

2023

Personalising the student first year experience – an evaluation of a Staff Student Buddy System

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Recommended Citation

Fewster-Young, N., & Corcoran, P. A. (2023). Personalising the student first year experience – an evaluation of a Staff Student Buddy System. *Journal of University Teaching & Learning Practice*, 20(1). <https://doi.org/10.53761/1.20.01.14>

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Personalising the student first year experience – an evaluation of a Staff Student Buddy System

Abstract

A student's transition into higher education or a new learning environment can set the foundation for the remainder of their study, both in perception and academic ability. Mentoring is a transition intervention strategy and most types of these interventions are student peer to peer. However, there is a growing interest in academic involvement in mentoring and consequently this paper is an investigation into the effective implementation of assigning students with an academic staff buddy or mentor in the transition period of their first year of higher education i.e. the Staff Student Buddy System (SSBS). The analysis focusses on using two measures to inform the results by qualitatively analysing the feedback from the students, and quantitatively measuring the difference in academic performance of both student participants and non-participants. The sample of the students come from the University of South Australia, and the qualitative analysis indicated that students enjoyed SSBS, particularly with the ability to ask questions to those that would be teaching them. The quantitative statistical evidence indicated that SSBS could be a positive factor on a student's Grade Point Average. Overall, the conclusion was that that the combination of the SSBS and these students produced improved academic performance while providing a positive student experience.

Practitioner Notes

1. Most mentoring and buddy interventions focus on student peer to peer relationships however, given academics curricula knowledge, having an academic to student version could be advantageous for students both from a social and academic engagement perspective.
2. The qualitative findings indicated that students enjoyed the SSBS sessions especially with the ability to ask question to those that would be teaching then during the year. The quantitative suggested that the average GPA of participating students performed higher overall throughout their program than the students who did not participate in SSBS.
3. To maximise an SSBS uptake by students, academics need to be aligned with student interests and ensure communications are received and acted upon by students.

Keywords

Academic staff; mentor; buddy; student

Introduction

As university student numbers rise, retaining them becomes an ever-increasing challenge and as Sneyers and De Witte (2017) noted, there is an increasing focus on first year dropout. Such momentum is clearly reflected in a 2020 Tertiary Education Quality Standards Agency (TEQSA) report on improving retention in Australia which outlined 10 strategies and interventions. Therefore, it could be interpreted that it would be useful for universities to review the quality of students' first year, particularly with it being a new, possibly daunting environment and, as Castleman and Meyer (2018) regarded, it being 'pivotal' to student success. Furthermore, Kift, Nelson and Clarke (2010) noted that such transitional pedagogy 'intentionally and proactively takes account of and seeks to mediate the reality of commencing cohorts diverse in preparedness and cultural capital' (p. 12)

To aid such a positive trajectory, students can be exposed to a variety of orientation and transition interventions. NODA - Association for Orientation, Transition, and Retention in Higher Education (2022), which is an international community of practice, defined orientation as being a program of events that facilitates student entry into university, and transition as the next phase of continuing through university – a phase that has a particular emphasis on the first year. The likelihood of student persistence through university is grounded in positive student participation and involvement in academic and social activities (Tinto, 1988). Such participation should be understood as a process rather than an event and involving university staff should be promoted to lessen the potential for students to feel confused, a position that could lead to failure and them disengaging from their studies (Lowe & Cook, 2003). Indeed, it could be argued that such interventions where advice can be given, is teaching itself (Campbell & Nutt, 2008).

Mentoring is a common transition intervention. Kohnke and Jarvis (2019) suggested that education mentoring programs are a 'turning point' intervention strategy for universities to employ in helping students adjust to their new lives, thus allowing them to participate and become fully engaged. Retallick and Pate (2009) noted that students 'view mentoring as an active and interactive process where an exchange of ideas can take place' (p. 29). Mentoring enables the creation of a relationship where a mentor, who has greater experience, can impart relevant information to the mentee who may have previously ignored or been unaware of the information (Sandner, 2015). Such student-centred interventions allow a greater understanding of students' needs, thus creating an arena for students to develop positive interactions with their learning environment.

The Environmental and Geospatial Sciences (EGS) discipline within the University of South Australia's (UniSA) Science, Technology, Engineering and Mathematics (STEM) Academic Unit (AU) has been proactive in enhancing the student experience through orientation and transition interventions. For example, the discipline has operated a multi-day experiential learning program known as the EGS Student Engagement Project ([EGSSEP](#)) since 2008. Then, in 2016, EGS began an initiative to contribute to students' transition phase with the creation of a year-long Staff Student Buddy System (SSBS) where every commencing first year Bachelor of Environmental Science (degree program code LBVT) and Bachelor of Geospatial Science (degree program code LBSP) student was invited to pair with an academic staff 'buddy' (NB LBSP was a land surveyor educational pathway that ceased 2019). The aim of the SSBS was to support all students who may have had limited background knowledge of the university environment to successfully transition

into the three-year LBVT or LBSP programs. The SSBS aimed to personalise the student experience to try and build higher levels of student satisfaction by motivating students to feel more comfortable in the university environment, have an increased affinity with their respective degree programs and be able to spend more time on studying rather than getting to grips with university systems, policies and procedures.

This paper investigates students' responses to the SSBS together with an analysis of student performance and persistence. Both qualitative and quantitative analysis was undertaken, with the former analysing responses to evaluation surveys given to each yearly cohort at the end of their SSBS intervention, and the latter analysing grade point average (GPA) scores and retention.

Background

Chickering and Schlossberg (2002) stated students move in, move through and move out of university. From the 'moving in' perspective, they indicated that students enter university having their own story, but all share the unknown of transitioning into the new and sometimes bewildering environment that is university life. Entering such a place can, as the authors suggested, require new roles, routines, relationships and assumptions. As Larsen et al. (2021) noted 'Transition to university studies is about much more than academic preparedness' (p. 16).

Such adjustments take time, and students' needs require addressing as they navigate the next stage of 'moving through'. To aid this, Chickering and Schlossberg (2002, p45) promoted the '4 S System' for students to take stock of their situation, thus enabling them to engage and successfully transition into university, namely:

Your Situation—your situation at the time of the transition

Your Supports—those people and assets that bolster you

Your Self—who you are, your optimism and ability to deal with ambiguity

Your Strategies—what you do to cope

Boyd, Liu and Horissian (2020) indicated, 'Improving student retention and satisfaction are two of the most critical issues in universities today' (p. 3). For, as Kift (2015) stated, failure to address student departure comes in multiple costs of 'reputational, personal, professional, ethical and financial' (p. 65). Consequently, it can be inferred that it would be prudent for universities to continually improve their connections with students and help with such systems as Chickering & Schlossberg's (2002) 4 S System. Furthermore, they issued a note of caution when they referred to Kolb (1984) who indicated that to be in such an advantageous stance, students must be receptive to such help. Furthermore, as Chickering and Schlossberg (2002, p. 76) suggested, such human development is achieved by "higher level integration through dialectical conflicts" generated by increasing perceptual, affective, symbolic, and behavioural complexity'. In essence, this is about developing students' learning capacity and their ability to grow, develop and flourish into learning. Such an approach reinforces Tinto's 1975 longitudinal model of dropout which revealed, 'that it is the individual's integration into the academic and social systems of the college that most directly

relates to his continuance in that college' (p. 96). Tinto further argued that this has a constituent part that includes personal contact with faculty, which in effect, bridges the gap between academic and social. From reviewing the 4 S System, it is apparent that three out of Chickering and Schlossberg's four 'S's are student-focussed and the remaining one is the major area where universities could aid students with 'moving through' i.e. by contributing to the second 'S' and being supportive people.

