

CREATING PATHWAYS FOR STUDENT SUCCESS

Peer
learning,
engagement
and
success

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Executive summary

Most, if not all, higher education institutions in South Africa have implemented some form of peer learning to complement students' teaching and learning experience. Even though the body of knowledge has been growing steadily in support of peer learning, the true value and potential of this resource's contribution to current students' success is not adequately emphasised. This report provides national data from the South African Survey of Student Engagement (SASSE), as well as data from the Academic Tutorial Excellence (A_STEP) programme at the University of the Free State (UFS) to provide evidence of the potential of tutorials, and the impact they can have on student success.

Some of the main findings include:

- **Nationally, around two thirds of students are participating in some form of peer learning.**
This finding highlights the important role that creating peer learning spaces and opportunities plays in the learning of today's students.
- **Students who participate in peer learning are more engaged.**
Student engagement refers to the interplay between students' participation in effective educational practices and the extent to which institutions are creating opportunities for students to participate in such practices (Kuh, 2001). The national SASSE data show that students who participate in peer learning are more engaged in all student engagement indicators measured.
- **Students who participate in peer learning have better relationships with everyone in university contexts.**
This is particularly the case with academic staff (including peer facilitators or tutors, and lecturers). This finding is important considering the negative impact the #MustFall protests have had on institutional relationships (Carnegie Corporation of New York, 2018).
- **Students who participate in peer learning report heightened development of certain skills throughout their time in higher education.**
These include graduate attributes, such as writing effectively, developing work-related skills, developing a personal code of ethics, developing a sense of citizenship, and working with diverse others, among others.
- **Students who participate in peer learning report 10% more development of the ability to work effectively with others, and almost 30% more participation in group work related to completing assignments or projects.**
- **When compared to students who do not participate in peer learning, more than double the number of students who participate in peer learning also consult with academic advisors and act as peer facilitators themselves.**
- **The majority of students who attend tutorials at the UFS have lower to average Admission Point scores.**
The UFS data show that the majority of students attending tutorials are frequently those who might need it most. In addition, for the most part, these students outperform those who never attend tutorials.



- **The more tutorials students attend, the better they perform – even if initial academic achievement is taken into account. However, for some programmes, academic potential matters and tutorials should be designed with that in mind.**
- **Empirically confirmed characteristics of tutorials that benefit all students regardless of their Admission Point scores are:**
 - The tutorial content is considered relevant to the broader module content;
 - Tutors treat all students respectfully and equally;
 - Feedback on assessments is covered in tutorial sessions;
 - Students ask questions or participate in tutorial discussions; and
 - A class environment that helps students to learn.
- **Acting as a peer tutor or facilitator could contribute significantly to the development of valuable graduate attributes.**

Some of the skills acquired by tutors in the A_STEP programme include:

- Interpersonal skills (learning to effectively communicate, use verbal and written language effectively, and being patient with others);
- Developing work-related skills (how to be professional, taking responsibility, awareness of ethics, flexibility, accepting criticism, increased creativity and thinking outside the box, problem-solving skills, being prepared, public speaking, being a lifelong learner, and being accountable);
- Developing self-confidence;
- Developing an appreciation for seeing development in others; and
- Learning how gaining knowledge works for the students but also for themselves as they develop broader subject knowledge through engaging with the work differently.

1 Introduction



The Creating pathways for student success report series aims to share practices impacting student engagement and success. Of particular interest is the contribution to a body of evidence on 'what works' in South African higher education contexts. The second publication in this series is about peer learning and its relationship with student engagement and success.

The value of peer learning has been well documented internationally and the knowledge basis in the South African context confirming the importance of this practice is growing fast. In the United States, the significance of peer influence on learning has cumulated into the formation of peer learning as a high-impact practice (Kuh, 2007). Collaborative peer learning and interactions with diverse peers are also recognised as indicators of student engagement. In contextualising the South African Surveys of Student Engagement (SASSE), these forms of peer learning were included in the surveys accordingly. However, this is the first publication delving deeper into the relationship between peer learning as a high-impact practice and indicator of student engagement, and student success.

We draw on a longitudinal national SASSE sample to determine the relationship between participation in peer learning and student engagement. We then move to the institutional context, where we focus on the University of the Free State's (UFS) Academic Student Tutorial Excellence Programme (A_STEP), which has been positioned as a high-impact practice. The report concludes by bringing together what we know about peer learning from these sources and contexts and provides some reflection points for the way forward.

1.1 Peer learning

Peer learning can be defined as 'the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. It involves people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by so doing' (Topping, 2005, p. 631). Peer learning manifests in differentiated forms such as tutoring, supplemental instruction (SI), mentoring, and academic facilitation, among others. These components are often overlapping in their approaches or practices and contextualised peer support often takes on hybrid approaches to cater to the needs of institutions (Topping, 2005). This report focuses on peer learning which takes place in smaller group contexts, namely tutorials or SI.

1.1 Supplemental Instruction

As one of the pioneers in student development, SI started as an academic peer-learning programme to support students in their academic performance, with the aim of improving retention and success particularly for first-generation students in North American higher education (Arendale, 2002). Because of its developmental and learning-centred focus, South African institutions have adopted different variations of SI. The theoretical underpinnings of SI focus on the cognitive development of students and affirm that learning can take place in interactive social spaces that promote active and collaborative learning (Vygotsky, 1978). SI allows for a holistic approach through merging the development of academic skills with disciplinary course content. This holistic approach places less emphasis on delivering information and more on developing students' academic skills, such as creation of conceptual frameworks of how and what to learn, analysis, and synthesis of academic content through collaborative learning. SI facilitators or tutors are trained extensively and programmes are subject to continuous evaluation. Students' attendance is usually voluntary and students are required to be involved in their own learning processes (Dawson, van der Meer, Skalicky & Cowley, 2014).

In addition, SI sessions include information on note-taking, anticipating test questions, vocabulary development, and memorisation techniques, not normally found in other types of study or review sessions. Students build thinking and reasoning skills that embody intellectual maturity. One of SI's goals is to help students formulate and answer questions and so develop a more sophisticated mode of enquiry. When successfully implemented, the SI groups show statistically significant lower rates of dropouts, failures and withdrawals and higher average course grades (Ticknor, Shaw & Howard, 2014). This is why it is considered a high-impact practice.

