


The Help@Science Student Academic Network: An initiative in the Science Faculty

<p>Help@Science Student Academic Network</p> <p>Prepared by Stefaan Conradie Ziningi Madonsela Goitseone Thamae</p> 	SETTING	
	<p>Institution</p> <p>Faculty</p> <p>Department Degree Level</p> <p>Courses/modules</p> <p>Level</p> <p>Pedagogical purpose of tutoring/mentoring</p>	<p>University of Cape Town (UCT)</p> <p>Science</p> <p>Various</p> <p>Maths, Applied Maths, Chemistry, Physics, Statistics, Biology, Geology and Computer Science</p> <p>First year</p> <p>The aim of the programme is:</p> <ul style="list-style-type: none"> - to provide academic support to first year Science students, as needed - to aid in building support networks amongst students, connected to senior student peer tutor-mentors - to facilitate group work - to provide a safe study/work space.

1. Introduction to the programme

The Help@Science Student Academic Network is a student-led, student-run initiative in the Science Faculty, seeking to provide a safe work/study space. In this space, study sessions are run, which students doing first year Science courses can attend voluntarily, individually or preferably in groups, to work together on course material. Tutors, who sign up to support students with a range of different courses, are available during these sessions to provide additional help with questions as required, and to help facilitate group work. In so doing, a further aim is to aid the development of academic support networks amongst students, connected to senior student peer tutor-mentors. Help@Science is currently housed in the Science Learning Centre (PD Hahn 6.36.3), where there are tables and whiteboards

available for students to work at. Through providing this help, it was envisaged that the initiative could help reduce rates of failure in first year courses, and consequently the rates of academic exclusion and non-completion of degrees.

2. The development of the programme

What has since 2015 been known as *Help@Science* was originally founded as the UCT Science Students Academic Network (UCTSSAN) during the second semester of 2009. Margaret Johansson-Lipinski, Ziningi Madonsela and Goitseone Thamae, who were Science students at the time and met at the UCT Emerging Leaders Conference (June 2009), started the initiative, and were responsible for facilitating sessions. The initiative aimed to help address the significant academic and related difficulties with which first year Science students are confronted, an issue which resonated strongly with the three initiators.



During the final term of 2009, a pilot project was launched to test the feasibility of the proposed initiative: tutors for various first year Science courses were sourced through an extensive advertising campaign, with tutoring and co-ordination done initially on a volunteer basis. A report was then produced, assessing the pilot programme, which was subsequently presented to the Committee for University Education in Science (CUES): support was expressed for the continuation of the programme. During 2010, 2011 and 2012, UCTSSAN operated under the umbrella of the Science Students Council (SSC). The corresponding postgraduate council (PGSSC) was also involved, mainly in assisting with the recruitment of postgraduate tutors.

The programme developed and was sustained through the commitment of a number of leaders. The end of 2009 saw Goitseone Thamae

graduating and leaving the university. In 2010, Mpumelelo Sithole, a BSc (Honours) student joined the co-ordination team as her replacement, but left again after graduating at the end of that year. Later in the year, Margaret Johansson-Lipinski also left to pursue further studies in the Czech Republic. In consequence, Ziningi Madonsela managed the initiative alone for a period. On account of time pressures while working to complete her MSc dissertation in 2012, she gradually handed over responsibility to Stefaan Conradie. He had first joined UCTSSAN in the initial cohort of tutors for the pilot tutoring programme and later also became a mentor. Through this process, he was mentored to take over complete responsibility for UCTSSAN in 2013, when Ziningi Madonsela graduated.

In 2014, as his MSc dissertation demanded ever-increasing attention, Stefaan Conradie handed over most of the administration to the Science Faculty, until the end of the first semester of 2015. With no one in the faculty having substantial time to invest in the initiative, student attendance dropped to a new low, with the average attendance during March/April 2015 at around 3 students per session. This brought into question the viability of continuing with Help@Science, as it had by now been rebranded.

In a final attempt to revive the initiative, Stefaan Conradie returned in the role of Senior Tutor within the Science Faculty to organise, run, tutor at and advertise the sessions. This also ensured that the initiative was once again student-run. With significant effort, student attendance was increased dramatically during August/September 2015, with average session attendance rising to almost 12.

The need for additional support to first-year students in the Science Faculty was highlighted to the UCTSSAN coordinators at the Emerging Leaders 2010 Conference, during numerous conversations. This prompted the formation of the UCTSSAN Mentoring programme. A total of nine UCTSSAN tutors volunteered as mentors in a pilot Science Faculty-UCTSSAN Mentoring project. The mentors were given tailor-made training by the Student Orientation and Advocacy Centre (SOAC). The mentoring component was offered towards the end of 2010, administered by Ramontsheng Rapolaki, an Emerging Leaders 2010 alumnus, and successfully run again in 2011 and 2012. The mentoring programme was thereafter taken over by the Science Faculty

3. Distinctive characteristics of the programme

The volunteer aspect of the initiative was of particular significance: it was considered important that tutors offered to help because they had a sincere interest in assisting fellow students, rather than purely for the purpose of employment and remuneration. Although some compensation is now offered, UCTSSAN/Help@Science remains highly committed to and deeply interested in the academic well-being of students, and continues to prioritise these attributes when appointing tutors. Notably, a number of students who attended UCTSSAN/Help@Science sessions in the past, have returned to tutor for the initiative in later years.

