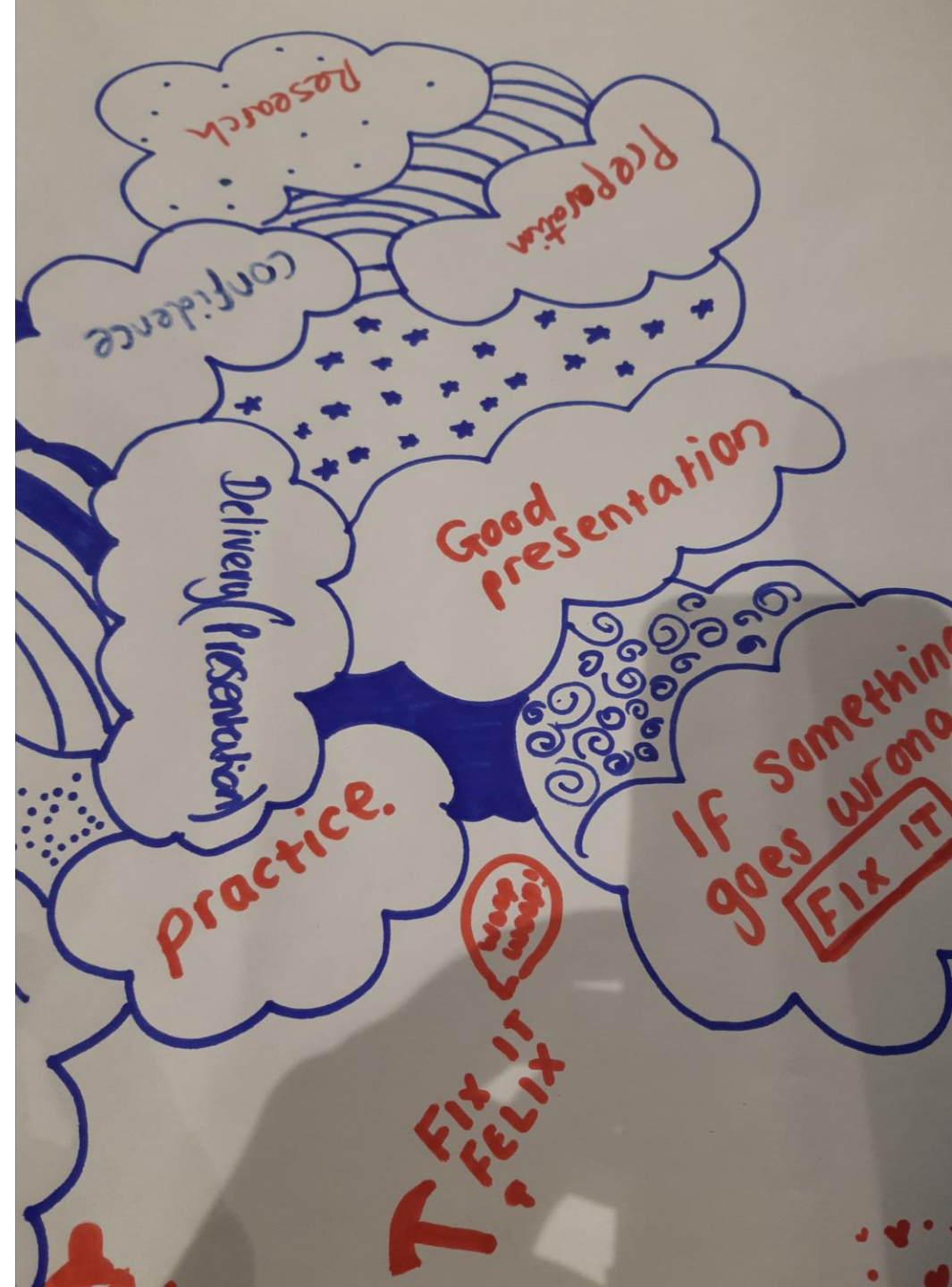


What we did:

