PROMOTING ACCESS WITH SUCCESS FOR ALL STUDENTS THROUGH ENGAGEMENT

Annual Report 2015








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Table of Contents

Executive Summary 1

1. A fresh look at student engagement 5
   - 1.1 What is student engagement and how is it measured? 5
   - 1.2 What makes SASSE different from other questionnaires? 6
   - 1.3 What is new in the updated SASSE? 8
2. Quick Facts and Participating Universities 10
3. Results from the updated SASSE: Themes and Engagement Indicators 15
   - 3.1 Academic Challenge 16
   - 3.2 Learning with Peers 22
   - 3.3 Experience with Staff 26
   - 3.4 Campus Environment 30
   - 3.5 Developing South African High-Impact Practices 33
4. Selected results relating to contemporary challenges 35
   - 4.1 What are students' expectations of Higher Education? 35
   - 4.2 How prepared do students think they are? 37
   - 4.3 Do students find their academic work challenging? 38
   - 4.4 How do students use their time? 40
   - 4.5 How do students assess their experience? 42
   - 4.6 Which graduate attributes are students developing? 44
5. Building capacity for evidence-based change in Higher Education 47
   - 5.1 Users' workshop data 47
     - 5.1.1 Data Tools 48
   - 5.2 Promoting an evidence-based approach to staff development 50
6. SASSE Staff 54

List of References 56

Executive Summary

Access with success is one of the most critical social justice challenges facing South African higher education. South African higher education, like other higher education systems, faces reduced state expenditure, the need to widen participation while improving success and graduation rates, and delivering students that have the skills and competencies to grow the economy and compete in a global market place. International experts point out that:

> *... Understanding student performance and optimising success is not just important to maintain public confidence; it is even more necessary to guide and inform academic decisions and policies. But with challenge comes opportunity.*[1]

The South African Surveys of Student Engagement (SASSE) have been developed to help higher education institutions to meet these challenges by empowering them with data (evidence). This report aims to, firstly, provide a brief overview of the development of the SASSE instruments and introduce new themes and indicators of updated measures. Secondly, the report shares the results from the 2014 cohort and illustrates how these results help us to better understand students in higher education today through deeper analysis. Finally, the report shows how the SASSE project contributes to building capacity for evidence-based change in higher education.

Developing deeply contextualised and globally benchmarked instruments

Over the last eight years the first survey conducted by the SASSE has developed into a broader range of measures. This has enabled institutions to gather high quality student data at institutional and course/module level. The updated SASSE instruments are the result of an extensive review process. This involved colleagues from 11 higher education institutions, a panel of eight South African higher education experts and an international expert, qualitative individual interviews and focus group interviews with 148 students at five institutions across four provinces.

Since the inception of the project in 2007, 15 public higher education institutions have participated in the SASSE. This report will share the results of the SASSE 2014 cohort of participating institutions. In this cohort, a total of 15 030 students from ten institutions provided responses on two of the five student engagement instruments available to higher education institutions. These were the Beginning University Survey of Student Engagement (BUSSE) and the SASSE.

[1] Kuh, G. D., S.O. Ikenberry, N. Jankowski, T.R. Cain, P.T. Ewell, P. Hutchings, and J. Kinzie. (2015). *Using Evidence of Student Learning to Improve Higher Education*. San Francisco: Jossey-Bass.

Going deeper...

Although the majority of students, especially Black African and first-generation students, rate their overall experience at university as "Good" or "Excellent", deeper analysis of student engagement data is necessary. Thus, an increased focus on the intersections pertaining to generational status, gender, race and year of study has highlighted important opportunities for change and improvement.

The need to think differently about first-years and seniors

The analysis of the themes and new Engagement Indicator scores showed very little difference between the experiences of first-year and senior students. Further analysis provided a more nuanced picture which raises important concerns and questions in relation to the difference between the experiences of these two groups.

First-year students reported more frequently making use of learning strategies than the senior students. For example, taking notes and making more summaries than their senior counterparts. First-years also reported that their lecturers made more frequent use of effective teaching practices than the senior students. In addition, first-year students experienced the campus environment to be a more supportive environment than senior students. These findings suggest that an increased focus on the first-year experience has helped to create a more intentional focus on teaching and learning and the support of first-years across participating institutions.

The responses of senior students suggest that a more intentional approach to supporting this group may be necessary in order to increase senior students' chances of success. The need for a new approach is emphasised by the findings that senior students regardless of their generational status, gender or race, report spending less time on academic readings per week than their first-year counterparts. Senior students also report spending less time preparing for class than their first-year counterparts regardless of their generational status or gender.

Senior students' responses also indicate that they are not expected to make use of reflective and integrative learning more than first-years in various teaching and learning activities. These findings raise important questions around the development of graduate attributes which is one of the objectives of the Council on Higher Education's Quality Enhancement Project (QEP). These relate to whether higher education should become more intentional about its approach to the curriculum (especially assessment), teaching and learning processes (pedagogy) and to further support of senior students.

Using data to develop an intentional approach to promoting access with success

Further analyses of the differences between generational status, gender, race and year of study provide an evidence-based (data driven) understanding of how one could become more intentional about access with success using student engagement data. Responses from the 2014 cohort supported principles of student engagement and success and highlighted the difference in the experiences of various groups such as:

- **The importance of academic challenge** - Students who felt challenged by their subjects/modules experienced more emphasis on higher-order learning than students who experienced low levels of subject/module challenge. The subject/module emphasis on higher-order learning also increased when students spent more time reading and preparing for class.
- **Learning strategies matter** - students' use of learning strategies were positively related to self-reported grades illustrating how engagement in these activities help to build students self-efficacy. First-year Black African students reported making more use of these strategies than other racial groups.
- **Writing develops higher-order attributes** - Senior students who received writing assignments more regularly, practised a greater degree of reflective and integrative learning.
- **Use the curriculum to promote diversity** - Only 37 per cent of students described the subject matter of courses to be inclusive of diverse perspectives. For example, discussions or writing assignments on a political, religious, racial/ethnic, gender and economic level were not often incorporated into the module. This aspect of the inclusion of material promoting diversity is especially important in the case of subject/module discussions for senior students and first-generation students. Overall, these students reported having less conversations with diverse others than first-years and non first-generation students.
- **Students collaborate to learn** - Collaborative learning is an important part of South African higher learning with Black African students making more frequent use of this type of learning than students of other races. Interestingly, at first-year level, male students made less use of collaborative learning activities than first-year female students.
- **Need for commuting student support** - Students living off-campus found the campus environment less supportive than on-campus students. Off-campus students were also less likely to interact with lecturers. This, therefore, points to the need for interventions which encourage student engagement and interaction.
- **Focusing on transition** - A gap exists between how difficult students think university study is going to be and how well prepared students think they are when entering higher education. In addition, it is found that senior students feel less supported than first-years. This suggests that institutions need to explore the development of transition interventions, such as orientation and early warning systems. This would help to moderate student expectations whilst still supporting them with the transition from school to university, from first to second and then at a later stage, second to third year and further.
- **Nuanced understanding enables deeper transformation** - The Rhodes must Fall (RMF) movement and Luister (Listen) video are some of the events that highlight the need for deeper transformation in South African higher education. SASSE data gives institutions an evidence based understanding of the experiences of different student groups in their institutions. In the SASSE 2014 cohort, first-year White students communicated less with staff than other racial groups, while Black African students and males were more inclined to communicate with staff. Findings like these provide leaders in higher education with a more nuanced understanding of students which they can use to develop institution specific approaches to transformation. Thus, this keeps the focus on access with success for all students.

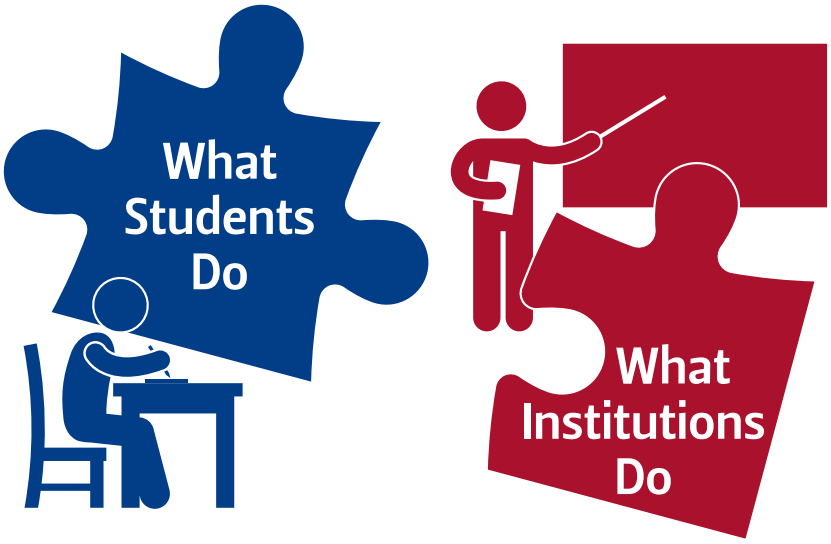
The SASSE team is deeply committed to building capacity in South African higher education. Therefore, in response to the national policy imperatives and trends in international higher education, the SASSE team has explored ways to develop support and academic staff members' ability to work with data and to use it for institutional change. This has been achieved through use of SASSE institutional reports, users' workshops, and the SASSE website. In 2015, 184 staff members across different support and academic functions participated in 16 user workshops. They were empowered to use student engagement data to better understand their students. Furthermore, it has enabled them to reflect on how resources can be better allocated to further student engagement and success in their institutions. We would like to express our sincere appreciation to students who responded to the survey, colleagues from participating institutions who helped us to continuously improve our work and The Kresge Foundation for its generous support.

This research is made possible by:

THE KRESGE FOUNDATION

A fresh look at student engagement

1.1 What is student engagement and how is it measured?



Student engagement is defined by two key concepts. First, what students do (the time and energy they devote to educationally purposive activities) and second, what institutions do (the extent to which institutions employ effective educational practices to induce students to do the right things).

Student engagement is a richer concept than student experience, since it provides a focus on the behaviours of students, and the practices of staff inside and outside the classroom. In addition, student engagement data helps institutions make decisions about resource allocation to promote effective teaching and learning. The South African Survey of Student Engagement (SASSE) and related measures are based on the following design principles that promote quality teaching and learning for student success:

- An emphasis on behaviours that higher education research has shown to be positively related to desired learning outcomes.
- Providing actionable data on behaviours and experiences that institutions can influence.

- Standardising survey sampling and administration to facilitate comparability between institutions.
- Providing participating institutions with comprehensive reports detailing their own students' responses relative to those at comparative institutions. Plus, an identified student data file to permit further analysis by the institution.

More than a decade's worth of research shows that student engagement has a significantly positive, though modest, relationship with grades and persistence for students from different racial and ethnic backgrounds. As well as, stronger effects on first-year grades and persistence to the second year for underprepared and historically disadvantaged students. In other words, engagement pays greater dividends with regard to outcomes for the very populations that higher education most struggles to serve well.

Although these results have been found in the United States of America (USA) context, South African analyses are starting to confirm these results in our context.

1.2 What makes SASSE different from other questionnaires?

Research on student engagement started with the National Survey of Student Engagement (NSSE), which was developed by the NSSE Institute at Indiana University, Bloomington. The NSSE was aimed at refocusing discussions about quality in higher education back to students and their learning. **Figure 1** provides an illustration of the countries around the world that are or have made use of student engagement data.

To date about 3.7 million students in the USA and Canada have completed the NSSE since it was first administered in 2000; in 2013 alone the survey was completed by 375,000 students. Adaptations of the questionnaire were administered the Australasian Survey of Student Engagement (AUSSE) at over 60 institutions in Australia and New Zealand and 49 institutions in China in 2010. In addition, other multi-institutional projects took place in Mexico and South Korea. A new member to the student engagement community is the Irish Survey of Student Engagement (ISSE) which is a state supported initiative across 19 institutions. This rich international experience and data provides important comparative perspectives for student engagement work in South Africa. It also demonstrates the usefulness of the concept of student engagement, and the related measures, in different contexts.

The first version of the SASSE was piloted in 2007 at the University of the Free State. The project soon started broadening the scope of measures that could be used by institutions. Today, the SASSE abbreviation refers to the South African Surveys of Student Engagement which includes a set of instruments. Previously, the administrations of the SASSE and related surveys in South Africa took the form of a national research project for the Council on Higher Education (CHE) between 2009 and 2010. It involved 13 636 students from seven institutions in 2009, and 9 442 students from seven institutions and 290 lecturers from three institutions in 2010. The original versions of the measures were contextualised and piloted for two years at the University of the Free State prior to being administered nationally.

As part of continuous alignment with international and national needs and to improve quality, a revised SASSE that is both globally benchmarked and deeply contextualised, are administrated annually in South Africa.

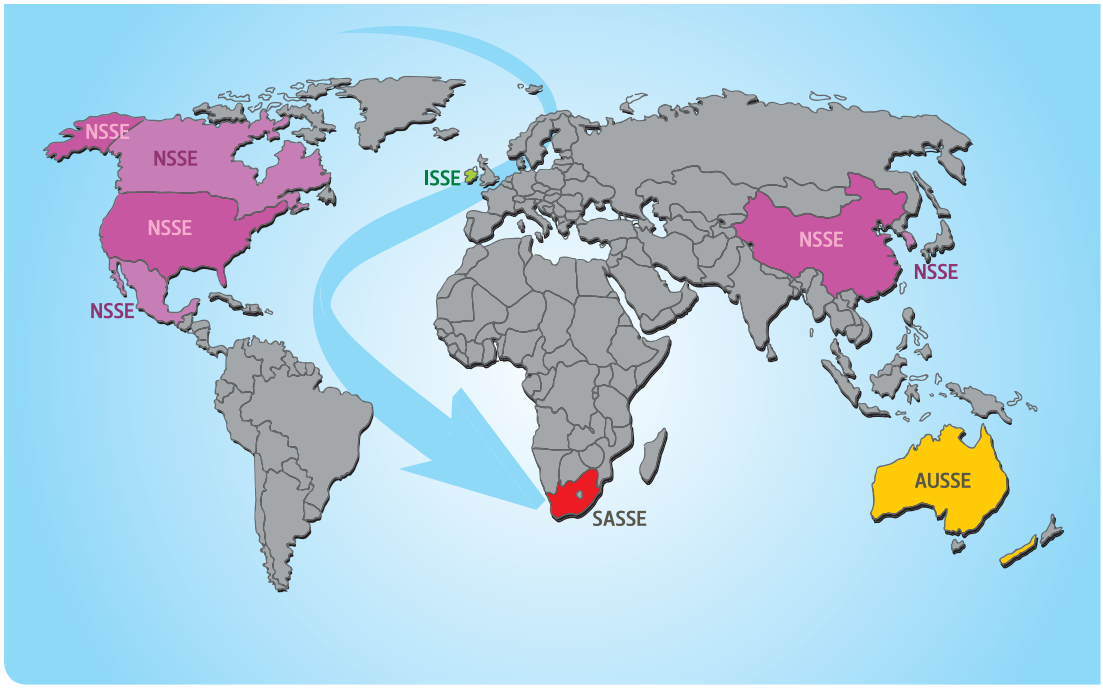


Figure 1: Student engagement surveys across the world.

1.3 What is new in the updated SASSE?

From Benchmarks to Engagement Indicators and High-Impact Practices.

Following the CHE sponsored national study, the SASSE instruments were subjected to an extensive review to align them with international trends and deepen the contextualisation of the measures for South Africa. The SASSE review process included inputs from institutional representatives who participated in the national study and analysis of data from both national administrators of the survey. It incorporated experiences of the research team that worked on the project, as well as the inputs of eight South African higher education experts and an international expert. To facilitate deep contextualisation, qualitative research was conducted at five institutions, in four provinces. The qualitative data were collected by making use of cognitive interviews and focus groups which involved a total of 148 students.

The review processes resulted in sets of new, updated, and continuing items. These were rigorously tested and grouped within several Engagement Indicators, organised within themes adapted from the former Benchmarks of Effective Educational Practice. Therefore, indicators focus on important aspects of educational quality, making them specific and actionable. In addition, High- Impact Practices are reported separately (McCormick et al., 2013).

A range of updated student engagement surveys available in South Africa

A range of student engagement surveys have been developed and contextualised for use in South Africa. These instruments enable institutions to monitor and develop capacity at an institutional as well as individual course or module level.

SASSE Benchmarks 2007 - 2012	Key Changes	Engagement Indicators
Level of Academic Challenge	Expanded to focus on distinct dimensions of academic effort, including new topics of interest. In addition, key items on reading, writing, and study time will be reported in this time.	**Theme: Academic Challenge** Higher-Order Learning Reflective and Integrative Learning Learning Strategies Quantitative Reasoning
Active and Collaborative Learning	Modified to emphasise student-to-student collaboration. Updated diversity items from Enriching Educational Experience have been moved here.	**Theme: Learning with Peers** Collaborative Learning Discussion with Diverse Others
Student-Staff Interaction	The updated Student-Staff Interaction indicator is joined by a second measure about effective teaching practices.	**Theme: Experience with Staff** Student-Staff Interaction Effective Teaching Practices
Supportive Campus Environment	Expanded to focus separately on interactions with key people at the institution and perceptions of the institution's learning environment.	**Theme: Campus Environment** Quality of Interactions Supportive Environment
Enriching Educational Experiences	Selected items are reported separately as High-Impact Practices. Interactions with diverse others have been moved to Learning with Peers.	**High-Impact Practices** Student Societies Practical Work Research with Staff Service-Learning

Table 1: Key changes within SASSE.

Institutional-level measure	
Beginning University Survey of Student Engagement (BUSSE) The BUSSE measures entering first-year students' pre-university academic and curricular experiences and their expectations regarding participation in educationally purposeful activities during their first year at a tertiary institution.	
South African Survey of Student Engagement (SASSE) The SASSE gathers comprehensive information relating to the extent of student participation in effective educational practices as part of the teaching and learning experience.	
Lecturer Survey of Student Engagement (LSSE) The LSSE measures lecturer expectations regarding student engagement in educational practices that are empirically linked with high levels of learning development.	
Modular/Course-level measure	
Classroom Survey of Student Engagement (CLASSE) The CLASSE provides institutions with a diagnostic tool with which to intervene in courses with a high dropout and failure rate (AKA "killer" courses). It creates an evidence-based approach to academic staff development. ▪ CLASSE-Lecturer asks the lecturer of that module/course how important the various educational practices are for facilitating student success. ▪ CLASSE-Student asks students how frequently they engage in various educational practices within a specific course.	

