The academic world, and especially public health education, is a global one. The present report deals with the important trio of development, health and education. The aim of the projects has been to improve higher education in public health sciences in three African universities in Egypt, Kenya and Tanzania. University of Eastern Finland coordinated the project with Karelia University of Applied Sciences as Finnish partner. The funding was provided by the Ministry for Foreign Affairs of Finland.
Better learning for better health:
HEI-ICI projects and practices
Better learning for better health: HEI-ICI projects and practices
ABSTRACT

Education has for a long time been acknowledged as a key factor in sustainable development. Similarly, education is one of the cornerstones of promoting public health. The present report deals with the important trio of development, health and education, especially from the viewpoint of tertiary or university-level higher education. The publication reflects on and evaluates the experiences from the Finnish-African HEPHS (Improving the Quality of Higher Education in Public Health Sciences) I and II projects from the period of 2011–2016. The aim of these collaborative projects has been to improve higher education in public health sciences in three African universities, one of which is from North Africa, and two from the Sub-Saharan part of Africa. They are Ain Shams University (ASU) in Cairo, Egypt, the University of Eastern Africa, Baraton (UEAB), in Kenya, and the Catholic University of Health and Allied Sciences (CUHAS) in Mwanza, Tanzania. The project has been coordinated by the University of Eastern Finland (UEF), with the Karelia University of Applied Sciences as the Finnish partner. The report also includes Diaconia University of Applied Sciences (Finland) and Arcada University of Applied Sciences (Finland) co-operation with UEAB. The funding has been provided by the Ministry for Foreign Affairs of Finland through the Higher Education Institutions Institutional Cooperation Instrument (HEI-ICI).

Keywords: public health, higher education, development, multicultural projects, Finland, Egypt, Kenya, Tanzania

Yleinen Suomalainen asiasanasto: kansanterveystiede, korkea-asteen koulutus, kehittäminen, monikulttuurisuus, hankkeet, Suomi, Egypti, Kenia, Tansania
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Introduction

This book sums up the long co-operation of northern and southern partners who worked to improve the public health education in several universities in Finland and Africa.

The book consists of articles that describe the project, the funding instrument used and the results achieved during this project.

The editorial group consisted of Dr. Arja Erkkilä, Dr. Ari Haaranen, Prof. Jussi Kauhanen, Dr. Sohaib Khan and Dr. Jarmo Saarti from the University of Eastern Finland, who all were involved in the project and its tasks. The papers were written by the partners and persons that actually did the work in the several successful subprojects.
Joining the African development

JUSSI KAUHANEN

The world is going through unforeseen transitions. The African continent has especially been changing rapidly over the past decades. Although extreme poverty is still widespread, the trend is in the right direction: poverty rates have dropped to a historic low. Enormous economic potential exists, which can be seen in the global statistics. Six of the world’s ten fastest growing economies in the early 2000s are in sub-Saharan Africa. More people than ever before now live in cities all across Africa as they do in most parts of the world. New revolutionary technologies are profoundly transforming industries, social behaviours and entire cultures.

With all this said, huge challenges remain. Many, if not most, of these challenges link themselves, in one way or another, with the health of populations and environments. As the world is entering the post-2015 era with fresh, globally shared Sustainable Development Goals, it is time to take a look back and see how the previous Millennium Development Goals, aimed at 2015, were achieved in terms of public health.

Advances have certainly been made. Fighting against age-old maladies such as malaria has already saved hundreds of thousands of lives each year. However, there is still a long way to go. In 22 countries, which are all in Africa, 70% or more of premature deaths are still caused by infectious diseases and related conditions. Childhood mortality is falling worldwide. During the past decade the reduction in the premature deaths of children has been especially favourable in Africa where the problem was the most severe to start with. Still, too many children die due to preventable causes today. At the same time, populations are increasingly exposed to new risks and the so-called double-burden of disease. In 2012 a total of 44 million (6.7%) of the world’s children, aged less than five years, were overweight or obese. About one in four of these children lived in the WHO African Region.