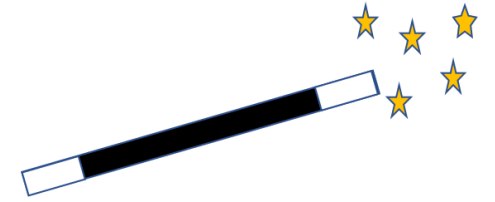


Making links:

- Process
- Preparation
- Presentation



Research Design



Skills session

- Pre-and post questionnaire
- Intervention and control groups
- Measuring emotions and motivation

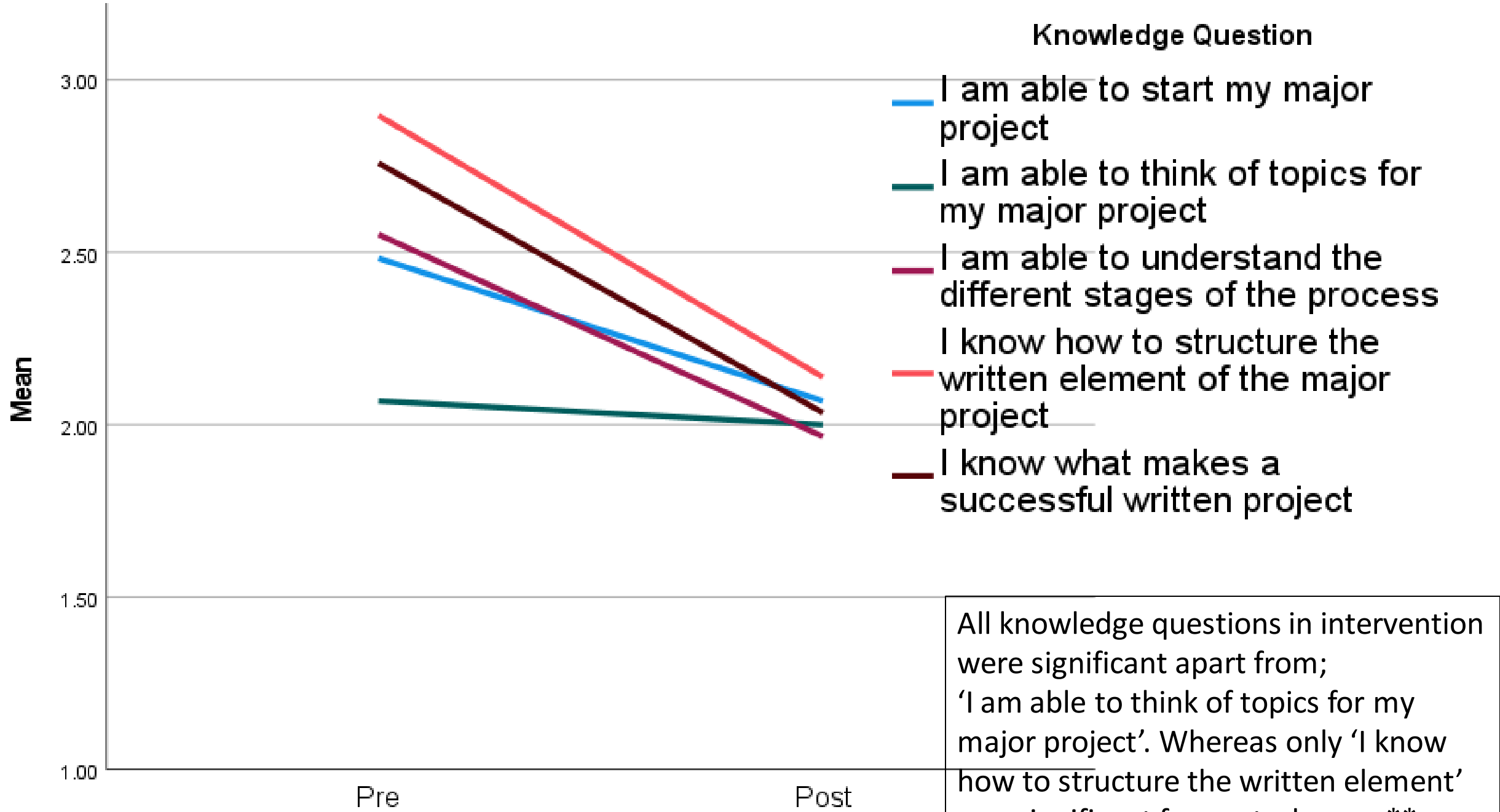
4 months later

- Questionnaire
- What the students remembered from the session
- What was the role of magic?