Table 2: Updated Student Engagement Surveys available in South Africa.

Quick Facts and Participating Universities

Objectives

The objectives of the surveys are to provide institutions with actionable data[2] about issues that they can focus on changing. This, therefore enables them to gather data systematically in order to develop interventions within the parameters of their own missions.

It provides student engagement data to universities to assess the level of student engagement in institutions. Furthermore, it assists in empowering them to be able to improve undergraduate education. This is enabled by informing quality assurance through the encouragement of national benchmarking and furthering accreditation efforts.

Among the greatest benefits of student engagement surveys is that they promote critical, internal self-reflection and reflective accountability. To add to this, they provide institutions with information about issues that they can focus on changing, and enable them to gather data systematically in order to develop interventions within the parameters of their own missions.

Thus, data from student engagement surveys can be used to promote quality teaching and learning which maximises the opportunities for student success by providing actionable data.

Administration

The SASSE 2014 survey was administered online between August and September 2014. The survey normally takes approximately 20 minutes to complete. The survey tool, "Questback" was used, which made it simple for students to click on the link and complete the survey anywhere on or off campus.

Participating universities 2014

Since the launch of SASSE in 2009, more than fifteen institutions have participated in the SASSE, with seven traditional universities, five universities of technology and three comprehensive universities within South Africa.

University Groupings

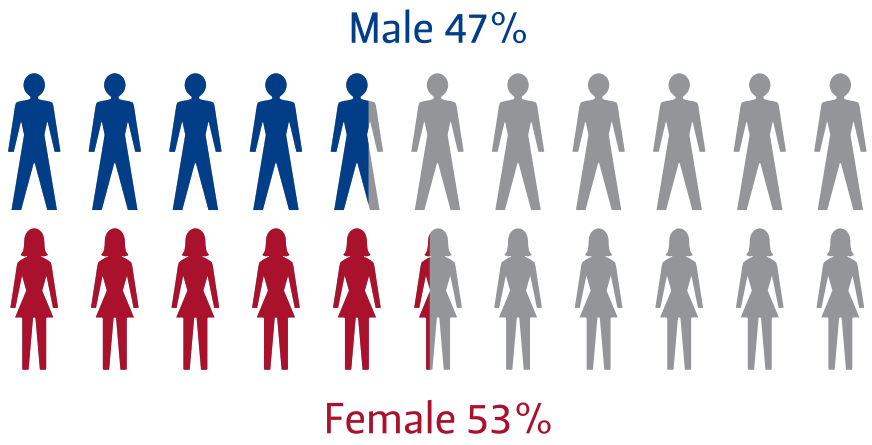
Similar universities sharing common interests and university systems were placed in groups to simplify comparisons. The universities have been grouped into traditional universities, comprehensive universities and universities of technology.

[2] Actionable data refers to fact that the SASSE instruments are developed to provide institutions with information that they can use to take action. The theoretical and empirical research that informed the construction of the surveys was specifically focused on providing data on factors that institutions have a direct influence over. For example, pedagogy in classes and how student support is structured in the institution.

Sample

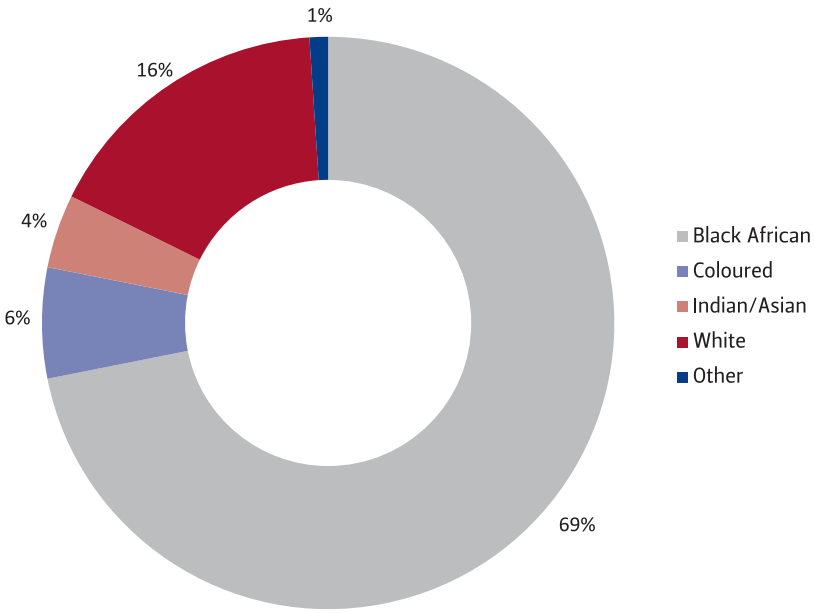
The total sample for the SASSE 2014 survey included 12 306 respondents from nine institutions across South Africa. Four of these were traditional universities, two were comprehensive universities and three were universities of technology. The sample comprised of 2 946 first-year students and 9 360 senior students. A total of 47% of the respondents were males and 53% females.

Gender of the SASSE 2014 respondents



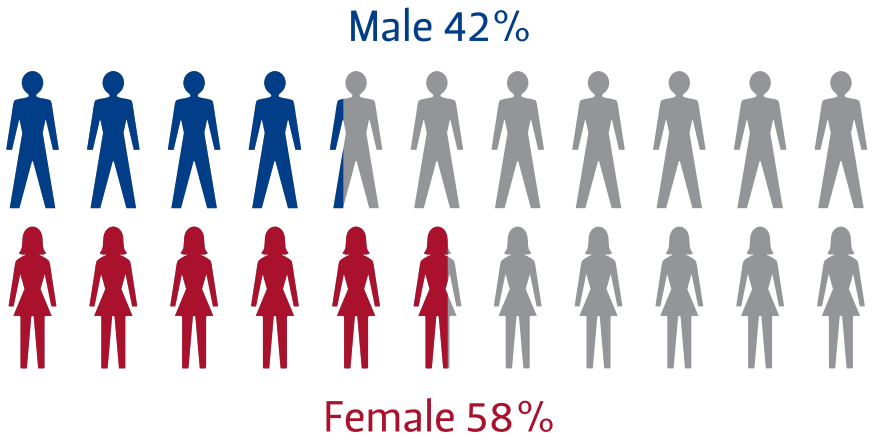
The racial demographics of the respondents were 69% Black African, 6% Coloured, 4% Indian/Asian, 16% White and 1% chose "Other". Approximately 34% of the students who completed the survey were enrolled for a degree in Business, Economics and Management, 16% were enrolled in the Human and Social Sciences, while the majority (45%) of the sample were enrolled for a degree in the Sciences, Engineering and Technology. Only 5% were enrolled for an Education degree.

Racial demographics SASSE 2014



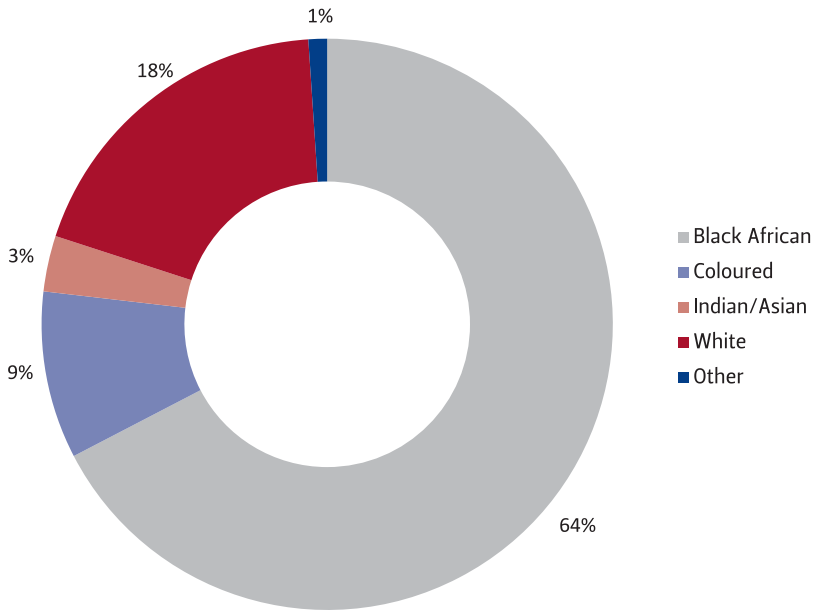
The total sample for the BUSSE 2014 survey comprised of 2 724 first-year university students from two institutions across South Africa. The sample included a total of 42% males and 58% females.

Gender of the BUSSE 2014 respondents



The racial demographics of the respondents were 64% Black African, 9% Coloured, 3% Indian/Asian, 18% White and 1% "Other". The majority (32%) of the sample were enrolled for a degree in the Sciences, Engineering and Technology or a degree in Business, Economics and Management, while 28% were enrolled in the Human and Social Sciences. Only 9% of students were enrolled for an Education degree.

Racial demographics BUSSE 2014



Audiences

The following stakeholders may be considered to be benefiting from the SASSE 2014 results.

They are:

- Statutory and Accreditation organisations such as HEQF and Professional Boards;
- University Governance Structures including Councils, Senate and Institutional Committees;
- Academic leaders (Heads of Schools, Departments and Disciplines and Program directors);
- Academics to improve their teaching and learning;
- Academic Professionals such as Institutional researchers and Academic Developers;
- Student affairs and Student Representative Councils;
- Internal and External media;
- National/provincial education departments;
- Prospective students and parents; and
- Alumni.

Participation Agreement

Participating universities agreed that SASSE could use the data in the aggregate for reporting purposes and other undergraduate research and improvement initiatives. SASSE may by contractual agreement not disclose specific institutional results without permission. Universities are free to use their own data for institutional purposes, including public reporting.

Data Sources

This comprised of randomly sampled undergraduate first-year students and senior students from tertiary institutions in South Africa, participating in the 2014 survey. The SASSE data may be supplemented by other institutional data available such as Higher Education Management Information System (HEMIS) data, Learning Management System (LMS) data and Student Information System (SIS) data to reveal more detailed results.

Validity and Reliability

An extensive SASSE review process from 2011-2012 included input from institutional representatives who participated in the national study as well as analysis of data from both national administrations of the survey. It incorporated experiences of the research team that worked on the project, the inputs of eight South African higher education experts and an international expert. To facilitate deep contextualisation, qualitative research was conducted at five institutions involving 148 students in four provinces. In addition, psychometric analyses have been regularly conducted to continuously monitor and improve the robustness of the measures.

Response Rates

The average institutional response rate for SASSE in 2014 was 5.7%. The highest response rate was among senior students (6.2%), while the first-year response rate was 5.1%.

Weighting

Adjusting data to reflect differences in the number of population units that each respondent represents is known as the process of weighting (NSSE, 2015). Weighting is necessary when the proportion of respondents within a particular demographic variable (for example, in the gender category) differs substantially from their population percentages. Analysis of these conditions compels SASSE to weight by gender within an institution, and institutional size for comparison groups.

Current Initiatives

The SASSE team is continuing assessment regarding student engagement (BUSSE, SASSE, LSSE and CLASSE) and surveys are in the process of being completed or in the initialising phase.

Other Programs and Services

Programs and services offered by SASSE, LSSE, BUSSE and CLASSE surveys: users' workshops, webinars, data tools, analysis of custom data, user resources and consulting with potential stakeholders.

Learn more

Details about the design and use of SASSE in the South African context can be found on the SASSE website at: http://sasse.ufs.ac.za.

Participating Universities 2009 - 2014

The following universities have participated in the SASSE survey nationwide since 2009 to present:

Traditional Universities:	Comprehensive Universities:	Universities of Technology:
Rhodes University	Nelson Mandela Metropolitan University	Cape Peninsula University of Technology
University of Fort Hare	University of Johannesburg	Central University of Technology
University of the Free State	University of Venda	Durban University of Technology
University of KwaZulu-Natal		Tshwane University of Technology
University of Pretoria		Vaal University of Technology
University of Western Cape		
University of the Witwatersrand		

Table 3: Participating Universities in SASSE (2009-2014).

Results from the updated SASSE: Themes and Engagement Indicators

What are Engagement Indicators?

Engagement Indicators (EIs) provide a useful summary of the detailed information contained in the respective university students' SASSE responses. By combining responses related to SASSE questions, each EI offers valuable information about a distinct aspect of student engagement. Ten indicators, based on three to eight questions each (a total of 47 survey questions), are organised into four themes. These are: Academic Challenge, Learning with Peers, Experience with Staff, and Campus Environment.

Themes	Engagement Indicators
Academic Challenge	Higher-Order Learning Reflective and Integrative Learning Learning Strategies Quantitative Reasoning
Learning with Peers	Collaborative Learning Discussion with Diverse Others
Experiences with Staff	Student-Staff Interaction Effective Teaching Practices
Campus Environment	Quality of Interactions Supportive Environment

Table 4: Themes and Engagement Indicators used in SASSE.

The EIs were scored on a 60-point scale. To produce an indicator score, the response set for each item is converted to a 60-point scale. For example, Never = 0; Sometimes = 20; Often = 40; Very Often = 60. Thereafter, rescaled items are averaged. Thus, a score of zero means that a student responded at the bottom of the scale for every item in the engagement indicator, while a score of 60 indicates responses at the top of the scale on every item. The results include analyses by generational status, enrolment status (first-year or senior), gender and race. Due to small sample sizes, the responses of Indian, Asian, Coloured, Multiracial, "Other" and students who preferred not to answer were combined into one group, from here on referred to as "Other". The aim of this approach is to highlight the importance of more nuanced analyses that start to include intersectionality.

3.1 Academic Challenge

Challenging intellectual and creative work is central to student learning and academic quality. Universities promote student learning by challenging and supporting students to engage in various forms of deep learning that requires more than the mere memorization of information. Four Engagement Indicators are part of this theme, namely: Higher-Order Learning, Reflective and Integrative Learning, Learning Strategies, and Quantitative Reasoning.

Students' reported Academic Challenge mean scores varied somewhat when compared by first-year and senior level (**Figure 2**).

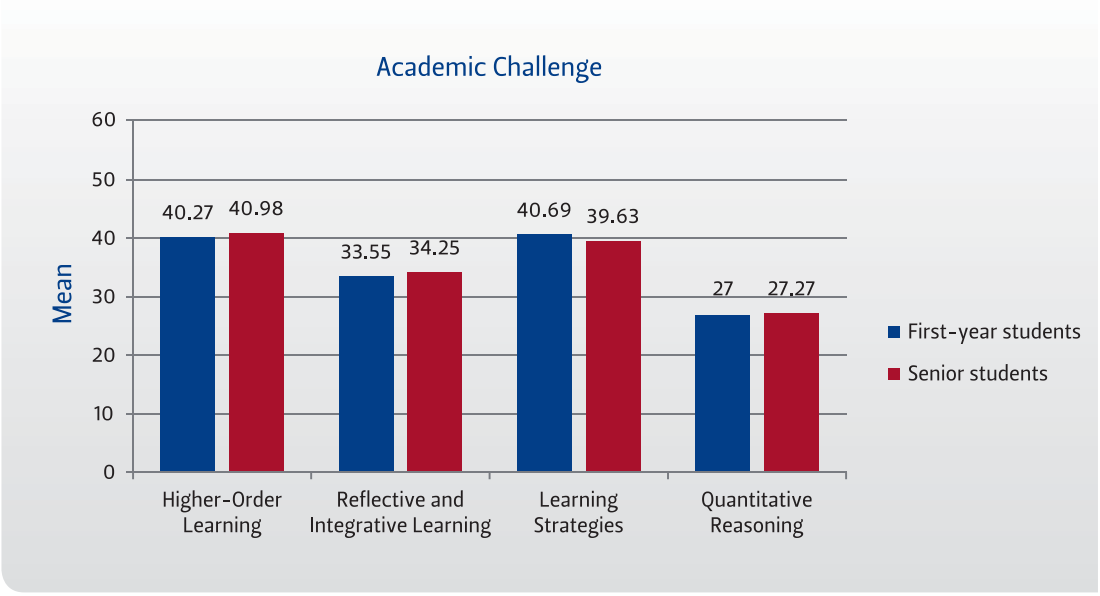


Figure 2: Engagement Indicator mean scores for first-year and senior students regarding Academic Challenge.

Higher-Order Learning

The Higher-Order Learning Engagement Indicator describes how much students' academic work put emphasis on challenging cognitive tasks such as the application, analysis, judgment, and synthesis of information learned. The majority of first-year students (78%) and senior students (80%) reported that their coursework emphasised applying facts, theories, or methods to practical problems or new solutions "Quite a bit" or "Very much". Students described how much the formulation of new ideas or understanding by putting together various pieces of information was highlighted in their academic work, with 74% of students replying "Quite a bit" or "Very much".

First-year and Senior students' mean scores for the Higher-Order Learning Engagement Indicator was compared by first-generational status, gender and race (**Figure 3**). When compared by race, the results indicated that Black African students' reported being slightly more engaged in higher-order learning than the other races. In addition, first-year White students and first-year "Other" students reported less higher-order learning emphasis on challenging cognitive tasks than first-year Black African students. Similarly, senior White students and senior "Other" students reported less higher-order learning taking place than senior Black African students.