It was also considered important that the tutoring and mentoring space be distinct from more conventional tutoring and lecturing environments. The initiative aimed, and still aims to provide space where students who feel overwhelmed, alienated and intimidated in course-based contexts, are more comfortable and feel a greater sense of belonging, thus allowing them to engage more meaningfully with course material.



New Science Learning Centre, UCT where Help@Science students meet

An associated key characteristic of the sessions is that students can come for help with various different Science courses in the same place.

Consequently, Help@Science runs independently of all departments and courses. Help provided is free and no particular commitment is required from students. Rather than providing additional course material, the focus lies with assisting students in better grasping the material provided in the course, knowing what to focus on and how to go about doing required tasks.

Since the initial pilot project, the initiative has been run primarily from a dedicated Vula site. Currently the site is named "Help@Science 2016" and is a "joinable" site, enabling any UCT student on Vula to search for the site or be directed by a link to it and then to sign up. Students who fill in the register and have not previously attended a session, are subsequently added to the Vula site. Updates about sessions and other important information are communicated to students on the Vula and Facebook sites on a week-by-week basis. In the second semester of 2015, responding to a request from a student, a Facebook site was also set up. Currently, as of October 2016, the Facebook site has in excess of 100 *Likes* and has been "rated" four times, each time with five stars.

Vula is UCT's online collaboration and learning environment, used to support UCT courses as well as other UCT-related groups and communities. The word "Vula" means "open", and refers to the many possibilities provided by Vula, as well as its Open Source origins. Vula is jointly developed with other universities worldwide as part of the Sakai Project.

4. Challenges

Although it was a strength that UCTSSAN operated under the umbrella of the Science Students Council (SSC) and the corresponding postgraduate council (PGSSC) from 2010-2012, lack of continuity in these student bodies caused their commitment to the initiative to vary significantly across the years. However, keeping younger people, who have a strong feeling for what is happening on the ground, involved at all levels, was equally important to the initiative.

Venue availability was another difficulty, which forced the study sessions to be moved a number of times through the years, unsettling both students and tutors.

Additionally, as may be expected with a student volunteer initiative, UCTSSAN had a constant challenge with sourcing committed tutors without offering compensation, especially during periods when student attendance waned. Consequently, in the second semester of 2013, the co-ordinators approached the Science Faculty to request funding to remunerate tutors. The funding was granted and offered to tutors towards the end of that semester.

5. Programme arrangements and attendance

The initiative aims to be flexible and responsive to student needs. During 2015, sessions were run in the late afternoon, on Tuesdays to Thursdays, from 4:00-6:00pm; in earlier years, the 4:30-6:30pm and 5:00-7:00pm slots had been tried. During 2016, Help@Science has offered sessions from 4:00-6:00pm from Mondays to Thursdays. In 2015, support sessions were offered for Maths, Applied Maths, Chemistry, Physics and Statistics, while in 2016, Biology, Geology and Computer Science were added. Additional help sessions on Friday afternoons and during Monday meridians (1:00-2:00pm) have also been arranged during key points in the study calendar.

Students can attend for any period during these times, or stay for the whole session. The initiative aims to reach both residence and off-campus students, although it appears that it has been more successful at attracting residence students, perhaps because the designated times make it difficult for students residing further afield.

A successful series of exam revision/preparation sessions were run during November 2015, after the delayed exam time table had been finalized. These sessions were well attended with the average session attendance exceeding 12 students per session.

Help@Science attempts to keep an informal register of student numbers and the courses for which students come for help, both for bookkeeping purposes, and to assess which courses, days and times are the most popular when planning for the initiative. However, it is not always possible to capture attendance of all students, particularly during busy periods; for various reasons, attendance was also not taken at every session. Accordingly, attendance statistics are to be taken as an approximate guide.

Through the course of 2015, attendance records by course were taken at most sessions. A total of 162 students attended at least one recorded session during 2015. The total session attendance for the year was just over 600, equating to an average of just under 4 visits per student.

Through the course of the year, 164 students joined the Vula site and the site was visited a total of around 800 times by 117 unique visitors. Visits peaked during October (during which time the #FeesMustFall protests started), when the site received 179 visits from 45 unique visitors. Around 40 unique visitors were also recorded during September and November 2015.

However, this data hides a large range in the number of sessions attended: around 42% of students attended only one session, whereas 12 students ($\approx 7\%$) attended in excess of 10 sessions and 2 students attended over 20 out of 60 recorded sessions. It appears that it is these regular attendees, of whom there are a couple every year, who gain the most value from their association with the initiative.

The most popular subjects over the course of 2015 were Mathematics (≈ 4.5 students/session), Chemistry (≈ 2.2 students/sessions) and Statistics (≈ 1.9 students/session); interest in Statistics was limited essentially to the second semester (≈ 3.5 students/session during this period).

Preliminary analysis provides no significant evidence to reject the null hypothesis: *Whether students return to attend multiple sessions is independent of race and gender*. In other words, there is no evidence, according to the tests performed, of an association between these factors and return rates, but this does not mean that this association is categorically disproven.

Acknowledgement

Stefaan Conradie expresses his deep and sincere gratitude to the founders of this programme for taking the initiative as students themselves to start UCTSSAN, giving other Science students the opportunity to benefit from it. It has taught him valuable life lessons and given insight into the experiences of Science students at the University of Cape Town. This is an initiative which we truly believe has had (and can continue to have) a notable influence in the academic lives of Science students.

This case was compiled by Stefaan Conradie (CNRWIL004@myuct.ac.za), Ziningi Madonsela and Goitseone Thamae.