On a base level, feeling rejected and not feeling a sense of belonging leads to student attrition (O'Keeffe, 2013). Kuh et al. (2005) noted that student engagement can be enhanced with academic advising and faculty-student interactions. Campbell and Nutt (2008) added to this by indicating that academics can be advisors too due to their own knowledge and understanding of curricula and the learning environment. Potter and Parkinson (2010) highlighted that academics can provide more targeted information to students about their degrees, thus developing a sense of realism about what is about to happen and how best to position themselves for success. Students who regularly engage with their peers, faculty and other staff have a higher chance of persisting through a degree (Tinto, 2004). Thus, as Caballero (2020) declared, 'professors are the key to retention' (p. 5).

Gardner (1986) coined the phrase 'The Freshman Year Experience' (later changed to First Year Experience) to delineate a movement towards universities being more focussed on welcoming, assimilating, supporting and informing students in a first and ultimately pivotal year (Koch & Gardner, 2017). Such first year university students (especially those beginning Chickering and Schlossberg's [2002] 'moving through' phase), can often experience a sense of confusion about how and what they feel they are expected to do and undertake (Kantanis, 2000). Such uncertainty can lead to students experiencing negative feelings of fear and self-doubt (O'Shea, 2015) and consequently discontinuance at university (Pitkethly & Prosser, 2001) through failure and consequential withdrawal from programs (Peat, Dalziel, & Grant, 2001). Kift (2008) suggested students need timely support and provisions to allow them to feel engaged and develop a sense of belonging, constructing a place that can be nurtured through connections 'most critical amongst which are facilitating non-academic support provision, peer-to-peer interactions, and staff-student interactions' (pp. 4–6). As Larmar and Ingamells (2010) cited, 'the need for early intervention programs in a student's first year of university that target a range of variables is paramount' and continued by suggesting:

Engagement can be promoted by staff through the fostering of positive attitudes and relationships with students, inclusive teaching and learning strategies, collaboration between staff and students, and a diversity of social spaces to cater for students in a way that reflects an implicit understanding and embracing of their individuality and various needs. (p212).

From their suggestions, the SSBS aimed to contribute to the first i.e. relationship intervention.

Using mentoring as a relationship building tool can aid the student transition to university and, as Law, Hales and Busenbark (2020) stated, it has been used for 'grappling with the high attrition and low graduation rates of students' (p32). Additionally, mentoring can create positive ongoing relationships between academics and students (Maharaj, Blair & Burns, 2021). However, defining the term mentoring has been problematic due to it being an action (e.g. a one-to-one meeting), and a process (Crisp & Cruz, 2009). After analysing a variety of literature and theoretical frameworks,

Law et al. (2021) used Kram's mentor functions (1985), Bandura's Social Learning Theory (1977) and Tinto's Social Integration Theory (1987, 1993) to devise the following definition:

Mentoring is defined as building a purposeful and personal relationship in which a more experienced person (mentor) provides guidance, feedback, and support to facilitate the growth and development of a less experienced person (mentee). Operationally, mentors provide mentees with services such as:

1. Academic Subject Knowledge and Institutional Support
2. Education/Career Exploration and Goal Setting
3. Psychosocial Support
4. Role Modeling (p.33)

Many mentoring programs exist, such as the well-received Study Buddy Support undertaken by Thalluri, O'Flaherty & Shepherd (2014) with its primary focus on student peer-to-peer mentoring. However, some universities have widened the scope of mentoring to include academics. As Mascarenhas et al. (2019) highlighted, 'faculty mentoring would also be helpful to reinforce correct information regarding school policies and to establish a supportive relationship early in the academic career' (p. 185). They concluded that having a combination of peer and academic mentoring was valuable to students and further improvement could be garnered by having more than 1-2 meetings and ensuring that academics and students were from the same disciplines. Additionally, Chung, Dykes and McPherson (2016) also observed that using academics could be advantageous as 'the use of peer as well as academic mentors is innovative and strengthens the program considerably' (p. 39). There is a growing interest in this academic to student relationship, an example being 'First STEP' introduced by Cornelius and Wood (2012) within Macquarie University's Business School, Australia. 'First STEP' was a formal process that required students to apply to participate, choose an academic mentor and attend sessions with an agenda containing goals. This type of structured mentoring scheme has been seen as a useful support mechanism for such students, but less formal mentoring approaches are known as buddy schemes (Dewart, 2006). So, for the purpose of SSBS, the EGS discipline at UniSA fused mentoring and buddy ideas to produce the informal, Staff Student Buddy System.

LBVT/LBSP SSBS

LBVT is a generic environmental degree and is more attractive to a wider variety of students (in age, gender and career trajectory), than the more tailored industry-specific LBSP degree. Both degrees have minimal appeal to the international market with international students numbering just 7%. Both degrees are taught at the Mawson Lakes Campus situated in the northern part of Metropolitan Adelaide – an area associated with a lower socio-economic demographic (ABS, 2018). LBVT has local competitors including the University of Adelaide (2022) and Flinders University (2022), as well as some online institutions such as Charles Sturt University (2022). Conversely, LBSP was the only face-to-face pathway to becoming a licenced surveyor in South Australia, however, the University of Southern Queensland (2022) offer a part online delivery that necessitates yearly travel to residential USQ camps.

LBVT and LBSP shared a common first year and for the purposes of the SSBS, each first year LBVT/LBSP student was randomly paired with a LBVT/LBSP academic. As Almond, Parson and Resor (2021) noted, such academics need to be prepared for offering support to students. To help with this, the participating UniSA academics were briefed at team meetings and supplied with a handbook (adopted from O’Flaherty, Kokkin & Thalluri (2014)) to help guide the SSBS sessions. Students were then invited by the academics via email, to meet for 15–20 minutes at four critical points throughout the year – at the start of each main study period (UniSA has two main 13-week study periods per year) while students were settling in, and in the last three weeks of the study period as final assignments were being prepared. To try and foster more connection and a sense of belonging from both the social aspect of university and pure academic driven goals, meetings took place in informal settings, such as campus cafés. To drive this approach further, the meetings had no set agendas and topics could range from discussions about university systems and procedures to networking, job opportunities or work-life balance. In essence, students were able to raise any query that related to their time at university. By engaging students in these meetings and tailoring pastoral care to their diverse backgrounds and learning styles, the EGS discipline hoped to develop firm connections that would reinforce the culture of partnership that had been established at the EGSSEP orientation.

Methods

A mixed method approach of qualitative and quantitative analysis was adopted to investigate whether the SSBS had any success. The qualitative data formed the base evidence that informed the narrative of the research problem, and the quantitative approach tackled the problem using robust techniques, employing non-parametric methods to avoid assumptions relating to any underlying distribution.

Qualitative

At the end of 2016, 2017 and 2018, LBVT and LBSP students were asked to complete a SSBS evaluation (see Appendix A), regardless of whether they participated in the program or not. In 2019, LBVT students only were asked due to LBSP having no intake. Preliminary questions related to demographics, program and participation. Beyond the preliminary questions, students who responded and did not participate in the SSBS were offered an open-ended question about why they did not participate. A series of Likert scale questions (on a scale of strongly agree; agree; neutral; disagree; strongly disagree), along with open-ended questions seeking information on the best SSBS aspects, areas that could be improved and any general comments, were posed to students who did respond and participate in the SSBS. Using the literature previously reviewed as a basis, responses to the series of open-ended questions were categorised into four themes namely 1) Relationships, 2) Relevant Information, 3) Communication (including attendance), 4) Environment.