2 National picture of peer learning and engagement

During the contextualisation process of the SASSE, a consultation process took place where participating institutions were asked to select potential high-impact practices, mainly drawn from those that have proven to contribute to the development of students in other contexts. High-impact practices are termed as such because of the educational benefits they provide to students, thereby making a significant impact on students' development and success (Kuh, 2007). In general, practices or interventions aimed at impacting student learning experiences are being implemented throughout the system. However, the strength of high-impact practices in the student engagement approach lies in the scaling and intentionality of aligning institutional strategies with potential high-impact practices to optimise the educational environment for student learning and development (Loots, Kinzie & Oosthuisen, 2017).

The SASSE asks students whether they have participated or plan to participate in these potential high-impact practices, where 'making use of peer learning (e.g. tutors, mentors, facilitators)' is included in the list.¹

2.1 Extent to which students are making use of peer learning

Figure 1: Participation in peer learning

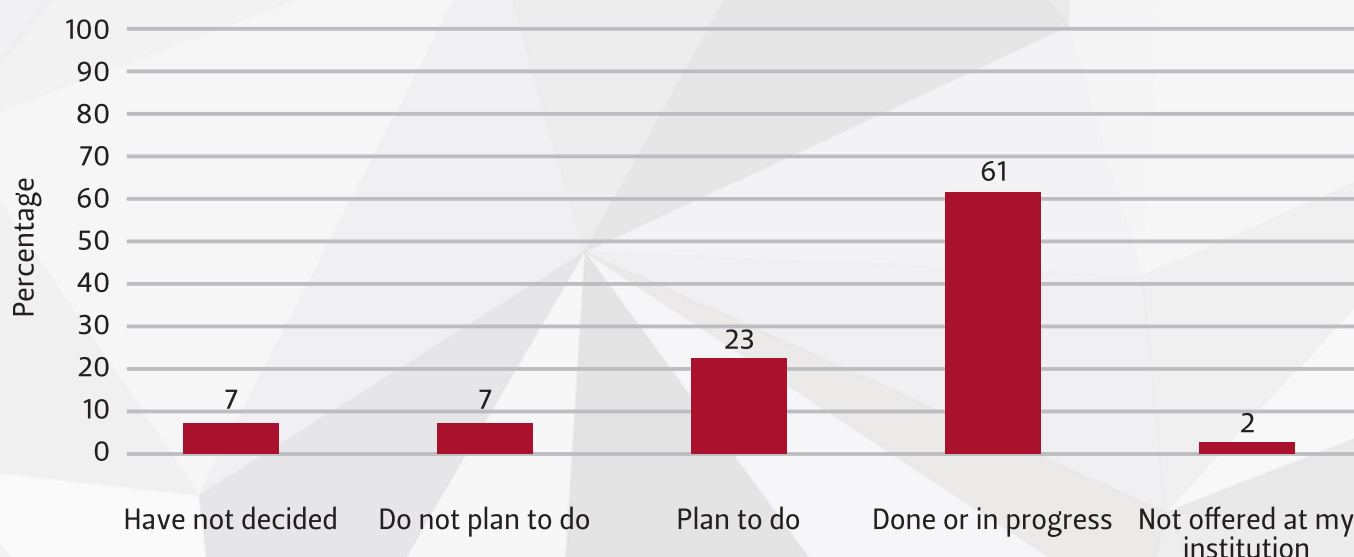
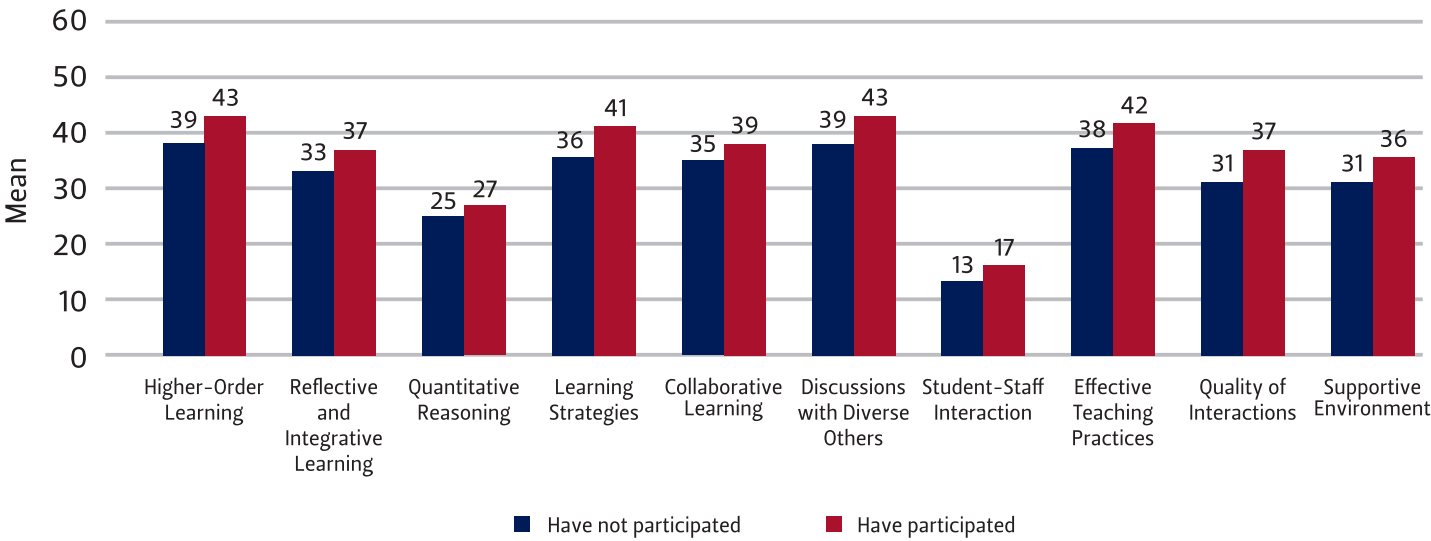


Figure 1 shows that almost two thirds of students have participated in some form of peer learning in their institutions. Just over 20% indicate that they plan to participate, while 7% have either not decided, or do not plan to attend, respectively. Around 2% of students are unaware of such services offered at their institutions.