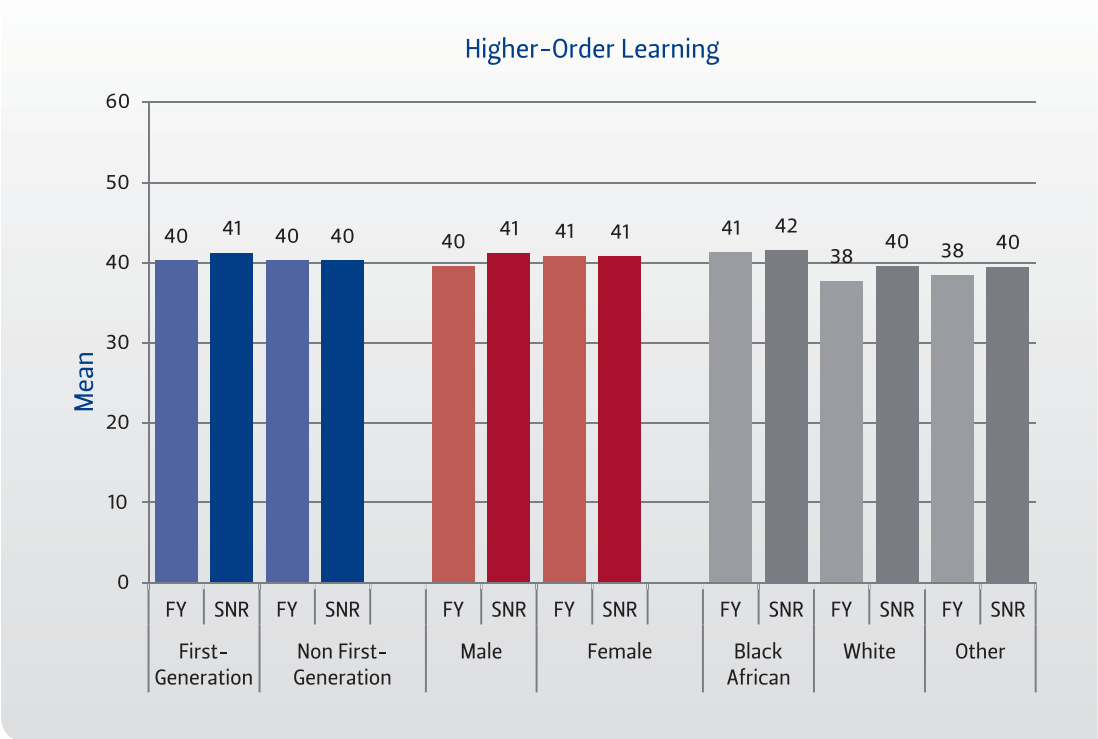


Figure 3: Higher-Order Learning mean scores for students by first-generational status, gender and race.

The SASSE asked students to indicate the degree to which subjects/modules challenged them to do their best work. Students who felt challenged by their subjects/modules experienced more emphasis on higher-order learning than students who experienced low levels of subject/module challenge. The subject/module emphasis on higher-order learning also increased when they spent more time reading and preparing for class. For senior students, higher levels of higher order learning were associated with higher amounts of assigned writing they were allocated. Overall, the more writing senior students were assigned, the more they perceived higher-order learning was emphasised in their subjects/modules.

Reflective and Integrative Learning

It is vital for students to connect with their academic work by relating their personal experiences and societal concerns to module content. Lecturers who emphasise reflective and integrative learning motivate students to make connections between module content and various real-world examples. Making these connections allows students to re-examine their beliefs and gives them the opportunity to consider different perspectives and viewpoints other than their own. Consequently, this encourages reflective and integrative learning. Students who engage in reflective and integrative learning will also participate in deep approaches to learning (Laird et al., 2006). This type of intentional learning by learners leads to a deeper understanding of their academic subject/module content (Huber & Hutchings, 2004).

When being surveyed, students were asked to report on how often they used reflective and integrative learning strategies. Results showed that 58% of first-year and 60% of senior students stated that they combined ideas from different subjects/modules when completing assignments "Often" or "Very often". Additionally, first-year (65%) and senior students (62%) from universities of technology reported the highest in combining ideas from different subjects/modules while finalising assignments when compared by

typology. However, only 38% of first-year students and 46% of senior students reported that they regularly connected their learning to societal problems or issues. Similarly, merely 37% of students described subject matter as including diverse perspectives, such as political, religious, racial/ethnic, gender and economic, into subject/module discussions or writing assignments.

First-year and senior students' mean scores for the Reflective and Integrative Learning Engagement Indicator was compared by first-generational status, gender and race (**Figure 4**). First-year first-generation students reported a slightly lower mean than first-year non first-generation students. Likewise, male first-year students reported a lower mean for reflective and integrative learning than first-year

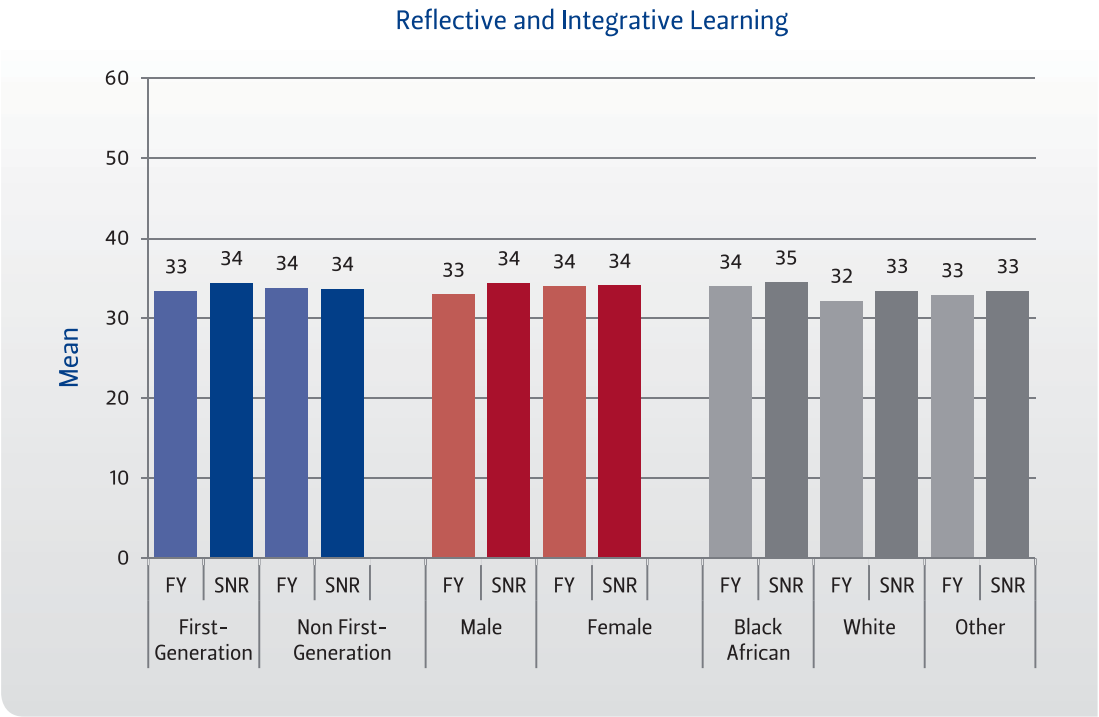


Figure 4: Reflective and Integrative Learning mean scores for first-year and senior students by first-generational status, gender and race.

females. Furthermore, Black African students reported slightly higher levels of making use of reflective and integrative learning strategies compared to the other races. First-year White students reported the lowest use of reflective and integrative learning and "Other" students also described little use of these strategies. In a similar way senior White and "Other" students reported a lower means for reflective and integrative learning than senior Black African students. Even though there seems to be only a small difference between the reflective and integrative learning levels of first-year and senior students, this difference is significant and shows that senior students do connect or combine module content to personal and prior experiences slightly more than first-year students.

Furthermore, first-years with a major field of study in Human and Social Sciences applied more reflective and integrative learning compared to their peers. However, senior students with a major field of study in Education and Human and Social Sciences, reported the highest reflective and integrative learning means. Thus, senior students who felt challenged to do their best work in the

classroom experienced higher levels of reflective and integrative learning. Likewise, senior students' reported reflective and integrative learning also varied when it came to the amount of writing assignments they completed. Senior students who were assigned regular writing assignments, practiced reflective and integrative learning at a greater level.

Learning Strategies

University students improve their learning and retention when they actively engage with their subject material by analysing information as opposed to only memorising information. Effective learning strategies include the following: summarising subject material, reviewing notes after class, and identifying key information in readings. Knowing how frequently students apply effective learning strategies can help universities target interventions to promote student learning and success and make a positive difference in many students' degree attainments.

The majority of both first-year and senior students (80%) each reported that they regularly identified important information from reading assignments. Furthermore, most students described that they reviewed their notes after class, with 67% of first-year and 62% of senior students replying "Often" or "Very often". When compared by typology, first-year and senior students from universities of technology reported reviewing their notes more regularly after class than the other students. Most students (70%) described that they frequently summarised what they had learned in class, while students from universities of technology once again had the highest score on the Learning Strategies indicator compared by typology.

First-year students reported more frequent use of learning strategies than their senior counterparts (**Figure 5**). This is because senior non first-generation students tend to apply less learning strategies than senior first-generation students. Also, first-year females describe slightly more use of learning

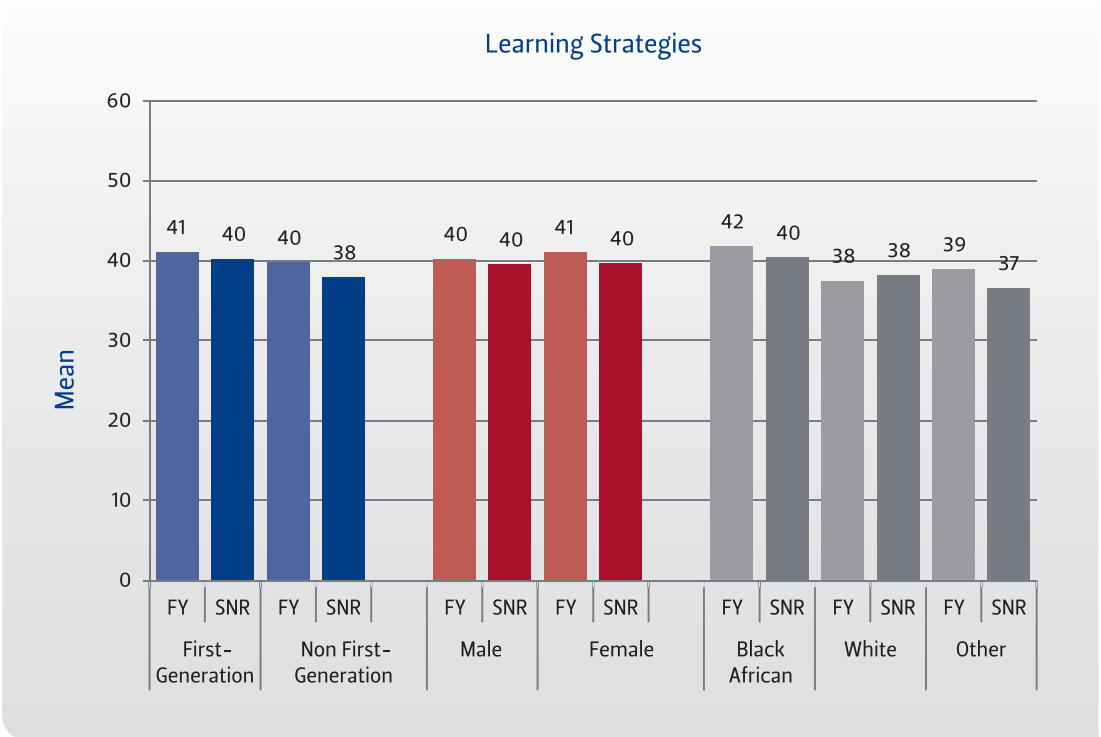


Figure 5: Learning Strategies mean scores for first-year and senior students by first-generational status, gender and race.

strategies than first-year males, but at senior level the same levels of learning strategies are reported for both the genders. Additionally, first-year Black African students reported more use of effective learning strategies than first-year White and first-year "Other" students. Finally, senior "Other" students reported the lowest use of learning strategies, with senior White students with the second lowest mean.

Results indicated that the use of these strategies varied by selected student characteristics. For example, students' use of learning strategies seem to be higher when their self-reported grades are also high. First-year students who reported their marks to be above 50% used more learning strategies than those with lower self-reported marks. This result is also observed for senior students. Furthermore, senior students who reported even higher marks of 80% or more used even more learning strategies than those students with self-reported marks of 50-79%. Therefore, this shows that an increase in learning strategies has a positive effect on students' grades. Additionally, first-year students living on campus used learning strategies more those living off-campus. Learning strategies also vary between the disciplines. For instance, students majoring in Science, Engineering and Technology reported the most use of these strategies.

Quantitative Reasoning

The ability to use and understand numerical and statistical information in day-to-day life is known to be one's quantitative literacy. It has become increasingly important for university students to develop this ability to reason quantitatively by evaluating, supporting and critiquing the use of numerical and statistical information in real-life situations.

There is an overwhelming demand on university students to be able to practically implement the

knowledge and skills that they have learned while at university. Students reported the following frequencies of using quantitative reasoning skills. For instance: only 53% of first-year and 51% of senior students reached conclusions based on their own analysis of numerical information such as numbers, graphs and statistics on a regular basis. Furthermore, very few students (39%) reported using numerical information such as numbers, graphs, and statistics to examine real-world problems or issues. In addition, students reported an even lower rate of examining and evaluating problems. Only 34% of first-year and 38% of senior students stated that they frequently evaluate what others have concluded when they used numerical information.

First-year and senior students' mean scores for the Quantitative Reasoning Engagement Indicator was compared by first-generational status, gender and race, as presented in **Figure 6**. Comparisons by race, point towards a slight difference between Black African students' reported quantitative reasoning skills when compared to the other races. White students and "Other" students reported making less use of quantitative reasoning than Black African students reported. Similarly, female students also reported making less use of quantitative reasoning than, male students. Moreover, senior male students reported the highest mean score for use of quantitative reasoning skills in this Engagement Indicator when compared to the other groups. Interestingly, first-generation students reported a slightly higher mean for quantitative reasoning than non first-generation students.

A comparison by field of study showed that students in Science, Engineering and Technology engaged in quantitative reasoning activities more often than their counterparts, and students from Human and Social Sciences least often.

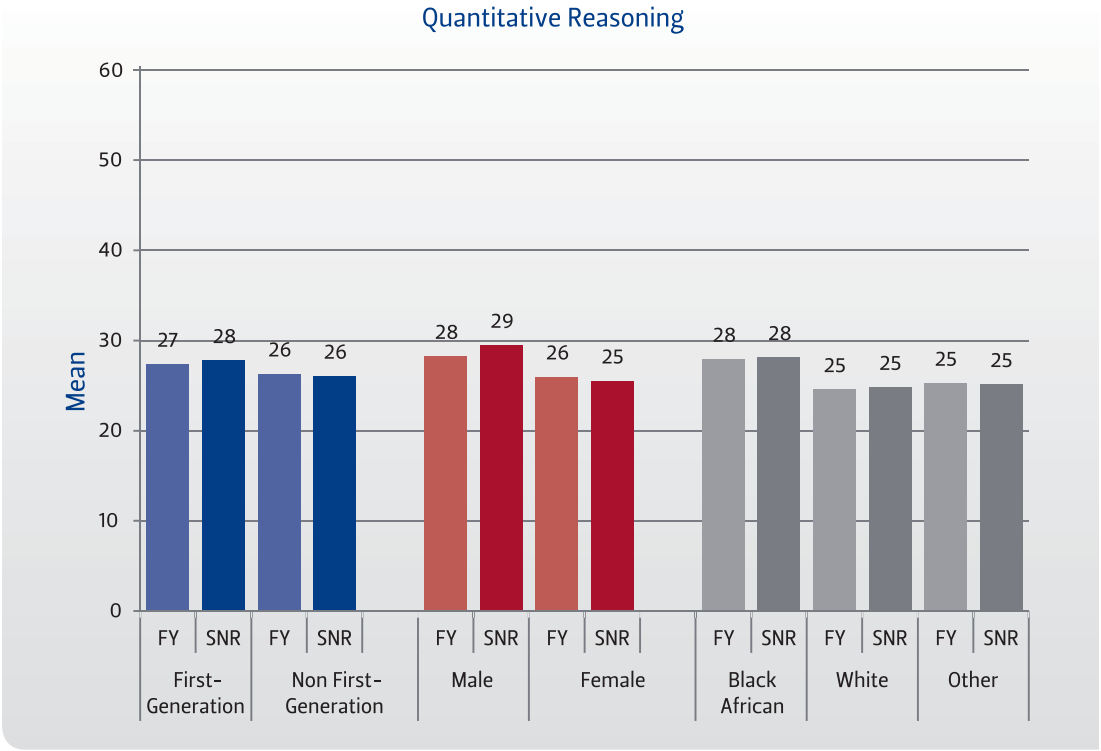


Figure 6: Quantitative Reasoning mean scores for first-year and senior students by first-generational status, gender and race.

3.2 Learning with Peers

Collaborating with others to master difficult material and develop interpersonal and social competence prepares students to deal with complex, unscripted problems they will encounter during and after university. Two Engagement Indicators make up this theme: Collaborative Learning and Discussions with Diverse Others.

Students' reported learning with peers mean scores were somewhat different when compared by first-year and senior level (**Figure 7**).