Quantitative

The experimental design of the quantitative methods was investigated by using a block design forming two main groups of each degree program (LBVT and LBSP), and then two allocated sub-groups of ‘Yes’ (students who participated in the SSBS) and ‘No’ (students who did not participate in the SSBS). A common measure of performance is GPA, which determine their ongoing overall

performance each study period. By marrying the datasets of the student participants, it was possible to analyse the demographic information in relation to a summary of the ratio of gender and spread of age, as well as chart their GPA trajectory each study period, that enabled the creation of a time series for each student over their program with SSBS as an intervention. In addition, this approach informed the initial retention rate for the programs of the students in each group. Briefly, the comparison relative rates between groups and programs are presented for the initial first study periods as students transition into university life.

All data was cleaned and organised to produce a table which included the student and their current GPA from each study period. The students were independent of each other, but the key variable of interest was GPA and the related study period. Therefore, the difference in each independent group was measured against each study period, and also the overall average GPA between the groups was measured. A one-sided test was performed on the difference between the groups in each study period, and a 95% confidence interval was constructed to properly measure the range for the possible population parameter describing the average GPA. In the next section, a table is presented and a visualisation of the confidence intervals (Figures 5–6), statistical evidence, and decision rule for each test in Tables 5–7.

Collectively, the averages of GPA were compared and investigated across the study periods to determine across the programs, if there was a difference overall in GPA in the two groups.

Results

Demographics

It was noticed that out of the students who participated in SSBS, 53 were males and 43 females, compared to those who did not participate in SSBS, 64 males to 37 females. This implied that the programs have more males than females. The age of the students is described in Table 1 using the median and Interquartile Range (IQR) since it was apparent in the data and visually through the histograms that age was significantly right-skewed.

Table 1

Student Age Median and Interquartile Range

<i>Age / Group</i>	<i>LBSP/ 'Yes'</i>	<i>LBSP/ 'No'</i>	<i>LBVT/ 'Yes'</i>	<i>LBVT/ 'No'</i>
Age (Median)	19	19	20	19.5
Age (IQR)	0	2	5	3

Each group of students was comprised in majority of recent school leavers around 19 years old (Figure 1). The only comparison was the LBVT typical age was slightly older compared to LBSP.

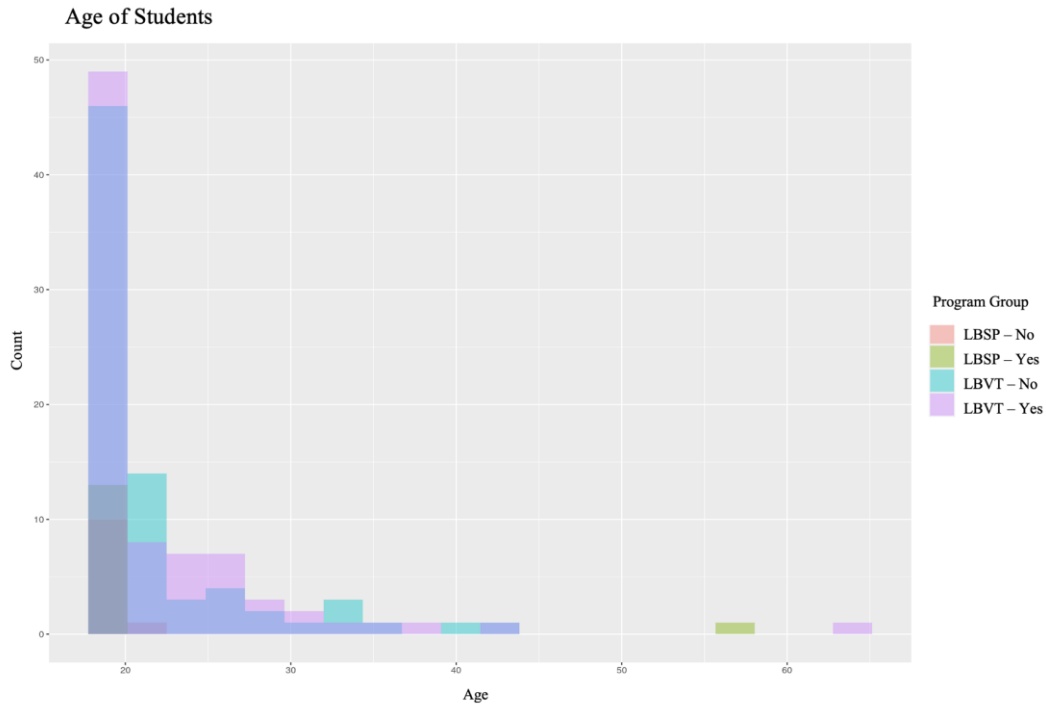


Figure 1:

Age distributions of students in LBSP and PSVT program groups

SSBS invitations were sent to 165 students of which 36% (n=60) responded to the survey, mainly from LBVT (n=44 (73%)). Of these total respondents, approximately two thirds (n=38 (63%)) regarded themselves as school leavers rather than mature entry, but within the programs, there was a pronounced difference with LBVT being approximately even (n=24 (55%)) compared to LBSP being predominantly school leavers (n=14 (87.5%)). Both cohorts were principally full-time (n=58 (97%)) and had a 50/50 gender split for LBVT compared to LBSP being mostly male (n=15 (94%)). The number of international students who participated was minor (n=7 (10.29%)), and this was similar and even lower to students who did not participate (n=4 (4.25%)). Within the vicinity of metropolitan Adelaide, on average, LBVT students lived slightly closer to campus (17.2kms LBVT/ 17.7kms LBSP – see Appendix B) and around two thirds of these participated in the SSBS. Lack of communication was cited as the main reason for not participating in the SSBS. Comments ranged from:

- not knowing about SSBS:

I did not know there is a buddy program. I think I would have participated if I knew' (LBVT student)

Didn't know about it or what it is' (LBSP student)

- to not being able to find convenient times to meet:

I did not attend as my timetable was extremely hectic with full time uni, part time work, and other commitments' (LBVT student)

I found it hard to make time to meet up (LBSP student)

- to being reserved:

Was too shy to meet someone' (LBVT student)

LBVT and LBSP students who participated met 2–3 times per year with an academic, and most agreed that the average 40-minute meeting time for LBVT and 26 minutes for LBSP was about right. Over 90% of all respondents preferred the more informal meeting style.

Qualitative

This leads to presenting the findings collected from the student responses to the Likert series of questions asked in the survey using a Likert scale as well as transforming SA-SD on a scale of 5-1. The student responses to the Likert series of questions are presented in Figures 2, 3 & 4 as percentages of the scale. The Mean, Standard Deviation, Median, and IQR are shown in Tables 2, 3 & 4.