¹ The national SASSE sample used for these analyses consists of 20 120 undergraduate students from 12 institutions (five traditional, one comprehensive, and six universities of technology) who completed the SASSE between 2015 and 2017.

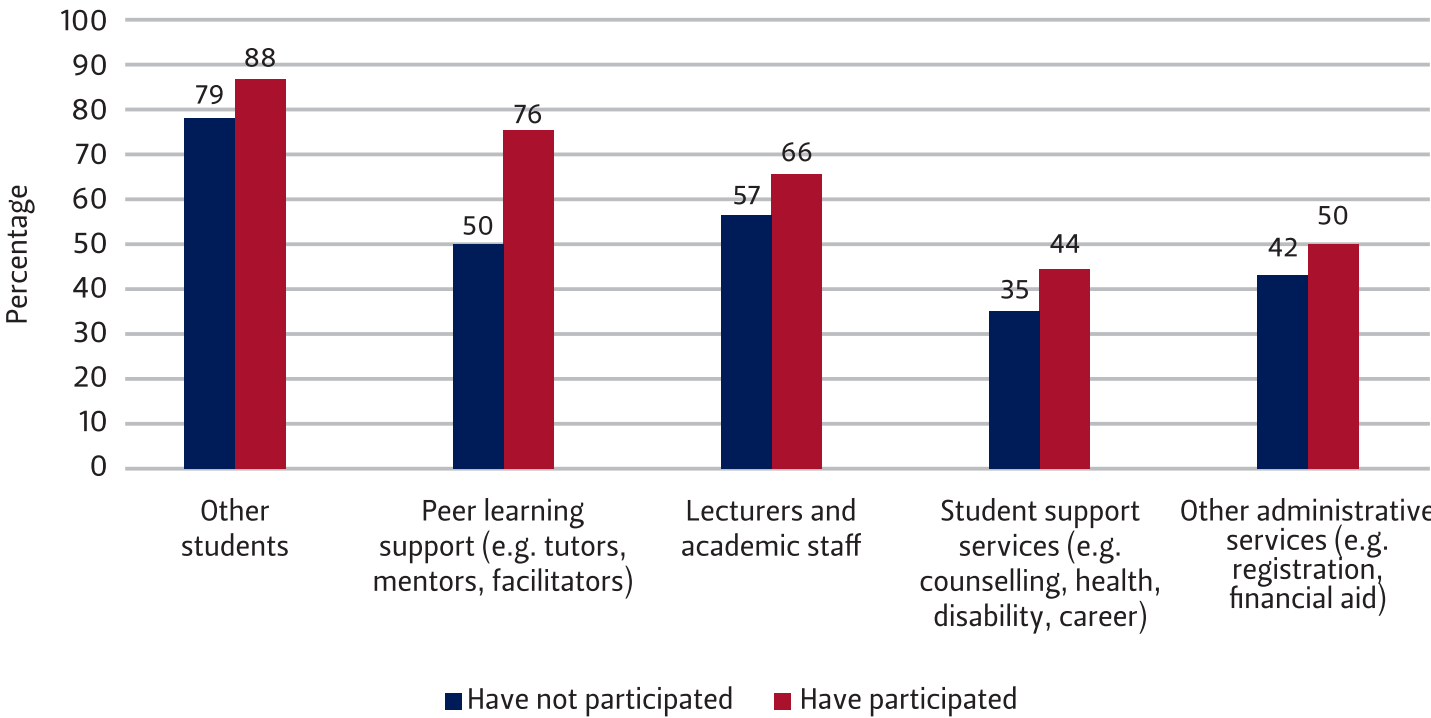
2.2 Difference in engagement of those who have participated in peer learning and those who have not

Figure 2: SASSE indicators



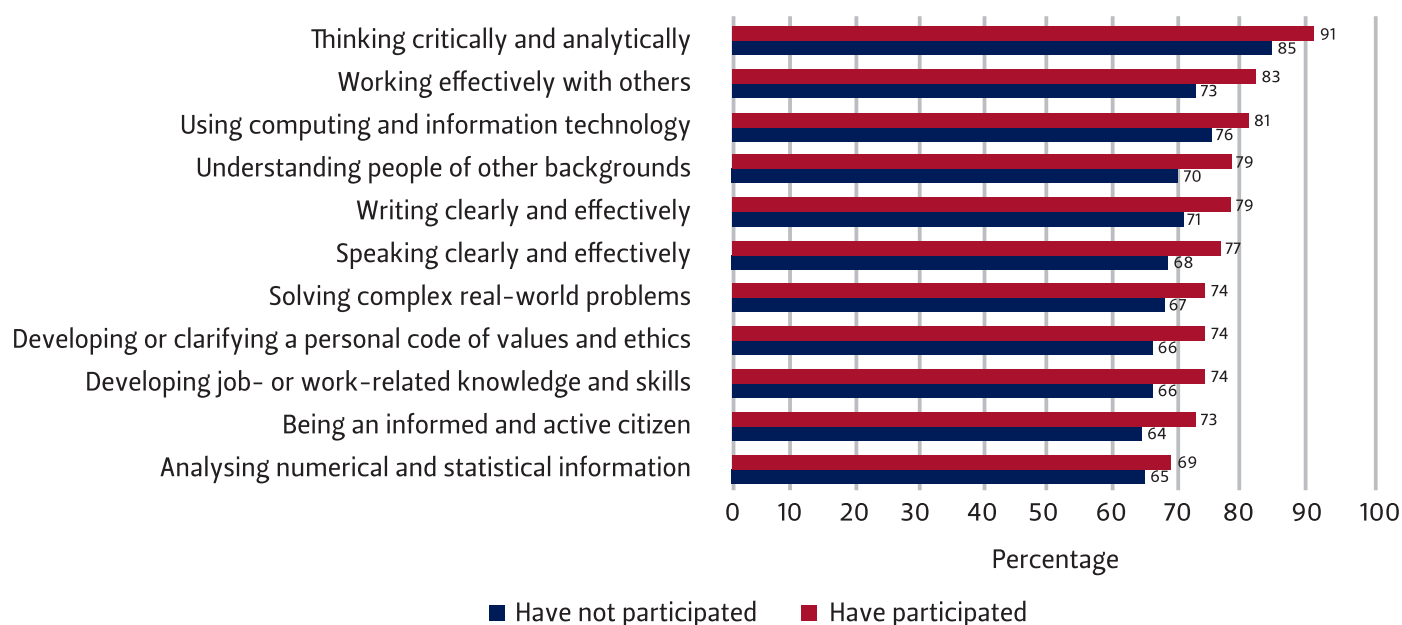
The SASSE measures 10 indicators that have been positively associated with students' engagement. As reflected in Figure 2, students who indicate that they have participated in peer learning show higher engagement in all indicators, with the biggest difference seen in the quality of interactions students experience with their peers, lecturers, and other university staff. This might not indicate the direction of the relationship (e.g. whether students who are more engaged participate more in tutorials or whether those who participate in tutorials are more engaged), but it does clearly indicate a relationship between tutorial attendance and student engagement.

