LEARNING AND TEACHING IN THE EUROPEAN STRATEGIC NETWORK

Juha Kettunen

Turku University of Applied Sciences, Development, Finland
Juha.Kettunen@turkuamk.fi

Abstract: The purpose of this study is to describe the educational development of the European strategic network of higher education institutions. The Consortium on Applied Research and Professional Education was established to promote the collaboration of five universities of applied sciences. The study analyses the learning and teaching modes using blended learning and innovation pedagogy and describes their usability in the strategic network of higher education institutions. The strategic network promotes student and staff exchange, conferences and joint research and development projects. There are also emerging joint educational programmes and ideas to expand the educational programmes to achieve joint degrees. The findings of this study are useful to those who aim to improve collaboration in international networks and strengthen institutional performance.

Key words: Learning and teaching, higher education, strategic network, pedagogical development.

Introduction

Online learning, distance learning and the expectations on higher education institutions confront learning and teaching in higher education institutions. Among other things, information and communication technology, part-time study and internationalization are transforming the modes of delivering education. Distance education is changing the traditional face-to-face teaching modes. There are demands for higher education institutions to accelerate economic growth, employment and welfare in their external environment, provide opportunities for lifelong learning and include technology-based practices in the curriculum.

Regional development is an important responsibility of the universities of applied sciences. There must be institution-wide commitment to address and emphasize the external impact of the institution in the strategic plan. Outreach can be defined as an activity in which academic staff engages with external environment and communicates in reciprocal learning and teaching that increases both the capacity of external partners and the academic staff to produce scholarship that reflects realities outside the institution (Church, 2002). The outreach and engagement in international activities underscore the importance for the social and virtual networks and distance learning.

The international perspective is integrated into all the activities, including teaching, research and development and service to society. The purpose of this integration is for graduates to have the international skills that they will need in the workplace. This integration will also ensure the high international quality in education and applied research and development. Learning and teaching in international networks require traditional face-to-face instruction but also distance learning using information and communication technology. New pedagogical outlines and careful planning of course-delivery modalities are essential in international networks.

This study analyses learning and teaching in the strategic partnerships of higher education institutions. The study analyses the blended learning and innovation pedagogy and presents the Consortium on Applied Research and Professional Education (CARPE), consisting of five European universities of applied sciences to promote student and staff exchange, research and development and joint educational programmes. By establishing a strong European reputation, the strategic alliance increases the amount of external funding to its member universities.

The Turku University of Applied Sciences and the HU University of Applied Sciences began planning its strategic partnerships in 2008. After many meetings and negotiations the Hamburg University of Applied Sciences and the Polytechnic University Valencia joined the collaboration and signed an agreement with the other institutions in 2011. Shortly thereafter, in 2012, Manchester Metropolitan University joined the network. The promotion of international activities in the strategic network is important for the European economic and social cohesion in the Common Market. The network improves the international skills that students will need in their working life.

This study is organised as follows. Section 2 describes blended learning and innovation pedagogy, both of which offer valuable pedagogical outlines for the learning and teaching in international strategic networks.

Section 3 presents the European strategic network, which provides an environment for distance learning. Section 4 describes many tools and practices of distance learning in international networks. Finally, the results of the study are summarized in the concluding section.

Literature review

Blended learning

Blended learning combines traditional face-to-face and technology-mediated instruction encouraging the adoption of platforms such as online learning, mobile technologies and resources that exist in the cloud (Moskal, Dziuban and Hartman, 2013). Blended learning can also be adopted in distance learning and with new information and communication technology its will come 'the new normal model' (Norberg, Dziuban and Moskal, 2011). Blended learning has emerged from advances in information and communication technology but very few studies provide educational guidance for institutions (Halverson, Graham, Spring and Drysdale, 2012).

Littlejohn and Pegler (2007) expanded the types of blends to include the 'space blend' (face-to-face or online), 'time blend' (geography and availability), 'media blend' (tools, technologies and resources), and 'activity blend' (learning and teaching activities, individual or group). It is essential that a higher education institution defines and supports policies and course design processes that ensure all students access to learning regardless their time of study and geographical location. Many higher education institutions teach in multiple modes which includes on campus, at a distance, online or a blend of several modes (Taylor and Newton, 2013).