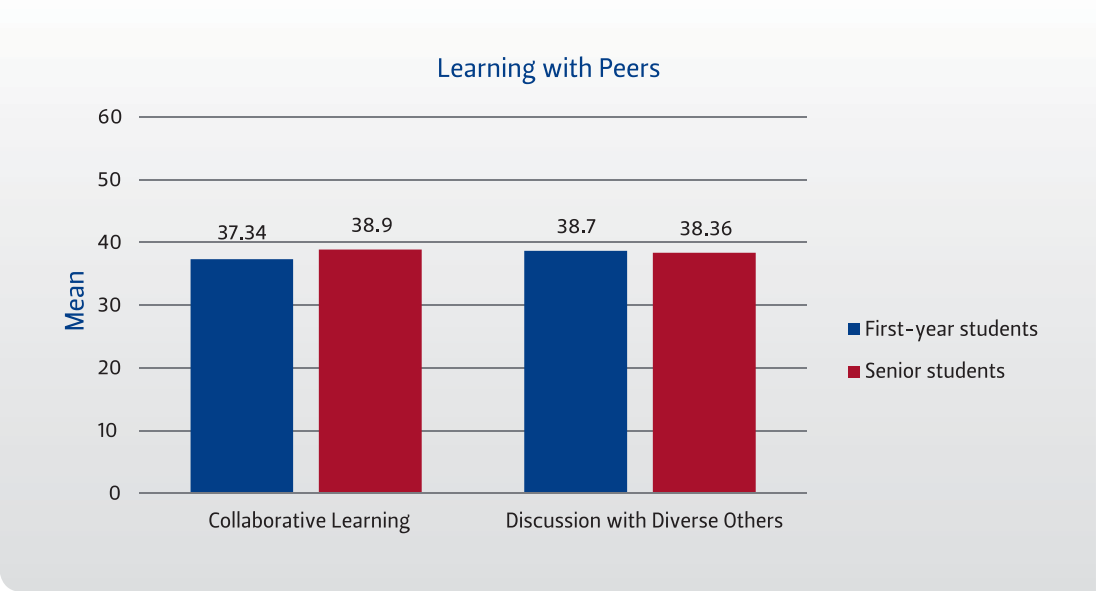


Figure 7: Learning with Peers Engagement Indicator mean scores for first-year and senior students.

Collaborative Learning

Working with peers to solve problems and grasping difficult subject material increases students' understanding of the material and also prepares them for the unpredicted work conditions and situations that they will encounter after university. Collaborative learning activities may include: people working on group projects, asking peers for help with challenging subjects or explaining it to others, and also going through subject material in preparation for exams within a group context.

When asked about collaborative learning and how frequently students collaborated with other students, it was evident that not all students have equal engagement in collaborative learning. Students reported asking other students to help them understand subject/module material, with 61% of students agreeing "Often" or "Very often". Senior students were more likely to explain subject/module material to other students regularly, with 66% compared to first-year students with 61%. The majority of

first-year students (71%) and senior students (77%) reported working with other students on projects or assignments "Often" or "Very often". Interestingly, first-year and senior students from universities of technology had an overall higher frequency of collaborative learning when compared by typology.

First-year and senior students' mean scores for the Collaborative Learning Engagement Indicator was compared by first-generational status, gender and race (**Figure 8**). The results indicated differences in the comparisons made by first-generational status, gender and race. For example, first-generation students reported a slightly higher mean than non first-generation students. Of interest is that first-year male students reported less collaborative learning activities than first-year female students, but the mean scores for the senior males and senior females described the same amount of collaborative learning opportunities. Additionally, Black African students described more frequent use of collaborative learning opportunities when compared to the other races. Another point is that White students and "Other" students reported the lowest use of collaborative learning activities when compared to the much higher stated mean score of the Black African students.

First-year students majoring in the Business, Commerce and Management fields and senior students in both the Education and Science, Engineering and Technology fields reported higher levels of collaborative learning compared to their peers. In general, students from Human and Social Sciences reported doing the least amount of collaborative learning activities.

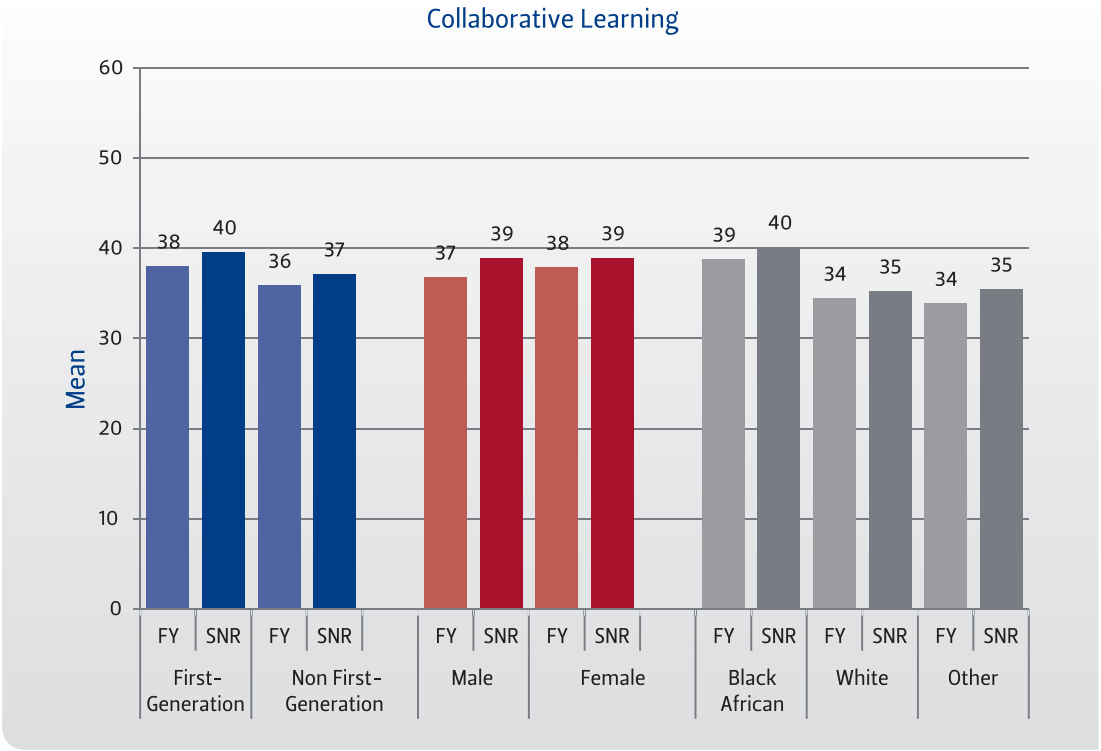


Figure 8: Collaborative Learning mean scores for first-year and senior students by first-generational status, gender and race.

Discussion with Diverse Others

Universities have become places which offer students from various backgrounds and life experiences an opportunity to meet and engage with each other. These interactions are of mutual benefit to students and prepare them for personal and civic participation in a diverse working and social environments.

During the survey, students were asked how often they had discussions with people from diverse backgrounds and it was clear that most students reported moderate levels of interactions. For example, 63% of students reported interacting regularly with people of a race or ethnicity other than their own. Furthermore, the majority of first-year students (70%) and senior students (68%) stated that they "Often" or "Very often" had discussions with people from a different economic background than their own. Most students (65%) reported that they interacted regularly with people from different political and religious beliefs than their own. Interestingly, students from traditional universities reported higher interaction levels with this Engagement Indicator when compared by typology.

First-year students reported somewhat more frequent discussions with diverse others than their senior counterparts (**Figure 9**). However, first-generation students are likely to interact less with diverse others than non first-generation students. Also, first-year and senior males describe a little more interaction with people from various backgrounds than females, while first-year and senior females have the same level of reported interaction with diverse people. This is the only Engagement Indicator where Black African students reported a lower mean score than the other racial groups. Black African students reported far less contact with people from various backgrounds than White and "Other" students. Remarkably, first-year and senior "Other" students reported the highest interaction with diverse others when compared by the various groupings for this indicator.

It is interesting to note that first-years and seniors who more frequently interacted with diverse peers also perceived a slightly more supportive campus environment and had more positive interactions with students, lecturers and staff.

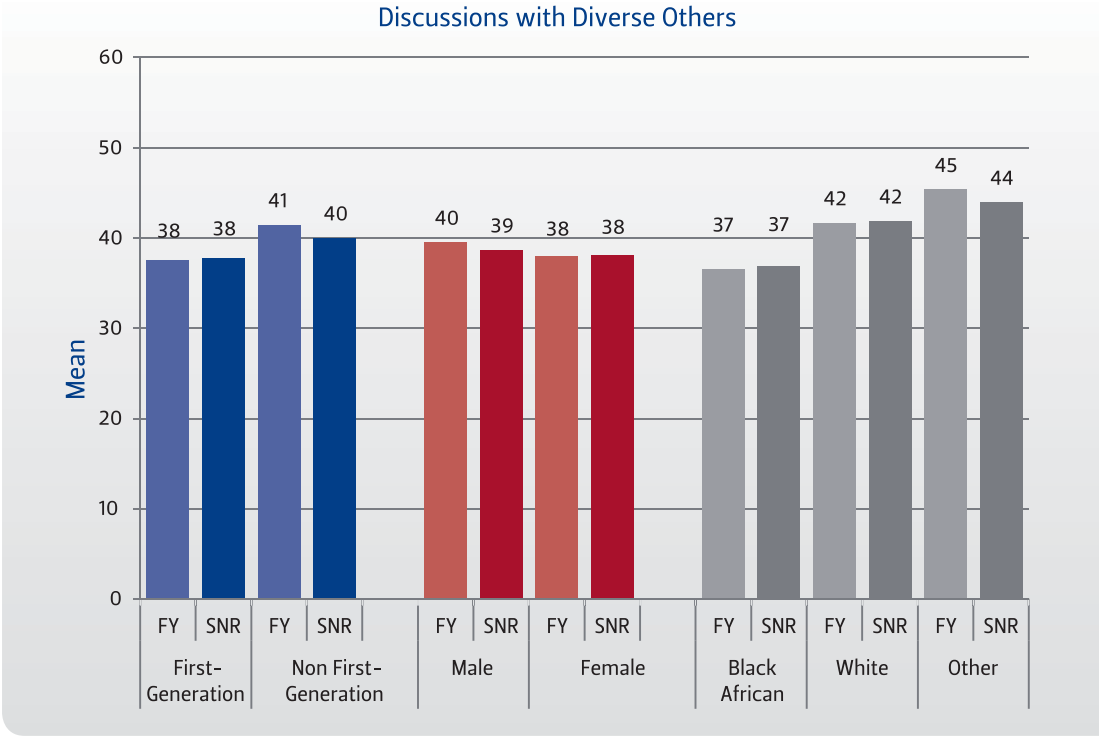


Figure 9: Discussion with Diverse Others mean scores for first-year and senior students by first-generational status, gender and race.

3.3 Experience with Staff

Students learn first-hand how experts think about and solve problems by interacting with staff members inside and outside of instructional settings. As a result, staff becomes role models, mentors, and guides for lifelong learning. In addition, effective teaching requires that staff deliver course material and provide feedback in student-centred ways. Two Engagement Indicators investigate this theme: Student-staff Interaction and Effective Teaching Practices.

Students' reported experience with staff mean scores varied somewhat when compared by first-year and senior level (**Figure 10**).

Student-Staff Interaction

Evidence suggests that students who have regular contact with lecturers and support staff are positively influenced, by increasing students' cognitive growth, engagement, development and academic success (Pascarella & Terenzini, 2005). University staff have informal and formal roles as mentors, advisors and teachers, which models intellectual work, the effective use of knowledge and skills, and assist students to make conclusions regarding their studies and their future plans.

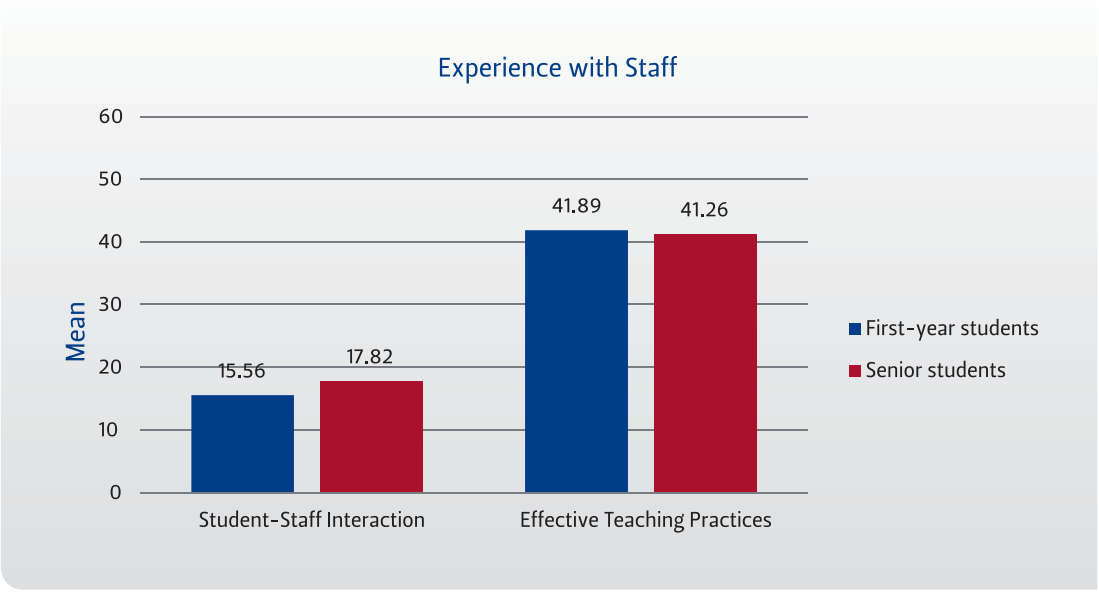


Figure 10: Reported mean scores for first-year and senior students concerning Experience with Staff.

In general, students reported very low interaction levels with staff, with a mean of 15.56 for first-year students and a mean of 17.82 for senior students. Only 21% of students confirmed that they "Often" or "Very often" discussed their career plans with a lecturer. Very few first-year students (18%) and senior students (21%) admitted to working with a staff member on activities other than academic work, such as on committees, projects and student groups. Slightly more students reported discussing their past academic performance with a lecturer, with 26% of first-years and 24% of senior students. In addition, students attending universities of technology were more likely to interact with staff on a regular basis ("Very often" or "Often"), while students from traditional universities reported the lowest interaction with staff.

The Student-Staff Interaction Engagement Indicator mean scores reported by first-year and senior students were low (**Figure 11**). The student-staff interaction results were somewhat different when compared by first-year and senior students, as senior students tend to interact more with staff than first-year students. For instance, first-year and senior first-generation students reported higher student-staff interaction than first-year and senior non first-generation students. Likewise, first-year and senior male students appear to be more comfortable speaking to staff than first-year and senior female students. Of everyone, Black African students described more frequent contact with staff when compared to the other races. First-year White students described the lowest use of communication with staff, while the first-year and senior "Other" students reported the same amount of low cooperation with staff than the much higher stated mean score of the Black African students. Black African students and males therefore tend to interact the most with staff.

Interestingly, results also indicated that first-year and senior on-campus students were more likely to interact with lecturers than students living off-campus.

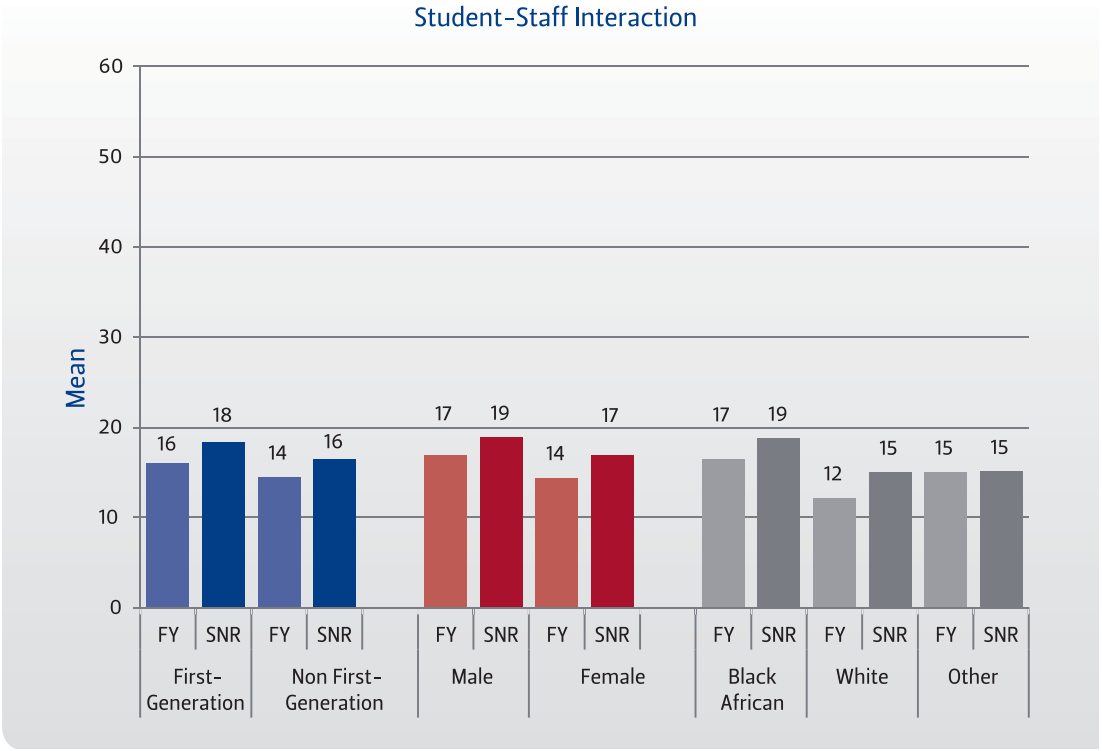


Figure 11: Student-Staff Interaction mean scores for first-year and senior students by first-generational status, gender and race.

Effective Teaching Practices

Effective teaching practices play an important role in facilitating student learning. These practices promote student learning and skills and include the following activities: clear explanations, organised teaching, illustrative examples, and quick feedback regarding tests and assignments.

Results showed that senior students rate the effective teaching practices of their lecturers lower than the first-year students. The majority of students (78%) stated that their lecturers clearly explained subject/module outcomes and requirements "Quite a bit" or "Very much".

Fortunately, most students (81%) also reported that their lecturers regularly presented subject/module sessions in an organised way.

Students (64%) estimated moderate levels of lecturers providing feedback on a draft or work in progress. In addition, 66% of students stated that detailed feedback was done in a timeously manner. Furthermore, students attending comprehensive universities were more likely to report their lecturers incorporating effective teaching practices on a regular basis ("Quite a bit" or "Very much"), while students from traditional universities reported the lowest use of effective teaching practices.

