

# RECOGNITION OF CROSS-BORDER CAPACITY BUILDING IN EARTH OBSERVATION\*

## - Addressing obstacles to international cooperation -

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### ABSTRACT:

Within the framework of capacity building and institutional development in the earth observation and geo-information sectors, a strong thrust towards establishment and use of international cooperative networks for education and training provision and exchange is noticed. These collaboration initiatives are regularly confronted with legal obstacles related to the recognition of diplomas/degrees issued for education and training offered jointly by education providers from different countries. In November 2007 ITC, ISPRS Commission VI WG 1 & 3 and GEO (the Group on Earth Observation) organized a seminar bringing together providers of (international and cross-border) capacity building, experts in recognition (credential valuation and accreditation) and governance (quality assurance) of higher education qualifications, and professionals from the earth observation and geo-information sectors to exchange experiences and to propose solutions on the issues of recognition and exchange of cross-border and international education and training. The discussions revealed that up till now insufficient attention has been paid to the legal aspects of cross-border collaboration in capacity building – to education and training in particular. Quality control and practical, logistic and financial aspects require so much attention that rather often, hardly any attention is paid to the legal aspects associated with joint education. There is thus a risk that collaborative education and training, how good the benefits and sincere the intentions, face the risk of results not being recognised in any of the collaborative countries. This paper summarizes the conclusions and the recommendations regarding improvement of the recognition of cross-border education initiatives resulting from the executive seminar.

## 1. INTRODUCTION

### 1.1 Background

Within the framework of capacity building and institutional development in the earth observation and geo-information sectors, a strong thrust towards establishment and use of international cooperative networks for education and training provision and exchange is noticed. In addition, other than traditional face-to-face modalities of knowledge transfer are in high demand and are gaining ground as major methods for capacity building. This development is mainly driven by general globalization, developments in ICT, earth observation and geo-data access, mutual awareness of global environmental issues and benefits of sharing experiences and expertise. These collaboration initiatives are regularly confronted with legal obstacles related to the recognition of diplomas/degrees issued for education and training offered jointly by education providers from different countries.

The recognition is invariably associated to the accreditation of the university or institute, or the program concerned, defined here as the review of the quality of higher education institutions and programs. It is a major way to let students, their families, government officials, employers and the press know that an institution or program provides high quality education. Whether a university, institute or program is

accredited is important. Students who want grants and loans, need to attend a business university, institute or program that is accredited. For graduates accreditation gives reassurance of the degree's value. Employers seek assurance that a university, institute or program is accredited before deciding to provide financial and other support to current employees, for evaluating the credentials of new employees, or making a charitable contribution. Governments require that a college, university, or program is accredited in order to be eligible for federal grants and loans or other funds.

ITC, the International Institute for Geo-Information Science and Earth Observation, operating in a network with a typical international focus, faces regular problems over these issues. Within its current Strategic Plan 2005 - 2009 it has the ambition for 20 operational joint education partnerships with qualified academic institutions across the world by the end of the plan period. Currently 12 of such partnerships are operational and successful in varying degrees (Figure 1).

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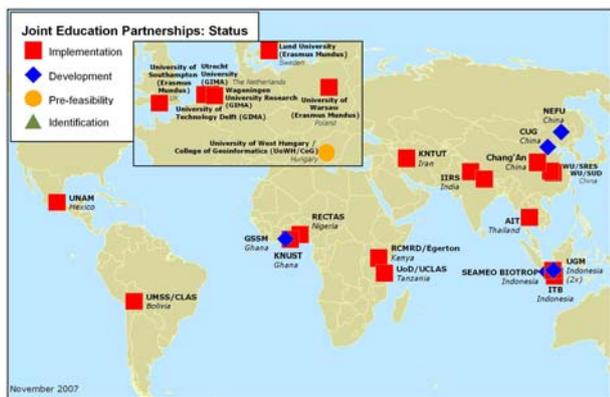


Figure 1. ITC's joint education partnerships

As such ITC has gained considerable experience with cross-border education and the associated quality assurance and recognition conditions. Furthermore ITC has faced difficulties in ensuring the recognition of the degrees issued as a result of collaborative education and training courses but has also been able to address these challenges allowing contributing to the fulfilling of its mission towards capacity building in earth observation and geo-information.