During the development of blended learning, a spectrum has appeared on course-delivery modalities, ranging from traditional face-to-face instruction to comprehensive online teaching. The first step is technology-enhanced education. Thereafter, blended learning is followed by learning mostly and finally completely online instruction (Graham, Woodfield and Harrison, 2013). The latter phases of the spectrum are useful in distance learning. There are virtually unlimited combinations of face-to-face and technology-mediated education, none of which is more or less valid than the others.

Higher education institutions began by blended learning in part-time adult education, where students are also employed, but the new techniques have also become more common for full-time students. Blended learning has become more popular among young full-time students in Finland, most of whom divide their time between their jobs and their studies. The experience has shown that many students find fully online courses very demanding. Institutions need to solve the technical and pedagogical obstacles in face-to-face education. The development has led to technology-enhanced education, blended learning and mostly online learning. Blended learning presumes the increased capacity of tutoring and electronic libraries (Kettunen, 2007).

According to the research evidence, there is no single best one-size-fits-all model for blended learning. The mode of delivery has a very weak statistical correlation with student success or persistence (Dziuban and Moskal, 2011). Each institution has to select the success factors for the mode of delivery to fit for the purpose and improve them continuously over a span of several years to achieve high quality. It is typical that at the beginning of a course there is face-to-face class to meet and build community, but discussing a complex matter that requires reflection may be better accomplished through an asynchronous Internet discussion forum (Garrison and Kanuka, 2004).

The key issue in the literature on blended learning is the combination of face-to-face and technology-mediated instruction. Even though it has been expanded to geographical, technological and activity dimensions there is still room to add new perspectives to blended learning. Blended learning has a decades-long tradition in Finland. It has evolved to include, among other things, distance learning, which includes essays from literature with practical applications and criticism, service to society, practical training, student exchange, entrepreneurship and development tasks. The integration of research and development into education is a new innovation in higher education and creates capabilities for students to participate in development work after graduation.

Innovation pedagogy

Innovation pedagogy was developed to improve the external impact of the universities of applied sciences and support regional development (Kettunen, 2011). The institutions respond to the development needs of the enterprises and other organisations in the region. These development needs are typically multidisciplinary. The universities of applied sciences apply for project funding and integrate the projects into education. Students are offered project studies and they are able to learn innovation competencies in the research and development projects (Kettunen, Penttilä and Kairisto-Mertanen, 2013). Innovation competencies are gained in international collaboration and they are valuable to promote entrepreneurship and the export of education (Kantola and Kettunen, 2013).

The positive external impact of the universities of applied sciences is created with incremental or radical innovations (Tidd, Bessant and Pavitt, 2001). Incremental innovations are created by continuous improvement of products, services or processes. Radical innovations create new products, services or processes. Successful innovation pedagogy promotes the economic growth, employment and welfare in the regions of the universities of applied sciences. The curriculum is designed to reach out to and engage with regional development activities.

Individual learning is extended to collaborative and networked learning, which are the modes of delivering education in projects and distance education. The students are offered project studies where learning emerges as learners interact (Vygotsky, 1978). Students work together and improve their problem-solving skills to achieve practical learning goals (Puntambekar, 2006). Advanced learning takes place in professional education when learners are well-connected to their environment. The networks raise the ability of students and staff to participate and interact when they resolve their shared problems (Cross and Parker, 2014). Networked learning can be supported not only by information and communication technology but also by social and international networks.

International strategic network

Consortium on Applied Research and Professional Education

The CARPE network was established to support the economic and social cohesion in the European Common Market and create benefits for the universities of applied sciences in member countries. The following higher education institutions signed an agreement on the strategic network:

- HU University of Applied Sciences Utrecht (Hogeschool Utrecht)
- Turku University of Applied Sciences (Turun ammattikorkeakoulu)
- Polytechnic University of Valencia (Universitat Politècnica de València)
- Hamburg University of Applied Sciences (Hochschule für Angewandte Wissenschaften Hamburg)
- Manchester Metropolitan University

Trust is an essential element in social networks (Anderson, Steinerte and Russell, 2010). The purpose of the network is to benefit from the trustworthy and close collaboration of the higher education institutions. A formidable challenge is to know the knowledge areas of each institution, research groups and individuals in a changing environment. Therefore CARPE wants to keep the network relatively small to maximize its benefits. The European network is eligible for funding from the European Union. From the viewpoint of economic development, the purpose is to support the enterprises and other organisations, because for many European countries the continent is the most important export area.