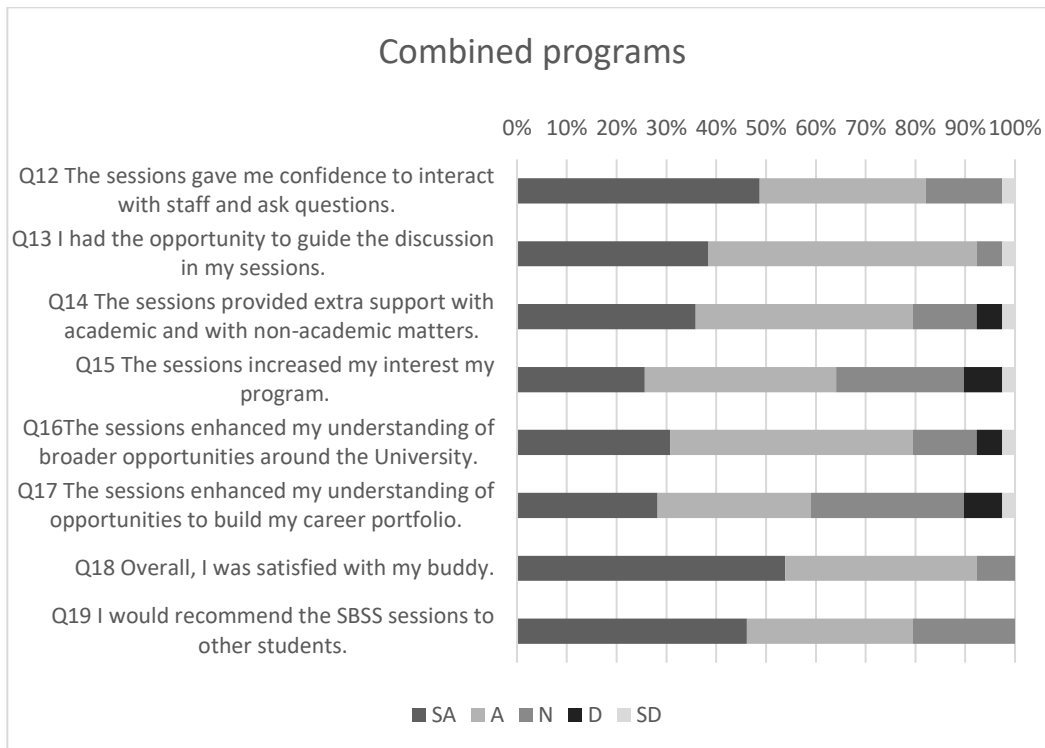


Figure 2:

Responses to Likert statements from students across the combined programs

Table 2

Statistical analysis of responses to Likert statements from students across the combined programs

	Mean	Standard Deviation	Median	IQR
Q12	4.26	0.91	4.5	1
Q13	4.26	0.79	4	1
Q14	4.05	0.97	4	1
Q15	3.77	1.01	4	2
Q16	4.00	0.95	4	1
Q17	3.74	1.04	4	2
Q18	4.46	0.64	5	1

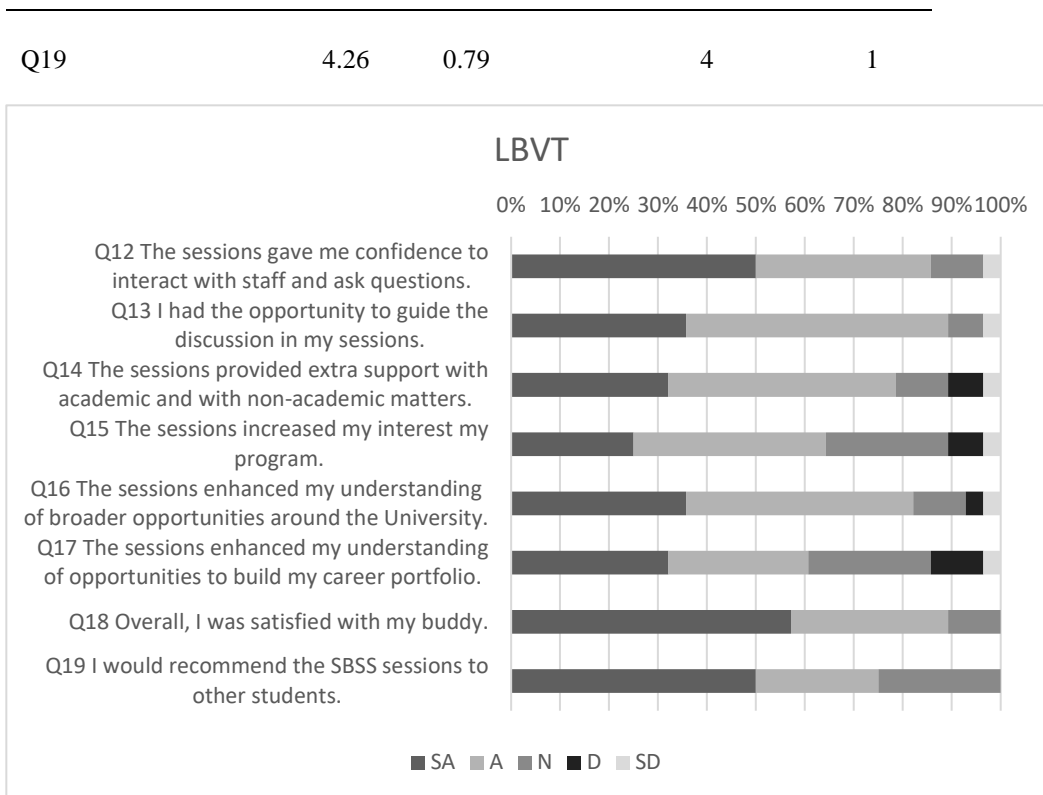


Figure 3:

Responses to Likert statements from students on the LBVT program

Table 3

Statistical analysis of responses to Likert statements from students on the LBVT program

	Mean	Standard Deviation	Median	IQR
Q12	4.29	0.94	4.5	1
Q13	4.18	0.86	4	1
Q14	3.96	1.04	4	1
Q15	3.75	1.04	4	2
Q16	4.07	0.98	4	1
Q17	3.75	1.14	4	2

Q18	4.46	0.69	5	1
Q19	4.25	0.84	4.5	2

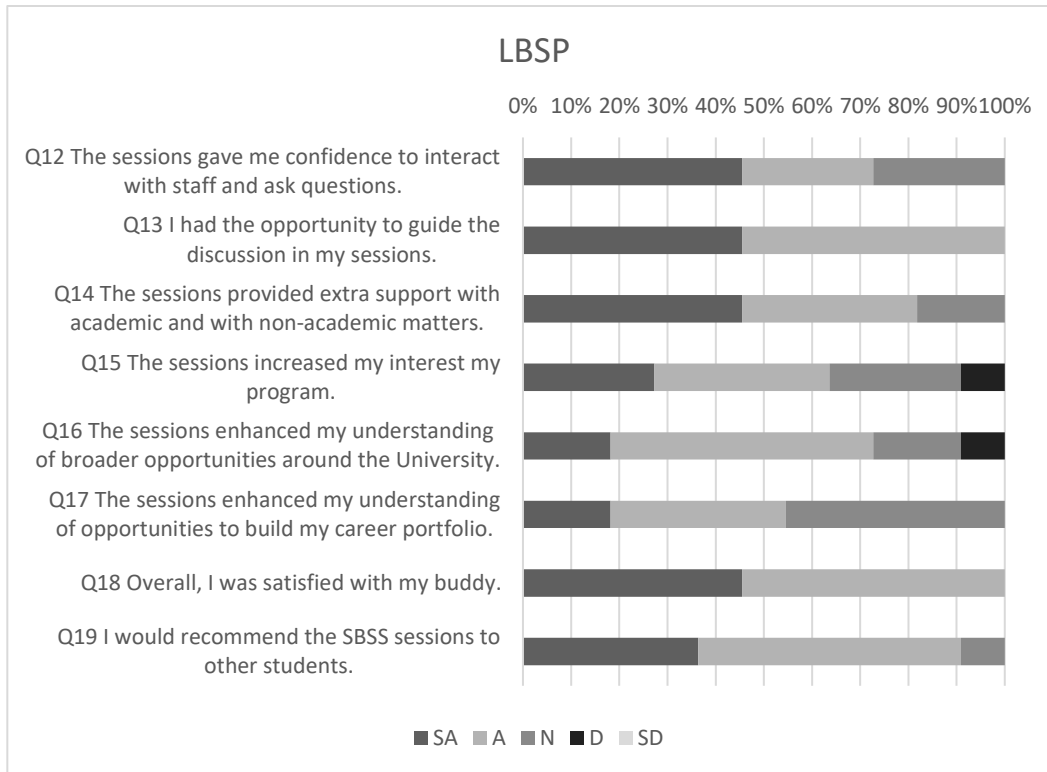


Figure 4:

Responses to Likert statements from students on the LBSP program

Table 4

Statistical analysis of responses to Likert statements from students on the LBSP program

	Mean	Standard Deviation	Median	IQR
Q12	4.18	0.87	4	2
Q13	4.45	0.52	4	1
Q14	4.27	0.79	4	1
Q15	3.82	0.98	4	2

Q16	3.82	0.87	4	1
Q17	3.73	0.79	3.5	1
Q18	4.45	0.52	4	1
Q19	4.27	0.65	4	1

Responses to the concluding open-ended questions for those who participated in the SSBS indicated that students rated relationship as the best SSBS aspect followed by being able to glean relevant information in an informal environment. Communication was never mentioned as a best aspect. Example comments were:

- Relationship

the sessions changed the dynamic between student and staff for us, the exchange of advice/ opinions in an unstructured setting brought the staff member “down to our level” (if that makes sense) making them more approachable (LBVT student)

Great buddy, very helpful for finding out career/uni paths (LBSP student)

- Relevant information

Being able to talk to someone who had already done something similar to what I am doing and being able to ask for academic advice (LBVT student)

The ability to ask questions about any aspect of uni (LBSP student)

- Environment

Allowing the opportunity to express your opinions, ask questions in a setting that was relaxed. Also getting to interact on a more personal level helps you feel more connected (LBVT student)

Opportunity to chat about any uni related things without the pressure of a formal requested meeting or counselling session. Didn't have to have something to ask but rather could think of things while I was in the session (LBSP student)

As for SSBS improvements, most comments relating to SSBS improvements revolved around communication deficiencies, but some students indicated that having an academic buddy relevant to their area of study would have been more beneficial. Example comments were:

- Relationship

Continue choosing the correct staff (LBVT student)

Having a buddy directly linked to the program you are undertaking (LBSP student)

- Relevant Information

Possibly more structured questions (LBVT student)

- Communication (attendance)

I have heard mid-year entry students comment that they would have liked the opportunity to participate in the buddy system too (LBVT student)

Ensure that the teaching buddy sends out emails for meeting times (LBSP student)

- Environment

More free coffee (LBVT student)

More people at the sessions (LBSP student)

Additionally, students commented that they liked the SSBS, could see the value of it and would have liked it to continue into subsequent years. Example comments were:

I really enjoyed the SSBS program (LBVT student)

ive been at uni before, its less useful for me. It would be great for a first time student (LBVT student)

Thanks! (LBVT student)

To continue the buddy program throughout the whole degree. Also for students to select who they would like their buddy to be (LBVT student)

Overall a great initiative (LBVT student)

Quantitative

Building on the qualitative results, an analysis on the students' GPA was conducted to determine if the SSBS program had statistically significant impact quantitatively relative to GPA. The results investigate the GPA and a comparison for the two programs per study period, then by analysing the average overall performance of the groups at the end of their program. The quantitative results finish by presenting the comparison between retention rates of students in each program and whether they participated in the SSBS.

GPA

The first main result statistically proved that in the first five study periods (years 1 & 2) LBVT students who participated in the SSBS, on average, concluded the study period with a higher GPA compared to students who did not participate. However, the two groups in LBVT in the last study

period overlap and there is not enough statistical evidence to conclude that the average GPA at the end of the program has neither increased nor differed. It could be hypothesised that the SSBS acted as an effective intervention and transition scheme to help students achieve a higher GPA (increased performance) in the short term (years 1 & 2), while the other students had a slower transition period to getting acquainted with university life. This supports the theory of Tinto (2004) mentioned earlier in the literature review. In summary, this has proven in everyday language that the SSBS program has caused positive impacts on transition and GPA. Table 5 below provides a summary of the statistical results which led to these conclusions, and the full table can be found in Appendix C Table A1.

Table 5

Summary of statistical results of GPA analysis

Program Comparison	Study Period 1	Study Period 2	Study Period 3	Study Period 4	Study Period 5	Study Period 6
LBVT Verdict $\frac{GPA_{YES}}{GPA_{NO}} >$	True	True	True	True	True	False
	p-value<0.05	p-value<0.05	p-value<0.05	p-value<0.05	p-value<0.05	p-value>0.05
LBSP Verdict $\frac{GPA_{YES}}{GPA_{NO}} >$	True	True	False	False	False	False
	p-value<0.05	p-value<0.05	p-value>0.05	p-value>0.05	p-value>0.05	p-value>0.05

The results below (Figures 5 and 6) illustrate the possible 95% confidence (estimation) intervals for the true population average GPA for each program and whether they participated in the SSBS. Visually, the results convey the statistical hypothesis tests and that LBVT ‘Yes’ students performed better (higher GPA) every study period until they finished in their last study period compared to the students in LBVT ‘No’. Also, the LBSP ‘Yes’ students statistically performed better (higher GPA) on average only in year 1 of study compared to the LBSP ‘No’ students. These intervals were constructed using a t-distribution and only perform as a guide and illustration of the results.