First-year students reported that their lecturers made more frequent use of effective teaching practices than the senior students did (**Figure 12**). First-year and senior first-generation students' mean scores for effective teaching practices were similar, but were higher than the first-year and senior non first-generation students. First-year female students were of the opinion that their lecturers had been incorporating more effective teaching practices than what senior female students believed. While, first-year male students and senior male students had the same mean scores for this indicator. However, results indicate that Black African students' lecturers tend to apply much more effective teaching practices in class than the White and "Other" students described. First-year and senior White students reported the lowest use of effective teaching strategies in class by their lecturers, while first-year Black African students accounted for the most use of effective teaching practices in class by their lecturers. It is believed that effective teaching practices contribute to student success which adds to the evidence that Black African students are becoming more engaged, while White students are becoming more disengaged at universities in South Africa.

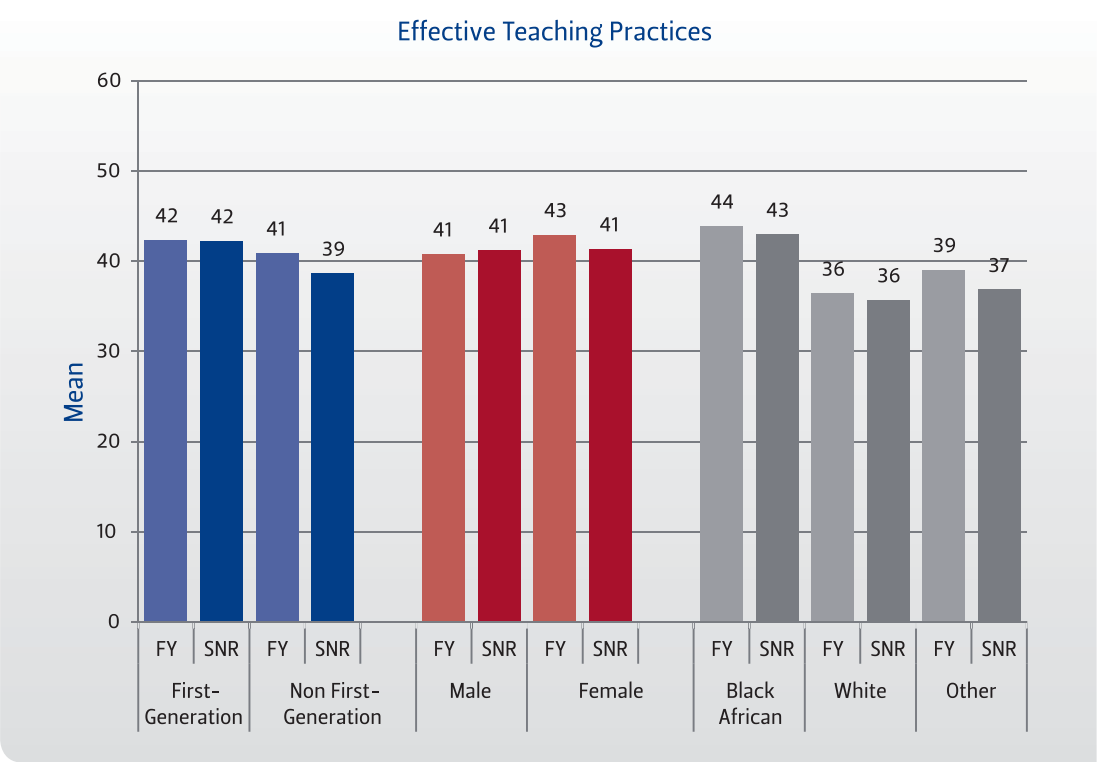


Figure 12: Effective Teaching Practices mean scores for first-year and senior students by first-generational status, gender and race.

Results show first-year students in the fields of Business, Commerce and Management and Human and Social Sciences and seniors in the field of Business, Commerce and Management experienced the highest levels of effective teaching practices. However, students in the field of Science, Engineering and Technology experienced the lowest levels.

3.4 Campus Environment

Students benefit from and are more satisfied by supportive settings that cultivate positive relationships among students, lecturers, and staff. Two Engagement Indicators investigate this theme: Quality of Interactions and Supportive Environment. Students' reported campus environment mean scores were somewhat different when compared by first-year and senior level (**Figure 13**).

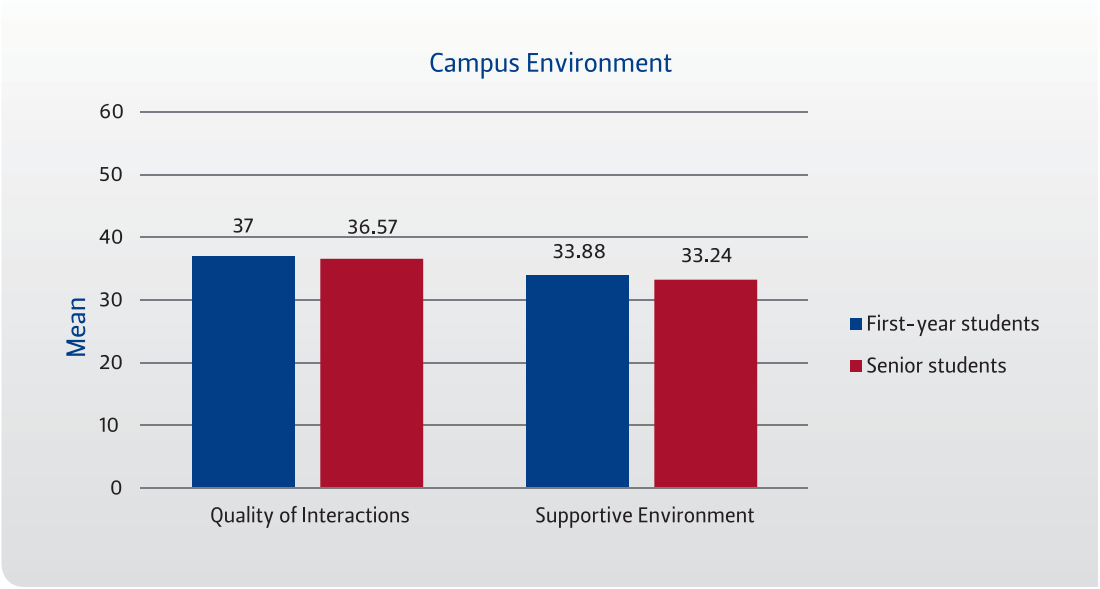


Figure 13: First-year and senior students' Engagement Indicator mean scores regarding their Campus Environment.

Quality of Interactions

Positive interpersonal relationships promote student learning and success, but the campus environment influences both the students' relationships as well as one's learning and success at university. Students who seek support from peers, advisors, lecturers and support staff are more equipped to find assistance when needed, and learn from those around them. Students reported an overall mean of 37 for quality of interactions at their respective universities. The majority of students (88%) rated the quality of interactions with other students as "Good" or "Excellent". Additionally, students' interaction with academic staff, lecturers, as well as peer learning support such as tutors, mentors and facilitators were appreciated, with 71% of students reporting "Good" or "Excellent" quality of interactions.

However, students reported lower quality of interactions from student support services and administrative services when compared to the other stakeholders. In addition, 53% of first-year students and 51% of senior students rated the administrative services, such as registration and financial aid offices as "Good" or "Excellent". Quality of interactions varied by typology. Students attending universities of technology were more likely to report "Good" or "Excellent" quality of interactions with various university stakeholders. On the contrary, students from traditional universities rated the lowest quality of interactions at their university.

The Quality of Interactions Engagement Indicator was compared by first-generational status, gender and race (**Figure 14**). First-year students experienced a slightly higher quality of interactions at university than senior students reported. Another factor was that first-year and senior first-generation students' mean scores for quality of interactions at university were higher than the first-year and senior non first-generation students, who reported the same mean score. Furthermore, first-year and senior males, as well as first-year females reported the same score for quality of interactions, while senior females described a slightly lower score for this indicator. When compared by race, first-year White students and first-year and senior "Other" students described the lowest quality of interaction at university when compared to the Black African students. In contrast, first-year first-generation students and first-year Black African students reported the highest quality of interactions with students, peers and staff.

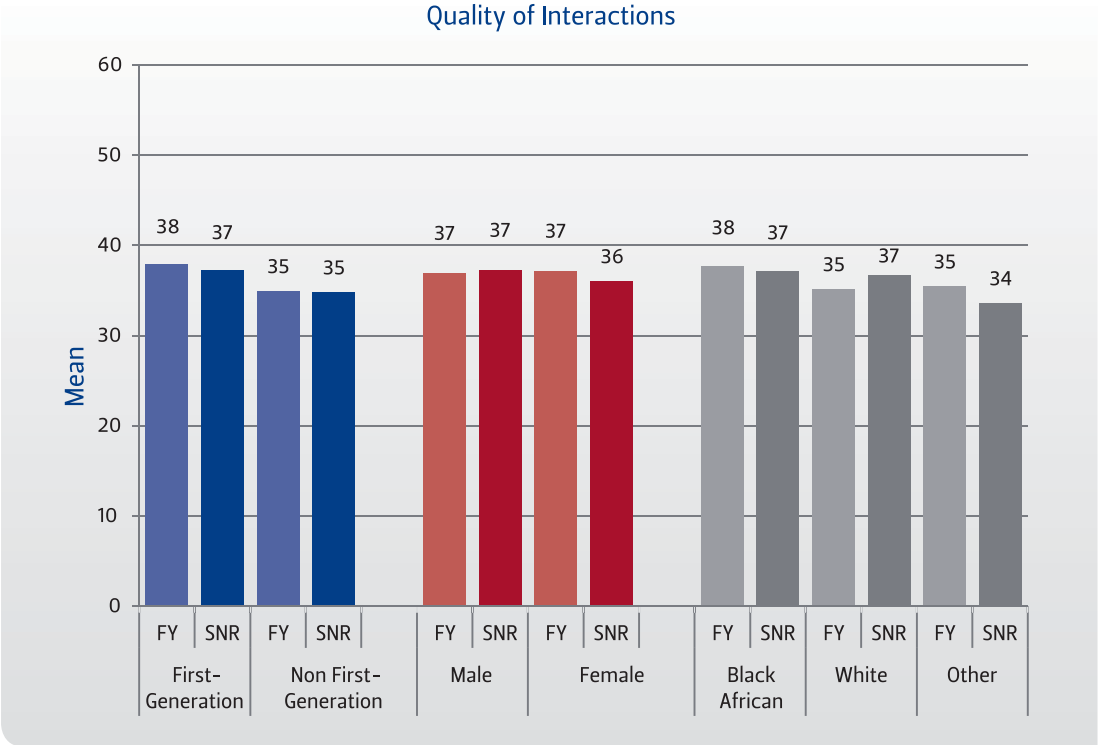


Figure 14: Quality of Interactions mean scores for first-year and senior students by first-generational status, gender and race.

Supportive Environment

Institutions that are dedicated to enhancing student success should aim to provide support to students across a variety of areas that include the cognitive, social and physical and should encourage a high level of student performance and satisfaction (Pascarella & Terenzini, 2005). This Engagement Indicator summarises students' perceptions about the institution's efforts regarding their learning and development.

Results indicated that the majority of students find their campus environment to be supportive. Students reported that their institution stressed using learning support services such as tutoring services, peer mentoring, writing centres and the library "Quite a bit" or "Very much", with 81% of first-years and 77% of senior students agreeing. Most first-year students (64%) and senior students (59%) felt that their institution

encouraged contact among students from different backgrounds (such as on social, racial/ethnic, religious, and economic levels) to a great extent.

Further, it was evident that very few students (37%) were of the opinion that their institution emphasised helping them to manage their non-academic responsibilities which included family and work matters. A small number of first-year students (43%) and senior students (47%) stated that their institution encouraged them to attend events that address important economic, political, or societal issues, "Quite a bit" or "Very much".

There was a definite difference between the various university groupings. Students attending comprehensive universities were more likely to report that their institution created a supportive environment ("Quite a bit" or "Very much"), while students from universities of technology reported the lowest supportive environment by typology.

The supportive environment Engagement Indicator was compared by first-generational status, gender and race (**Figure 15**). First-year students reported a slightly more supportive environment than senior students. This shows that a focus on the first-year experience has a positive impact. It also might suggest that more focus is needed on senior students to help them deal with their academic and non-academic responsibilities. In general, first-generation students' perceived a higher level of support from their institution than that of non first-generation students. Similarly, first-year females also experienced more institutional support than first-year and senior males and senior females. Moreover, when compared by race, first-year and senior Black African students observed a much higher support system at their universities than White and "Other" students described. Thus, a lower level of support was experienced by senior White students and senior "Other" students. Again, students living off-campus found the environment less supportive than on-campus students.

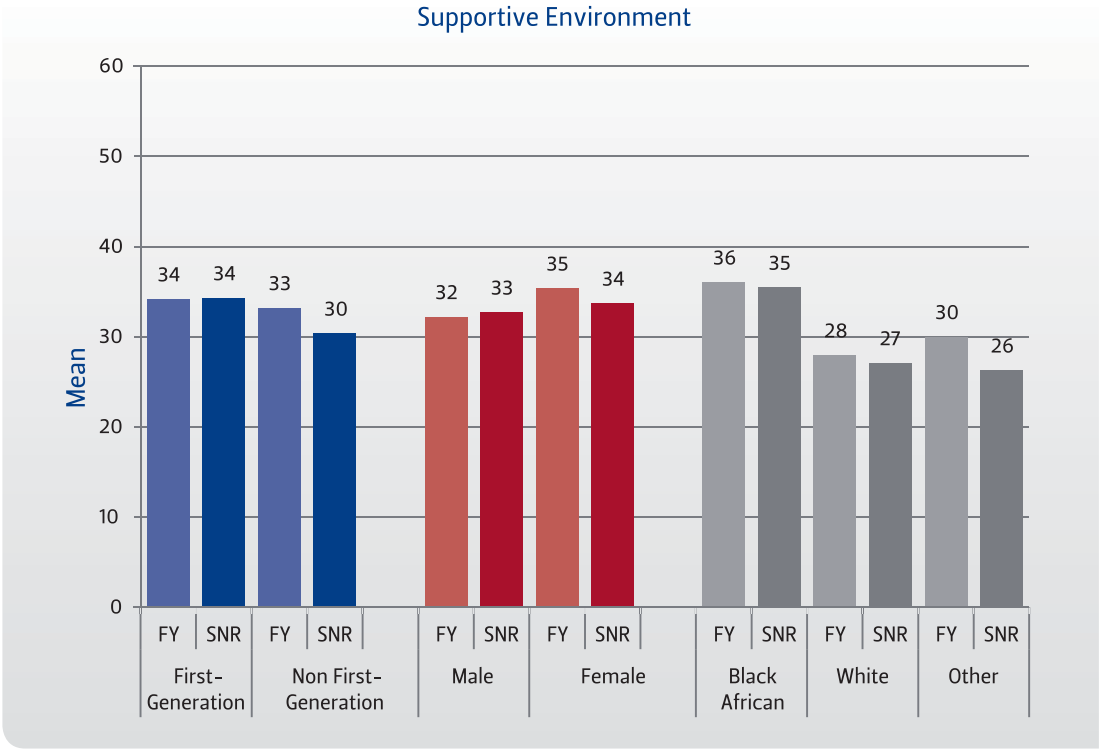


Figure 15: Supportive Environment mean scores for first-year and senior students by first-generational status, gender and race.

3.5 Developing South African High-Impact Practices

What are High-Impact Practices (HIPs)?

Studies in the USA found that students from various backgrounds who participated in certain activities, while at university, were more likely to advance their capability in areas such as critical thinking, solving real-world problems and working effectively with others. These activities are referred to as "high-impact activities", and involve students participating in community service learning, being part of learning communities, undergraduate research, internships, capstone/culminating projects, and study abroad opportunities (Kuh, 2008).

High-Impact Practices: SASSE Results

Four HIPs were included in the updated SASSE namely, students participating in practical work, being involved in student societies, involvement in service-learning and conducting research with a staff member. The identification and development of HIPs from a South African context is an important focus in the SASSE project. Therefore, intentional conversations were initiated during the 2014 Users Workshops to reflect on the formulation and expansion of HIPs in the South African context. Table 4 shows how these HIPs were formatted in 2014 to get an indication of the presence of these practices and to facilitate conversation.

The SASSE asks students about their participation in the four HIPs described in **Table 5** below:

Unlike most questions on the SASSE survey, the HIP questions are not limited to the current academic year, thus, seniors' responses include participation from prior years. NSSE founding director George Kuh, recommends that institutions should aspire for all students to participate in at least two HIPs over the course of their undergraduate experience - one during the first year and one in the context of their study course (Kuh, 2008).

Overall HIP Participation

To stimulate further conversation around HIPs, the focus of analysis for this report was proving whether there were differences in the experiences of students in different types of institutions. Most first-year and senior students reported participating in at least one or more high-impact practices during their

High-Impact Practices in SASSE	
Practical work	**Student Societies**
Practical work related to studies (internships, work integrated learning, clinical placement, field experience, etc.)	Participate in student societies (law, psychology, etc.) where students engage in topics related to their subjects/modules
Service-learning	**Research with Staff**
Subjects/modules that have included community based project (service learning)	Work with lecturer on a research project

Table 5: High-Impact Practices of undergraduate students in South Africa measured in SASSE.

undergraduate studies. The following HIP results are divided into participation in one HIP and participation in two or more HIPs by first-year and senior status (**Figure 16**).

The majority of first-year students (46%) have participated in only one HIP thus far. As expected, more senior students (33%) reported participating in two or more HIPs than the first-year students (18%). First-year students from comprehensive universities reported the highest participation rates in one HIP, whereas senior students from universities of technology described the highest participation rates in one HIP. In addition, first-year students in universities of technology had the highest participation rates in two or more HIPs, although senior students from comprehensive universities reported the highest participation rates in two or more HIPs.

The SASSE team is working with participating institutions to further analyse the data to develop a more nuanced understanding of high-impact practices in the South African context. The development of high-impact practices supports and is complimented by data from the CHE quality enhancement project.