The key activities of the CARPE network include student and staff exchanges and research and development projects. These activities are financed by Erasmus and project funding. There are also joint study programmes which support the exchange. The objectives of the CARPE network are as follows:

- Exchange and collaboration in European research programmes
- Development of joint study programmes
- Exchange of students and staff (also non-academic staff)
- Establishment of a strong European reputation

All institutions in the network are universities of applied sciences, which have professional education and applied research. There are no traditional research universities in the network, but the Polytechnic University of Valencia and Manchester Metropolitan University offer degree programs from the undergraduate to the doctoral level. Another criterion is that the members of the network are in similar fields of education, which enable student and staff exchange and joint degree programmes. The institutions aim to increase their external impact on the region by innovations, which means the creation of new or the improvement of existing products and services (Bessant, Lamming, Noke and Phillips, 2005). New or improved products and services require improved or reengineered processes (Hammer and Champy, 1993). All the member institutions are regionally oriented in order to support the economic growth, employment and welfare in the region.

Figure 1 depicts the CARPE network on the European map. One of the key ideas was the geographical coverage in Europe. At the first phase, the network is located in Western Europe. The network has planned to call partners from Eastern Europe to extend the geographical spread to better cover European markets. The Steering Committee accepted the University of Debrecen in Hungary as an associate member in November 2014 and it can be considered for full membership in the future.
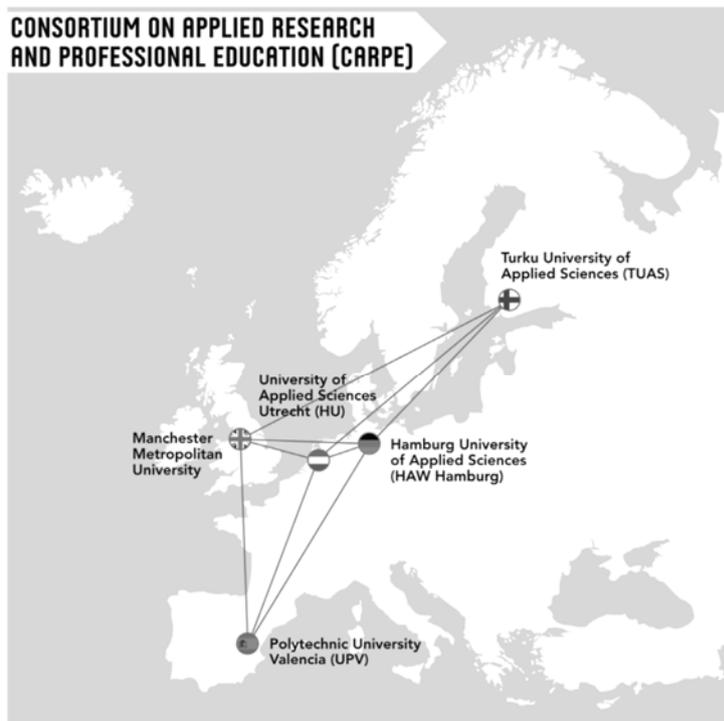
Figure 1. The CARPE network on the European map

CARPE is an open network, meaning that other higher education institutions and partners can join its activities. They can start the student and staff exchange, joint educational programmes or research and development projects whenever it suits both the parties. The active collaboration opens possibilities for associate membership. After a trial period, associate members can be accepted as full members if they fulfil the convergence criteria. It is necessary to avoid unnecessary bureaucracy and accept only those partners which are ready to pursue the common interests of network members.

The highest decision-making body is the Steering Committee, which meets twice a year. The plans and decisions are prepared by the support group. The communication group prepares the webpages and other communication. There are also working groups and theme groups responsible for the themes of the CARPE Conferences. Student associations also participate in the conferences and meet each other.

