

INTRODUCTION

- Student belonging is crucial for academic success, retention, and well-being in higher education (Meehan & Howells, 2019). Negative feelings of belonging can affect students' motivation to learn, making it essential to monitor and support student belonging throughout their studies.
- But belonging is complex (Allen et al., 2024), dynamic (Kahu et al., 2022), and influenced by context, culture, and personal demographics (Gravett et al., 2023).
- Measuring belonging is challenging: quantitative methods provide large-scale snapshots but lack deep insights and are often conducted too late for timely support; qualitative methods offer deeper insights but are difficult to scale.
- Currently, data-informed approaches around belonging are limited in learning analytics research (e.g., Benedict et al., 2022; Ramanathan et al., 2024).

AIM

To capture the complexities of student belonging at one University, via an innovative research platform, SenseMaker® (Van der Merwe et al., 2019)

Pilot exploration with 2 goals:

- 1) To design a SenseMaker® framework grounded in theories of belonging;
- 2) to examine patterns of student belonging derived from participatory narrative analytics

METHODS

1) Designing the SenseMaker® framework grounded in theories of belonging, to identify key dimensions, indicators, and factors of belonging (see Table 1)

- **A story prompt:** asking students to share a story or an experience that made them feel that they belong or do not belong to the university (anonymous)
- **Self-signifiers:** asking students to 'code' their own stories along different elements of belonging (see Figure 1 for examples of triad signifiers)
- **Demographic questions:** Gender; NESB, Year of study, Discipline of study

2) Consultations with key stakeholders—faculty, staff, and students—to obtain their feedback on the design of the framework

Table 1. Examples of theory-grounded self-signifiers used in the Sensemaker® framework.

Theoretical grounding	Question	Signifier
Domains of belonging (Ahn & Davis, 2020)	The story I shared relates to...	Triad: How familiar I am with the physical space and learning spaces at [institution blinded for review], How interested I am in what I'm studying, How I fit in with my peers at UTS
High quality relationships for interpersonal belonging (Beaumeister & Leary, 1995)	In my story, I felt that I...	Triad: Was respected as a unique individual, Fit in with my peers at Uni, Was empowered to succeed in my studies
Academic belonging (Kahu et al., 2022)	The experience in my story had an impact on my...	Triad: Sense of self-identity as a person, Sense of identity as someone working in my discipline, Willingness to persevere in my studies
Impact of belonging on wellbeing (Meehan & Howells, 2019)	From this experience, I wish I could have had more support for...	Triad: My mental health, My learning, My future profession

