

SUPPORTING WOMEN IN ENGINEERING, SCIENCE AND TECHNOLOGY: THE GO WEST PROJECT

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ABSTRACT

Australia appears to be lagging countries in North America and Europe regarding the participation of women in science, technology, engineering and mathematics courses and careers. This paper reports on a current project undertaken by a regional university to build a mentoring and support network among female Science, Engineering and Technology students, staff and industry professionals. As well as the context and history of the project, the paper describes the activities undertaken and the challenges faced in making the project sustainable. Factors critical to the success of the project are identified and include securing funds and commitment from senior management, having a multi-disciplinary team with strong leadership and effective support, and using information technology to enhance personal networks and to promote activities. The critical success factors identified in this case study may seem obvious in hindsight, but to other universities considering a similar project they may provide useful insights. For new projects, the strategies and activities described here could be adapted to fit with the organizational and legislative contexts of other institutions.

Keywords: *stem, go west, equity, gender, higher education*

INTRODUCTION

Women are traditionally underrepresented in the disciplines often summarized as STEM (Science, Technology, Engineering and Mathematics), or SET (Science, Engineering and Technology). Statistics (Osborne et al., 2000) indicate that this phenomenon is prevalent in developed countries around the world, commencing with lower female participation in high schools, continuing into tertiary education, and it is even more pronounced in professional life due to the difficulties of combining work and family commitments with long working hours. In a university context, women tend to be disadvantaged in career paths with fewer women applying for promotion than men, and proportionally more women appointed at lower academic levels than men. However, research shows that women benefit from mentoring and networking, with positive results reported from programs that focus on women's needs (Mysyk, 2008). Research shows that mentoring

during formative years of education is a predictor for the future participation of women in STEM study (Dyer, 2004). Mentoring of junior female academics also assists women to obtain tenure (Stewart, Malley & Lavaque-Manty, 2007).

The context for this case study is an Australian regional university: the University of Southern Queensland (USQ). USQ has both on-campus and external students, and offers a flexible blend of distance and online education in the Faculties of Arts, Business, Education, Engineering and Surveying, and Sciences. USQ has approximately 25,000 student enrolments, with 75 percent of these students studying in external mode, including 30 percent international students. Many external students are mature age, with work and family commitments, studying part-time by completing one or two subjects a semester over four to six years of study. This flexibility provides access to many who would normally be unable to complete higher education study, but does create enormous pressure on students as they often study in isolation and need to balance study, work and family responsibilities.

So, how could a networking and mentoring program be designed and implemented at a regional Australian university characterized by a high proportion of students enrolled at a distance, and with low female student and staff representation in SET? How would it fare in an environment where decision makers are predominantly male? This chapter provides a case study based on a project implemented at USQ. It describes the activities of the Go WEST project team (Go Women in Engineering, Science and Technology), an initiative funded through a university equity grant in 2007 to establish a university-wide, cross-disciplinary professional network to mentor and support female SET students and staff. The background of this paper provides the context by describing the relevant policies and summarizing literature related to women in SET at Australian Federal and State Government levels. USQ's equity policies and practices are summarized. The case study methodology is then described, followed by an account of the history and current activities of the Go WEST project. The challenges faced are outlined, followed by a discussion of possible solutions and recommendations. Future research directions are suggested.

This case study provides useful insights for other groups who are considering appropriate activities to address the imbalance of women in traditionally under-represented disciplines.

LITERATURE REVIEW

While many studies report that women are underrepresented in SET areas in the developed world (Osborne et al., 2000), a comparison of four countries appears to indicate that female participation in Australia is at the lower end of that scale (Office for Women, 2006). This is illustrated in an Australian Council of Engineering Deans' report (ACED, 2008, p. 27) which states that concern is expressed in all engineering schools about the low numbers of women in academic positions in engineering. In fact, the report provides total enrolment figures and proportions of female students in engineering awards between 1996 and 2006 (p. 34) which indicate that the percentage of female students in all engineering degrees has over these eleven years never exceeded 16 percent. The proportion of female first year students enrolled in undergraduate engineering degrees peaked in 2001 at 16 percent, but was less than 15 percent in 2008. The report comments that "Since women form the majority of all tertiary students (54.7% in 2006) their continuing gross under-representation in engineering is critical" (ACED, 2008, p. 61).