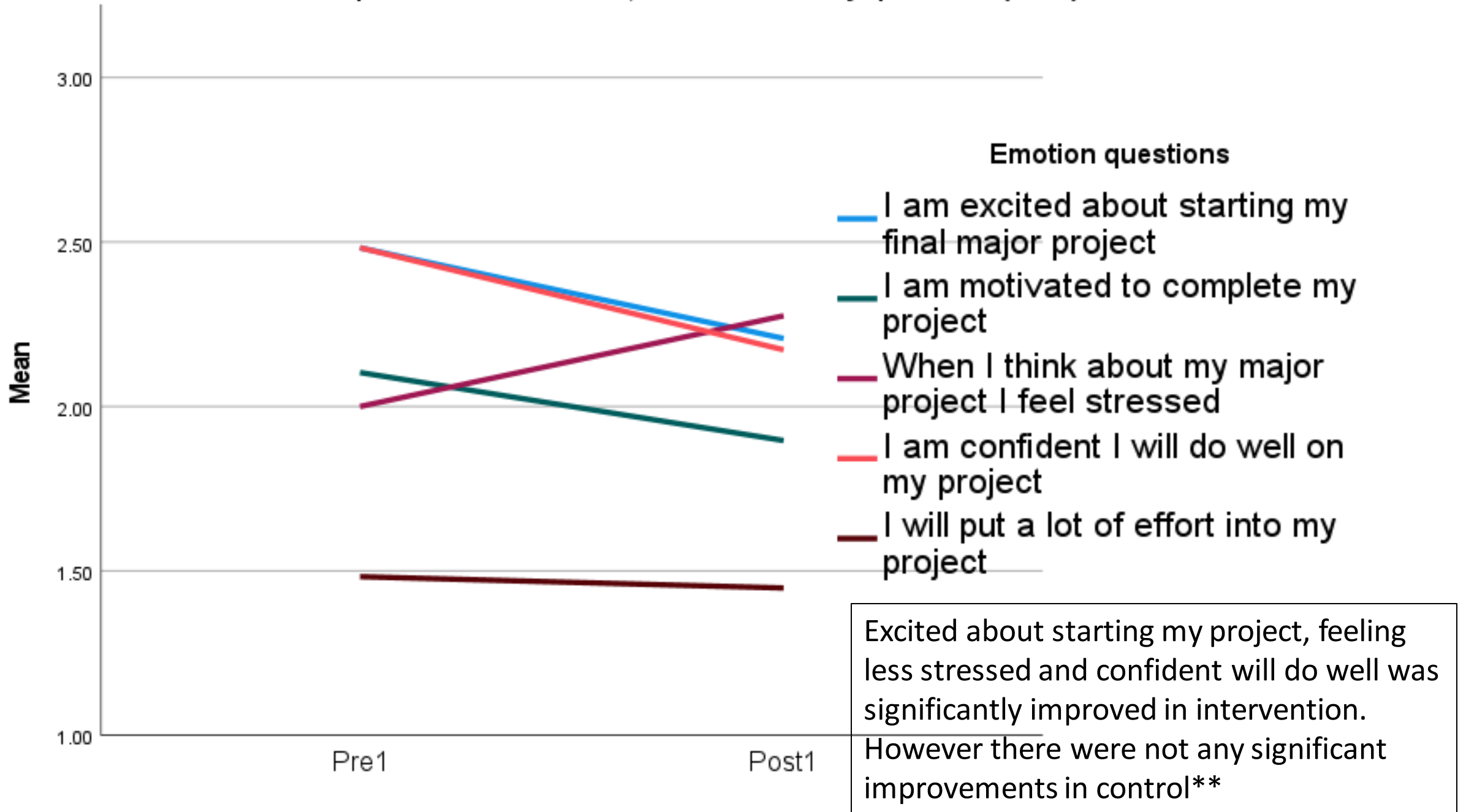
Focus groups

- To explore what individual students felt at the end of the dissertation process

Multiple Line Mean of Pre, Mean of Post by Question (n=29)