Figure 3: Quality of Interactions



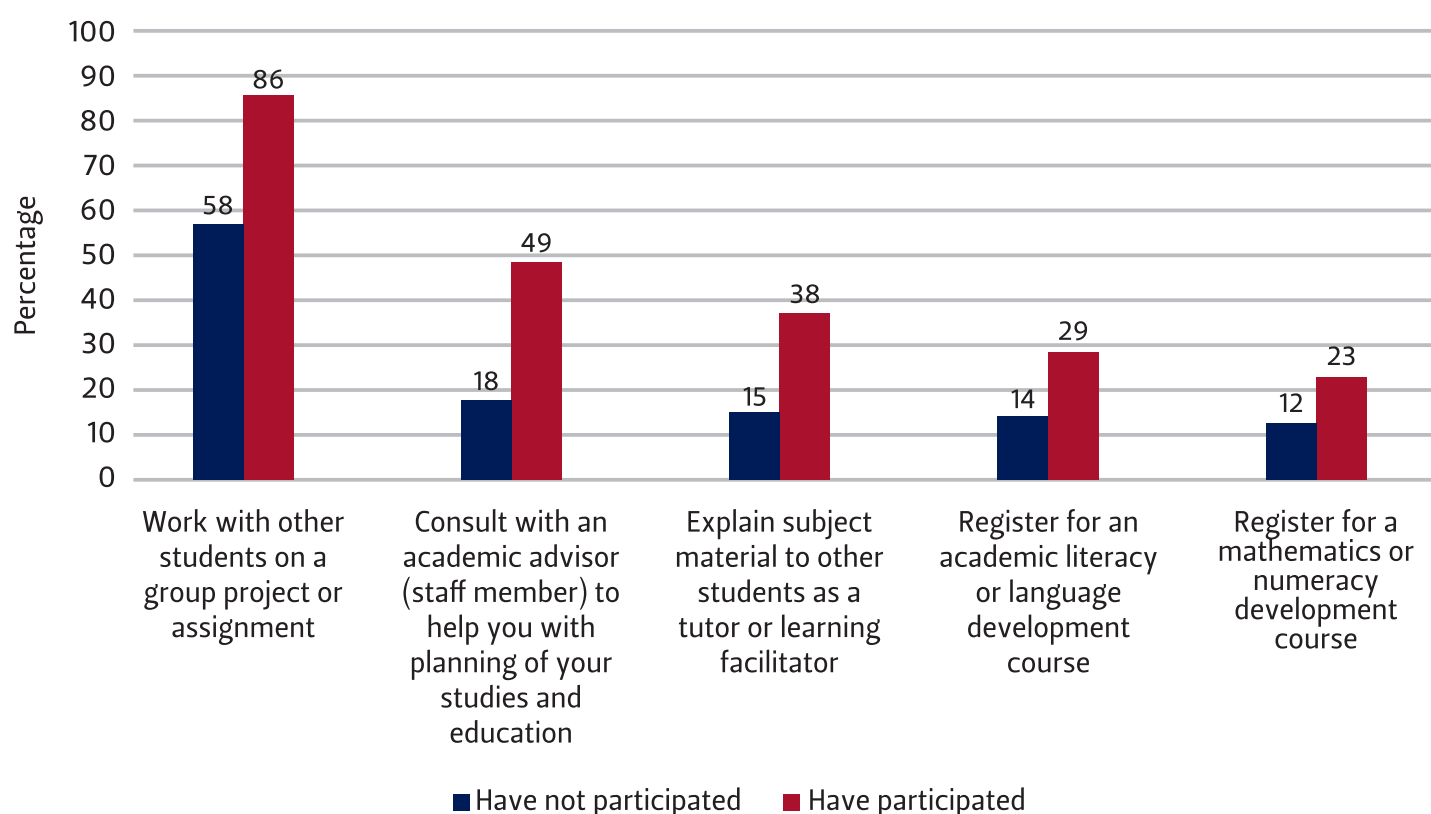
When looking more closely at the Quality of Interactions indicator (Figure 3), there is a 26% difference between students who have participated in peer learning and those who have not in regard to their perceptions of having 'good' or 'excellent' relationships with peers who provide learning support. In addition, those who have participated in peer learning also report having better relationships with other students, lecturers, student support services, as well as administrative staff.

Figure 4: Perceived gains



Students are asked to indicate the extent to which they feel they have developed certain skills during their time in higher education. As Figure 4 shows, students who have participated in peer learning indicate higher levels of development in each of these skills than those who have not participated in peer learning, with the biggest difference of 10% indicated for being able to work effectively with others.

Figure 5: Participation in selected high-impact practices



Students who have participated in peer learning indicate much higher participation rates in other forms of high-impact practices, which is also measured through SASSE (Figure 5). For example, while almost half of these students have consulted with an academic advisor, less than 20% of those who had not participated in peer learning have sought out academic advising. Similarly, students who have engaged in peer learning have engaged almost 30% more in group work, and double the number of these students has worked as peer facilitators themselves.