At the same time, compelling economic arguments are made for increasing the participation and retention of women in SET, for instance by authors from the UK (Greenfield, Peters, Lane, Rees, & Samuels, 2002). Some of these arguments are that competitiveness is improved by engaging the best people in SET; return on investment is

increased by retaining as many qualified people on the workforce as possible; and science benefits by maximizing diversity in the workforce.

A number of Australian universities have started projects to support or facilitate networking for women in underrepresented STEM disciplines. For instance, focusing on the staff perspective is the WiSci (Women in Science) project at the University of Sydney, initiated by the Dean of the Faculty of Science when he realized that women were well represented among students and postdoctoral fellows, but under-represented among staff in senior academic roles. Women were also “over-represented in the lower levels of the academic hierarchy and tend not to apply for promotion in the same numbers as men” (Baz & Oxford, 2008). The WiSci project aims to identify obstacles that prevent women reaching senior positions in the sciences, to encourage more women in the sciences into senior academic roles, and to support more women in achieving satisfying and productive careers in science.

The Queensland Government responded to the decreased participation in STEM education and lack of skills by releasing a discussion paper to examine “the issues Queensland must address to increase participation in science, technology, engineering and mathematics study and careers, from primary school to university and beyond” (Qld Government, 2007). While addressing STEM education in general, the paper points out that a significantly higher proportions of males than females undertake study in higher level mathematics, chemistry and physics at high school level. Women represented just over one-tenth of total STEM-related VET (vocational education and training) enrolments in 2006. About 60 percent of the state’s domestic undergraduate university students were female, however less than 50 per cent of students in STEM related fields were women, and this included health-related fields with a higher proportion of women. The difference is even more pronounced in engineering and information technology, where women represent 10 and 20 percent of enrolments respectively.

At USQ, the proportion of female academic and professional staff in SET follows the trend of low female participation. Table 1 shows percentages of female academics in faculties.

Through the Equity Office, USQ annually offers the Women and Leadership Mentor Program, open to all women employed at the university. USQ’s Equity in Education Policy (USQ, 2008) states that the university is committed to proactively provide equitable education opportunities to disadvantaged groups such as women in non-traditional areas of study. Apart from these two initiatives, there were no current efforts to specifically support female staff or students in SET areas, which prompted the idea of starting the Go WEST project.

RESEARCH DESIGN

The researchers chose the case study methodology as it is considered appropriate when enquiring into a contemporary phenomenon in its natural context (Yin, 2003). The case-study method provides the opportunity to capture the richness of organisational behaviour, but it is recognised that the conclusions drawn may be specific to the particular organisations studied and may not be generalisable (Gable, 1994).

In this case study the authors followed a process of reflective practice and critical analysis as they reviewed documents relating to the Go West project. The participants in this study were project team members. The data sources included documents detailing the history of the project: drafts of project funding applications, the project proposal, ethics approval submission, meeting minutes, meeting action lists, media items, communication documents between project team members, project officer task lists and memos, invitations to events and web site documents, as well as participant responses to a call for ideas to address issues important to SET staff and students. The authors independently reviewed the source documents to extract the themes. We met and

discussed in detail our experiences in terms of the project initiation, progress, challenges, and outcomes. The emergent themes informed the key issues in the discussion section. The themes also highlighted the challenges and opportunities. To validate the findings, two members of the project team were invited to review the paper and their comments were incorporated into the final account.

The review of data from project conception in September 2007 to August 2010, revealed that a range of processes and activities have been implemented successfully and have increased the profile of the project. The following section provides case study details of the Go WEST project, reflects on key aspects of the process and presents a context for reflection on issues and challenges for those planning similar projects to support women in SET.

THE GO WEST CASE STUDY

PROJECT INITIATION

The Go Women in Engineering, Science and Technology project was envisaged after the project leader attended the Queensland Government's Smart Women/Smart State 2007 Award ceremony and noted that rural women and regional universities had an extremely low representation in the short listed candidates and none in the award winners. This indicated a double disadvantage and underrepresentation of rural and regional women in the SET area. A subsequent university call for applications for USQ Equity projects of up to \$15,000AUD, funded by the Australian Federal Government, provided the impetus to plan a project to support women in SET at USQ.