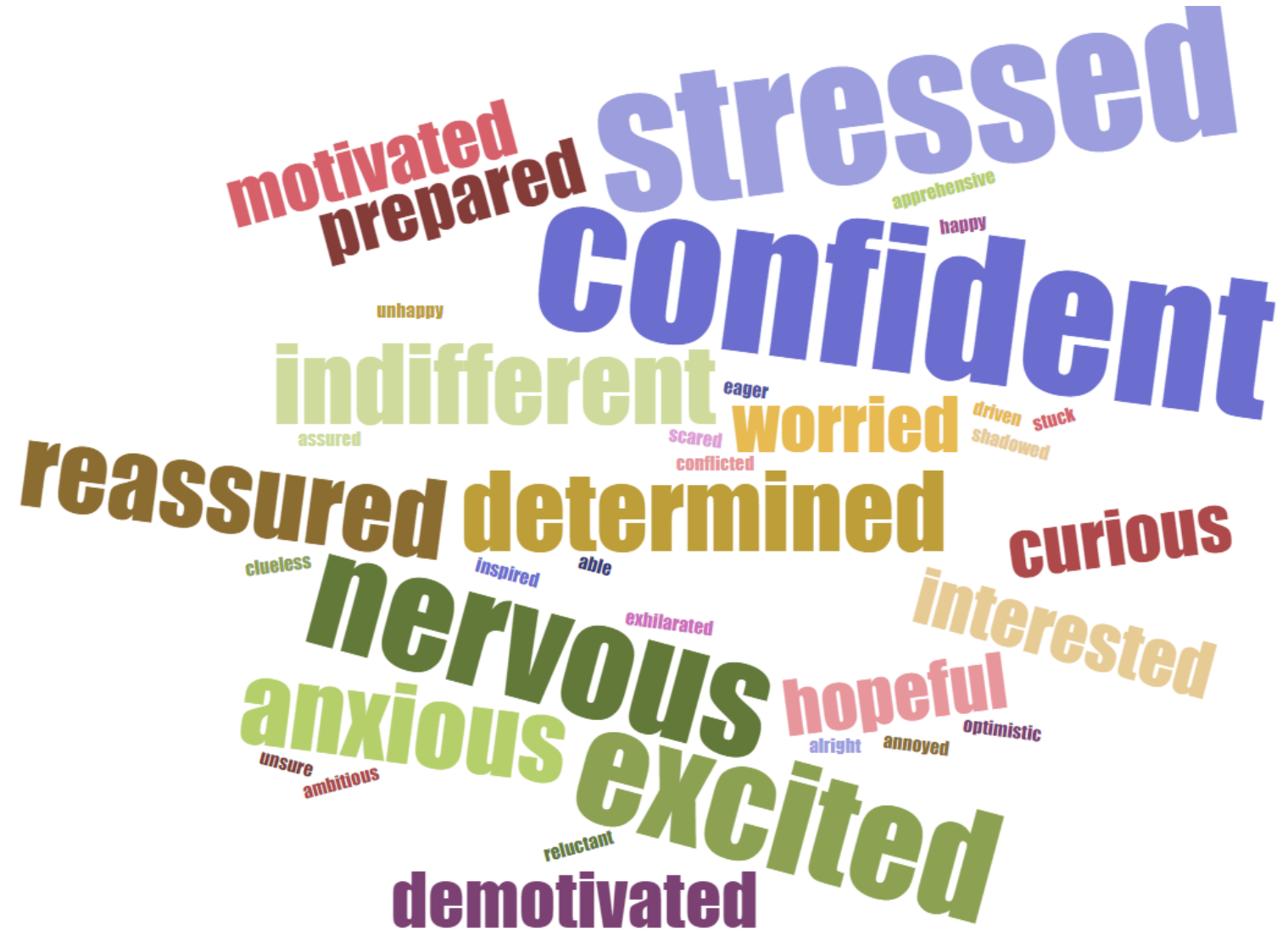


Multiple Line Mean of Pre1, Mean of Post1 by questions (n=29)



Changes in post-session questionnaire:

- Stress and nervousness still there
- Fewer negative emotions
- New words:
 - Reassured
 - Prepared
 - Alright
- Some students changed more than others





Themes: positive affect and memorability

- “It was **fun!** The whole room was engaged and everyone was laughing by the end of it. A nice session to **destress**”
- “It made for a very different experience, as it wasn't something I'd done before. It also made it **memorable**”.



Learning that linked magic and the dissertation process:

- “the magic tricks were interesting and they helped to put the point across about dissertations seeming hard when you don't know how to start, but once you do know it becomes a lot easier.”
- “Some processes can seem mystifying at first, but once you know how they're done they're not too hard to replicate or perform yourself”
- “Helped understand the idea that once you know how to do it, anyone can do it, and it's not actually that hard.”
- “There was advice given when learning the trick that was transferable to writing dissertation. Learning something new also usually teaches something about the learning process itself and helps with learning something new in future”
- “It made me want to perfect the magic trick and doing the same with my [project]”



Links to the literature:

- Playful approach removes the fear of failing (Norgard *et al.*, 2016)
- Unravelling a trick encourages students to deconstruct presentation from the end point, and think about how/why things work (Schott, 2010)