EDUCATION AS THE KEY FACTOR TO THE CHANGE

Education has for long been acknowledged as a key factor in sustainable development. Similarly, education is one of the cornerstones of promoting public health. The present report deals with this important trio of development, health and education, especially from the viewpoint of tertiary or university-level higher education. The publication reflects on and evaluates the experiences from the Finnish-African HEPHS I and II projects from the period of 2011–2016. The aim of
these collaborative projects has been to improve higher education in public health sciences in three African universities, one of which is from North Africa, and two from the Sub-Saharan part of Africa. They are Ain Shams University (ASU) in Cairo, Egypt, the University of Eastern Africa, Baraton (UEAB), in Kenya, and the Catholic University of Health and Allied Sciences (CUHAS) in Mwanza, Tanzania. The project has been coordinated by the University of Eastern Finland (UEF), with the Karelia University of Applied Sciences as the Finnish partner. The funding has been provided by the Finnish Ministry of Foreign Affairs.

All three southern partner countries, Egypt, Kenya and Tanzania, have made significant advances in various development goals. Just as an example, let us take another look at the under-five childhood mortality rate. In 1990 the rates in the partner countries were at a high level: 83/1000 in Egypt, 93/1000 in Kenya and 150/1000 in Tanzania. By 2015, a notable mean annual decrease between 2.1 and 5.8% has been observed in childhood mortality in all three countries. Hundreds of thousands of children have been given another chance of life. Officially, however, only Egypt has met the 2015 goals set by the UN. There is still a lot of public health work to be done. Child health is just one, albeit a very important, indicator of public health. Many aspects of health need to be improved if we want to take the new global goals for sustainable development seriously.

Public health can be understood as a systematic effort by governments, organizations, civil society, and the international community to protect and promote peoples’ health. It is collaborative by nature. For public health efforts to be effective, an educated and well trained professional workforce is needed. This applies equally well in Finland as it does in African countries. This was the basic rationale to launch our higher education development collaboration between African and Finnish universities. In part, it was also a continuation of the decade-long North-South-South academic mobility programme that since 2005 has sent students as well as staff and faculty members from several universities across the African Continent to the University of Eastern Finland, and vice versa, with Finnish academics visiting African partner institutions.

We believe that sustainable development in public health can be facilitated by supporting higher education structures. All activities have to be based on real needs and they should be characterized by high ethical standards and academic quality. Genuine collaboration between various professionals is essential to make the best use of new technologies and learning environments. Such higher education programmes will stay as strong actors in public health through the times to come if they just keep themselves capable of critical self-appraisal, remain dynamic, and are ready for continuous development.

This report was prepared by a team of experts from the partner universities. The authors would like to thank all the experts and trainees within our network of partner universities who have taken part in the project in any of its phases from the initial planning to implementation and evaluation. Special thanks go to the support staff in financial and administrative services in the partner universities.
Finally, we express our gratitude to the Ministry for Foreign Affairs of Finland for funding the development programme and to the Finnish Centre for International Mobility CIMO for providing the central administration and services for the HEI-ICI (Higher Education Institutions Institutional Cooperation Instrument) programme.

University of Eastern Finland, Kuopio, Finland, 10 January 2016

Jussi Kauhanen, MD, PhD
HEPHS Project Director 2011–2016
1 From paternalistic development co-operation towards active collaboration

JARMO SAARTI, ARI HAARANEN, JUHANI MIETTOLA AND ARJA ERKKILÄ

This chapter discusses the shift in Finnish foreign policy, especially in how it conducts development co-operation. A concrete example is the HEI-ICI (Higher Education Institutions Institutional Cooperation Instrument) project between the University of Eastern Finland (UEF) and three African partners, which will be discussed in detail. The aim has been to develop the skills of selected junior faculty members in the partner universities. The emphasis has been on exploiting modern distance learning tools and determining how they can be utilized in public health tuition. The study is an exploratory one based on feedback collected from the project partners and field observations by the members of the project. We make some suggestions on how to optimize the incorporation of modern technologies in global academic co-operation.

1.1 INTRODUCTION

Finnish development co-operation was initiated in the 1960s, though it can be stated that the missionary work in the 1850s in Namibia was the very first step in cultural cooperation between Finland and Africa. However, the early 20th century was a period of construction of the Finnish nation and two World Wars meant that Finland had to concentrate its foreign policy towards the survival of the state and the preservation of national independence. The previous centuries can actually been viewed as colonialist periods for Finland; first under Swedish rule (1150–1809) and then Russian (1809–1917). In this respect, Finland shares a heritage with many African countries.