The USQ *Equity in Education Policy* aims to proactively provide accessible and equitable higher education opportunities to the diverse USQ student constituency, in particular to target groups identified as disadvantaged in their access to and participation in higher education. The policy states that although USQ provides a wide range of programs and services that target all identified equity groups, specific areas of specialist teaching and support will be maintained and funded. Women in non-traditional areas of study were one of the disadvantaged groups identified in Equity and General Performance Indicators in Higher Education (Martin, 1994) and group profiles are currently used by the Department of Education, Employment and Workplace Relations (DEEWR) statistics to monitor sector-wide and institutional performance. The Australian Council of Engineering Deans' 2008 report about the low numbers of women in academic positions in engineering, and the proportion of female first year students enrolled in undergraduate engineering degrees (less than 15%) indicates that little has changed since Martin's 1994 study.

The first step in starting the project was via an email outlining the rationale and the focus of the project to potential team members. The identified team members were active advocates of increasing representation of women in SET, most had an active teaching role in a SET area and were representatives of a range of university Faculties and Departments. All women approached agreed to join the team, and through discussion and negotiation at several meetings, an application for equity funding was drafted and versions modified via circulated email drafts.

The Go WEST project received a USQ Equity Grant to implement the project during 2008. The project team aimed to establish links between USQ students and SET professionals in rural and remote geographically isolated areas of Queensland, the Queensland Government's Smart Women/Smart State initiative and other high profile professional societies, and to build a mentoring and support network between industry, academia and schools via the hub of SET women at USQ.

The links with members of professional networks were to provide contacts for mentoring SET female students and academics in order to sustain and enhance their participation in traditionally male-dominated fields. Another goal was to establish networks among SET

students to reduce attrition rates and difficulties afforded by gender and geographical isolation. The aim of the network was to embrace both students and staff at USQ to build cross discipline networks, professional and personal expertise. The project application was deliberately aligned with strategic University goals and policy by addressing factors that contribute to the retention and progression of students - one of the recommendations of USQ's *Report of the Transition and Retention Working Party* (Taylor, 2006), and the USQ Australian University Quality Audit (AUQA) report (USQ, 2005) recommendation to develop an ongoing staff development program.

The budget proposal was also strategically focused, with two thirds of the funding for a project officer to be employed one day a week to work with the project team. This was considered a critical factor in sustaining the project, as team members, while committed to achieving the project goals, were doing so on top of existing workload. Workloads are an inhibiting factor for the sustainability of many equity initiatives as university staff are expected to undertake community service activities, but learning and teaching and research activities are usually where workload allocation and promotion opportunities reside.

Attracting suitably qualified female employees is an issue at USQ, with women underrepresented in a range of SET job roles. The project aimed to address the problem by supporting SET activities such as mentoring and recognising that younger employees should have opportunities to use USQ as a launching point for their career progression. In that context, the network seeks opportunities to offer work experiences to female SET students.

The project planned to create links with Queensland Government's Smart Women – Smart State initiatives (Winter, 2010), industry professionals and societies such as Women in Technology or Women in Engineering. It also aimed to draw on these links to bring SET activities to rural and geographically isolated areas to support women/girls and increase USQ's profile. The project is a springboard to building better pathways for women and girls to transition between schooling, further education, training and employment (including career breaks) in SET industries.

Six strategies were outlined in the project proposal:

1. Establish a university wide network to build cross discipline links and professional and personal expertise to foster the success of academics and students in SET;
2. Provide a virtual support structure of professionals and academics which reduces existing isolation issues for SET students in rural and remote locations;
3. Identify female SET student concerns and priorities for action by network members;
4. Implement strategies to address student issues that may influence student retention and progression;
5. Link network members to Queensland Government Office of Women and industry initiatives; and
6. Establish mentoring relationships with SET students in rural and remote locations during critical times when female students are making decisions about their future studies and thus place USQ foremost in their minds as a competitive option for higher education.