In November 2007, ITC, GEO (Group on Earth Observation) and ISPRS Working Groups 1 and 3 organised a seminar bringing together providers of (international and cross-border) capacity building, experts in recognition (credential valuation and accreditation) and governance (quality assurance) of higher education qualifications, and professionals from the earth observation and geo-information sectors to exchange experiences and to propose solutions on the issues of recognition and exchange of cross-border and international education and training. Participation was not limited to the earth observation and geo-information sectors as other sectors such as engineering, technology and business administration were participating as well in the event.

The discussions revealed that up till now insufficient attention has been paid to the legal aspects of cross-border collaboration in capacity building – to education and training in particular. Quality control and practical, logistic and financial aspects require so much attention that rather often, hardly any attention is paid to the legal aspects associated with joint education. There is thus a risk that collaborative education and training, how good the benefits and sincere the intentions, face the risk of results not being recognized in any of the collaborating countries, hence participants facing difficulties when securing funding for the education or when pursuing an academic or professional career after graduation.

In those cases where adequate attention is being paid to the legal aspects, in general creative solutions have been found, such as credit transfer, double degrees etc. within the rigid restrictions that national rules and regulations allow (provided these rules and regulations do allow for such solutions). Such solutions however seldom do justice to the contributions of the collaborating institutions.

For that reason it is considered that more structural legal solutions are designed, either as regional initiatives, such as in the European Framework or as international initiative, establishing an independent body that ensures quality control, accreditation and recognition of cross-border education & training programmes.

Other sectors avail of such international accreditation boards such as:

- Accreditation Board for Engineering and Technology (ABET)
- Association of Master in Business Administration
- Association of Collegiate Business Schools and Programmes (ACBSP)
- International Assembly for Collegiate Business Education

The question then arises whether ISPRS and/or GEO or together should not take the initiative for establishing an independent body that supports international cooperation in capacity building in earth observation and geo-information by accrediting cross-border education and training activities.

## 1.2 Definitions

Before embarking on the issue of recognition some definitions need to be clarified on quality assurance, accreditation and recognition:

**Quality assurance** refers to a set of procedures and criteria for the measurement, maintenance and enhancement of the quality of education (course or programme). This can be both internal quality assurance and external quality assurance but only the latter generally may lead to accreditation.

**Accreditation** refers to the formal approval of an institute, an educational program or a course by an officially acknowledged accreditation body. In other words on the basis of quality assurance by an external party.

**Recognition**, finally, refers to the acceptance of the value of the academic and/or professional qualifications of the education (program or course). This recognition may be formal, informal or both

- Formal recognition will be the result of an equivalence assessment (credential evaluation) of the degree/diploma by an appointed agency.
- Informal recognition is generally based on the observed/experienced value of the quality/qualification, the name of the university/institution.

Accreditation in the providing country does not automatically lead to recognition elsewhere in the world!

## 2. EXPERIENCES

The experiences with recognition of cross-border education as presented by education and training organisations from Thailand (Asian Institute of Technology), the Netherlands (ITC) and Mexico (National Autonomous University of Mexico), combined with the results of a questionnaire survey held among the participants prior to their arrival for the seminar, and the discussions revealed a range of common bottlenecks:

1. Lack of awareness: Decision makers in many countries are often unaware of problems related to valuation and recognition of foreign qualifications and cross-border education. Fast improvement of conditions for cross-border education and recognition of foreign degrees is not expected.