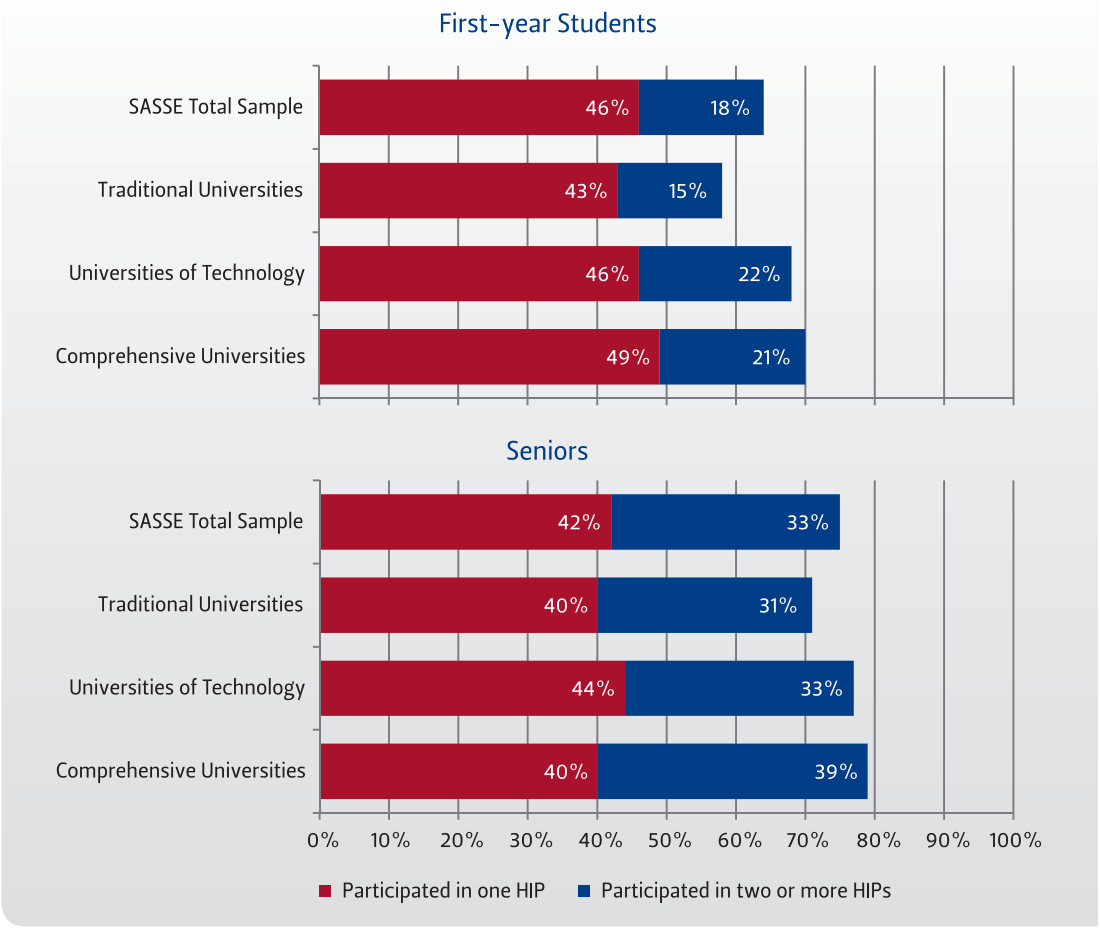


Figure 16: Participation in one or more HIPs.

Selected results relating to contemporary challenges

Having reflected on the Engagement Indicators and High-Impact Practices, the research team sought to share selected results relating to questions frequently raised in institutional workshops, therefore addressing current challenges in South African Higher Education.

4.1 What are students' expectations of higher education?

There are many student expectations of South African higher education. Hence, understanding student expectations is vital to enable institutions to develop interventions that can meet or help to moderate these expectations. The Beginning University Survey of Student Engagement (BUSSE) is a survey instrument designed to gather information from students on a number of key issues upon their arrival at university. The first national administration of BUSSE in 2014 included two institutions and the 2015 administration involved six institutions. The BUSSE has nine sub-scales, referred to as indicators, which tap into a number of essential elements, including how a student engaged in their academic work during high school, how they intend to engage during their higher education studies, and what they expect from the university environment. The nine subscales are grouped as follows:

High School Engagement

- Quantitative Reasoning
- Learning Strategies

First-year Expectations

- Collaborative Learning
- Student-Staff Interaction
- Interaction with Diverse Others
- Expected Academic Perseverance
- Expected Academic Difficulty
- Perceived Academic Preparation
- Importance of the Campus Environment

Figure 17 illustrates the expectations of first-year students in the 2014 cohort.

The comparison of the seven subscales in BUSSE indicates students beginning university's expectations of higher education (**Figure 17**). It is important to note the four subscales, Interaction with Diverse Others, Academic Perseverance, Academic Preparation and Importance of Campus Environment had relatively high mean scores reported by the students. However, the three subscales, Collaborative Learning, Student-Staff Interaction and Academic Difficulty had lower mean scores reported by the students. When focusing on the scales with higher expectations, it is clear to see that first-time students expect to have interaction with people who hold different views from their own. They are also confident of persevering in their studies when things get tough and would like the campus environment to be supportive. These findings beg the question as to whether institutions have distributed their limited resources in a way which would help to meet students' expectations. Another question to ask pertains to when it is not possible and whether interventions could help moderate these expectations.

Comparative analysis in this survey, focused on race, gender and generational status, in the 2014 sample and highlighted the following interesting findings:

- Black African students have a higher expectation of participating in collaborative learning with their peers and interacting with staff than the other racial groups. They also were confident that they would be able to persevere more than other groups.
- First-generation students were more confident of their ability to persevere. They had a higher expectation of engaging in collaborative learning and expected this of staff more than non first-generation students.
- Female students reported higher levels of academic perseverance than males and had higher expectations of collaborative learning.
- Black African, first generation and female students had a higher expectation of support from the institution than other racial groups, non first-generation and male students.

These and other findings will be explored in greater depth as part of the analysis of the 2015 cohort.

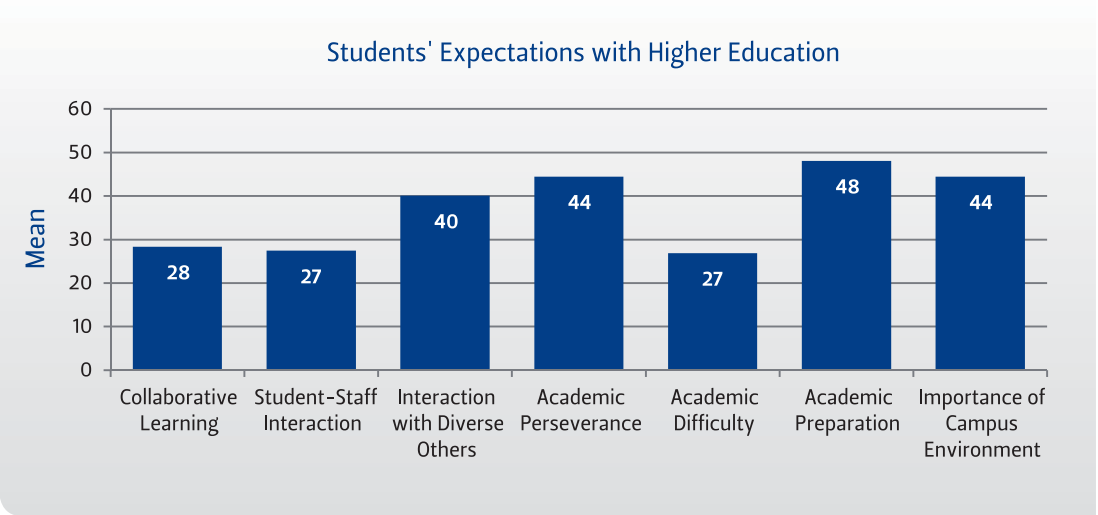


Figure 17: Students' Expectations of Higher Education by seven subscales in BUSSE.

4.2 How prepared do students think they are?

The preparation levels of students entering the higher education system is raised as a cause for concern at all levels inside higher education institutions and by many stakeholders outside higher education. **Figure 18** provides important evidence to better understand and address these concerns.

From this comparative analysis it is clear that there is a wide gap between how difficult students think university study is going to be and how well prepared students think they are. Figure 18 shows that first-generation, male and Black African students expect university to be less difficult than other groups. Black African students and female students also have the highest reported levels of preparation. These findings emphasise the importance of sophisticated orientation, early warning and transition interventions which would help students to become more realistic about their expectations and abilities without demoralising them.

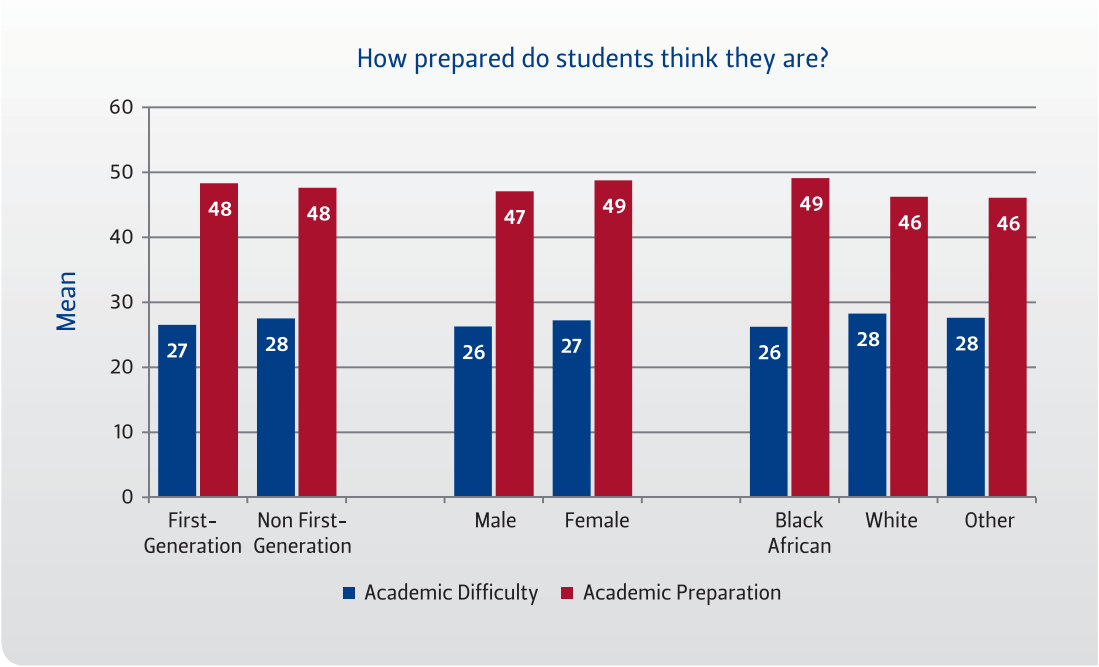


Figure 18: BUSSE subscale Academic Difficulty and Academic Preparation mean scores for first-year entering students compared by first-generational status, gender and race.

4.3 Do students find their academic work challenging?

Academic challenge is vital to sustain student motivation and to develop graduate attributes which improve students' chances of employability. **Figure 19** provides a more in-depth analysis which compliments the analysis of indicator scores and which relates to the Academic Challenge Theme in SASSE.

The majority of students (86% of first-year and senior students) indicated that their institution emphasised spending significant time studying and on academic work ("Quite a bit" or "Very much"). Students from traditional universities reported the most academic emphasis in their institution compared by typology. In the survey, students were asked to rate the extent to which their subjects/modules challenged them to do their best work. Response options included "Very much", "Quite a bit" or "Some", and "Not at all".

Low Challenge

Less than 1% of first-year and senior students reported their academic challenge as low.

Moderate Challenge

A moderate academic challenge was reported by 35% of first-year students and 33% of senior students. First-year first-generation students and non first-generation students experienced the same level of challenge, while senior non first-generation students experienced a higher level of academic challenge than senior first-generation students. Generally, more male students perceived a moderate academic challenge than the female students did. Furthermore, when compared by race, Black African students experienced the least moderate academic challenge.

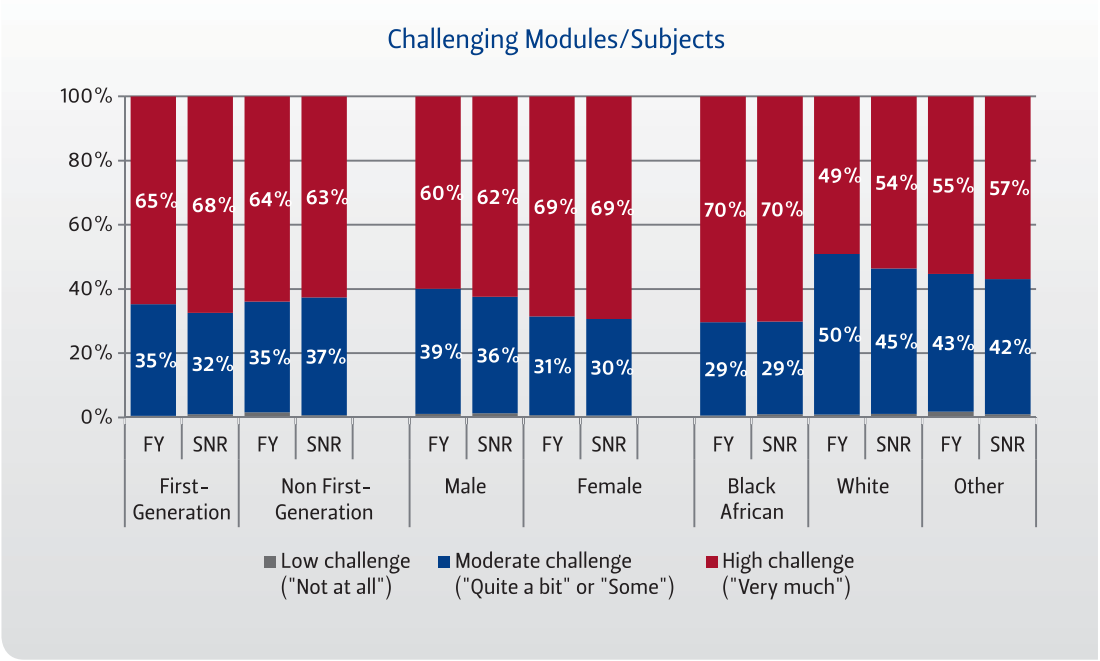


Figure 19: The level in which first-year and senior students found their subjects/modules challenging.

High Challenge

The majority of first-year students (64%) and senior students (66%) perceived a high challenge academically. First-year first-generation students experienced a higher level of challenge than the non first-generation students. Likewise, senior first-generation students also perceived a more advanced academic challenge than the senior non first-generation students. Thus, this may indicate that the first-year and senior first-generation students are struggling with the level of academic challenge which subjects/modules require of them. When compared by gender, female students experience the most advanced challenge academically. Furthermore, Black African students reported the highest academic challenge levels when compared to the other groups. This then emphasises that the majority of students enrolled in South African higher education find their work challenging and need appropriate support to maximise their chances of success.

4.4 How do students use their time?

Conversations on academic preparation and the level of academic challenge result in the need for a better understanding into how students use their time. The SASSE has nine time items requesting students to reflect on how they spend their time. **Figures 20** and **21** provide a comparative analysis of two of these items.

The average first-year student reported spending approximately 12.9 hours per week preparing for class (**Figure 20**). Senior students spent less time preparing for class with only 12.1 hours per week. What stands out is that first-year first-generation students report spending less time preparing for class than first-year, non first-generation students.

However, senior first-generation students and senior non first-generation students describe spending the same amount of hours per week preparing for class, on average. Results indicate that first-year females and first-year males spend more time preparing for class than senior females and senior males. When compared by race, first-year "Other" students report spending the most time preparing for class. On the other hand, first-year White students spent the smallest amount of time per week preparing for class. At senior level, however, White students tend to spend the most time preparing for class, compared to Black African students and "Other" students. It is surprising that senior students regardless

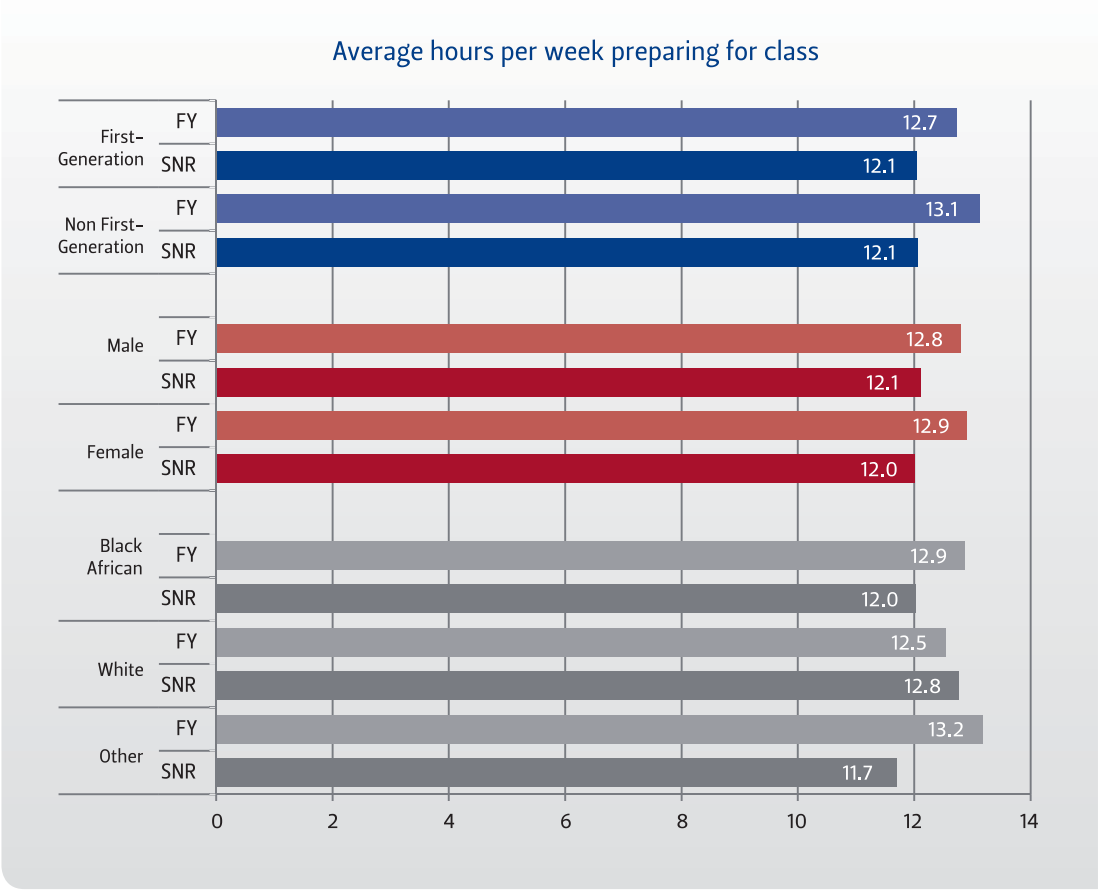


Figure 20: First-year and senior students' reported average hours per week spent preparing for class compared by first-generational status, gender and race.

of their first-generational status and gender report spending less time preparing for class than their first-year counterparts, which is therefore noteworthy.