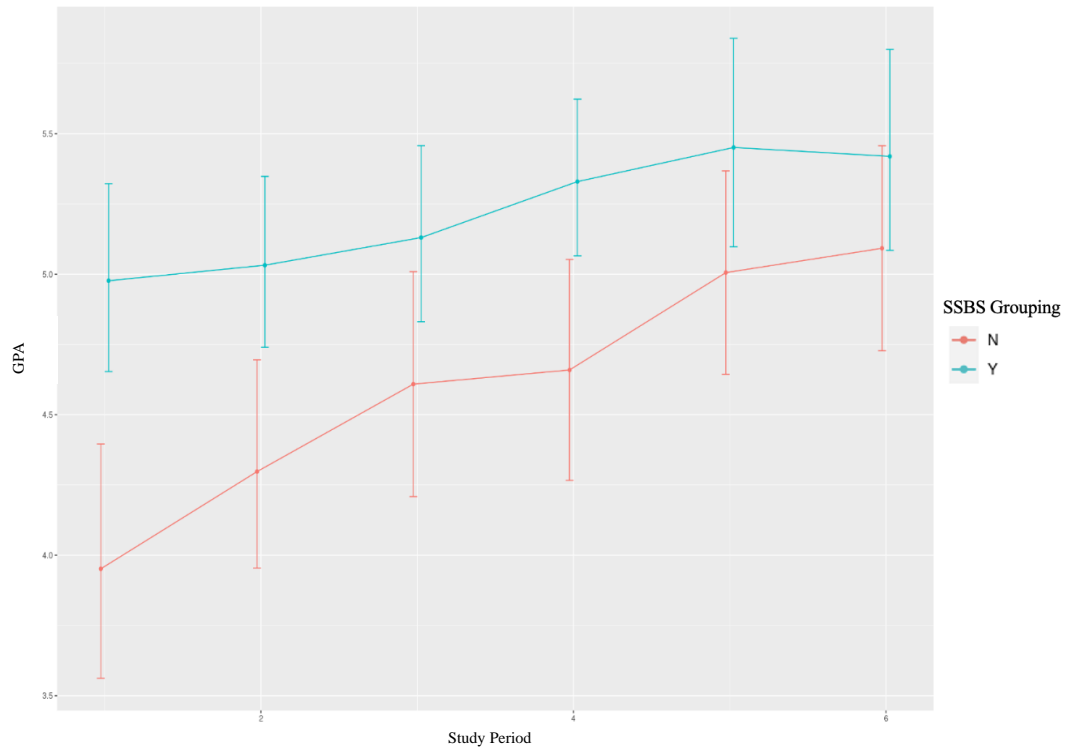


Figure 5:
Analysis of GPA of students in the LBVT Program group

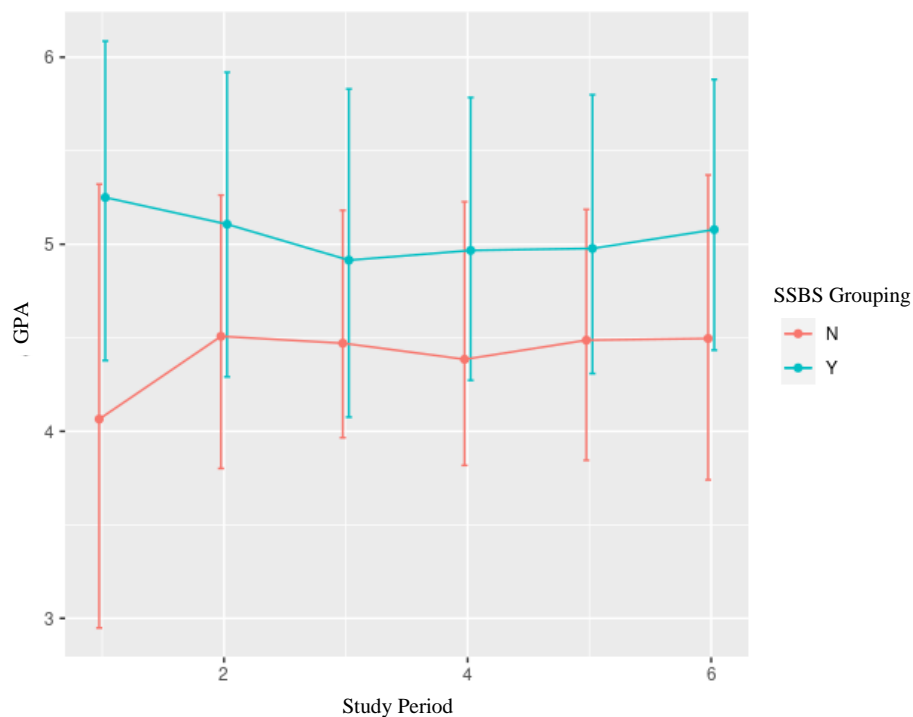


Figure 6:

Analysis of GPA of students in the LBSP Program group

In addition, a more robust test was performed as indicated in the methods on the LBVT group resulting in reinforcing the same verdict and decision. The summary of the results from Appendix C Table A2 are presented below (Table 6).

Table 6

Summary of non-parametric analysis of GPA outcomes for students in the LBVT program group

Program LBVT	Study Period 1	Study Period 2	Study Period 3	Study Period 4	Study Period 5	Study Period 6
LBVT Evidence (Non-parametric Mann-Whitney)	p-value<0.01	p-value<0.01	p-value<0.01	p-value<0.01	p-value<0.05	p-value>0.05
Verdict						
$\overline{GPA}_{YES} > \overline{GPA}_{NO}$	True	True	True	True	True	False

The second main result in investigating whether the averages of GPA across the whole LBVT program revealed an increase in the average GPA by students undertaking SSBS. The statistical test applied was a non-parametric for robustness, Signed Rank Test. Moreover, this was excessive because in the exploratory analysis, the datasets (n=6) and difference were statistically concluded to have come from Normal distributions. Table 7 below indicates that the two groups overall on average are different, moreover, there is enough statistical evidence to conclude that the ‘Yes’ group performed better in both the LBSP and LBVT programs.

Table 7*Overall Statistical Results for the Programs*

Programs	Evidence from Signed Rank Test	Verdict
LBSP	V=21, p-value=0.01563	$\overline{GPA Yes} > \overline{GPA No}$
LBVT	V=21, p-value=0.01563	$\overline{GPA Yes} > \overline{GPA No}$

Retention Rates

The following results present the retention rates per program and breakdown of whether students participated in the SSBS during the first year transition period. Anecdotally, most programs, commonly incur a decrease in students in their studies and in particular their first-year cohort, the goal here was to draw an insight that the SSBS program has a higher retention rate at the beginning of the program. Table 8 below indicates the retention rate as a relative percentage only at the initial stages of the programs. The calculation is based on

$$Rate = \frac{(Study\ Period(2) - Study\ Period(1))}{Study\ Period(1)} \times 100.$$

Table 8*Transition Retention Rates for First Semester*

Program/ SSBS	Study Period 2
LBSP/Y	0%
LBSP/N	-10.00%
LBVT/Y	-6.17%
LBVT/N	-17.10%

Discussion

The results overall have provided significant and positive insights into the performance of the SSBS. In this section, a combined discussion intertwining both the qualitative and quantitative results is presented and how both support and align positively to help students learn and tackle the transition into university life.

From a demographic stance, out of the 165 students, the ratio of approximately 1:4.9 (LBVT 137 students; LBSP 28 students) was slightly less compared to the ratio for student respondents to the survey 1:2.75 (LBVT 44 students; LBSP 16 students). The age of students is relatively similar in both groups. The typical age for LBSP students in their first year is around 19 and 19.5-20 for LBVT students. However, the gender ratio is different for both groups – there is only one female to 27 males in LBSP, yet 4 females to 5 males in LBVT. The gender of survey respondents followed a similar trajectory to the overall students in that there were more males than females, and it could be argued that this was biased toward males due to the LBSP career path into land surveying and spatial science which has an industry percentage of 13% females: 87% males (BIS Oxford Economics, 2019). The students' home locations were plotted on the map and by using an average straight-line distance between the centre of their postcode areas and the UniSA Mawson Lakes campus revealed that on average LBVT students lived slightly closer to campus than LBSP students did. This could somewhat dispel an argument that the closer a student is to campus they are more likely to engage for, as previously discussed, LBSP students seemed to be the more engaged cohorts. Indeed, such increased student engagement could relate to LBSP students coming from the more socio-economically advantageous areas of Adelaide's central and southern regions which could precipitate better transport options and because LBSP had a more focussed profession and career outcome. However, these are just indications, as the precise location of the students' homes were not supplied, nor their means and direction of transport.

In the initial study periods when students were entering university and transitioning, the data gave insights into the retention percentages, and their comparison between the programs and the students who participated in SSBS. It indicated that students were less likely to change or drop their programs if they participated in the SSBS. It could be argued that the high retention rate for LBSP students related to more engaged students which could reflect the assertion of Kolb (1984) that students need to be receptive to help. This could be reinforced further, as more of the LBSP students considered themselves school leavers (87.5%) that had a definite career pathway, rather than a slightly more mature LBVT cohort that only had 55% school leavers. However, regardless of first year entry status, both programs did exert a vast majority of full-time attendance at university (combined 97%). Therefore, both cohorts could be seen to be engaged for attendance, albeit the younger and smaller LBSP cohort a little more.

