ENHANCING EMPLOYABILITY: TRANSFER OF STUDENT-LED ACTIVITY

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Abstract: Student-led, employer-focused, extra-curricular activities are endeavours linked to engineering and science learning, and are initiated, developed and sustained by students with some assistance and input from members of staff, Professional Bodies and employers.

Imperial College London has a history of well-established student-led activity. However, Loughborough University, with the help of Imperial and HE STEM funding, has initiated similar activity within its student body. Following the successful initiation and transfer of activities at Loughborough, further HE STEM funding was obtained and staff from the two institutions worked together with their students to host two student-led symposia, one at Imperial and one at Loughborough. The symposia are fundamental to sustainability of these enterprises. They allow students to learn from each other and to showcase their activities to staff and students from other institutions. In this paper, we discuss the implementation of knowledge transfer achieved through staff-to-staff, student-to-student, and staff-to-student meetings and workshops in addition to the student-led symposia. We also detail difficulties faced, lessons learned, evidence of sustainability, and benefits to participating students, staff and their institutions. Finally the paper describes planned activities to engage more staff and students from institutions across the UK.

Keywords: employability, student-led activities, extra-curricular, higher education, engineering.

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1. INTRODUCTION

In the current economic climate and with the introduction of higher tuition fees for students, it is becoming increasingly important to ensure that not only do students gain skills that meet the needs of industry but that they also enhance their employability skills regardless of whether these are for future employment, self-employment or further study. The importance of developing employability skills is well-documented. Lord Sainsbury of Turville detailed the importance related to students building up industry related skills (Sainsbury, 2007). Also published in 2007 are the findings of a study undertaken to determine the needs of industry and to make recommendations for the development of engineering degrees to meet these needs (Royal Academy of Engineering, 2007). It is not only skills for employment in the UK that are important; engineering is an international industry and as such undergraduates need to develop proficiencies that will surmount any perceived barriers relating to culture or geographical location (Bourn, D. & Neal, I., 2008). In 2009 the Confederation of British Industry (CBI)
Higher Education Task Force requested the business community to do more to support students and also to develop closer collaboration with universities regarding innovation activity (CBI, 2009). This relationship is already evident in some institutions, “Many of the most encouraging developments have come in new and transformed institutions which are pursuing excellence in particular fields and building creative links to local communities and businesses around the country” (Department for Business, Innovation & Skills, 2009).

In this paper, these employability skills are gained through student-led, employer-focused, extra-curricular activity and include communication, project management, team working and fund raising skills. These activities are now well-developed at Imperial College London, although historically they have not been well-publicised outside the institution. The report ‘Engineering Graduates for Industry’ (Lamb, Arlett & Dales et. al., 2010) featured a case study of the student-led activity being undertaken at Imperial. This report generated interest amongst staff at Loughborough University who were keen to initiate similar activity for their students. Following a successful bid to the National HE STEM Programme (http://www.hestem.ac.uk/) Loughborough University, in the 2010/2011 academic year, with support from Imperial College London, employers and Professional Bodies, commenced the introduction of student-led activity.

It is important to note that student-led means that students lead the activities themselves and are responsible for all aspects of the activity. Staff input was minimal; the main aspect was to ensure that suitable activities were undertaken and to be on hand to offer guidance if required. Four groups of students were each awarded funding to set up student-led activities. These activities were deemed to be successful by Professional Bodies, employers and staff (who acted as mentors) and also by the students themselves. The Loughborough students developed close working relationships with their mentors as well as with students from Imperial.

The successful implementation of student-led activities at Loughborough University, combined with collaboration between staff and students at Imperial College London, led to further funding being awarded by the National HE STEM programme for students at each institution to showcase their activities via student-led symposia. Two symposia were held in March and June 2011. The first event, ‘Global Citizen Symposium’, was organised and hosted by students at Imperial College London (http://www.student-ledprojects.co.uk/) with 55 delegates, which included staff and students from both Imperial and Loughborough, panel discussions, invited speakers and a keynote speaker from Global Poverty Action. The second event, ‘Loughborough Symposium’ (http://loughboroughsymposium.co.uk/Home.html) was organised and hosted by students at Loughborough University with 33 delegates, which again included staff and students from both institutions as well as employers and an invited speaker from the RSM Tenon group. The Loughborough students held a team challenge and produced a video of themselves and their activities, (http://www.youtube.com/watch?v=Jakbi3KrM_4), which was shown at the symposium. The student organising committees from each symposium believed the events to be successful and have now established a national student-led projects community (http://www.student-ledprojects.co.uk/#).

A further event, beyond those funded by HE STEM, was held at Imperial College London in November 2011. This was organised by students at both Imperial and Loughborough and further events are being planned. Since then other papers relating to the success of student-led activity
have been published (Alpay, Ahearn & Bull, 2011; Ahearn, Perkin & Lamb et. al., 2012; Perkin, Ahearn & Lamb, 2012).

The transfer of knowledge from Imperial to Loughborough, relating to student-led activities, has been demonstrated to be successful by the continuation of joint endeavours by students from each institution beyond the period of funding. It is this knowledge transfer from staff-to-staff, student-to-student and staff-to-student, along with the perceived benefits and lessons learned that form the body of this paper.

2. STUDENT-LED ACTIVITIES - KNOWLEDGE TRANSFER

2.1 Imperial to Loughborough Transfer
Based on the experience at Imperial, a process was developed to transfer this knowledge and activity to Loughborough. A call for proposals was opened and students at Loughborough University were invited to form groups and tender proposals for funding to set up their student-led, employer-focused, extra-curricular activity. Funding of up to £1,000 was available for successful projects. A panel (comprised of staff from Loughborough and Imperial, a member of the Loughborough Students’ Union executive, employers and members of Professional Bodies) was formed and met early in the 2010/2011 academic year to view the submitted proposals. The following were selected for funding:

- **Engineers without Borders** – Loughborough branch of the charity that helps to tackle poverty overseas
- **Mars Aerobot Project** – production of an interactive model for the National Space Centre
- **EcoHomes** – an energy saving challenge
- **Chemical Engineering Industrial Trips** – visits to industrial plants across the UK; a “learned society”.

2.2 Staff-to-Staff Transfer
A close working relationship, between staff from both institutions, has been developed. From the initial setting-up of student-led activities at Loughborough, the relationship has evolved to encompass the student-led symposia and the current transfer of practice to seven additional institutions. The initial knowledge transfer was undertaken by staff from both institutions meeting face-to-face to discuss the obstacles, potential difficulties and benefits of student-led activity. A strategy for implementation was developed at Loughborough University; this involved obtaining support from senior management, academic and support staff, employers and Professional Bodies and was complemented by input and assistance from Imperial College London. The student-led activities at Imperial are well established, some of which have been running for over 10 years; these students are active in international projects, such as e.quinox (bringing renewable energy to developing countries), where they attract and manage funding in the region of $100,000 ([http://e.quinox.org/](http://e.quinox.org/)). The on-going fledgling activities at Loughborough have demonstrated that it is possible to transfer knowledge and expertise from well-established, high-profile activities to virgin small-scale activities. It is important to start at a level that is achievable and build from this in future years. This staff-to-staff knowledge transfer continues.
2.3 Student-to-student Transfer
A discovery visit, with the aim of helping the Loughborough students implement their ideas, was organised. Representatives from each of the Loughborough groups with Perkin and Lamb held a Skype conference with Ahearn and an Imperial student. This included detailed information about the on-going activities at Imperial; the Loughborough students asked many pertinent questions regarding how to initiate their ideas and what pitfalls to avoid. They were not daunted by the size and number of projects at Imperial and received many suggestions regarding the initiation of their activities and the importance of ensuring sustainability prior to considering expansion. The Loughborough students and staff found this candid exchange to be helpful, particular as the ‘visit’ was held approximately one month after the students had been awarded their funding. This ensured that the Loughborough students had already had opportunity to plan their activities, be aware of difficulties they may be facing and formulate relevant and pertinent questions.

2.4 Staff-to-Student Transfer
Staff at Loughborough University made themselves readily available to the Loughborough students who had been made aware that, whilst the activities were theirs and they had complete autonomy, they could ‘drop-in’ and ask for advice at any time during office hours. The students stayed in regular contact, they had ambitious plans and were unfazed by starting-up and developing their activities. Their main uncertainty was related to an issue that staff had not predicted, namely checking that they could pursue their activity without first gaining staff approval. In the early weeks of their activities they frequently sought approval prior to implementing their ideas. Their main difficulties were related to the booking of rooms and contacting groups of students studying different modules to their own. Further difficulties that were encountered by staff and students related to the transfer of funding and the setting up of student union societies.

Valuable lessons were learned by staff and students some of which were unexpected. Staff at Loughborough anticipated that students may need help with setting up and implementing their activities; however, the students were self-motivated and enthusiastic, and did not have any shortage of ideas even if some of these were a little over-ambitious for the timeframe in which they were working.

3. SYMPOSIA – KNOWLEDGE TRANSFER

3.1 Setting-up the Imperial and Loughborough Student-led Symposia
Students at both institutions were asked to submit their interest in setting-up organising committees. Student interest was high and each committee appointed a chairperson, deputy chair, finance manager and publicity manager without intervention from staff.

The Imperial symposium (March 2011) was a catalyst in the development of a cross-institutional student-to-student relationship between Imperial and Loughborough. Students at each institution maintained communication and friendly rivalry ensued; Loughborough students became determined to host a superior symposium to the one they had attended at Imperial, they did, however, acknowledge that they had the benefit of seeing what had been achieved, what could be improved upon and the feedback from staff at both Imperial and Loughborough, based on their
post-event discussion and evaluation. Interestingly, the competitive spirit between students at the two institutions is still in evidence.

3.2 Staff-to-Staff Transfer
During the afternoon of the Loughborough symposium (June 2011) staff from Imperial and Loughborough hosted a workshop, in a separate room, for staff from other institutions who were interested in setting up similar activity. This attracted 13 delegates from eight Higher Education institutions; it was encouraging that attendees were from different job families and encompassed learning services staff and academic staff and, furthermore, some institutions sent more than one attendee. The workshop was well received, attendees were actively involved and the topics raised and discussed were wide ranging.

3.3 Staff-to-Student Transfer
Staff offered guidance to the students and were available for help if required but did not interfere with the programmes for the symposia. Three meetings were held for each symposium, one at the commencement of the activities, a second mid-way through the organisation period and a final one just before the event. Guidance was in the form of a checklist for students, designed to help with the organisation of the events and the setting up of conference committees, assistance was provided with the booking of rooms as students were not able to access this facility. Rail tickets were purchased to enable students from each institution to travel to the symposia. The student committees determined the food that they wished to provide, however, it was purchased by staff rather than the students as this was found to be less expensive. Imperial students were successful in obtaining some free food by asking local outlets for donations. The students requested little help or guidance and repeatedly tried to reassure staff that everything was under control, even when they had yet to start many tasks. It was the staff who encountered most difficulties, which were related to standing back and allowing the students autonomy. There were some nerve wracking and nail biting moments. A valuable lesson learned by staff was that a last minute approach does not necessarily preclude success. Students can and will work all night to complete tasks as they are used to deadlines; this was particularly apparent before each symposium when a large number of tasks were still outstanding only hours before each event.

3.4 Student-to-Student – Development of the National Student-led Projects Community
Student-to-student knowledge transfer has developed and continued beyond the funded symposia period. The timing of the symposia was difficult; there was a need to avoid conflicts with lectures and tutorials yet host them at a time that enabled students from each institution to attend. There were two issues associated with timing, namely weekday or weekend and month of the year. After running the two funded symposia (Imperial in term time on a Saturday in March and Loughborough out of term on a weekday) the students believed that November was the right time of year for attracting new students and that Wednesday afternoons, a time when there are not lectures or tutorials, was appropriate. Imperial and Loughborough students, after forming a joint organising committee, held their first National Student-led symposium at Imperial College London in November 2011. A further symposium is being planned for November 2012 at Loughborough. We believe that this enthusiasm and cross-university collaboration is not only a strong indicator of sustainability but also demonstrates the on-going benefits that are being enjoyed and developed beyond the HE STEM funded period.
Feedback from the students indicated that it was the collaboration and discussion associated with the symposia organisation along with developing the panel discussions and liaising with external speakers that led to them reflecting on their original ideas and the way that they had developed their activities. It was from this reflection that they realised the significance and extent of the employability skills that they had developed.

4. BENEFITS OF STUDENT-LED ACTIVITY AND SYMPOSIA

Extensive feedback has been gathered from the students involved in the activities and all delegates at the symposia. This feedback has been excellent and is reinforced by: Imperial and Loughborough students setting up their ‘National Student-led Projects Community’, the continuation and growth of activities beyond the initial funding and the on-going cross-institutional relationships. In 2011, the authors were also awarded ‘Practice Transfer Custodian’ status and are currently in the process of supporting seven additional institutions to adopt some form of student-led activity. Feedback received from staff, students, employers and members of Professional Bodies relating to the activities and the symposia was all of a positive nature.

Benefits listed by students were, in the main, related to the enhancement of employability skills such as communication, project management, team working and fundraising. Other comments from students referred to the gratification associated with having the opportunity to turn their ideas into reality, being able to make a real difference to the lives of other people and realising the potential of their ideas. The students reported that they had learned from the experience of running their activities. The main points they raised were that they had overestimated the amount of time they would be able to dedicate to their activities during examination periods and that they were unprepared for the varying levels of commitment within their groups.

Comments made by staff, employers and Professional Bodies referred to student initiative, drive and enthusiasm exceeding expectations, enhanced staff/student relationships associated with trusting students to complete activities and allowing students autonomy.

Sustainability is demonstrated by the fact that the activities are still in existence beyond the funded period, the fact that the activities are growing and new ideas are being implemented. In addition, the interest being expressed by other institutions gives credibility to the perceived benefits of student-led, employer-focused, extra-curricular activities and their long-term sustainability. Interest from other universities also highlights the success we have had with our transfer of student-led activity from Imperial to Loughborough and is indicative that, across the sector, there is widespread interest and belief in student-led activity.

5. WIDER KNOWLEDGE TRANSFER

After the first student-led symposium (London, March 2011) interest from staff at universities across the UK ensued. It was this interest that led to the authors including a workshop for staff at the second student-led symposium (Loughborough, June 2011). Since then authors have been awarded HE STEM funded ‘Practice Transfer Custodian’ status and are currently working with
seven universities who wish to adopt similar initiatives at their home institutions and have also run two workshops at the request of the South West region of the national HE STEM programme (which attracted 66 delegates drawn from 31 HEIs and 7 non-HEI organisations). A point raised by one of the attendees (now an ‘Adopter’) at the ‘Loughborough Symposium’ was: “The key issues I would like addressed in the future are knowledge transfer and sustainability of projects.”

One of the legacies of our work, which will further enhance the links between staff at Loughborough and Imperial, will be a concertina brochure entitled ‘Development & implementation of student-led projects: a checklist’. This checklist, aimed at helping others to set-up similar activity is currently in draft form and has received feedback and input from our adopters and students. The text contained in this draft document may be viewed on the Centre for Engineering & Design Education website (http://cede.lboro.ac.uk/studentledactivity/#checklist). We have also set up a JISCmail list for student-led activities (https://www.jiscmail.ac.uk/student-led); it is our endeavour to continue to transfer knowledge, build a community of practice and provide a support network for all interested parties.

6. CONCLUDING REMARKS

The development of the student-led activities at Loughborough and the successful transfer of knowledge from Imperial College London have exceeded our initial expectations. The symposia were professional, well-attended and well-received. Knowledge transfer and working relationships between staff and students at each institution continue to strengthen and flourish. The interest expressed by other institutions in our student-led activity and the seven adopters of our activities demonstrate that this is not a unique or only for a minority endeavour. The activities can be initiated at low cost and with minimal input from staff and have the potential not only to grow but also to extend beyond perceived boundaries. We attribute the success of our projects not only to the enthusiasm with which staff and students embraced the activities and were committed to their success, but also their willingness to share knowledge and to help each other that was and still is in evidence. The authors are committed to student-led activity and knowledge transfer, and are happy to respond to queries from interested parties.

7. REFERENCES


e.quinox. Student-led project – renewable energy to developing countries. Url: http://e.quinox.org/
JISCmail list for student-led activities. Url: https://www.jiscmail.ac.uk/student-led
Loughborough University and Imperial College London Developing & implementing student-led projects: a checklist. Url: http://cede.lboro.ac.uk/studentledactivity/#checklist
National HE STEM Programme. Url: http://www.hestem.ac.uk/
National student-led projects community. Url: http://www.student-ledprojects.co.uk/#