As shown in **Figure 21**, students were asked to report the average number of hours they spent reading for their subjects/modules and the average number of pages of assigned writing. First-year students stated that they spent approximately 9.3 hours per week reading, while senior students reported less time reading with only 9 hours per week. However, first-year students from comprehensive universities reported spending approximately one hour more than the average student on assigned subject/module reading (10.4 hours per week). Additionally, first-generation students report spending more time per week on subject/module readings than non first-generation students. In a similar way, male students describe spending more time on the assigned subject/module readings than the female students do. Another point is that first-year Black African students report spending much more time on academic readings than the first-year "Other" students. First-year White students describe spending the smallest amount of time per week on academic readings. Similarly, at senior level, Black African students also spent the most time per week on academic readings, while the "Other" students spent the second most average hours per week. Of everyone, White students spent the smallest amount of time per week on subject/module readings. Interestingly, senior students on average tend to spend less time on academic readings per week than their first-year counterparts.

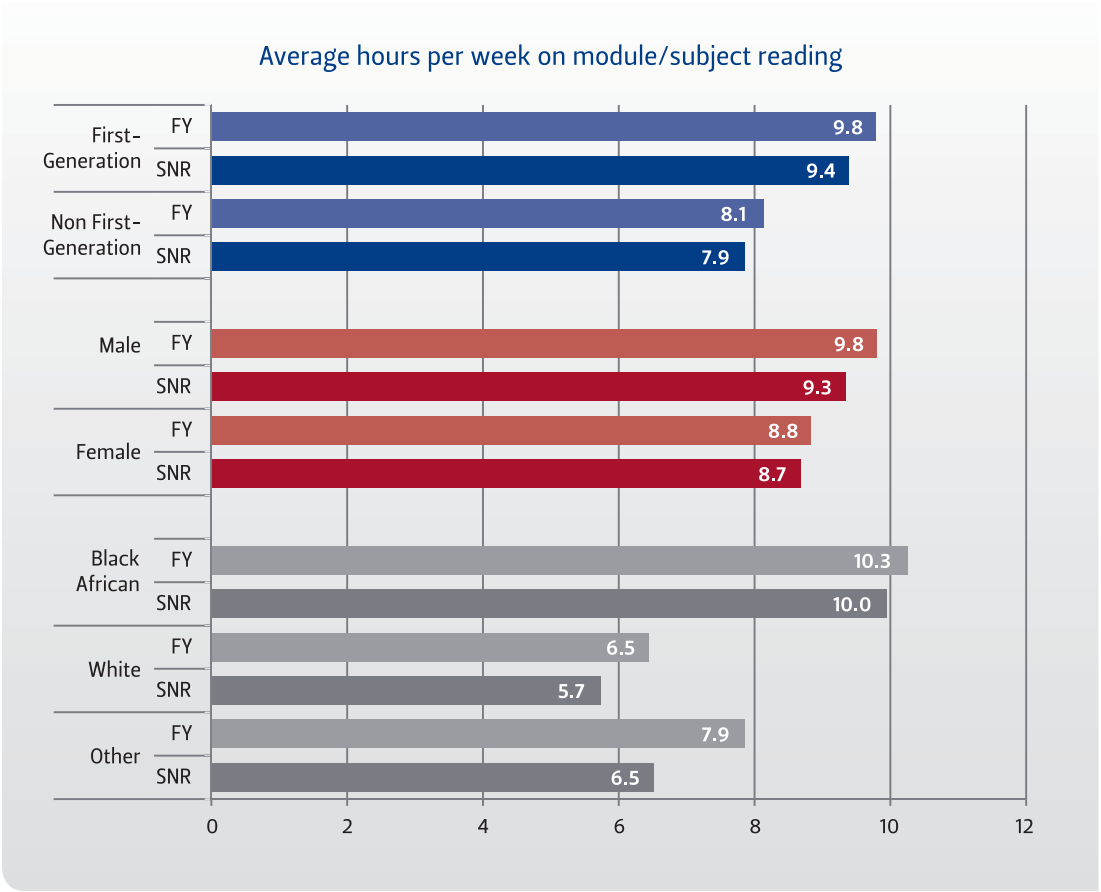


Figure 21: First-year and senior students reported average hours per week spent on subject/module readings compared by first-generational status, gender and race.

4.5 How do students assess their experience?

Students' perceptions of their cognitive and affective development, as well as their overall satisfaction with their institutions, provide useful evidence of their educational experiences and whether higher education is responsive to student needs. Students reported how much their experience at their institutions contributed to their knowledge, skills, and personal development. The majority of first-year students (82%) rated their general experience at their institution as "Good" or "Excellent". When compared by typology, more first-year students from comprehensive universities reported a positive experience, with 89% of students rating their experience as "Good" or "Excellent". Similarly, most senior students (79%) also reported a "Good" or "Excellent" experience at their institution. When compared by typology, 84% of senior students from comprehensive universities stated that their experience had been satisfactory.

The students' rating of their overall experience as "Good" or "Excellent" was analysed from a first-generational status, gender and race perspective (**Figure 22**). First-generation students rated their overall

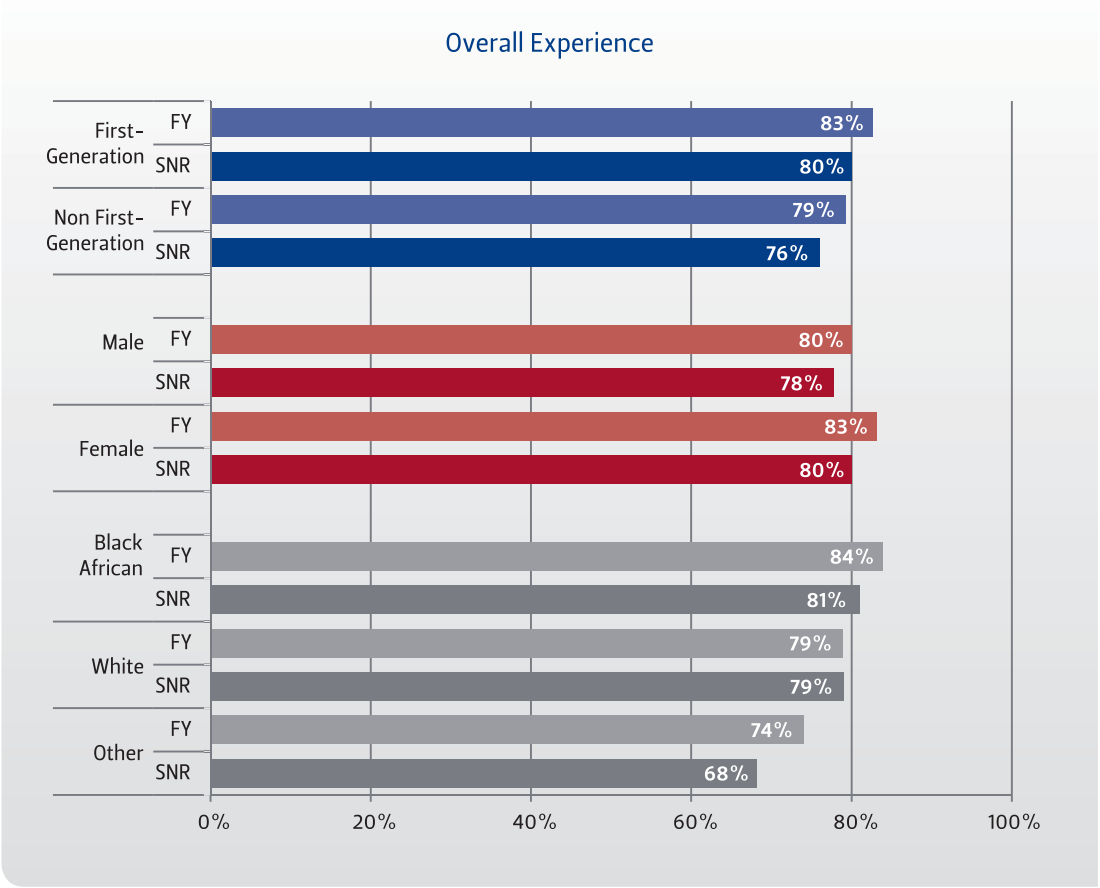


Figure 22: First-year and senior students rating their experience at university as "Good" or "Excellent", compared by first-generational status, gender and race.

experience at their institution as better than the non first-generation students. In a similar way, female students also reported a better overall experience than male students. When compared by race, Black African students were placed the highest, with the best reported overall experience at their institution. White students ranked second, while "Other" students had the lowest "Good" or "Excellent" reported experiences at university.

Students were also asked to estimate if they would attend the same institution if they had a chance to attend any institution at the beginning of their studies. Most first-year students reported that they would "Probably" or "Definitely" attend the same institution, in 78% of responses. Furthermore, most first-year students from traditional and comprehensive universities (86%) would be willing to attend the same university again, while only 73% of first-year traditional university students were found to be certain of their decision. In addition, the majority of senior students (75%) were also sure that they would attend the same university again. Interestingly, when compared by typology, 79% of senior students from both traditional and comprehensive universities and 72% of students from universities of technology would be willing to attend the same institution.

4.6 Which graduate attributes are students developing?

The development of graduate attributes is one of the objectives of the Quality Enhancement Project (QEP) (HEQC, 2013). Students' development of these various qualities and skills should contribute to their capacity as a citizen in society as well as be able to help them obtain and maintain their work (Bridgstock, 2009). These attributes should prepare students not only for sufficient disciplinary knowledge, but also equip them for various contexts outside their day-to-day work (McCabe, 2010).

Senior students were asked to rate whether they were developing the following graduate attributes. Students reported the most gains in the area of thinking critically and analytically. However, students described the least development of developing/clarifying a personal code of values and ethics, and being an informed and active citizen. It is, thus, evident that first-generation students report much more development of graduate attributes than the non first-generation students (**Figure 23**).

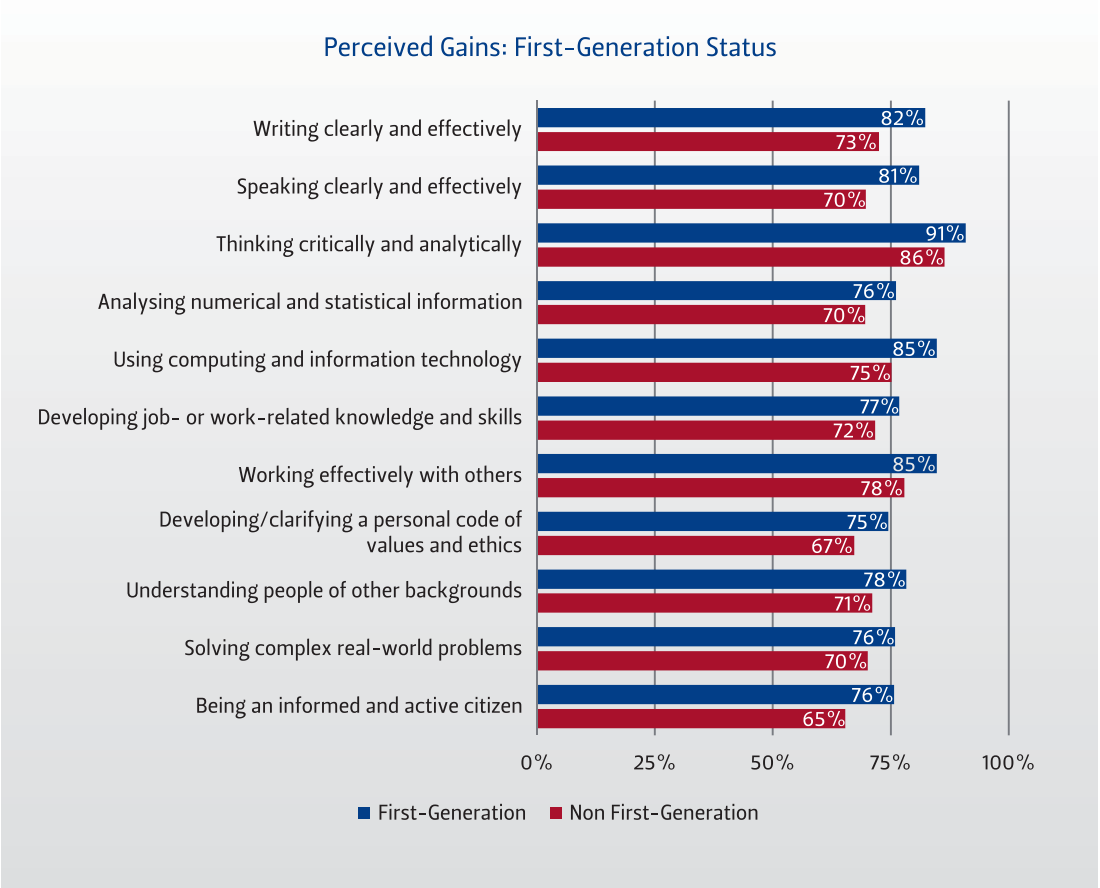


Figure 23: Senior students rating their Perceived Gains at University as "Quite a bit" or "Very much" compared by first-generational status.

When the perceived gains of students are compared by gender, results indicate that female students are developing somewhat more graduate attributes than the male students (**Figure 24**).

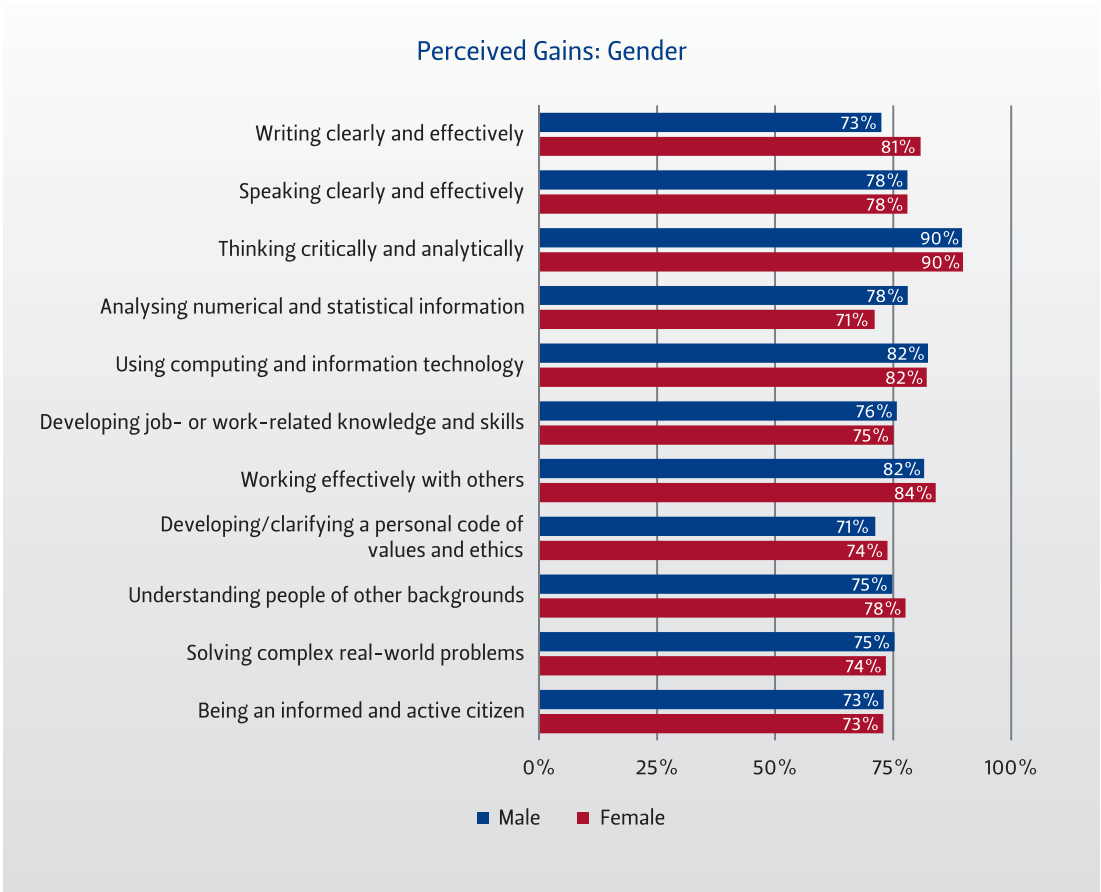


Figure 24: Senior students rating their Perceived Gains at University as "Quite a bit" or "Very much" compared by gender.

When the perceived gains of students are compared by race, results indicate that Black African students develop more graduate attributes at university than White students and "Other" students (**Figure 25**). This may indicate that Black African students benefit the most from various support structures. Of noteworthy importance is that White students report developing the least amount of graduate attributes compared to the other races, which indicates that initiatives should also be focussed on reaching White and "Other" students.