2. Lack of transparency and shared standards for degrees  
Examples mentioned are the differences in minimum entry level, in minimum duration of the degree programs and in standards for content and level. When standards are decided at national level, agreement between countries is already very difficult. Even more complicated is agreement with countries where these decisions are decentralised and are taken at university level (academic freedom of universities).
3. Valuation problems of foreign qualification of incoming students: Lack of information on laws, education systems, accreditation systems, etc. makes recognition of foreign qualifications very difficult. The differences between the Francophone and UK system are big. The variation between countries is enormous.
4. Problem to get qualifications recognized abroad, the recognition procedures differ per country. Recognition by reputation is no longer sufficient. There is a lack of trust between countries, cultural resistance and fixation on own criteria.  
How to convince others of the value of a course? Less often used components that could be used: (inter)national reputation of faculty, facilities, feedback from industry, and record of acceptance of your courses/qualifications by high standard institutions (Harvard, MIT, etc.).  
Use of alumni and professional organisations in the recipient country to convince the government of that country of your quality.
5. Lack of legal framework for joint courses: In most countries accreditation of cross-border courses is not possible. Legal possibilities for joint versus double/multiple degrees do not match.
6. Lack of legal framework for distance courses and non-degree courses: Accreditation of these courses is not possible in most countries. Prospective students do not have objective information about the quality of these courses.
7. Costs of accreditation: It is generally costly, both in time and money, to get courses and programs accredited. Going for accreditation in recipient countries is no option.

### 3. GUIDELINES AND APPROACHES

#### 3.1 General guidelines

Although substantive bottlenecks have been identified in the recognition of cross-border education, this does not imply that the problem has gone unnoticed with international bodies. UNESCO, the United Nations Educational, Scientific and Cultural Organisation, jointly with the OECD, the Organisation for Economic Co-operation and Development have paid considerable attention in the past to this issue providing guidelines for quality provision in cross-border higher education ([http://www.oecd.org/document/52/0,3343,en\\_2649\\_3584558\\_1\\_29343796\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/52/0,3343,en_2649_3584558_1_29343796_1_1_1_1,00.html)).

In these guidelines a distinction is made between six main stakeholder groups:

1. Higher education institutions / providers
2. Student bodies
3. Quality assurance and accreditation bodies
4. Academic recognition / credential evaluation bodies
5. Employers / professional bodies
6. Governments

These guidelines set out how these six stakeholder groups in both countries receiving and providing education can share responsibilities, while respecting the diversity of Higher Education systems in their own countries.

Important element in the recognition is formed by the equivalence of qualifications for which different parameters can be used. The Association of Indian Universities (AIU), for instance uses the following parameters in assessing equivalence of qualifications in secondary education, bachelor, Master, Master of Science and PhD degree levels:

- Entry requirements
- Nomenclature of certificate/degree
- Accreditation status of the university/institution in the home country
- Syllabus/course curriculum
- Evaluation modalities
- Acceptance of the degree outside the country for academic and professional purposes.

Important additional criteria used by AIU are such aspects as:

- Continuity in curriculum, structure and duration
- Purpose: academic, financial

#### 3.2 International accreditation

A number of "sectors" in higher education have international accreditation bodies such as:

- Accreditation Board for Engineering and Technology (ABET)
- Association of MBA's
- Association of Collegiate Business Schools and Programmes (ACBSP)
- International Assembly for Collegiate Business Education

The argument used by education providers to seek international accreditation invariably is pursued to enhance the international character of the programme/course and by this enhancing the status and attracting more international students as part of internationalisation drives by universities/institutions.

International accreditation follows a certain procedure for appraisal which very much equals the accreditation processes at national level, which may look at such aspects as:

1. Mission, goals and objectives
2. Structure and content of the programme/course
3. Curriculum organisation
4. Learning and teachings environment
5. Teaching staff qualifications
6. Effectiveness of the organisation
7. Internal quality assurance
8. Facilities
9. Entry requirements
10. Enrolment level
11. Success rates
12. Internationalization and external contacts

An example of international accreditation by ABET was presented at the seminar by the Technical University of Delft which had its educational programmes in aerospace engineering accredited by ABET in 1995 and 2001 combined with accreditation by the Dutch Universities Association.