Project Implementation

The Go WEST project team met monthly to plan activities and address project issues such as building a database of names of SET staff and students, applying for ethics approval to contact staff and students, establishing a web presence and managing budget items. At the first team meeting, the project leader outlined her desire for horizontal leadership (Langham, 2009) and encouraged project members to decide where they could, take a leadership role. The project launch was the first public activity.

Processes involved in establishing and sustaining the project included sourcing initial funding, identifying female staff and students in non-traditional areas of work and study and developing a contact data base, executive monthly meetings, project team leadership roles and project officer support one day a week.

Project activities were planned based on issues identified by SET participants at the first group activity in May 2008, the "Implementing Ideas Workshop." At this session, participants broke into groups to identify priority issues to provide a framework for project planning and implementation. Subsequent activities included a Smart Women/Smart State award application workshop in June 2008, conducted by a project team member who was highly commended at the 2007 Awards. Project team members mentored applicants, including a USQ engineering student and an IT academic staff member who both consequently won awards in their categories. The award winners for both 2007 and 2008 are profiled on the Go WEST web site (Go WEST, 2009).

In August 2008, members of the project team met with the local Toowoomba Regional Council to discuss collaborative partnerships for mentoring and industry experience. This partnership has continued to develop over eighteen months, with Council Engineering and Science women attending USQ activities and Go WEST team members participating in relevant Council activities. A co-operative working relationship is now established with the Councillor leading the Engineering Services Portfolio; the Engineering Services Training & Mentoring Development Officer and the head of the Engineering section. The Council has also implemented a 'Women in Engineering & Science' group, based on the Go WEST model.

The Go WEST project team contributes at an institutional policy level, for example members were approached to provide data and advice to the Pro-Vice Chancellor, Social Justice and Equity, for the preparation of USQ's Social Justice five year strategic plan. Information was provided related to women in science and engineering or women in the workforce at USQ in general. Several key future issues in the SET area that needed to be faced in the next five years were identified. Other initiatives included the profiling of the Go WEST project at USQ Open Day in the Faculty of Engineering and Surveying stand.

Another aim of the GO-West team was to undertake and publish research related to women in engineering, science and technology disciplines. An edited book titled *Women in Engineering, Science and Technology: Education and Career Challenges* (Cater-Steel & Cater, 2010) and a presentation at the inaugural international conference of *Science, Technology, Engineering and Mathematics (STEM) in Education* at the Queensland University of Technology are direct outcomes of the Go WEST project. Members of the Go WEST project team also presented at the '2010 USQ Equity & Diversity Seminar' (September 2010) 'Profiling and supporting women in non-traditional disciplines: the Go Women in Engineering, Science and Technology (Go WEST) project team approach.'

Ongoing Project Activities

In recognition of the role of Go WEST in the SET arena, a member of the team was approached to participate in the Australian component of a large-scale project called *Practising Gender Equality in Science research project* (PRAGES) funded by the European Commission's seventh framework programme. Participation in the PRAGES project involved completing a questionnaire concerning the initiatives Go WEST employed to support women in leadership and decision-making positions. These responses were added to a database of 'best practice', contributed to by a number of countries in the Organisation for Economic Co-operation and Development (OECD), which will be a valuable resource for international knowledge sharing.

The Go WEST project team started 2009 public activities with a stall at Orientation week to promote the project and a group activity in March for students and staff. This activity

presented an overview of Go WEST goals and activities to date, followed by an engaging presentation by a recently graduated Engineering student who spoke about her student journey at USQ and recent transition to her career as a female graduate engineer. A group activity identified how Go WEST could support the needs of SET women in 2009 (Table 2). The suggested activities include social functions, professional development activities and networking with industry professionals, thus providing a framework for the planned 2009 activities.