Results of collaboration in the CARPE network

Erasmus funding of student and staff exchanges has increased possibilities to plan research and development projects and to apply for funding from the European Union and other sources. The network has also arranged biennale conferences. The first CARPE Conference was in Utrecht in 2011 and the second in Manchester in 2013. The purpose of the conferences is not only the presentation of papers; experts attend to collaborate on joint projects. The number of student and staff exchange was 38 in November 2014, but many of the exchanges included several people.

There have been many project meetings and five larger workshops where researchers and teachers have shared their knowledge and presented new ideas for collaboration. A new idea is that the institutions offer joint degrees which lead to one or more degree certificates. International Semesters and student exchanges provide opportunities for internationally oriented students to study for at least one year at a host university. The number of educational and research projects has increased. In November, 22 project plans or projects were listed.

The network has also been useful from the viewpoint of other stakeholders. Enterprises and other organisations participated in research and development projects and benefited from the latest knowledge of the projects. Employers also benefit from the skilled graduates who have participated in international collaboration. The experience gained from practical training has become the most important reason for hiring graduates for enterprises and other organisations. The student associations have met at the conferences and planned future collaboration.

Distance learning in international networks

This section of the study describes the international collaboration of the Turku University of Applied Sciences (TUAS). It is one of the largest universities of applied sciences in Finland. It has four fields of education and 32 degree programmes leading to the bachelor's degree. Three of them are taught in English. TUAS has 14 master's degree programmes, two of which are taught in English. TUAS has four faculties: the Faculty of Arts Academy, the Faculty of Health and Wellbeing, the Faculty of Technology, Environment and Business and the Faculty of Business, ICT and Life Sciences.

International Semesters

TUAS has arranged International Semesters in nearly every Finnish degree programme. International Semesters are taught in English and they are at least three months and 30 European Credit Transfer System (ECTS) credits. Most of them are at the bachelor's level but some programmes are at the master's level. Several of the International Semesters have been developed with international partners; they combine contact and distance learning. An individual study plan is prepared for an international exchange student based on the discussions between the teacher tutors and students.

International degree programmes taught in English

TUAS offers three bachelor's and two master's degree programme taught in English to students who are interested in conducting studying in an international atmosphere:

- Degree Programme in International Business (Bachelor of Business Administration)
- Degree Programme in Information Technology (Bachelor of Engineering)
- Degree Programme in Nursing (Bachelor of Health Care)
- Degree Programme in International Business Management (Master of Business Administration)
- Degree Programme in Leadership and Service Design (Master of Culture and Arts)

The Degree Programme of International Business leading to the Bachelor of Business Administration is targeted to students who are interested in working in international small and medium-sized enterprises or for a global corporation. The Degree Programme in Information Technology leading to the degree of Bachelor of Engineering emphasizes the technologies, methods and tools for the computerized analysis and exchange of data. The Degree Programme in Nursing leads to the degree of Bachelor of Health Care. The mission of the degree programme is to educate students to work in international and multicultural nursing environments.

The Degree Programme in International Business Management leads to the prestigious Master of Business Administration. The degree programme is designed for those who work in development and management positions in international business. The Degree Programme in Leadership and Service Design includes design thinking, business and society and the focus of service design. The students have different professional and cultural backgrounds which enable them to find jobs in a variety of design positions in interdisciplinary environments and development work. The master's thesis is completed during the studies as the evidence of gained competence. According to the Finnish stipulations, three years of work experience are required after a bachelor's degree to be accepted for the master's programme.

Student exchange

International students can choose from a wide selection of courses taught in English. Studies at Finnish universities of applied sciences are professionally oriented and include a great deal of group work and project studies. International incoming students are assisted by a Finnish student tutor during the exchange studies. Student tutors meet incoming students at the beginning of their stay, introduce TUAS and help them take care of the practicalities such as accommodation and other practical matters. An exchange period is also a good opportunity to make friends and explore different cultures.

Practical training abroad

Practical training is a good alternative for internationalisation abroad. In return students gain

- good language skills
- international contacts
- new experiences

A degree student at TUAS can obtain financial support for international practical training from Erasmus scholarships and supplementary support from the funds of TUAS for three to five months. The students will earn typically 60 ECTS credits from the practical training but in some of the degree programmes the number of credits is higher. The students at the exchange must draw up a report on the period abroad and submit it within a month of returning to the home country.