The 1960s saw a radical reappraisal of politics throughout Europe. In Finland, this meant that the nation started to build its own version of the so-called Nordic welfare model (see e.g. Normative 2005). This was based on the positive development of the national economy; there was sufficient wealth so that finances could be made available for development co-operation with Third World nations. During that time, there was also the intent to integrate Finland into the global political arena: at the political level, this can be seen in the work of President Urho
Kekkonen (1900–1986). During his presidency, the ministerial office for aid to
developing countries was established in 1965 (Soikkanen 2003).
The motives behind Finnish development co-operation during the 1960s were
mainly political, i.e. to demonstrate activity in international affairs. However, a
strong humanitarian aid ideology has also been prevalent in Finnish foreign policy.
A commercial aspect was integrated into the agenda from the 1970s onward.
Another trend was an emphasis on development projects in education; this trend
has been present from the very early days of Finnish development work. Finland
was viewed as a good partner due to its lack of any colonialist history and the
democratic principles on which the young state was built (A good analysis of
Finnish policies can be found in Takala 1998).

In order to further emphasize the development work being done in the Higher
Education Institutions, the Ministry for Foreign Affairs initiated a new programme
in 2010 (Ministry of Foreign Affairs 2010, 4):
“The intention of this programme—Higher Education Institutions Institutional
Cooperation Instrument (HEI-ICI)—is to create a mechanism through which HEIs
in Finland and developing countries can cooperate to produce institutional reforms.
The projects are aimed at promoting the strengthening of developing country HEIs’
administrative, methodological and pedagogical capacity, as well as supporting
their own development plans. Cooperation between Finnish and developing
country HEIs shall be based on needs defined by the developing country HEIs, and
built on the principles of mutual learning and equal partnership.”

In this programme one can perceive a shift in the rhetoric of the development work.
There is a turn from the paternalistic “aid to the developing countries” towards
“the co-operation between higher education units”. This has been a slow process
from the 1980s onwards in Finland. Nonetheless, this does reflect a long tradition in
Finnish developmental aid philosophy—at both the domestic and international
level, education is the key to real development. A second pillar of this philosophy is
that today we all live in a globalized and digitally connected world, particularly in
the research and teaching conducted in universities. Brandenburg & be Witt (2011,
28) propose the idea of post-internationalization to describe the present situation in
which all nations base their policies on the rhetoric of internationalization.

This change in Finnish higher education policy is also partly due to the process of
integrating into the European higher education policies that were implemented
when Finland joined in the European Union (from 1995). In Europe, this process
had already started in the 1980s when the reactive approach was changed to a more
pro-active and strategic issue (de Witt 2010, 5). At present, there is also discussion
about the need to assess the quality of internationalization both at the programme
and institutional level (Altbach & Knight 2006, de Witt 2010, 39).

De Witt gives the following rationales for internationalization (2010, 9):

• Political (e.g. foreign policy, national security, technical assistance, peace).
• Economic (e.g. growth and competitiveness, labour market).
• Social and cultural (e.g. intercultural understanding and competence,
educating globalized citizens).
• Academic (e.g. the internationalization of the research and teaching, profile building).

In addition to the above (Altbach & Knight 2006, 35) emphasize the fact that e-learning and the growing use of English as the lingua franca has enabled new possibilities for international co-operation. All of these aspects can be seen in the present policies in Finland, both at the state level as well as at the individual institution level. This is also emphasized in the new Finnish university funding model being implemented.

In this chapter, we shall explore the effect of the new type of development co-operation funding by describing, as a case, a project whose is to develop higher education in four partner universities: three in Africa (Egypt, Kenya, and Tanzania) and one in Europe (Finland). The main aim of the project has been to develop the know-how and co-operation between the partners involved; including benchmarking the best practices between the institutions involved in the project, rather than to develop the facilities of the higher education themselves.

The study is an exploratory one based on feedback collected from the project partners and field observations by the members of the project. We try to find answers to the questions on how the globalizing world of higher education effects the co-operation between countries of different cultural backgrounds and level of development; and how modern teaching methods and media technologies impact on the development co-operation

1.2 THE AIMS AND PARTNERS OF THE UNIVERSITY OF EASTERN FINLAND THIRD WORLD CO-OPERATION

Finland has adopted and is fully committed to the Millennium Development Goals, where eradication of extreme poverty is one of the principle aims (United Nations, General Assembly, 2005). Finland’s foreign and security policy is built on strengthening international stability, security, peace, justice, sustainable development and law enforcement. Further objectives of Finland’s Development Policy Programme for 2012 are gender equality, the reduction of inequality and climate sustainability. One goal of Finnish policy is to promote access for all to education from early childhood development all the way up to higher education. In the education sector, the main strategy is to help build capacities of educational institutions at all levels. Networking and utilizing Finnish know-how in higher education and research are important targets of the Finnish international development policy (Finnish Ministry for Foreign Affairs, 2012).