Examples of 2010 activities that have established mentoring and support networks between USQ students, staff and professionals in rural and remote geographically isolated areas are listed below:

1. Monthly lunch time activities with guest speakers from industry or USQ:

February	WIES – (student Women in Engineering and Surveying) ‘Essential Information’ pizza lunch
March	‘Meet & Greet’ lunch – student priority setting
May	‘Women in Resources Queensland’ guest speakers and networking lunch
July	‘Where studying mathematics can take you’ guest speaker and lunch
August	‘Women in Natural Resources’ guest speakers and networking lunch

2. Student ‘Orientation’ Week and USQ Open Day stands
3. Best of the WEST Awards (web site) to recognise and celebrate the achievements of outstanding women and girls who are leading in SET fields
4. Student scholarships - Social Justice and Equity & Faculty of Engineering and Surveying

The USQ learning management system, Moodle, is used to provide access to an online community environment for both on-campus and external members. Activities include discussion forums, news updates, activities, resource sharing and listing of SET communities and societies. Online access is available to USQ SET staff and students identified in the established membership data base at <http://www.usq.edu.au/gowest/commsite>. The accompanying web site provides a public and visible presence for the Go WEST project (Go WEST, 2009) <http://www.usq.edu.au/gowest>.

The Go WEST team looks for opportunities to encourage female students and staff to achieve success in engineering, science and technology fields. The project provided financial support to enable a USQ final year female Engineering student to attend the International Institute of Women In Engineering (IIWE) conference in Paris in July 2009. As well, the nomination fee was provided for a female academic from the School of Information Systems to submit her project to the Queensland Australian Computer Society ICT awards in April 2009. The USQ project was awarded a certificate as ‘highly commended’ in the IT Service Management Category.

It is important to publicly recognise and reward the achievements of women, and to increase visibility and credibility of their activities. The Best of the WEST Awards (2009-2010) recognise and celebrate the achievements of outstanding women and girls in the fields of Engineering, Science (including Mathematics) and Technology, where females are traditionally under-represented. They are open to USQ female staff and students as well as women and girls in Engineering, Science and Technology (SET) located in regional, rural and remote areas of Queensland. Details are available at <http://www.usq.edu.au/gowest/westawards>. Success stories profiling Go WEST member achievements and promoting activities are listed on the web site as serve as role models to women working in SET areas (<http://www.usq.edu.au/gowest/successstories>).

Recognising and celebrating the achievements of outstanding women and girls who are leading in the fields of engineering, science and technology plays an important role in profiling such achievements and providing successful role models. The Go WEST team established the 2009 and 2010 *Best of the West Awards*, which attracted state wide applications from USQ staff and students, industry and schools. The Awards increased USQ's profile in schools and industry, attracting potential enrolments, and participants attending subsequent Go WEST activities, and a regional high school winner enrolling in a USQ Engineering degree program. The success of the Go WEST project was recognised by a USQ Equity Award (2009) and a Queensland State Government 'Our Women, Our State awards (2009) in the public or community sector. Go WEST and USQ has since been profiled on QLD Government web site and QLD Government *community connect* - the official magazine for the Department of Communities. It is published every two months, with more than 40,000 copies distributed to the Queensland community via 12,000 organisations and individuals, with a link back to the USQ Go WEST web site <http://www.communityservices.qld.gov.au/department/publications/community%2Dconnect/>.

DISCUSSION

This section outlines the challenges faced by project team members as they worked to implement the goals of the project.

Institutional restructuring and funding

Go WEST received funding in the first instance to operate in the year 2008. As the university was undergoing major changes in that year, with staff reductions in academic and general sections, cuts to courses and programs and a period of low morale, the project was not able to achieve as much as had been planned. However, what had been achieved was seen as sufficient to warrant extended funding for 2009.

While the USQ Equity in Education Policy aims to proactively provide accessible and equitable higher education opportunities to the diverse USQ student constituency, in particular to target groups identified as disadvantaged, such as women in non-traditional areas of study, there is always a danger that projects such as Go WEST that are funded from external sources will be seen as 'an optional extra' and never be written into policy or budget for mainstream funding. The Australian Council of Engineering Deans (ACED, 2008, p. 61) noted that many university-based *Women in Engineering* programs had been initiated, but over the past decade the number of initiatives has declined as funding was not sustained. Failure to continue funding for such programs is of major concern, as initiatives such as Go WEST attract and retain females in SET.