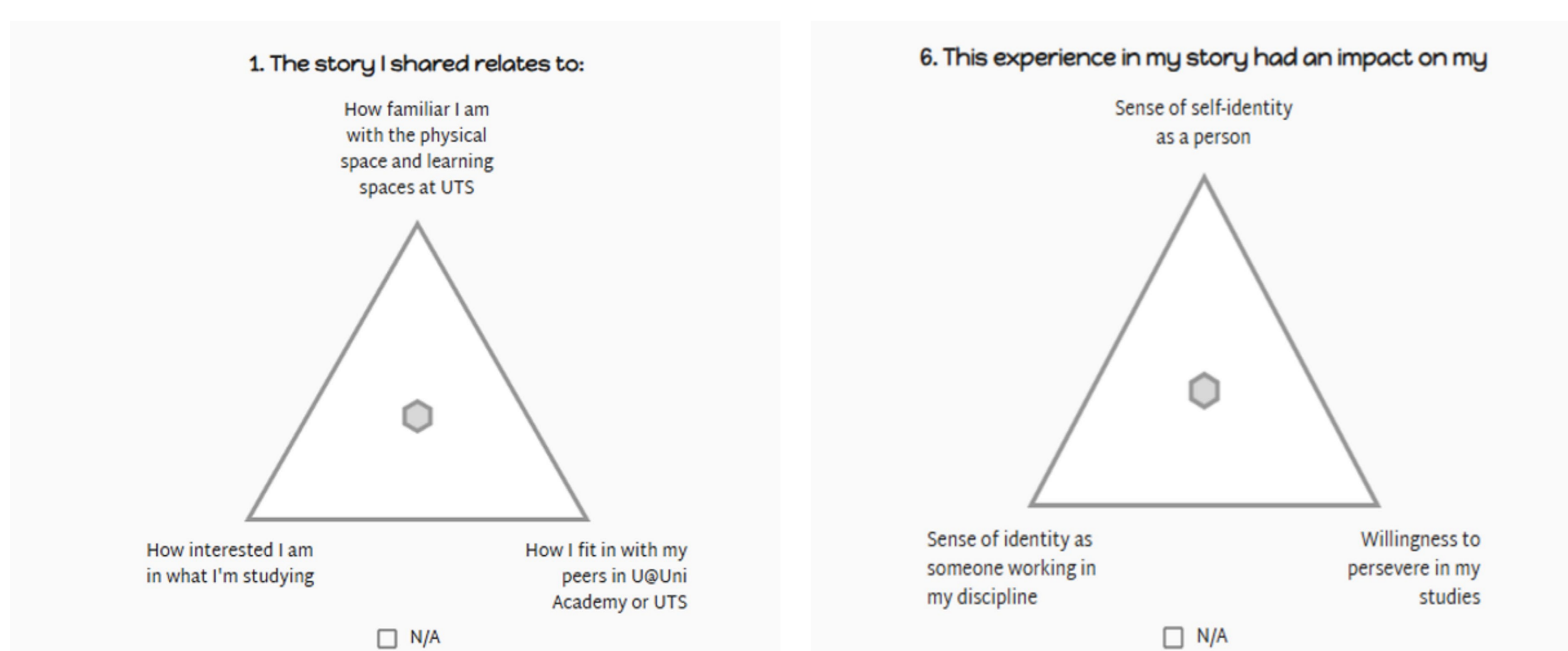


Figure 1. Examples of self-signifiers (triads) based on theory

RESULTS

A total of 55 stories were collected on the SenseMaker® platform.

Voices were almost equally split by gender (female - 55%), from English speaking backgrounds and in first year, enrolled in diverse faculties, with more from Engineering & IT, Business, Law.

Overall:

- **75% of respondents felt positive or strongly positive** about their belonging experience
- At least **31% of stories** were coded as relating to fitting in with peers
- At least **30% of respondents** felt they were respected, empowered, and fit in well with their peers at Uni
- **33% of stories** were coded as having an impact on students' self-identity as a person
- 26% of stories were coded as having a desire for more support with mental health.

Year differences:

- Year 3 or higher students were divided in their emotions about their belonging experience, whereas Year 1 students were mostly positive (Figure 2)
- Peers were noted to be a strong influence of belonging across all years, but most strongly at Year 3 or higher (Figure 3)