3 Peer learning and engagement at the University of the Free State

To explore the link between students' engagement, academic achievement, and participation in peer learning, we zero in on how peer learning is making an impact at institutional level. The A_STEP programme at UFS is a learning support activity that facilitates student development and academic success through the use of peer-led, small group tutorials. The programme was established in 2007 with 55 tutors in two faculties and has grown to 348 tutors in seven faculties across the Bloemfontein and QwaQwa campuses. A_STEP is characterised by centralised training, based on internationally benchmarked SI principles, but is contextualised to meet the unique needs of the UFS and can therefore be considered a hybrid model incorporating small group tutorials. Senior undergraduate and postgraduate students are selected and trained with the aim of empowering them with a variety of teaching and learning approaches that are appropriate for the learning needs of the UFS student population. The training focuses on the role of a tutor in creating and facilitating activities to engage students in a shared community that promotes student-to-student interaction in small groups as a way of promoting collaborative learning. This training programme covers a range of topics, such as the role of the tutor; SI strategies; student engagement techniques; discussion as a way of teaching; universal design for learning – tutoring diverse students; the art of communication; blended learning in SI; and academic advising skills for peers. The training plays out in a tutorial session format as a way of modelling the ideal tutorial experience. Tutors work in groups on activities that simulate the tutees' experiences throughout the training programme and receive feedback from staff and their peers. The rationale behind this training and feedback is that the more the tutors and tutees are encouraged to be mutually involved in the process of constructing learning, the deeper the learning experience will be for both.



3.1 The relationship between engagement indicators and A_STEP attendance

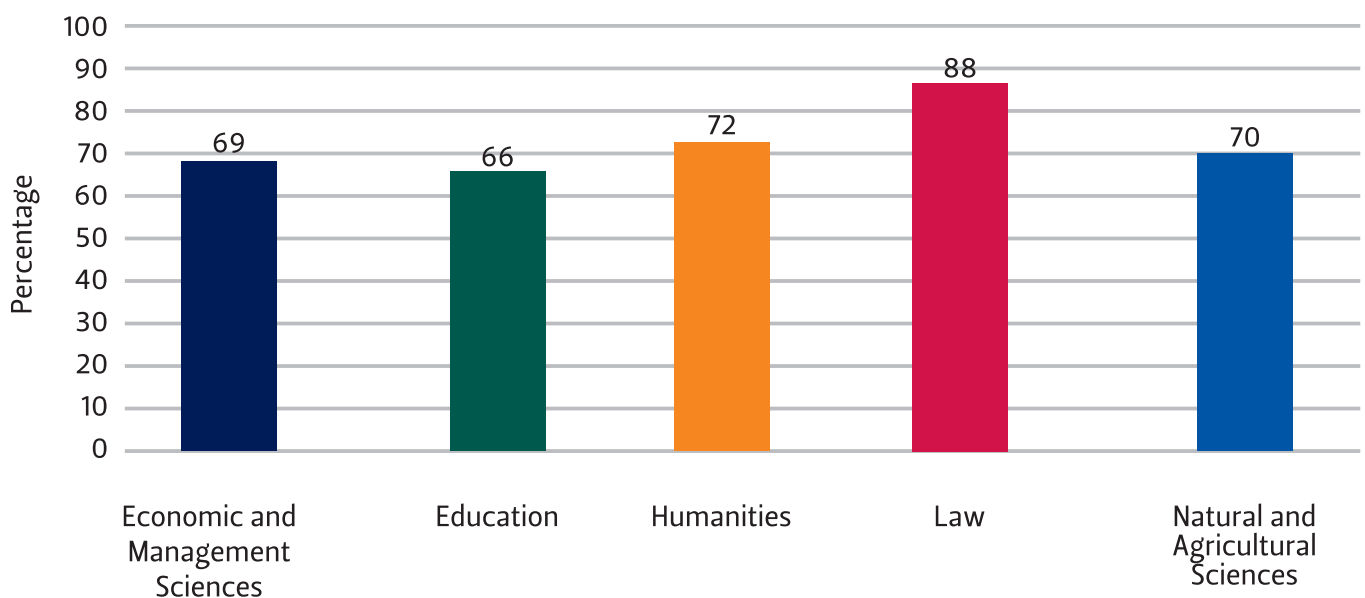
To explore whether there are any significant differences between the engagement indicator scores of those who do not attend tutorials and those who do attend, we combined self-reported SASSE data with A_STEP attendance data. The analysis shows that students who attended 11 or more tutorial sessions across their annual module load report significantly better relationships with other students (including peer tutors), lecturers, support staff, and administrative staff under the indicator for Quality of Interactions.

On an item level, inter-item correlations also reveal significant, yet weak relationships between tutorial attendance and the quality of students' relationships with peer tutors as well as lecturers. Two other items which show significant yet weak relationships include students' engagement in collaborative learning (specifically working with other students on projects or assignments), and often having discussions with people from different racial groups.

3.2 The link between peer learning and student success

While there is a definite link between students' sense of engagement and their participation in peer learning, we need to explore whether peer learning impacts students' academic achievement.

Figure 6: Do students who attend tutorials perform better academically than those who do not?