Project Sustainability

As the project team is 'volunteering' their time there is always conflicting pressure of mainstream teaching and research activities. While funding exists for a project officer, the core business and activities are maintained. Funding for 2011 activities have been allocated from the Social Justice Office funds thus ensuring the continuity of the Go WEST project for another year.

Participation of SET staff and students

As three-quarters of USQ students are enrolled in external (distance) mode, attracting and including external students in activities presents a challenge. The web page and Moodle site provided access and information for external students, and external students are contacted when they attended on-campus residential schools. However, the low participation of external students is an ongoing concern. Workload and study commitments also prevent many on-campus women from attending functions.

Feminine way of working is undervalued

The involvement in the PRAGES project was of particular interest to the Go WEST project team members as one aspect of the PRAGES project is enhancing the understanding of the exclusion of women, which is seen as being deeply linked to what

may be called the lack of socialisation of gender in science. While so called 'soft' skills, or 'feminine/female' ways of working can be devalued simply by giving them a 'soft' or 'feminine' label, women may always have to struggle for equity in leadership positions. USQ has been seeking to increase the percentage of women in Senior University positions for a number of years and to improve the percentage of female academics and students in SETS areas, but the existing male-dominated leadership situation can make the environment unfriendly to women. Addressing USQ's *Faculty of Engineering and Surveying Research Seminar*, Fortenberry (2009) stated that employers are now seeking graduates with 'professional' skills, as it is assumed that graduates will have the necessary discipline technical skills. Fortenberry noted that 'professional' skills were previously referred to as 'soft' skills, but are now an essential engineering skill.

Critical success factors

The two main critical success factors for establishing and sustaining a project similar to Go WEST are the inter-related factors of people and funding.

The people will determine the success of the project. The Go WEST multi-disciplinary team included representatives from engineering, education, mathematics, information systems and ICT. They are a group of determined women, able to work collaboratively and creatively to identify realistic, achievable goals. They are also flexible and sensitive to the time demands and priorities of other team members, and are dedicated to achieving the project goals. The team members were able to be strategic in their approach to working within institutional processes and possessed the interpersonal contacts and skills to work with a diverse range of people to implement project activities. The Project Officer was an essential team member, able to successfully liaise across USQ's departments, staff, students and the team to implement the operational plans of the project. She was employed one day per week and was capable, demonstrated initiative, and used interpersonal skills and a range of community contacts to further project goals.

Funding to employ the Project Officer and to support the activities outlined in the previous section was essential. As the project members were committed to the project as a community service, there was no workload allocation for project activities. Funding included the initial competitive project application and an additional twelve months ongoing funding, which was essential to assure project sustainability. Ideally the funding will become part of mainstream budget allocation, and not be dependent on external equity funding.

Four further critical success factors are identified:

1. Senior management support is essential, not only for securing funds but to raise the profile of the project within the organization. USQ is very fortunate to have a female Chancellor. The Chancellor took the role of project champion and attended the launch of the project. Senior management supported the project in terms of the proposed scholarships.
2. Working within institutional processes insures the smooth implementation of project goals. For example, obtaining ethics approvals were obtained to access databases and contact students, and also to link the project information to the USQ website.
3. Use of IT is essential. In this project, team members used the USQ Learning Management System to provide a flexible portal for communication to/from staff and students. As previously mentioned, the project website enables promotion of the project as well as a central storage facility for photos and media reports. An important preliminary step involved selecting and extracting student contact details from corporate databases.
4. Marketing is important. As well as disseminating details of planned activities to staff and students know, it is important to communicate success, by profiling individual and group awards. Media releases distributed to USQ News and the

local newspaper also helped raise the profile of the project and ensure its success.

Future Directions

Go WEST has succeeded in increasing the visibility of USQ women in the SET areas through supporting women in their successful applications for Smart Women Smart State and other industry awards. It has also succeeded in promoting networking and lifting the profile of successful women in the disciplines of engineering, science and technology. As higher education institutions exist in a climate of accountability and tight budgets, in the future quantifiable measures could be identified and tracked. These include the retention rate of female students, career progression of graduates, and the promotion success rate of academic staff. This presumes that funding is available to provide the resources to collect, collate and publish such data.