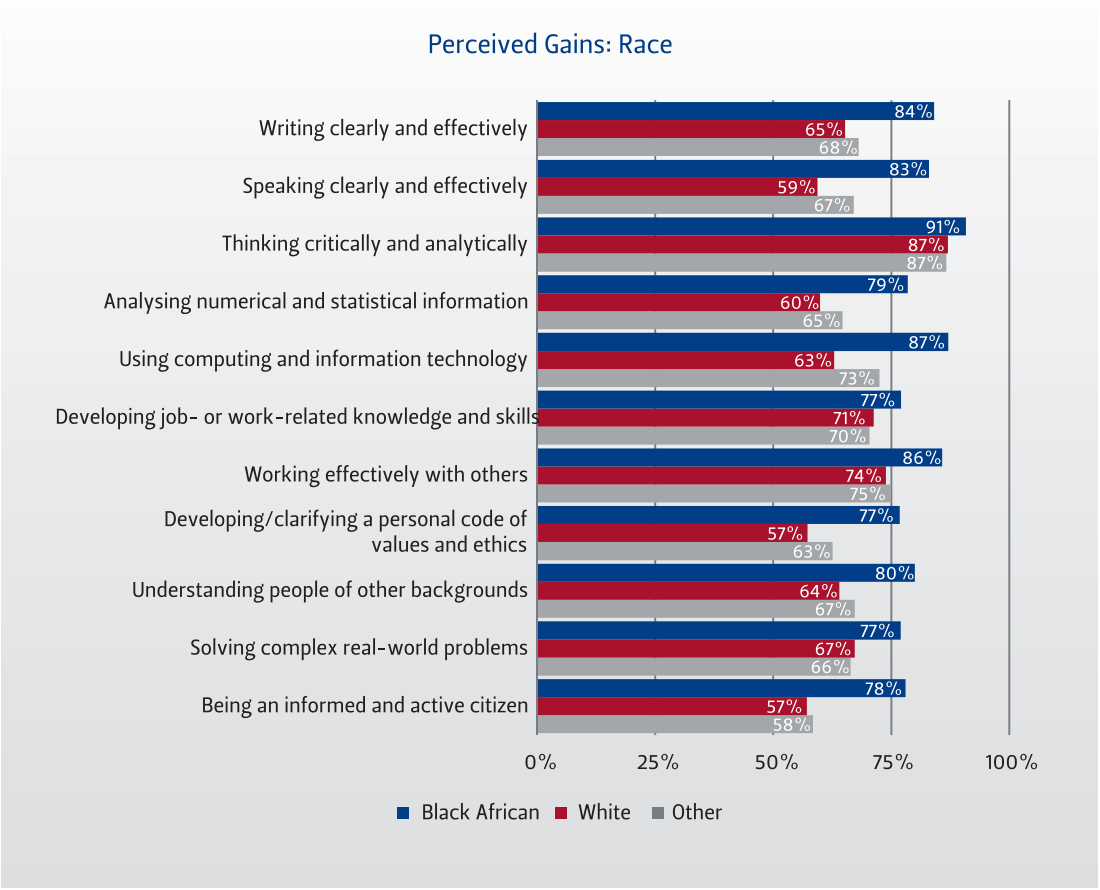


Figure 25: Senior students rating their Perceived Gains at University as "Quite a bit" or "Very much" compared by race.

Building capacity for evidence-based change in Higher Education

Developing the capacity of institutions across the post-school sector has been identified as a priority by the White Paper (2013). In addition, there is increased recognition of the importance of evidence-based decision making assisting colleges and universities to better support students' success. This applies especially to those from previously disadvantaged groups and lower socio-economics backgrounds (Kuh et al., 2015). In response to these national and global trends, the SASSE team explored how it could use the SASSE institutional reports, users' workshops and the SASSE website to contribute to the use of evidence to support institutional change and transformation.

5.1 Users' workshop data

Users' workshops are mainly focused on empowering institutions to use their own data. All participants are provided with an overview of national results to allow them to develop a comparative perspective on how their engagement levels compare with other institutions. This overview is followed by a focus on institutional results and sharing a data tool which participants use to explore current challenges and issues of quality in teaching and learning. The workshop closes with lessons from the field which share internationally recognised practices with participants.

5.1.1 Data tools

The SASSE team developed data through sophisticated programming in Excel which creates a dashboard (see **Figure 26** and **27**).

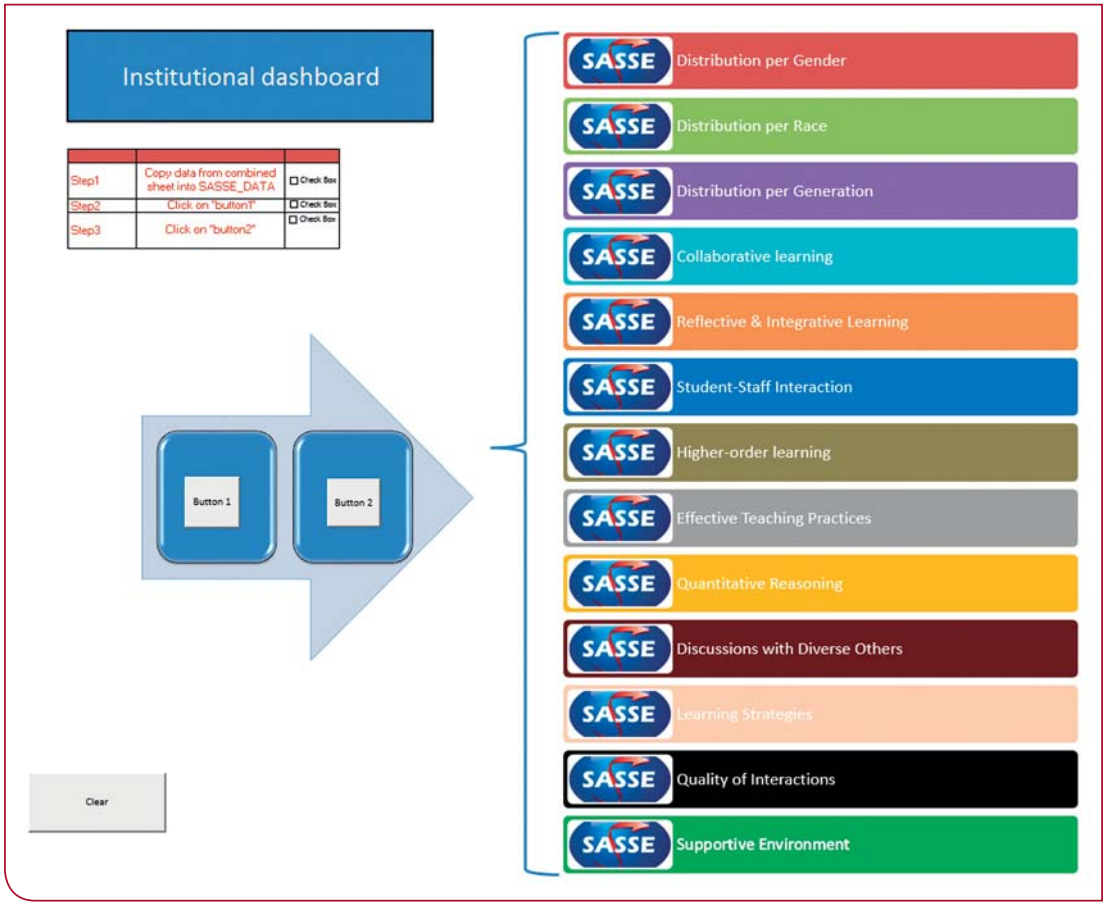


Figure 26: The institutional dashboard that has been created to assist staff with working with their institution's engagement results.

Click to return to Index ○ Display data as % overall ◉ Display data as Count overall

Count of Student number	Column Labels				
Row Labels	(blank)	0-20	20-40	40-60	Grand Total
Asian		2			2
Black African	43	42	297	180	562
Coloured	19	19	105	50	193
I prefer not to answer	2	5	29	21	57
Indian	2		5	6	13
Multiracial	1		2	5	8
Other	1	1	2		4
White	8	7	62	28	105
(blank)	1		3	2	6
Grand Total	**77**	**76**	**505**	**292**	**950**

Figure 27: An example of the results which the institutional dashboard is able to generate.

The aim of the data tool is to create a practical way in which participants can start to interact with their own data. The user-friendly interface saves time and empowers staff to drill down to a small cohort of students. The data tool has evolved significantly through the feedback of participants.

The approach of letting staff "play" with their own data has empowered them to analyse data for themselves within their specific institutional context (i.e. student affairs, institutional research, etc.). Furthermore, it has helped them to reflect on how evidence (data) can be used to develop interventions and deploy institutional resources more effectively.

Evaluation of impact

Table 6 provides a summary of the attendance data.

User Workshops 2015		
	Number of user workshops	Number of participants
SASSE workshops	10	125
BUSSE workshops	6	59
Total	16	184

Table 6: SASSE and BUSSE user workshops held in 2015 to elucidate institutions' engagement results.

Analysis of participants' feedback revealed that participants had a very positive experience. Of the 125 participants who attended the SASSE workshop, 81 respondents completed feedback forms. Participants comprised of 28% males and 68% females.[3] The racial classification of the workshop participants were 20% Black African, 47% White and 32% from other racial classification groups. Approximately 83% of the participants rated themselves as having little to no experience working with their institution's engagement data prior to the workshops, while only 10% of users reported themselves as familiar with the engagement data.

The overwhelming majority of participants (95%) who attended the SASSE workshops "Strongly agreed" or "Agreed" with the statement that the workshop content paved the way to gain sufficient knowledge and understanding of student engagement.

Analysis of the BUSSE workshop participants' feedback showed a similar positive impact. Of the 59 participants who attended the BUSSE workshop, 38 respondents completed the feedback forms. The participants comprised of 39% males and 61% females. The racial classification of the workshop participants were reportedly 42% Black African, 42% White and 16% from other racial classification groups.

All the participants who attended the BUSSE workshops, "Strongly agreed" or "Agreed" with the statement that the workshop content paved the way to gain sufficient knowledge and understanding of student engagement, proving the workshops to be very effective.

[3] A total of 4% of respondent did not indicate their gender.

5.2 Promoting an evidence-based approach to staff development

As indicated earlier in this report, the Classroom Survey of Student Engagement (CLASSE) was developed to provide institutions with a diagnostic tool with which they would be able to intervene in courses with high dropout and failure rate (AKA "killer" courses). In addition, it creates an evidence-based approach to academic staff development. The CLASSE collects data from the lecturer(s) and students in a specific course or module. The CLASSE-Lecturer then asks the lecturer(s) of that module/course how important the various educational practices are for facilitating student success. In a similar way, the CLASSE-Student asks students how frequently they engage in various educational practices within a specific course. Thereafter, the data from the lecturer(s) and students are analysed and tabulated in a quadrant analysis that can be used to facilitate a diagnostic conversation between the lecturer(s) of a module/course and academic staff development professionals

(see **Table 7**). Therefore, the quadrant analysis allows lecturers to see where they are missing their students which is incredibly important in the teaching and learning process.

In **Table 7**, the vertical axis shows how important a lecturer regards certain effective education practices to be while the horizontal axis shows the frequency with which students engage in these activities. For example, if we look at the example item in Quadrant 2, the lecturer has indicated that working with other students on projects/assignments during this module is important and students are not doing it. Hence, the presence of the item in Quadrant 2 is viewed as a quadrant which highlights opportunities for improvement. Thus, the staff member or academic can take their quadrant analysis and go to the CLASSE website where multiple techniques or strategies to address the challenge of getting students to work together are provided.

Quadrant Analysis

Quadrant 2

Very Important or Important to Lecturer
Below Average Student Frequency

Opportunity for improvement

Example: Worked with other students on projects/assignments during this module

The educational practices that lecturers pointed out as being important or very important to them but that students report participating in at below average frequency will appear in this quadrant.

Quadrant 1

Very Important or Important to Lecturer
Above Average Student Frequency

If a lecturer thought an item was important or very important and students rated it as occurring with above average frequency it would be shown in this quadrant.

Quadrant 3

Somewhat Important or
Not Important to Lecturer
Below Average Student Frequency

If a lecturer rated an item as somewhat important or not important and students reported that it occurred at below average frequency it would be placed in this quadrant.

Quadrant 4

Somewhat Important or
Not Important to Lecturer
Above Average Student Frequency

Items that fall in this quadrant are items that lecturers value as somewhat important to not important and that students report participating in at an above average frequency.

Importance (Lecturer Ratings)

Frequency (Student Ratings)

Table 7: A Quadrant Analysis representing Lecturers and Students rating in terms of importance and frequency.

The techniques are mapped against the CLASSE questions and can be viewed on the CLASSE page of the SASSE website: http://sasse.ufs.ac.za/_by clicking on "Using your Quadrant Analysis" (**Figure 28**).

The techniques and strategies provided are based on Elizabeth F. Barkley's: Student Engagement Techniques: A Handbook for College Faculty (2010). The SASSE team is exploring other texts that will be added in future to start expanding techniques and strategies. The CLASSE website, thus, empowers academic and academic staff developers to use data (evidence). This allows them to adapt international and national best practices to the context of their specific classroom. Further, they are able to monitor whether these efforts are increasing student engagement in their classrooms, and ultimately enhancing students' chances of success. This evidence based approach also facilitates the development of reflective practice which is vital for high quality scholarly teaching.

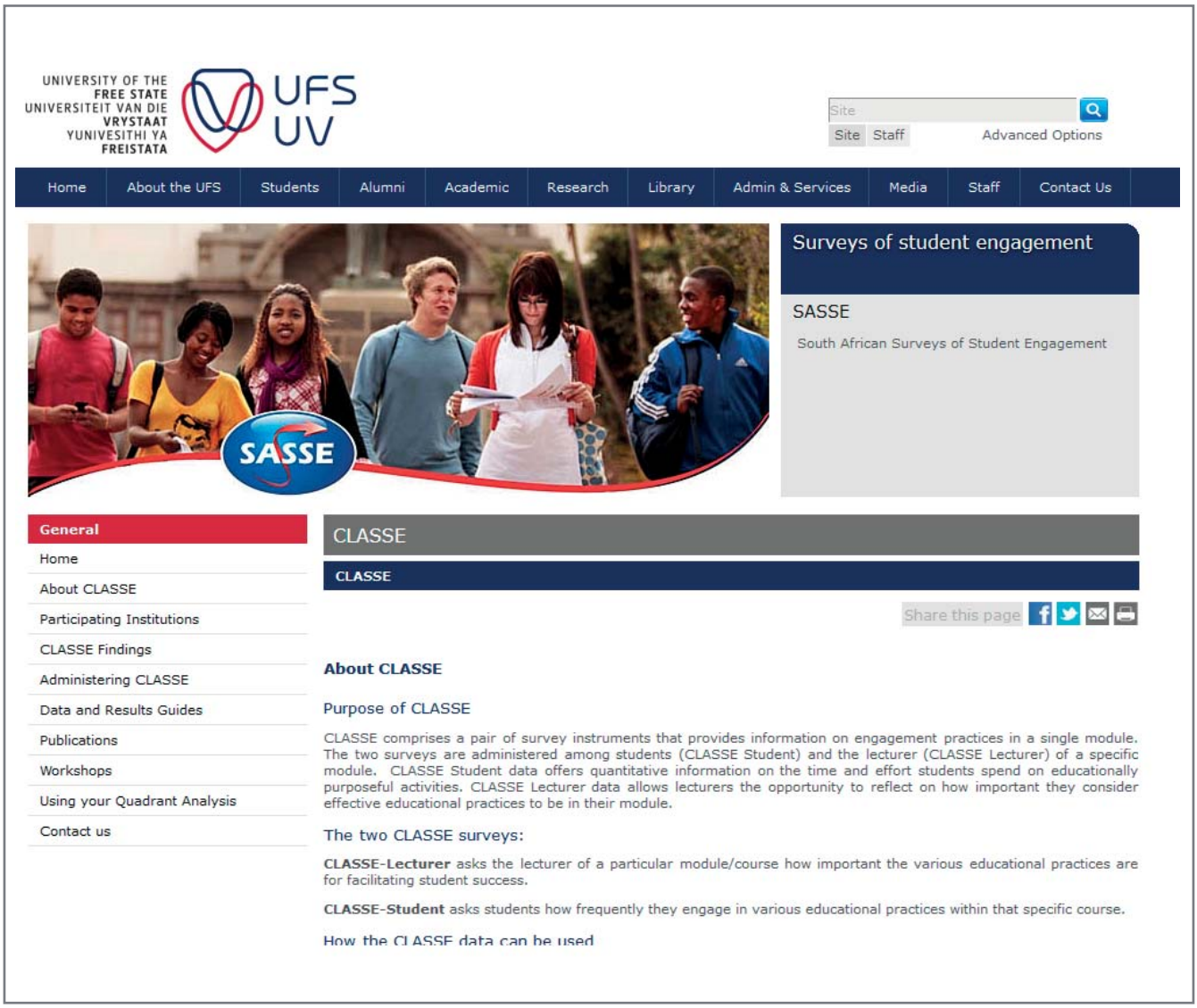


Figure 28: Using the Quadrant Analysis on the CLASSE website.

6. SASSE Staff

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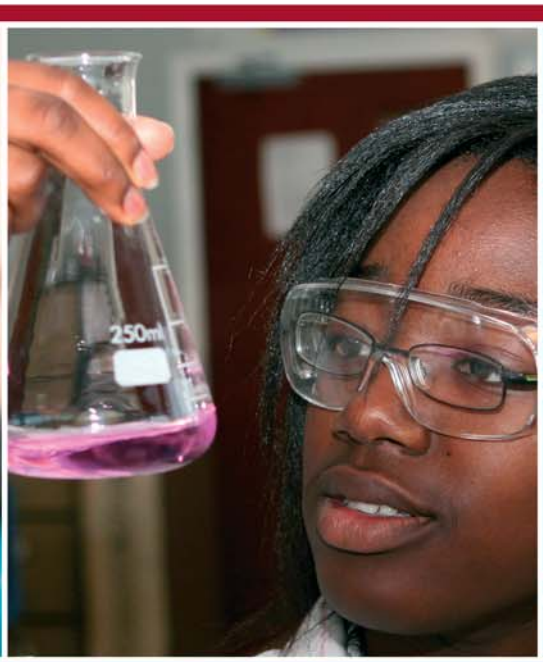

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