- ...and also therefore how/why they might not.
- ‘Fun’ emotions such as surprise and curiosity stimulate engagement (Wiseman *et al.*, 2020)
- ...and also ‘need for cognition’ (Moss *et al.*, 2017), leading students to make own meaning and links.

The future

- Key challenge: “I didn’t understand the relevance but it was enjoyable”
- Make stronger links to support meaning making for students who find the creativity aspect challenging
- Explore use of magic with a variety of cohorts
- More control data
- Interview participants for more detailed feedback



References

Moss, S.A., Irons, M. and Boland, M. (2017) The magic of magic: the effect of magic tricks on subsequent engagement with lecture material. *British Journal of Educational Psychology*, **87**(1), pp.32-42. DOI 10.1111/bjep.12133

Nørgård, R.T., Toft-Nielsen, C. and Whitton, N. (2017) Playful learning in higher education: developing a signature pedagogy. *International Journal of Play*, **6**(3), pp.272-282.

Schott, P (2010) The use of magic in optics in Higher Education. *Creative Education*, **1**, pp.11-17.

Wiseman, R. and Watt, C. (2020) Conjuring cognition: a review of educational magic-based interventions. *PeerJ*, **8**, p.e8747 <http://doi.org/10.7717/peerj.8747>

Wiseman, R., Houstoun, W. and Watt, C. (2020) Pedagogic prestidigitation: using magic tricks to enhance educational videos. *PeerJ* **8**, p.e9610. DOI 10.7717/peerj.9610

Wiseman, R., Wiles, A. and Watt, C. (2021) Conjuring up creativity: the effect of performing magic tricks on divergent thinking. *PeerJ*, **9**, p.e11289.