The UEF has an international reputation in the fields of health, environment and well-being, with particular strengths in community-based teaching and research, internationally recognized research programmes on chronic diseases, as well as conducting research in biotechnology, biosciences and molecular medicine. The UEF is one of the most prolific postgraduate research training centres in Finland. The Institute of public health and clinical nutrition in the UEF is the most
internationally oriented unit within the Faculty of health sciences at the UEF. It trains professionals in health sciences and medicine, and provides a wide range of international courses and programmes in English. There are many student and staff exchange programmes with several universities, including the partners in the North-South-South Programme (NSS) and in the HEI-ICI (see http://www2.uef.fi/en/ktravi/etusivu).

Positive collaboration between the UEF and the three partner institutions in Africa, i.e. University of Eastern Africa, Baraton, Kenya (UEAB), Catholic University of Health and Allied Sciences, Tanzania (CUHAS) and Ain Shams University, Egypt (ASU) has been established over several years through the extensive exchange of expertise in the fields of higher education and research. Furthermore, there is also growing collaboration between Karelia University of Applied Sciences (Karelia UAS) and the southern institutions in the field of nursing. The established collaboration provides a firm foundation for a partnership project “Improving the Quality of Higher Education in Public Health Sciences 2011–2012 and 2013–2015”. The project is funded by the Ministry for Foreign Affairs of Finland (FMA).

In practical terms, this project aims at building capacities and at developing human resources in the African partner institutions so that they will be able to address major public health challenges at the national, regional and district levels. The identification of priority programmes and modules is based on a careful assessment of local needs in the public health science higher education, and the project is implemented via full ownership by the southern partners. The UEF is the coordinating institution, and it also acts as facilitator together with the Karelia UAS. The southern partners are also assisted in developing strategies, procedures and activities in high education which can be sustained after the end of the project. As a result, the project adheres to the Finnish development policy, i.e. it functions in a sustainable manner and it promotes full ownership by the southern partners (Improving the Quality of Higher Education in Public Health Sciences 2011–2012, 2010).

The HEI-ICI project directly complements and benefits from the previous NSS cooperation platform. All the HEIs have enjoyed successful partnerships with UEF through the NSS collaboration in student and teacher exchange programmes and in the participation of international intensive courses. Karelia UAS has established a strong relationship with UEAB in which they are collaborating with the UEF (Improving the Quality of Higher Education in Public Health Sciences 2011–2012, 2010).

1.3. PUBLIC HEALTH EDUCATION AND CURRICULUM DEVELOPMENT

In all of the partner universities, public health education is conducted as adult learning. In ASU, the students have an MD degree and in other partner universities they have a B.Sc. degree in a health-related field (e.g. medical, nursing or nutrition).
Many of the students work part-time or take a leave of absence from their jobs for one year to attend the university and then return to work. Therefore, there is a need for flexible learning methods such as e-learning. The multiple campuses in UEAB have increased the need to take advantage of e-learning. The curriculum development part was conducted partly on Moodle discussion boards and in face-to-face discussions with the teaching staff.

UEF has international experience in public health curriculum development. It participated in a previous project enhancing mobility in public health studies (Grewe et al. 2008) and has participated in the activities of the Association of Schools of Public Health in the European Region, ASPHER (Birt & Foldspang 2011). The curriculum development process started with the self-evaluation of the existing curricula in the partner universities. The needs analysis and development of new courses together are described in Chapter 2. Another part of the teaching and curriculum development was to conduct an evaluation of the teaching methods. There was not much documentation available in English regarding teaching methods. Information on the teaching methods was obtained by interviewing teachers in the southern partner universities. The teaching methods in use included lectures, practical sessions, field visits and some e-learning. The teaching was described as teacher-oriented and the teachers wanted to switch towards more student-oriented learning methods.

The means of obtaining and using student feedback to develop courses and MPH programmes differed among the partners. One institute did not systematically collect feedback. One collected feedback only on the teacher’s performance during the course. One partner collected student feedback on courses, but its use in developing teaching was not systematically organized. The partners were given advice on how to develop practices for better utilizing student feedback and for involving students in the development not only of their courses but also of the curriculum since this is regarded as one aspect of high quality teaching (Finnish Higher Education Evaluation Council 2011). For example, suitable questions which could assess the learning process were discussed.