With regard to the respondents, both programs had a similar participation rate in SSBS tending towards two thirds of respondents. This was an interesting percentage as it would seem that even though those that didn't anticipate in SSBS felt that they could be heard by completing the SSBS survey – possibly bestowing a feeling of belonging perhaps and/ or missed opportunity. The latter could reflect comments of respondents who did not participate in the SSBS in that communication was an overwhelming reason as to why they didn't attend ranging from an indication of a lost opportunity, given comments such as a LBVT student who indicated that if they had known about it, they would have participated, through to not being able to synchronise calendars, to being shy. Lessons for the EGS discipline would be to communicate more regularly and be proactive in engaging students, possibly through more face-to-face opportunities rather than relying on email. In

creating effective communication links, students may feel that they belong more and consequently avoid feeling rejected which can lead to student attrition (O’Keeffe,2013). Building on the [lack of] communication theme, this may have contributed to the less than full take up of the four sessions offered, which is a shame as when meetings did take place they lasted for 36 minutes on average which could be an indication of healthy and useful conversations, a viewpoint reinforced by the vast majority of students who deemed that length of meeting to be about right and thus endorsing Mascarenhas et al. (2019) view that the number of meetings should be more than 1-2. LBVT students had longer meetings than LBSP students, which may also reflect the slightly more youthful and analytical nature of the LBSP students who may have had more focussed conversations given their known land surveying career trajectory whereas LBVT may need to explore their options more. Both cohorts preferred the more informal approach to the meetings, which is reassuring for the SSBS project as this was a fundamental difference (and risk) between SSBS and Macquarie University’s ‘First Step’. The general idea of meeting in cafés for a drink probably added to this as well. Thus, it would seem SSBS was successful at leveraging a connection and a sense of belonging from the social aspect as well as the pure academic. This doesn’t equate to one being of more use than the other, just that both approaches appear to work. Nevertheless, this perceived positiveness of the meetings could reflect the notion of Kuh et al. (2005) that students being positively engaged can be enhanced with academic advising and faculty-student interactions and as Sandner (2015) suggested the mentor can impart information that the mentee may not be aware of or have ignored.

This led into analysing the GPA of the cohort of students, overall, whose who participated in SSBS on average statistically achieved a higher GPA in their first year of either program enrolled in. The larger cohort of students in LBVT, achieved on average, a higher GPA until the very end of their program. The students in the LBSP program who participated statistically presented a higher GPA in their first year and provides evidence supporting the program being effective in transition. In general, this indicates that SSBS was successful in at least the initial stages of student program life measured by their GPA. In addition, this aligns with the positive qualitative feedback and appears to help students settle in, value and provide confidence to them in their studies. Furthermore, these positive results align with the theory from Tinto (2004) that such an invention process improves the behaviour, attitude and performance in students early on. This naturally leads on to further analytical research questions to statistically analyse these factors of confidence, motivation, value and anxiety which were not investigated, and linked to performance and the interaction between the factors, suggesting this can be done in the next study. These questions of behaviour could be measured over the first year of the program and linked to GPA as well.

The flexible, interactive and flourishing nature of SSBS was reflected too in the Likert responses where all students indicated that their confidence grew and they felt at ease with asking and directing the conversations, thus possibly alleviating the concerns expressed by O’Shea (2015) that students sometimes have feelings of negativity, fear and self-doubt. Even though the students appreciated the more relaxed and informal approach and the ability to grasp non-academic information, they didn’t forego the opportunity to enquire further about their chosen program and consequently garnered an increasing interest in their studies. In doing so, it could be argued SSBS helped to ease the concern of Kantanis (2000) that students can often experience confusion about expectations and undertakings. Furthermore, having the academic provide such information underpins Potter and Parkinson (2010) belief that academics are the ones that can provide the targeted information needed to help students develop the sense of realism of what is about to occur and how to best position themselves for success. This approach seems to add further credence to Tinto’s view that a combination of social and academic is advantageous for student continuity at college. The only real diversion in the responses between LBVT and LBSP were to do with the understanding of the university and the career portfolio. Again, it could be argued that this may be due to LBSP students

already having a specific career goal (indeed many LBSP students find gainful employment in the land surveying industry during their universities studies), and thus their interest in wider university happenings maybe not be as great as LBVT students. Finally, all respondents endorsed SSBS without any respondents disagreeing with it, moreover, they would recommend it to other students.

The open-ended questions continued the encouraging response to SSBS with most respondents valuing the approachable nature of the relationship with the academics, thus reflecting the suggestion from Larmar and Ingamells (2010) that fostering such relations leads to better engagement, and then in equal amounts the relevant information gained in the informal environments. Not surprisingly, there is always room for improvement, and students reinforced the assertion of Mascarenhas et al. (2019) that indicated it may be more advantageous to have an academic that is directly involved with the student's learning area, rather than as happened in SSBS being randomly assigned LBSP and LBVT academic and that communications with students are followed up to ensure that they have been received and acted upon, i.e. to either accept the invitation for a buddy or not. The positiveness was extended with comments relating to extending SSBS to mid-year entrants and then to keep it going through the entirety of the degree programs.

Conclusion

The SSBS was created to aid the successful integration of all first year LBVT and LBSP students into university through personalising their initial experiences by meeting with an academic four times per year in an informal setting such as a café. It was hoped that this would make students feel they belonged, be comfortable in the university environment and know more about how to make the most of their time and thus successfully complete their program. To achieve this, literature pointed towards developing a sense of student belonging, having a balanced academic and social approach and regular academic involvement. As Kift (2008) concluded, such interventions are 'everyone's business' (p. 20). Furthermore, the conclusions drawn here are scalable given Kift's 3rd generation transition pedagogy (2010).

The analysis of both the qualitative and quantitative data formed a series of conclusions regarding the SSBS. Three key statistically proven conclusions were discovered with a 5% level of significance. There was enough statistical evidence to conclude the average GPA of students in the LBSP program who participated in the SSBS performed better in their first year of study compared to the students who did not participate. The statistical evidence was stronger in the LBVT program where on average, students who participated in the SSBS performed better in every study period except for the last term compared to the students who did not participate.. Furthermore, it was concluded that the SSBS had an initial impact of improving GPA in students in transition, however, the remainder of the students did perform, on average, the same by the end of their programs. Thirdly, there was enough statistical evidence to conclude the average GPA of students in both LBVT and LBSP who participated in the SSBS performed higher overall throughout their program than the students who did not participate.

The data concluded that the students found the SSBS useful, as many participated in SSBS and, in doing so, echoed the stance of Kolb (1984) that 'students have to be receptive to such help'. Students enjoyed the informal manner of the SSBS that allowed them to confidently interact with staff and ask questions. Students specifically highlighted the extra support that the SSBS provided through comments such as, 'I valued the ability to ask questions about any aspect of uni'; 'it was great to

have a chat in an informal manner about various issues and positive aspects of courses'; and 'I appreciated being able to ask questions face to face, especially since the teachers in the buddy system were ones teaching us during the year'.

The initial retention percentages in each program for transition were different. However, retention of students in both programs who participated in the SSBS was higher than students who did not participate. This gives further support to Caballero's (2020) belief that academics are key to student retention. However, the data combined with the GPA trajectories also suggested that to improve retention even further, the EGS discipline should consider extending the duration of the SSBS to the whole program. In addition, the LBVT students benefited slightly more from the SSBS than LBSP students, so in any possible expansion of the SSBS, it would be worthwhile assessing program retention rates to maximise benefit.