Joint degrees

A joint degree is offered by a degree programme which is developed and provided by more than one higher education institution and which leads to one or more degree certificates. The term "joint degree" also covers the double degree agreed upon between two institutions. The double degree means that the student typically studies at least one year at the partner university. Normally, the student studies abroad at the host university during the third year of studies. Upon graduation, the student receives degrees from both from the home and host university. This can be quite an advantage in the labour market.

Institutions must agree on what is considered an accepted study completion. For instance, distance education, a jointly guided thesis or a practical training should be agreed. Practical training is compulsory for the bachelor's degree at the Finnish universities of applied sciences, but not every country has a practical training period included in the degree. Typically, the thesis is elaborated according to the criteria of the home institution, but the supervision and assessment may be realized by both institutions.

TUAS has signed double degree agreements with the higher education institutions located in the most important countries of international trade for Finland. It is important that the graduates from TUAS have necessary knowledge and skills and become employed in jobs where good knowledge about the trade partners is essential. TUAS has the following double degree programmes and partners:

Degree Programme in Information Technology
- Hamburg University of Applied Sciences (Hochschule für Angewandte Wissenschaften Hamburg)
- Polytechnic Institute of Coimbra (Politecnico de Coimbra)
- University of Tours (Université François-Rabelais de Tours)
- Ca' Foscari University of Venice (Università Ca' Foscari Venezia)
- University of Burgos (Universidad de Burgos)
- University of Lorraine (Université de Lorraine)

Degree Programme in Electronics
- Hamburg University of Applied Sciences (Hochschule für Angewandte Wissenschaften Hamburg)
- University of Zaragoza (Universidad de Zaragoza)
- Polytechnic Institute of Coimbra (Politecnico de Coimbra)

Degree Programmes in Business Adminstration, Business Information Systems and International Business
- Groupe ESC Troyes
- Regensburg University of Applied Sciences (Ostbayerische Technische Hochschule Regensburg)
- St. Petersburg University of Management and Economics

Degree Programmes in Energy and Environmental Engineering and Industrial Management
- Orenburg State University

Recognition and accreditation of previous studies and knowledge

The identification and recognition of students' previously acquired competence is based on the competence-based descriptions, which explain the learning objectives of studies. The way in which these objectives have been achieved is irrelevant. Learning can occur in formal education, distance learning and working life. The competence can be included in the degree or the studies can be replaced with previously acquired competence. Inclusion means integrating such higher education level competence to the degree that has no equivalent in the existing curriculum. Substitutability refers to replacing studies included in the curriculum of the degree programme with proven competence.

Students who return from exchange should ensure that the credit transfer to their degree is done correctly. They return the transcript of record obtained from the host institution to their home institution. If the higher

education institution does not belong to the ECTS, the credits must be transferred to the European system. For example, the credits achieved in the United States must be multiplied by two to achieve the ECTS credits.

Conclusions

Emerging information and communication technologies can be considered disruptive so that they require a careful consideration of the educational goals, contents, structures and processes. The elements of blended learning, innovation pedagogy and distance learning are becoming more popular in higher education. Educational development demands careful policy development and implantation. Administrators must consider strategic management, pedagogical outlines, program development and infrastructure requirements. Faculty members have the opportunity to use the new technologies and pedagogical outlines to facilitate learning more effectively. Students must re-examine their assumptions and learn what will be required of them in the labour market after graduation.

This study presented the CARPE network, which was formed by five European universities of applied sciences. The strategic network of the universities of applied sciences provides a trustworthy learning environment for students who want to strengthen their international competencies. The network has had positive results on the student and staff exchange and research and development projects. The common fields of education of the institutions help students and staff increase exchange. The trustworthy relationships between institutions help the research staff to plan research and development projects and apply external funding. The study also presented empirical evidence of the distance learning in international networks. International Semesters and degree programmes at the home university are first steps, followed by student exchange and practical training abroad.

The results of the CARPE network are positive. The number of student and staff exchanges has increased. The network has arranged conferences, workshops and project meetings to share knowledge and present new ideas for research and development projects and other collaboration. The number of research and development projects and the funding from the European Union has increased. The network has also benefited enterprises, other organisations and strengthened the economic and social cohesion in the European Common Market.

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