1.4. INTEGRATING DISTANCE LEARNING AND LIBRARY SERVICES WITH A DIGITAL LEARNING ENVIRONMENT

During the past two decades, the digital revolution which has impacted on scientific information dissemination has meant that the information skills needed in academic studies, research and working life have become increasingly important (see e.g. Road to information literacy 2012). This is especially true within the health sciences where knowledge is changing constantly due to the advances in research and the application of these findings can actually save lives.

UEF has been active in implementing information retrieval (IR) courses for the faculty (Juntunen & al 2008). Since the university is split into three campuses—about 100 km apart from each other—the University Library has implemented these
courses through a distance learning environment. At present, most of the IR studies are completed online. The library needed an English version of the IR course so there was a real motive for co-operation between the four partners. This was done during the visits to the Kuopio campus during the spring 2012. The idea here was to combine tuition in the information skills teaching with ways of using the distance learning platform which was being utilized by all the partners in their basic courses.

The main aim of the project was to develop education in health sciences and to improve the quality of teaching, especially by using and utilizing e-learning. Initially, two consultants in academic public health education and library skills visited the participating southern universities to assess the present situation in academic public health teaching and the support resources, such as libraries and IT services. The main aim was to evaluate the resources available for e-learning. The visit was encouraging and the consultants made recommendations on how to proceed with the project. During the visit, the consultants discussed e-learning and its requirements at the institutional, department and course levels with key individuals, teachers and students of the institutions.

The project has utilized the Moodle e-learning platform to conduct the collaboration between partner institutions. Moodle is an open source course management system and virtual learning environment, which has been used by educators all around the world. It enables students and teachers to work together, share materials in projects; even to design tailor-made web-based courses in all institutions. Four out of the five institutions already had some experience with Moodle, so it was decided that this represented the most feasible platform from which to create the new collaborative courses.

According to Arabasz et al. (2003) there are some key issues which have to be taken into account when institutions adopt e-learning. First, institutions have to provide adequate and reliable technical infrastructure to support their e-learning activities. Without support, e-learning initiatives cannot move forward. The support consists of a set of processes and resources. For example, there should be support staff at the faculty and university level that will have responsibilities for training teaching staff, identifying and solving technological and pedagogical problems and providing resources to help in course development. All of the partners had the possibilities to provide this kind of support in their own institutions. In fact, only a model was lacking about how to ensure this kind of support. During the project, partner institutions were informed about best practices and what challenges they could expect to encounter in the arrangement of this support. In most cases, the libraries were undervalued by faculties as a source of assistance for identifying technology and also for their pedagogic expertise.

Second, both teachers and students must possess the technical skills to use e-learning tools (Arabasz et al. 2003). The first step in the project was to arrange training for the trainers, who could then help and support the teaching staff in their own institutions in the future. Training was initiated by designating certain junior staff of the institutions as trainers, two per institution. The basic concept of training
was to learn by doing and the threshold of initiating e-learning was felt to be lowered when two trainers could work with each other and receive peer-support from an individual in the same institution.

Initially, training was arranged through chat-sessions, where the needs of the institutions and the trainers were mapped, and a schedule of contact training was agreed. At the same time, trainers became familiarized with one another during the sessions; there were only minor problems with internet connections on a few occasions. There were eight chat-sessions and a synopsis implemented in Moodle before the contact training was started in the UEF. Before contact training, the trainers prepared a summary of the areas where they considered there was a need for resources, support and further training in e-learning and web-based courses in their own institutions. All trainers had experience of working with computers.

In the contact training, the trainers were provided with knowledge about how best to learn and teach using Moodle. They were shown pedagogic tools, informed about the potential of e-learning and shown best practices. During training, the trainers worked in groups to develop a course about the information retrieval to be used in the home institutions. The trainers received support whenever necessary during these sessions. After training, the trainers had created a course which could be tailored for their own purposes in their home institutions.

1.5. EVALUATING THE PROJECT’S FIRST PHASE AND ITS RESULTS

According to Arabasz et al. (2003), the third issue to be confronted in adopting e-learning in an institution is the pedagogical viewpoint. Instructors must design their courses to incorporate e-learning effectively into their pedagogy. In this case, the greatest challenge is the role of the teacher. Traditionally, teaching in higher education has been teacher-orientated. Teachers have solely chosen the learning material, used tools and set learning tasks almost like colonial rulers.

The amount of information has increased so much that no-one can control and manage all of it. The teacher’s role has changed and it is no longer sufficient simply to share the selected knowledge and assess how well students have assimilated these gems of knowledge. