ABSTRACT

Internationalization and Mobility (I&M) has become an integrated part of engineering education, making institutions embracing it as a worthy profile in their marketing strategies. Though most areas of operation at an engineering institution are annually evaluated through systematic quality assurance, their I&M profile seldom is put under scrutiny. One reason might be that the standard for I&M insufficiently is stated through assessable outcomes and evidence.

The issue of I&M has been propelled onto the agenda of CDIO and proposed at the 6th international conference at Montreal, June 2010, as a 13th CDIO standard (Campbell, 2010). The proposal was thoroughly discussed at various meetings at the conference, in the CDIO regional groups and the CDIO council, which endorsed follow-up actions. In an effort to support the process, this paper will present a self-assessment of I&M at the School of Engineering, Jönköping University with the ambition to formulate clearer outcomes and evidence for excellence in Internationalization and Mobility.

The self-assessment will follow the general guidelines for the implementation at an institution of CDIO Standards with the involvement of all stakeholders. The central question will be: What are the evidence for a good standard of internationalization at the university? Information will be taken from both undergraduate and Master students from their evaluation forms and from interviews with the personnel at the International Office and heads of departments. Research will also be made on what is written in the area of assessing Internationalization & Mobility.

Clearly formulated evidence for excellence in I&M and a model of how to constructively assess it in an organization should contribute to the current discussion within the CDIO initiative.

KEYWORDS

Internationalization, Mobility, self-assessment, quality assurance, evidence for excellency

1. BACKGROUND

The last decade has witnessed a sharp increase in international student mobility, propelled both by EU strategies, market forces and a need for quality education among a rapidly more affluent third world student body. Quality assurance has not kept up with the increasing internationalization of higher education, partly because of a lack of accountability. The CDIO initiative constitutes an excellent accountability structure providing quality assurance for engineering education around the world. This paper seeks to show the need for internationalization to be integrated in the accountability structure of CDIO and exemplify it by a self-assessment at Jönköping University – School of Engineering (JTH).

1.1 Internationalization – a commodity
The Website of Jönköping University claims boldly the university to be truly international - that they are one of the best in Sweden at international student exchange. Scanning the websites of a number of other universities, similar claims are rampant. Naidoo and Jamieson (1) describe how changes associated with globalization and the knowledge economy have given rise to developments which apply pressure on universities to commodify teaching and learning and “sell” it in the international educational marketplace. Internationalization has become a commodity.

The EU strategies for higher education, like the Bolonga Process and the Lisabon Strategy, present an economic rationale to its huge investment in international student mobility like the Erasmus programmes and others. The motive is to bring EU to the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion. As for the Swedish state funded university system, internationalization became obligatory for each university to implement in line with managerialist practices and “massification” of education (2). Exchange students and free movers discovered the exotic tuition free Swedish universities which received increased state fund for each student that passed a course – a truly win win situation.

However, Sweden traces far behind USA, Britain and Australia in capitalizing on the growing market of higher education (3). One reason naturally is the limited number of courses offered in the lingua franca of English as well as the standard of English used in the courses. A survey among free movers, though, reveals another reason. Asked if they would choose a Swedish university if tuition was introduced, a clear majority said no, giving the education not being compatible enough as a reason.

Swedish higher education goes through a paradigm shift during 2011 with the introduction of substantial tuition fees for non-EU students. The affect on enrolment figures at Master programmes has been drastic with a drop of up to 80% at some universities. The enrolment figures the autumn 2011 of international students at the Masters programmes at JTH has not yet been realised, but they are expected to profoundly impact what programmes the university can offer. JTH needs international students to develop, but are now faced with the full impact of competition on the international market of higher education. It is the content, not the wrapping of the parcel in which the customer is interested.

1.2 Learning outcomes

The CDIO initiative provides both standards and syllables with clearly defined learning outcomes as guides towards excellency in engineering education. To assure the same high standard in internationalization, clear learning outcomes are needed. Without them, progress and quality assurance will be hampered. A report (4) from the Swedish Agency for Higher Education (HSV) points out that only a few universities in Sweden have clear policy documents and learning outcomes on internationalization and stipulates that in its recommendation, as does a follow up report 2008 from HSV(5).

JTH adapted a four year vision & strategy plan in 2008, in which a policy document on internationalization is included (6). The ambitious vision states that “JTH will be at the cutting edge of European development and supply of new technology and knowledge that strengthens the international competitiveness of small and medium size enterprises”. Other stated objectives are that an international perspective is sought in all activity of the university, that all the educational programmes should be internationally recognized and that the education should prepare for professional life internationally. However, the learning outcomes are mainly dealing with numbers in mobility and courses offered in English.

1.3 International Pedagogy

A quality programme for internationalization does not just contain an effective organisation for marketing and handling the exchange, but also a clear focus on the pedagogy, informal knowledge, intercultural competence and systematic quality assurance. Hellstén and Reid (7), in an excellent
and thorough study on international pedagogy, call for a critical approach to the international aspects of learning and teaching in higher education. While policy aspects of international education have received due interest from the community of scholars, research has not afforded sufficient attention to the applied aspects of internationalization, that is, the teaching and curriculum contexts of this global endeavour (8). Therefore, they emphasize the need for a reconsideration of pedagogies that acknowledge international education through the development of sustainable contemporary academic practices. Hence, it is insufficient for a university claiming to be good at internationalization just to change the language medium to English. The content and learning outcomes of the courses need also to be reworked from an intercultural and international perspective and adapted to the needs of an international student body. The pedagogy needs to be re-conceptualised to include systematic notions of teaching and learning in international contexts and with international students and curricula.

The managerialist practices that has been like an undercurrent in the development of international education tend to assume that educational systems are by an large the same, hence making adaptation of methodology and pedagogy to meet international needs unnecessary. However, a number of the answers in the student surveys in this study claim otherwise, pointing to confusion in not understanding the expectations of the lecturers or how to study for the exam. Therefore, training in international pedagogy and methodology for the academic personnel and curriculum reform would seem a strategic action in raising the international profile of an institution.

1.4 Informal knowledge

How can we ensure policies and programmes that successfully combine socio-cultural objectives with employment and economic growth? The syllabus of CDIO embraces a number of non-formal or informal skills like 2:4 and 3:1-3, as does the EU key competences for life-long learning (9). NESSE, (an EU network of experts in social science of education and training) points out that the European education community must seek new ways to address current social, economic and political realities. What can we do about growing inequalities, or the prejudices that accompany migration and destabilise communities? How can we manage significant demographic changes facing Europe, or ensure that in struggle for public resources the social objectives of education and training are protected? As we are all aware, the kind of answers we give to these decisions affect whether and how education can help realise a socially-just Europe (10).

The European Centre for the Development of Vocational Training (CEDEFOP) has developed guidelines for validating non-formal and informal learning (11). These guidelines can be helpful for universities seeking a focus for their internationalization work. Intercultural competence in line with the Homboldtian ideal is often wrongly assumed to be automatically acquired as soon as a student enters an international exchange programme. If intercultural training is not integrated in the preparation and follow-up as well as during the exchange, precious knowledge on how to become a bridge builder in the increasingly multicultural home environment can easily be missed. Development and volunteer organisations have generally as praxis to provide thorough preparation, professional supervision and compulsory debriefing for workers sent abroad. The challenges of culture shock, reversed culture shock, managing social interaction in a new cultural context, dealing with ethnocentric attitudes and keeping focused on adapting to the new culture do not come naturally (12). Instead, the natural tendency of an exchange student leaving his or her comfort zone is to avoid emotional challenges and withdraw into comfortable subcultures, resulting in missed opportunities to gain intercultural competence. The objective of cross-cultural volunteer organisations to have a proper mentorship for its workers throughout the mobility is a quality assurance of their international work as well as a professional care for the well-being and personal development of their workers. The exchange students face in many ways the same issues as cross-culture volunteers do. Therefore, internationalization programmes of universities have much to learn from the support structures of experienced volunteer organisations.

1.5 Quality assurance

Extensive work has been done on developing systems of validation of formal and informal knowledge. Little has been done on quality assurance process for the institutions that are expected to provide the learning. The European Qualifications Framework (EQF) seeks to create a
framework as do the HSV reports of Franke (13) and Enquist (14). However, the essence of quality assurance is that it should be done regularly closer to home, linked to the learning outcomes that each institutions supposedly have formulated. Focus should be on the quality of content rather than the quantity of numbers. The following areas need in one way or another to be assessed.

- How the work is organized and followed up?
- What current policy documents are guiding the work?
- How is the curriculum affected by international pedagogy?
- How is the intercultural informal knowledge integrated in the education?
- How is research exchange and international alumni facilitated for?
- What systems of quality assurance are set in place?

Two statistic tools have been provided for universities to assess students sentiments about their exchange; STARS (Study Abroad Report System) and ISB (International Student Barometer). Franke (15) reprimands Swedish universities for not using the tool STARS in their quality assurance. Thus, the valuable experience gained by individual students on international exchange is seldom recognized and used within the organization of the home university. However, complaints have been raised that data from STARS that concerns a specific university is hard to extract and interpret. More importantly, only to a limited extent do the questions address whether the learning outcomes have been reached.

This is also true for ISB, which clearly has a student perspective in its assessment. Though the information is valuable and sheds light on certain areas in need of development, ISB can never substitute a thorough local quality assessment of the international work of a university. As for JTH, the information provided from ISB this year was basically that students were generally pleased with their studies, but would appreciate more help in contacts with local industry.

Gaalen (16) asserts aptly that quality assurance is steadily growing in importance in the field of internationalization. There is currently a widespread belief that internationalization should not be regarded as an end, but rather as a means to improve the quality of education. Many national and institutional policy documents set down quality as one of the major goals of internationalization. At the same time, there is a definite lack of systematic monitoring and evaluation of the impact of internationalization on quality. Hence, there is only limited proof of any direct connection between internationalization and the quality of education.

NUFFIC (Netherlands organisation for international cooperation) provides an excellent matrix or checklist for quality assessment, though 19 pages long, as well as a tool kit on how to do it (17). For further endeavours into quality assessment, the services of NUFFIC would be recommended.

The JTH quality report of 2010 (18) included a section on internationalisation, mainly focusing on numbers regarding mobility. As far as international pedagogy was concerned it emphasized efforts in the area of quality assurance of strategic partner universities, projects with some universities in developing countries and effort integrating an intercultural competence in the educational programmes at home. However, the report falls short of a holistic approach to internationalisation and the report is not well known among the staff in the organisation.

2. METHOD

This self-assessment of the internationalization and mobility conducted within the framework of JTH is based on data collected from ISB, students’ essays written within the courses of Multicultural Competence and Intercultural & International Communication, questionnaires and interviews with students, teachers, department heads and exterior stake holders to JTH. The main questions have been:

- What evidence or lack of evidence do you see for JTH being “one of the best in Sweden” on internationalization?
- What suggestions for improvements of do you have for the work of internationalization at JTH?
- What intercultural issues, problems or learning experiences have you encountered during your studies at JTH?
In what way has JTH helped you deal with those issues?

The data has been collected during the academic year of 2010-2011.

3. RESULT

The result of the study will be presented as summaries of the collected data under headings according to the informants; external surveys like ISB and STARS, students and staff (including teachers, head of departments and external stake holders).

3.1 External surveys.

The external surveys like STARS and ISB show that exchange students at JTH are pleased or very pleased with the work of the international office, their practical arrangements like accommodation, introduction week and other services and their efforts in arranging cultural events. The quality of teaching also scores well, particularly the graduate school and the prospects a degree from JTH paves the way for. JTH is very eco-friendly. Furthermore, the exchange students are pleased with the opportunity given to make friends with students from their home country and with other international students.

However, JTH scores low in facilitating the entry of the exchange students into the Swedish culture and the interaction with Swedish students or the local population through social or sport events. Particularly low scores are shown in opportunities given to earn money while studying, careers advisory service, counselling service and the availability of bursary or financial support at the same time as the cost of accommodation and living is high.

3.2 Students

Problems dealing with the Swedish time centred (monochronic) culture.
Feeling patronized for not being on time.
I understood that the Swedish preoccupation with time has to do with it being a way to show respect. Of course they get upset if I come late. To me respect is shown through greetings, using titles and in that Swedes are not so good.

Swedes are at times perceived unapproachable and impolite.
Hard to make the Swedes trust you and feel comfortable with you.
The different teaching methods in Sweden emphasizing seminars, group work and group presentations has been difficult.

The cultural course helped understanding cultural differences. We would not have had an as talkative and friendly class without the course. It has helped the multicultural team working.

The cultural course made me feel more comfortable in Sweden

The course helped develop friendships with both Swedes and other students.

I have grown to appreciate the Swedish approach to education using seminars and group work.

The teachers at JTH need intercultural training.

International students have more friends among other international students than among Swedish. Why is that?

I didn't want to end up in a sub-culture of international students so I tried to be flexible and make efforts to get to know Swedes. It is difficult without the language.
Although we have tried to overcome differences, we couldn't get out of our sub-culture groups efficiently. The international and Swedish groups could still not integrate very well.

I have realized that there are cultural differences in the social interaction in Sweden and learnt that many Swedes are not hostile but open to social interaction if they are done on their terms. It has been a journey to learn what those terms are.

I have met problems in cracking the Swedish conversation codes, how to talk and what to talk about. The intercultural course provided me with lots of cultural understanding on how to interact with people from other countries. It gave me more patience with the others. I have started to understand my own culture and why I behave the way I do. As the intercultural course is cross curricula, it gave me an opportunity to meet both students from other programmes and people from the Swedish society that took the course as an elective.

The Swedish teachers are too polite and don't warn students if they are in danger of failing the course.

The English language of some teachers hampers their teaching.

The Swedish educational system provides ultimate comfort for students, they are always given a second or third chance to pass the courses, something that does not exists at my home university.

The best way for JTH to help students into the Swedish culture would be to provide Swedish courses at JTH that do not clash with other courses. The Swedish courses at JIBS are not available for us and the ones at HLK clash with our schedules and are usually too full. The SFI courses given by the municipality of Jönköping is not open for us either.

JTH should provide its engineering students with Swedish courses.

For us master students who stay in Sweden for two years, learning Swedish is very important. Without Swedish, we cannot get even part time jobs here. Knowing Swedish would strengthen our CV. Therefore, JTH should provide Swedish courses for its engineer students.

3.3 Staff

JTH has 78 partner universities with co-operative agreements where exchange of both students and research is sought for.

During the kick off week, international students are introduced to all area of university life.

Courses in intercultural communication are offered to both undergraduate and master students.

The international office is daily available to the international students for support services.

Thorough information and various incentives are used to encourage JTH students to study abroad within the exchange programmes.

JTH has a high number of outbound students (25%), (one outbound to 2 inbound) making many of its Swedish students taking the opportunity to gain international experience.

International students are given opportunity to inform about their home universities and countries.

An International Day for the whole university is arranged with a full day of programme presenting the different cultures represented on campus.
JTH has developed generous rules regarding cross-credit transfer with its partner universities.

JTH prioritizes teaching staff mobility, particularly with the partner universities, thus enhancing the proactive role of the teachers in international exchange.

The council of internationalization has representatives from each department at JTH and governs the strategies a work of all issues regarding internationalization at the university. Knytpunkten career centre at Jönköping University provides opportunities to meet with future employers and a place where you can ask questions about the labour market.

Non-EU students have had to leave Sweden directly after graduation due to visa regulations without possibility to try the Swedish labour market, a rule that now is being changed.

JTH cooperates with more than 500 companies through the Host Company Project. Students are given the opportunity to combine theory with practice and companies are given valuable ideas. The collaborative work can take many forms — through student projects, research collaborations, courses aimed at specific target groups, participation in networks. However, international students are not part of this project.

The career guidance counsellor is not available for international students.

Internship at local companies is not provided for international students.

Through Enterprise Europe Network (LTC) some of JTH’s international students have received internship in companies.

JTH does no promotion among its 500 regional host companies of the international network it has of good masters and undergraduate students from all over the world.

The advisory council with representatives from regional enterprises pointed to the need they have of intercultural competence among the graduates of JTH, particularly in the lights of new demands on doing things right on the global market.

The new tuition rules in Sweden demand a more effective marketing strategy, where the needs of international students must get centre stage.

An effective alumni organization needs to be developed.

The important role of the alumni needs to be recognized, both by providing network for career opportunities and further studies, but also recognizing their important role within marketing JTH.

As for outward bound students, a one day session is given on practical advice for their mobility, but no training on intercultural issues, no mentoring during their mobility and no debriefing upon their return.

The individual international exchange experience of outward bound students is seldom recognized and made used of in the organization.

Quality assurance is regular and vital for the development of the work and educational programmes at JTH. CDIO provides the framework for much of the quality assurance. Quality work is performed within the frame of annual activity plans and accounted for in the subsequent annual report.

No quality assurance has yet been conducted of the internationalization work of JTH.

JTH’s intranet Ping Pong can easily be used to create a survey based on the local learning outcomes on internationalization.
4. ANALYSIS

Based on the discussion above, the NUFFIC checklist on quality assessment and Campbell's proposal for CDIO Standard 13 (19), a list of evidence of excellence in internationalisation is presented which are used as a benchmark for the performance of JTH on internationalisation.

4.1 Evidence of excellence in Internationalisation

1. The institution has a regularly updated policy document stating aims, strategies and learning outcomes in regards to internationalisation.

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2. The budget for internationalisation corresponds with the ambitions in the policy document.

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3. Quality assurance is regularly applied to assure high standards in internationalisation.

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4. Surveys to assist in the quality assurance are based on the local policy document and prepared for both inbound and outbound students as well as for teaching staff and other stakeholders.