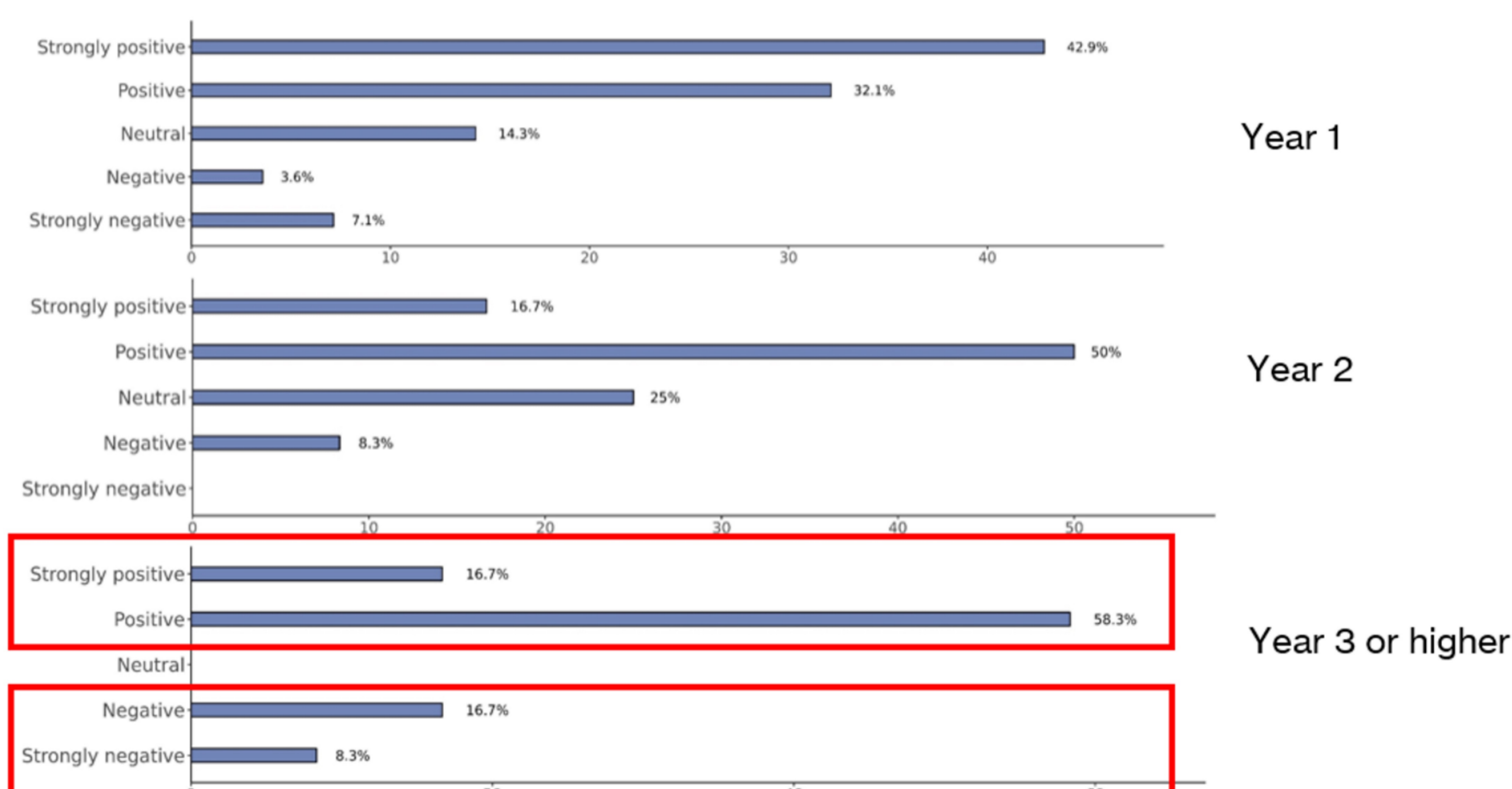


Figure 2. Bar charts showing Year differences in emotions about belonging experiences

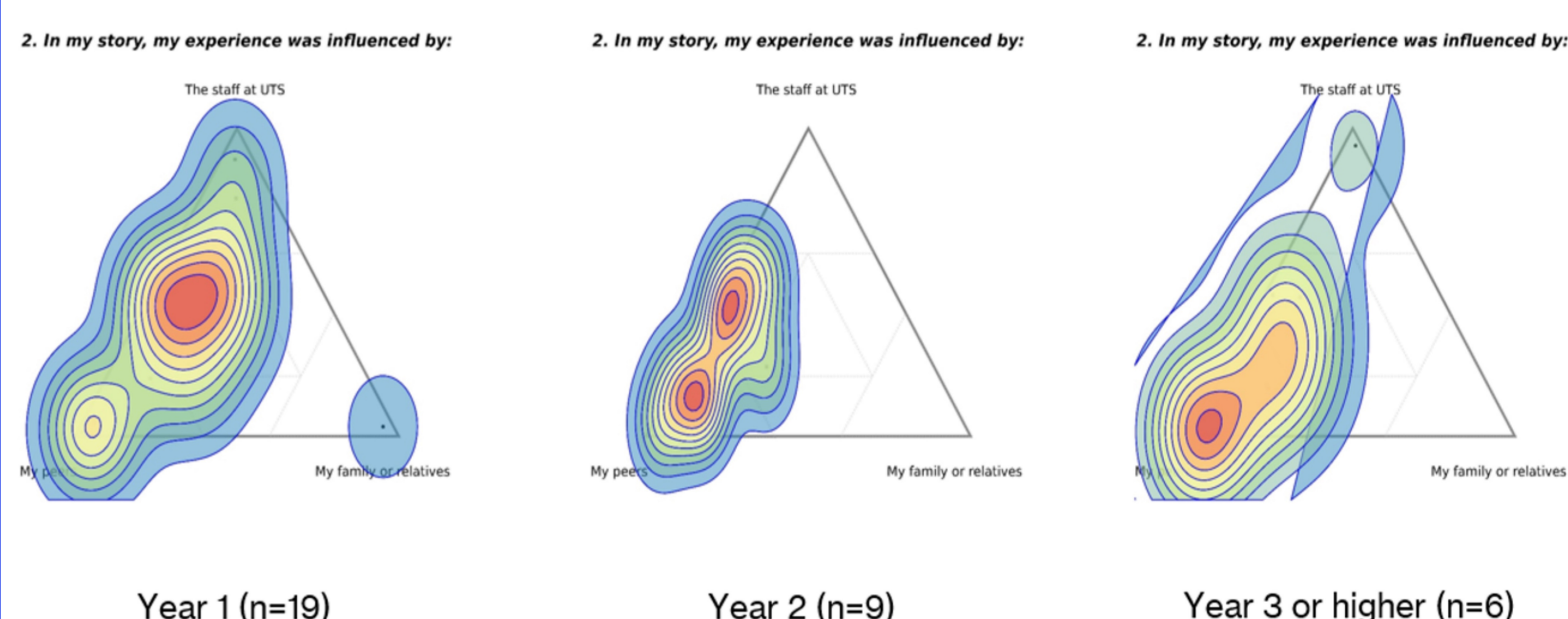


Figure 3. Heatmaps to visualise aggregate data, grouped by year

DISCUSSION & FUTURE DIRECTIONS

- This pilot exploration illustrates an example of 'Belonging Analytics' (Lim et al., 2023), blending thick qualitative data with aggregated quantitative data
- Analytics are obtained from self-signifiers grounded in theory, and involves students' sensemaking of their own data, addressing issues of transparency and trust in LA systems
- Possibly an easy-to-use student-facing LA tool which generates dynamic visualisations for educators
- Future work will involve incorporating this as a meaningful learning activity within learning design

References

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