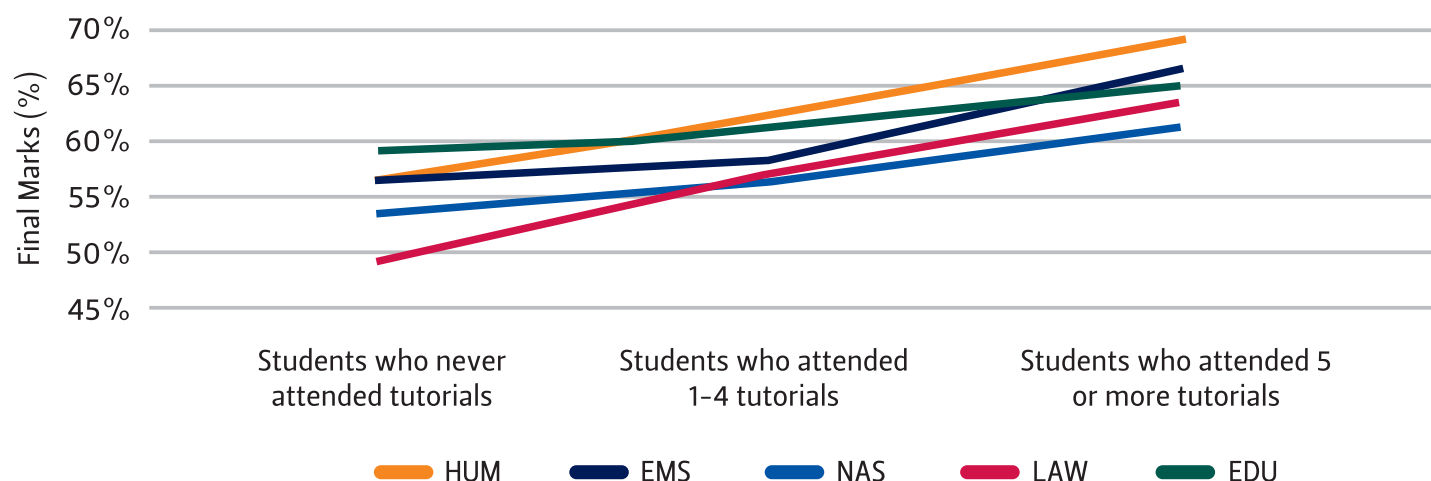
Taking the average marks of students attending tutorials vs. those who do not attend tutorials in almost 500 modules, Figure 6 shows that, in at least two thirds of the modules, students who attend tutorials perform better academically than those who do not. The Law faculty shows the highest number of significant differences, with 88% of their modules showing statistically significant differences in students' academic achievement between those who participate in tutorials and those who do not. In addition, two thirds or more of the modules engaged in the A_STEP programme from the faculties of Economic and Management Sciences, Education, Humanities, and Natural and Agricultural Sciences also show significant differences.³

²Data include 3 781 undergraduate UFS students who completed the SASSE in 2017, of whom 1 722 students had the relevant 2017 tutorial track record for the analysis.

³A_STEP data for this analysis include first and second semester reports of 497 modules from six faculties over three years (2015–2017).

However, knowing that there is a difference in academic achievement between students who attend tutorials and those who do not does not tell us whether the regularity of attendance impacts academic achievement; neither does it consider the possibility that it might be the academically better equipped students who attend tutorials in the first place. Thus, we cannot say for certain yet who benefits from peer learning.

Figure 7: Means of students' final marks against tutorial attendance



When looking at the extent to which the number of tutorials attended impacts on students' academic performance, Figure 7 shows that in all participating faculties, higher participation implies higher academic achievement. The biggest differences in academic achievement are seen in the Law and Humanities faculties (14% and 13% differences respectively).

Figure 8: Relationships between frequency of attendance and academic achievement

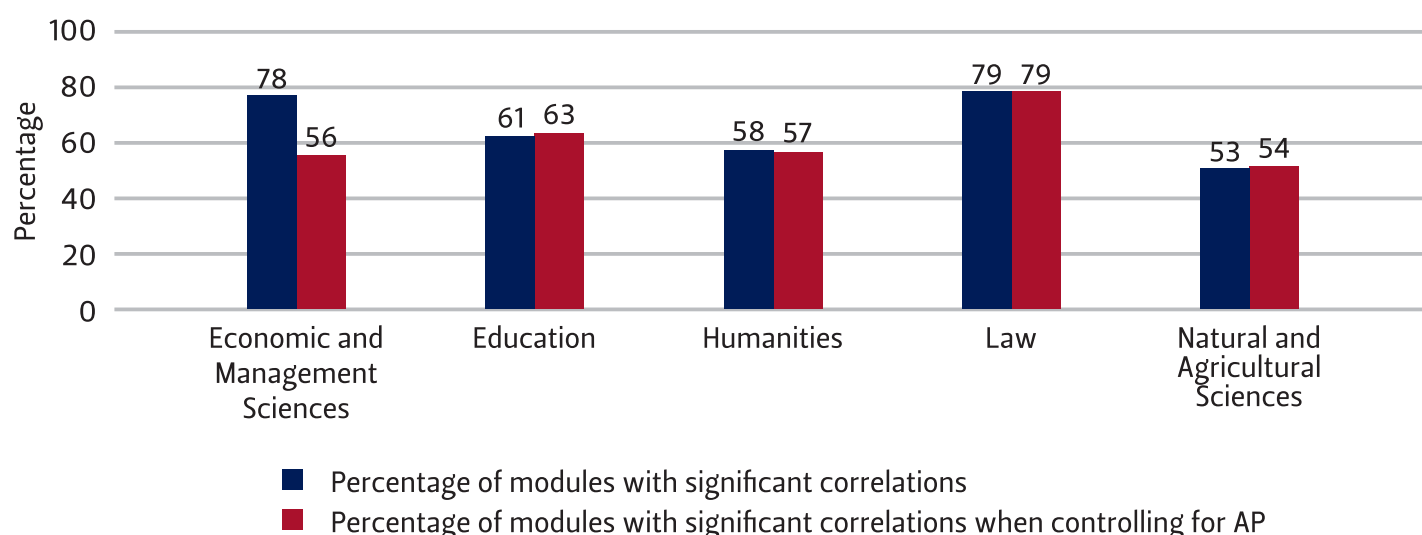
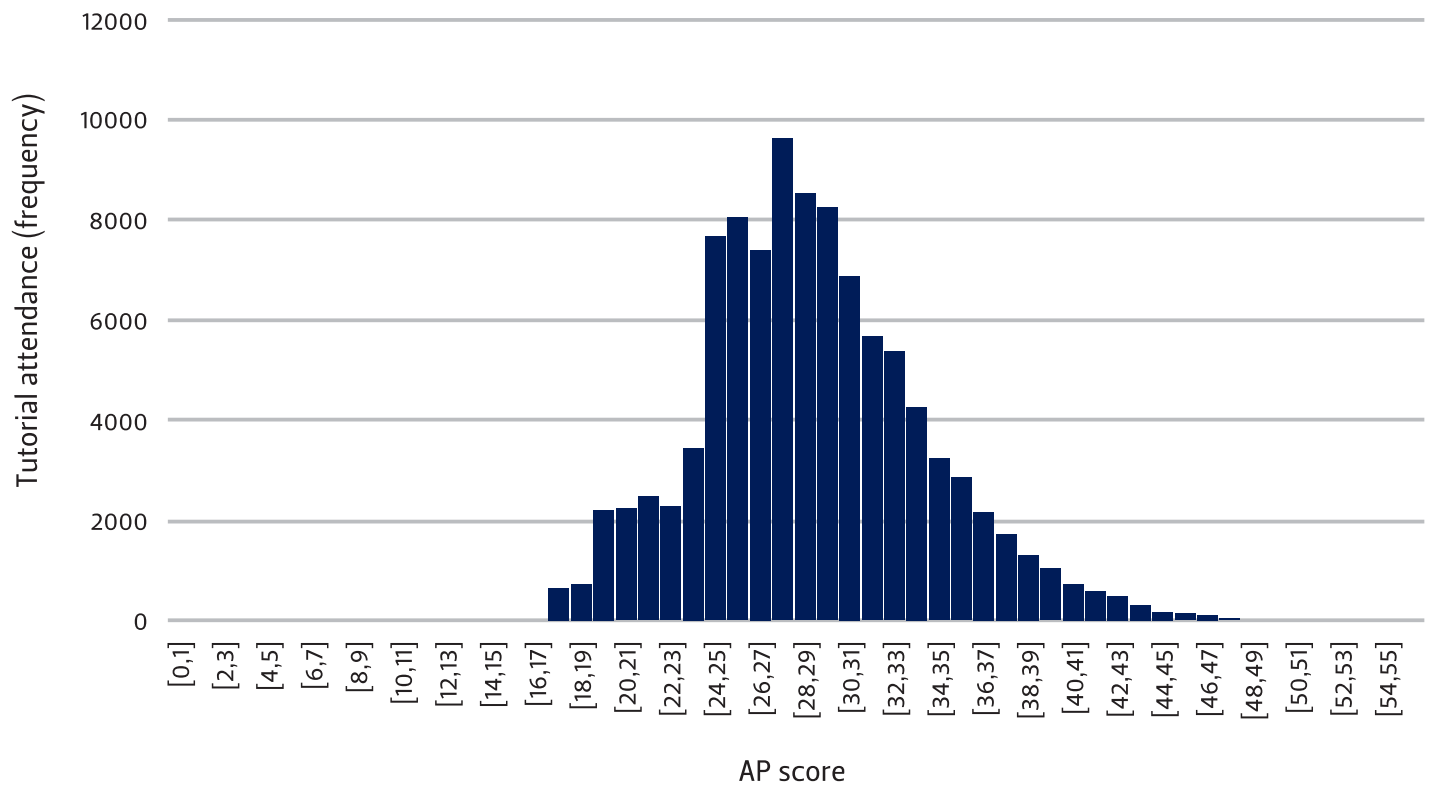