Reaccreditation in 2006 proved to be difficult and cumbersome if not impossible mainly as procedures and

criteria by the reorganised Dutch accreditation system did not match with those of ABET.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

##### 4.1 Conclusions

The seminar yielded a number of interesting conclusions:

- There appears to be a general lack of awareness among providers as well as policy makers in earth observation sectors about recognition problems related to cross-border collaboration in capacity building.
- In addition it was observed that national legislation is indeed usually indecisive or unclear about regulations regarding cross-border education.
- Accreditation agencies that presented at the seminar made clear that they expect that providing institutions themselves take responsibility for making proper arrangements for quality control of the cross-border collaboration, combined with an early involvement of accreditation agencies.
- The participants concluded that accreditation should remain a national matter to be dealt with by national governmental agencies. But discipline oriented international accreditation agencies (like ABET) can solve many problems related to accreditation of cross-border education, provided that the outcome is recognised by the national accreditation agencies.
- A special international professional body is needed for the recognition of qualifications, including defining the set of standards. For the earth observation sector this should not be GEO, ISPRS or FIG. But these organisations can play an important supportive role (e.g. creating awareness in the member institutes).

##### 4.2 Recommendations

The following specific recommendations were made to GEO and ISPRS members and providers of cross-border education in Earth Observation on actions to create awareness and to stimulate recognition of foreign degrees and accreditation of cross-border education.

##### **Transparency and recognition of qualifications:**

Recommendations for providers to increase transparency of qualifications for the outside world and between institutions:

1. Work on institutional guidelines for cross-border capacity building, including sensitivity towards each others' rules and practices. This would include (but is not limited to) MoU, cross-culture issues, understanding of processes in partner institutes, etc
2. Identify international good practices in partnership.
3. Develop tools for transparency in academic qualifications in the form of Diploma Supplement, according to guidelines and format that are developed by the EU. Examples and guidelines are available from: [http://ec.europa.eu/education/policies/rec\\_qual/recognition/diploma\\_en.html](http://ec.europa.eu/education/policies/rec_qual/recognition/diploma_en.html).
4. Generic components of the Diploma Supplement should be put on the website. This includes information on accreditation, reference to relevant websites, etc
5. Engage in discussions with partner institutes to clarify issues of transparency.
6. Partner institutions should provide adequate and recognizable benchmarks for assessing learning outcomes in geo-education. This can be approached by discipline.

7. Define a process to agree on benchmarks so that learning outcomes and equivalence can be compared.

##### **Accreditation of programs**

All participants should give the following recommendations to relevant accreditation agencies and other bodies:

1. Accreditation is a national matter to be dealt with by national governmental agencies. But there should be an international body that could do accreditation of cross-border programs. Such an international body should be part of European associations (and other consortia) so that national accreditation agencies accept the outcome (like ABET being part of ECA).
2. Accreditation by such an international accreditation body will solve the issue for less common models of international education and for the Regional Centres (that do not fall under national agencies) as well.
3. The group also says that the process to agree on international benchmarks has to speed up. GEO could take the initiative in the GEO field.
4. Eventually the scope should be broadened to cover also interdisciplinary areas, emerging fields, etc

##### **Creation of awareness among stakeholders**

Recommendations to create awareness among stakeholders with respect to accreditation and recognition:

1. For ourselves:  
We have to become aware ourselves first (who is responsible in our own institute, what are the internal rules, what national laws and regulations are already available, etc.)
2. For providers:  
Get in touch with other providers to see how they are solving the issues. Communicate with other stakeholder groups, e.g. accreditation and recognition bodies in your country by inviting them and show them what you are doing.
3. For ISPRS:  
Recommend to the council of ISPRS to make a resolution to get the international recognition issues on the agenda of member organizations and countries.
4. For GEO:  
Advise the GEO Secretariat to bring up the awareness issue in their next meeting. And to design concepts and mechanisms for recognition of cross-border education.
5. For Regional Centres:  
Directors of the Regional Centres affiliated to UNOOSA should remind UNOOSA to work on recognition of diplomas of the Regional Centres.

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