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5. The institution actively stimulates its students to complete part of their study programme abroad, striving for a balance between inbound and outbound students.

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6. There is a relative balance between the number of outbound and inbound exchange students.

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7. The institution implements international pedagogy in its educational programmes through curriculum reform and by adapting courses and methodology to international demand.

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8. Training in international pedagogy is provided for the teaching staff.

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9. The communicative ability in English of the teaching staff is high.

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10. The support structure of internationalisation is staffed according to the volume of mobility and ambition of the policy document.

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11. The personnel involved in support and management of internationalization have intercultural experience.

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12. The management council of internationalization has representatives from all sectors of the university assuring a comprehensive implementation of international policy.

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13. Outbound students undergo a training programme in intercultural competence, including preparation, assignments during the mobility and a debriefing on return.

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14. Accommodation for foreign students is arranged in a way that it enhances integration with the domestic students and local community.

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15. Practical information regarding the mobility is presented both orally and in writing in a pedagogically effective way.

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16. Intercultural communication has an integrated part in the educational programmes for both domestic and foreign students.

17. All educational programmes strive towards developing skills in multi-cultural team process.

18. Seminars are provided for foreign students on academic writing and other academic peculiarities of the national educational system.

19. Local language courses synchronized with the schedule of international students are provided from an early stage in the mobility.

20. The institution has a large network of international partner universities, based on policy and programme compatibility.

21. A policy based strategic partnership with selected universities is developed, dealing with exchange on undergraduate, graduate, research and faculty level.

22. The Advisory Board and regional enterprises with international involvement are actively participating in the strategic partnerships.

23. The institution has a strategic partnership with at least one university in a developing country.

24. The institution offers a multitude of courses in English to which domestic students are stimulated to enrol.

25. Internship or work placement in regional companies is available to international Master students.

26. Links are provided for foreign students to local platforms (sport/social associations etc) where contacts with the local community can be made to enhance acculturation.

27. The majority of the faculty has international experience or background.

28. All faculty, staff and students participates in international research projects.

29. A network is developed for international alumni focusing on competence development and career opportunities.

4.2 Evidence found wanting

The test shows the result of 43/87 which is a weak 2 where 1-29 = 1, 30-58 = 2 and 59-87 = 3. JTH has some strengths regarding internationalisation namely:

- in the support structures and work of their international office.
- their effort on promoting and sending students abroad to study.
- the wide range of partner universities.
- the training offered at home in intercultural competence.

However, there are a number of areas where there is space for improvement:
• A comprehensive policy document with clear learning outcomes guiding the internationalisation.
• A system of quality assurance including locally produced surveys.
• Training and support of teaching staff in international pedagogy.
• A training programme for the outbound students.
• Facilitating integration in the arrangement of accommodation for foreign students.
• Bridging the gap between procedures and routines of the Swedish educational system and that of the exchange students.
• Starting up tailor made courses in Swedish for both undergraduate and master students.
• Open up the internship programmes and network with host companies (partnerföretag) to foreign students.
• Further develop the strategic partnership with selected universities.
• Involving regional enterprises in the internationalisation work of JTH.
• Develop a holistic network for domestic and international alumni.

CONCLUSION

In ancient Mesopotamia, there was a presumptuous king who thought the world of himself. A writing on the wall disclosed his fate; you have been weighed on the scales and found wanting (19). Soon competing kingdoms had overtaken him. JTH has been found wanting, but loosing market shares to other universities is unlikely as it is hard to find other universities better in the area of internationalisation.

On an ever increasingly competitive educational market, students will not be gullible to marketing slogans on WebPages, but look to the content of the services. Excellence in internationalisation will enrich the services and strengthen the educational programmes, which in turn will both enhance the growth of the university and its service to a more culturally integrated society. The CDIO with its evolving standards and syllable, thus, continues to be the best quality assurance framework for engineering education worldwide.

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Biographical information

John Ahlnér is Director of Marketing and International Relations at the School of Engineering, Jönköping University.

Jönköping School of Engineering
Box 1026
551 11 Jönköping
Sweden
john.ahlner@jth.hj.se
+46-36-101550

Tommy Josefsson has a BA in linguistics from the American University of Beirut and a MA in intercultural communication from ANCC-Open University UK. He is a senior lecturer in intercultural communication at Jönköping University and leads an integration project in the region, a work coloured by his 16 years working experience in the Middle East.

Olvonstigen 13
574 41 Vetlanda
Sweden
Tommy.Josefsson@hlk.hj.se
+46-70-2436123