In the future, the newly-formed links between project members and State, Federal and International lobbyists will be nurtured to identify opportunities to gain further funding and have an impact beyond the boundaries of USQ. Other activities the Go WEST group could focus on is working with staff, students and employers in the areas of mentoring and work experience. Plans are in progress to work collaboratively with staff in the Student Services Division to ensure the sustainability of this process.

CONCLUSION

Unfortunately, many projects similar to the Go WEST are not sustainable and cease after 12 months. Evidence of the success of the Go WEST project is demonstrated by its longer-term survival despite the many challenges encountered. This case study described a range of activities and initiatives designed to provide a mentoring and support network for staff and students in engineering, science and technology disciplines at an Australian regional university. In hindsight, the critical success factors identified in this case study may seem obvious: securing funds and commitment from senior management; a multi-disciplinary team with strong leadership and effective support; and using information technology to enhance personal networks and to promote activities. This paper provides useful insights that may be of value to other universities considering similar initiatives to support women in science, technology, engineering and mathematics. For new projects, the strategies and activities described here could be adapted to fit with the organizational and legislative contexts of other institutions.

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Table 1

Proportion of Female Academics in USQ Faculties Employed in SET Roles in 2009

Faculty/ Discipline	Total number of full-time equivalent staff in SET roles	Number of full time equivalent female staff	Percentage of female staff
Faculty of Engineering & Surveying /Agricultural, Civil and Environmental	23	2.9	12.6%
Faculty of Engineering & Surveying /Electrical, Electronic and Computing	19	2	10.5%
Faculty of Engineering & Surveying /Mechanical and Mechatronic	17	1	5.9%
Surveying & Land Information	12	1.5	12.5%
Faculty of Engineering & Surveying Total	71	7.4	10.4%
Faculty of Sciences/ Department of Mathematics & Computing	21	4.5	21%
Faculty of Business/ School of Information Systems	18.5	4.5	24%

Table 2

Responses from Meet & Greet March 2009 "What can Go WEST do for you?"

Category	Suggested Activity
Proposed events	<p>Parties, e.g. Wine tasting event</p> <p>Opportunities to mix with other faculties and departments – professionally and socially</p> <p>More opportunities to meet with other women (especially for off campus women – social events etc ...)</p> <p>Guest speakers – high profile women. Film local successful women for web site.</p>
Industry related activities	<p>Help to find work experience placements</p> <p>Mentoring – contacts with industry</p>
Networking, mentoring, sharing practice	<p>Share success stories; share practice in a safe environment</p> <p>Blog on Go-WEST site that anyone can post to about things they're doing</p> <p>Students mentoring students, share struggles and how to overcome on Go-WEST site, "ask an expert"</p> <p>Encouraging girls at school level to go into SET. Visit schools as role models and talk to Pre-Yr 10 girls to inspire</p> <p>Assistance in developing interactive area for small group external students (Go-WEST website etc); networking opportunities for external students</p> <p>Linking students doing maths/science</p> <p>Support – someone to talk to</p> <p>Personal stories</p> <p>Meeting on a regular basis</p> <p>Third year students being supportive of first year students</p> <p>Promote mentoring program: staff & staff; students & staff; students & students</p> <p>Nominate students & staff for awards</p> <p>More opportunities for general staff development (e.g. placements in different working environments) – varying environments to boost staff experience and morale</p>
Professional Development workshops	<p>Help find funding for women – prizes, scholarship, conferences, professional development.</p> <p>Equal employment and harassment training courses</p> <p>How do men/women work. Strategies for working in male-dominated environment</p> <p>Public speaking, confidence building, negotiation skills, research skills, statistical skills</p> <p>Professional writing, resume and interview preparation</p> <p>'Work skills' training</p> <p>Cross-faculty demonstrations e.g. showcasing how to use different equipment/methods</p>
Provide funding to individual staff and students	<p>Sponsorship of groups and individuals to meetings – give presentation to Go WEST on their return from meeting/conference</p>
Promote Go-WEST	<p>Promote information about events</p> <p>Recognize women on-campus. Media releases</p> <p>Widely distribute flyers for next meeting</p>