Figure 8 reports two important findings. First, the majority of faculties show statistically significant correlations between the number of tutorials students attended and their academic achievements in the relevant modules. The higher correlations seen in the Faculty of Law could possibly point to discipline-specific influences. For example, while the whole Faculty of Law represents only one discipline, the Faculty of Humanities represents several diverse disciplines, each of which might demand unique requirements from their A_STEP programmes. Secondly, if students' prior academic achievement is taken into account as indicated through their Admission Point (AP) scores, the results do not seem to change much, except for the modules included from the Economic and Management Sciences. For the four faculties not

showing much difference, this finding proves that regardless of students' AP scores, tutorials benefit the majority of students equally. Regarding the difference in Economic and Management Sciences, the vast majority of the modules that were part of this analysis over three years are situated in the Economics department, which might imply that for some programmes, prior academic achievement matters, and that the approach taken to provide peer learning needs to consider this. In general, similar findings have been noted by other authors, who have found that even if previous achievement is taken into account, SI still shows significant benefits for disadvantaged, minority, or non-traditional students (e.g. Buchanan, Valentine & Frizell, 2018; Ticknor et al., 2014; McCarthy, Smuts & Cosser, 1997).

Figure 9: AP vs. tutorial attendance



A common belief is that it is the top performers who attend more tutorials and consequently that it is also this group that benefits most from peer learning. As Figure 9 shows, the students who attend tutorials more frequently have AP scores ranging from 24 to 31. In other words, the majority of these students are enrolled in extended programmes. Attendance gradually declines with increasing AP scores. The majority of students with AP scores less than 24 enter the UFS through the University Access Programme (UAP) and only account for around 10% of students, which possibly contributes to the sharp drop in participation seen in the graph.

Taking this analysis even further, we wanted to explore which aspects of tutorial classes differ in modules where the tutorials seem to benefit everyone (regardless of their AP scores), and in tutorials where AP scores play a bigger role in students' success, as determined through students' self-reported evaluations. Two faculties were used for this analysis, Humanities and Natural and Agricultural Sciences, and statistically significant differences were found in students' experiences of the following:

- the relevance of the tutorial content in relation to the broader module content
- the tutor treated all students respectfully and equally
- feedback of assessments was covered in tutorial sessions
- students asked questions or participated in tutorial discussions; and
- the class environment helped students to learn

These five points stood out in modules where tutorials benefitted everyone regardless of their AP scores and could lay the foundation for further investigations into specific practices or classroom environments that make peer learning optimally beneficial for all students.

3.3 Acting as a peer learning facilitator: What do our tutors develop?

It is not only the recipients of peer learning who are engaged in a high-impact practice, but the value of being a peer facilitator or tutor has also been identified as a potential high-impact practice. To keep track of tutors' own development, they are asked to submit a portfolio after each semester in which they are asked to reflect on their personal development, among other reflection points. Through analysing 77 portfolios from tutors responsible for modules in four faculties, 18 key areas of personal development were highlighted by the students (see Figure 10).

Figure 10: Peer tutors' reflections on their own development



Some of the skills most acquired by tutors in the A-Step programme include:

- interpersonal skills (learning to effectively communicate, use verbal and written language effectively, and being patient with others);
- developing work-related skills (how to be professional, taking responsibility, awareness of ethics, flexibility, accepting criticism, increased creativity and thinking outside the box, problem-solving skills, being prepared, public speaking, being a lifelong learner, and being accountable);
- developing self-confidence;
- developing an appreciation for seeing development in others; and
- learning how gaining knowledge works for the students but also for themselves as they developed a broader subject knowledge through engaging with the work differently.