Furthermore, a key learning for increased uptake was that communication with students needed to be improved to the point where an actual response to participate was determined/ actioned. Additionally, there was a feeling that it would be more beneficial to align academics with student learning areas rather than a randomly assigned approach.

Overall, it appears that the SSBS has had a positive effect in several areas, but there is still work to do. In its current state the SSBS did engender pastoral care, it provided a tailored system for students and, most importantly, it established the connection that led to a culture of partnership between academics and students.

Acknowledgments

The authors would like to thank Jackie O'Flaherty, Bev Kokkin & Jyothi Thalluri for allowing their UniSA Study Buddy Support handbook to be adapted for use as a supporting tool for staff in SSBS. In addition, we would also like to thank all the SSBS staff and student participants, as well as Jack Rye for assistance in quantitative data analysis.

Appendix A

Staff Student Buddy System (SSBS) Evaluation

General

1. Please indicate which program you are studying
2. Do you consider yourself a traditional first-year student (e.g. did you complete Year 12 within the last 2 years)?
3. Are you studying full time (at least 3 courses per Study Period)?
4. Please identify your gender:
5. Please enter your postcode:
6. Did you participate in a Staff-Student Buddy System (SSBS) session during 201X?
7. Only if you answered no to Qu. 6, please describe why you decided not to participate.
8. How many sessions did you attend?
9. How long were the sessions?
10. Did you feel that the time spent during each session was appropriate?
11. Did you find the informal approach to the sessions appropriate or would you have preferred a more structured approach?

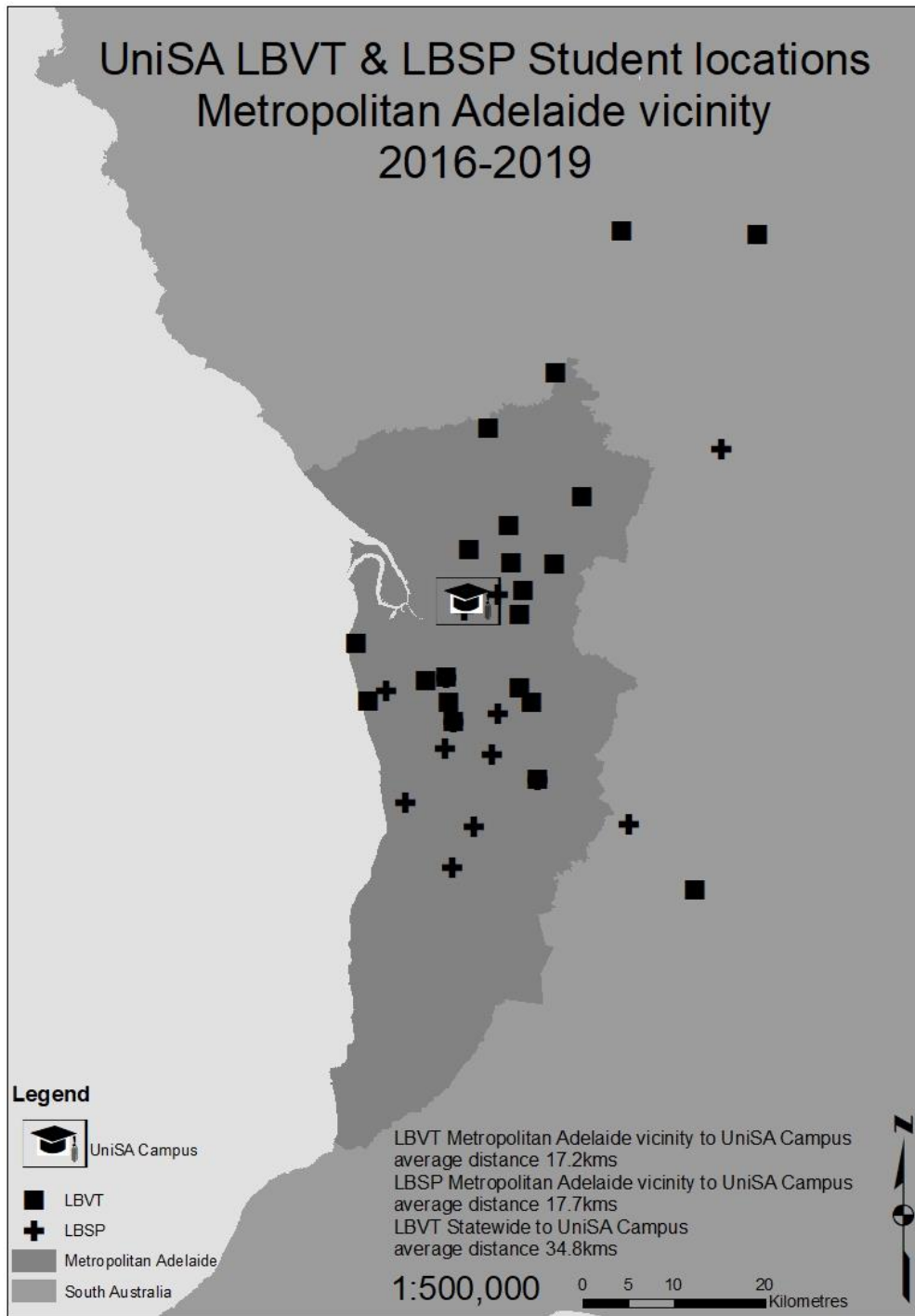
Likert

12. The sessions gave me confidence to interact with staff and ask questions.
13. I had the opportunity to guide the discussion in my sessions.
14. The sessions provided extra support with academic and with non-academic matter
15. The sessions increased my interest my program.
16. The sessions enhanced my understanding of broader opportunities around the University.
17. The sessions enhanced my understanding of opportunities to build my career portfolio.
18. Overall, I was satisfied with my buddy.
19. I would recommend the SSBS sessions to other students.

Opened-ended

20. The best things about my SSBS sessions were:
21. Something that I think would improve future SSBS offerings is:
22. Additional comments:

Appendix B



Appendix C

Table A1

Statistical Evidence for the LBVT and LBSP Programs

Program Comparison	Study Period 1	Study Period 2	Study Period 3	Study Period 4	Study Period 5	Study Period 6
LBVT Evidence $\frac{GPA_{YES}}{GPA_{NO}} >$	t= 3.7608, df =145.96, p-value = 0.0001223	t= 2.9943, df=126.54, p-value = 0.001655	t=2.1196, df=85.127, p-value = 0.01848	t=2.8724, df =70.037, p-value = 0.002694	t=1.8193, df=63.753, p-value = 0.03678	t = 1.4024, df = 57.6, p-value = 0.8308
Verdict for LBVT	True	True	True	True	True	False
LBSP Evidence $\frac{GPA_{YES}}{GPA_{NO}} >$	W = 113.5, p-value = 0.02235	W = 101, p-value = 0.03463	W = 81.5, p-value = 0.153	W = 77, p-value = 0.1083	W = 67, p-value = 0.1506	W = 69, p-value = 0.1191
Verdict for LBSP	True	True	False	False	False	False

Table A2

Non-parametric test data for LBVT Program Group

Program LBVT	Study Period 1	Study Period 2	Study Period 3	Study Period 4	Study Period 5	Study Period 6
LBVT Evidence (Non-parametric Mann-Whitney) $\frac{GPA_{YES}}{GPA_{NO}} >$	W = 4203, p-value= 3.842e-05	W = 3139, p-value= 0.0008145	W = 1650, p-value= 0.00404	W = 1246.5, p-value = 0.001813	W = 714, p-value = 0.0125	W = 558, p-value =0.05153

Verdict for True True True True True False
LBVT

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