In addition to the benefits the tutors gain from participating in peer learning, A_STEP plays an important role in enhancing the educational experience of students at the UFS as well as providing clear support to academics in the programmes where they are used. These benefits were summarised by A_STEP stakeholders during an institutional reconceptualization of tutorials workshop in 2016:

- For academics, tutorials:
 - Are a cost-effective way of providing support to all students in a module or programme;
 - Enable the establishment of smaller, less intimidating class sessions;
 - Provide reliable feedback on student progress and problems while the module is being taught; and
 - Limit discrepancies and provide all students with an equal opportunity to gain knowledge and skills.
- For students, tutorials:
 - Bridge the gap between lecturers and themselves;
 - Deepen their understanding of course material;
 - Offer opportunities to tackle learning challenges in a safe, small group environment, while allowing students who are shy to engage with other students in small academically focused groups;
 - Provide access to communities of learning, with both their peers and their tutors, thereby helping to build social cohesion on UFS campuses;
 - Offer exposure to new ideas and different ways of thinking about issues raised in modules;
 - Increase retention and impact on students' self-esteem;
 - Provide exposure to diverse groups of students and a potentially multilingual environment, with – in some cases – opportunities for students to receive at least some tutoring in their home language and thereby contextualise content both in their mother tongue and again in English;
 - Lead to demonstrable improvements in learning performance; and
 - Can be used to give those who are differently abled a sense of belonging and allow them a safe space to build their social skills.

4 Lessons learnt and the way forward



The data shared here point to the potential of a more intentional approach to peer learning which could play a significant role in all students' development and success. While we cannot draw inferences on whether the more engaged students are participating more in peer learning or whether peer learning nurtures student engagement, we can however say with confidence that there is a relationship between students' sense of engagement and their participation in peer learning. The national SASSE data show that students who participate in peer learning have better relationships with others in their institutions. This finding is important considering the negative impact the #MustFall protests have had on institutional relationships (Carnegie Corporation of New York, 2018). Finally, the national SASSE data show that students who participate in peer learning develop more skills required for the workplace – such as working effectively with others or appreciating diversity in others.

We can also claim that, at least in the UFS context, the more students attend tutorials, the more engaged they are and the better they perform academically. The majority of students attending tutorials are not necessarily considered the strongest students academically and might be regarded as those who need additional support. In addition, we see that tutorials impact the majority of these students' academic achievement, regardless of their AP scores. Another important finding is the initial list of five factors students report as contributing to their success in tutorial classes. They include having attentive tutors, learning in engaging environments, receiving feedback in tutorial classes, seeing the relevance of tutorial content in relation to the broader module content, and participating actively in classes. Building on this list is key to identifying what makes peer learning work for all students, regardless of their academic potential, and designing programmes accordingly.

The findings from the institutional tutorial and UFS SASSE data show that more positive relationships are experienced by those who participate in tutorials, more collaborative learning skills are developed, and more interactions with diverse others are reported. This implies that the A_STEP programme plays an important role in providing a peer network which could be foundational to students' learning, development, engagement, and ultimately, success.

The inception of the A_STEP programme provided valuable lessons for designing and implementing a new approach to academic tutorials based on SI and has pointed to possible principles that could underlie a good practice model:

4.1 Contextualising a professional and rigorous approach

We found that SI provided an ideal approach around which to build the A_STEP. Its rigorous and professional approach to training, managing, monitoring and evaluation has created a positive reaction from both students and staff, and has contributed significantly to the development of a new tutorial culture at the UFS. The sound theoretical base of SI has also provided the opportunity to look at how teaching and learning innovations, such as blended learning, can be integrated with SI, and furthermore to use new technologies to support tutors and students. The structure and resources are particularly valuable in providing an example on which contextualised approaches can be built.

In starting a new system it is essential to look at ways in which SI can be contextualised in a specific institution and used to change institutional practices. Building on the SI principle of creating institutional support, we focused on framing the A_STEP approach as something that builds on good practices, adds international practices and aims to replace ineffective, bad practices.

4.2 Positioning peer learning as a high-impact practice

The success of high-impact practices lies in their intentionality. Positioning peer learning as a high-impact practice promotes buy-in and clarity of focus. It is also essential to develop structures that are dedicated to managing tutorials across the institution. Although this is not new in terms of the pure SI approach, this principle is of crucial importance in resource and capacity constrained environments. Without a designated capacity managing and supporting the tutors, it is not possible to ensure high quality support for students, especially for the size and shape of A_STEP.

The commitment of university leaders to buy in to, and promote high-impact practices such as A_STEP is one of the most important factors. Tutorials should form part of an institutional strategy and should be included in teaching and learning policy – where it should be intentionally positioned as a high-impact practice. As part of the leadership's commitment, they should advocate for these kind of initiatives and dedicate resources to scale them up. Having data to substantiate claims of the effectiveness of these practices will encourage buy-in and prioritisation of high-impact practices.

4.3 Relentless continuous improvement through evaluation and monitoring research

The development of data analytics to ease processes, as well as coordinating and tracking sessions has made a significant impact on the effectiveness of the A_STEP programme. As a scaled high-impact practice, the programme has invested significantly in developing data analytics through which all tutor information, tutorial observation comments as well as tutor evaluation comments from students are captured in a sophisticated dashboard. Attendance data are also updated every 30 seconds and the A_STEP Intelligence system (ASIS) is able to produce a faculty-specific report in 60 seconds. This has resulted in significant efficiency gains.

Research results have led to larger buy-in from the institution and faculties in the form of both resources and commitment. It is also becoming clear that monitoring and evaluating the performance of tutors provide evidence of the potential impact on throughput and success rates. Continuous monitoring identifies areas of improvement that can be used to create better contextualised training within specific departments and faculties. Monitoring results also provide invaluable feedback to all stakeholders on how the system is developing.

The benefits for all those involved in a well-structured and prioritised SI programme are clear. We hope this publication contributes to further developments in such programmes for the best support of our students.



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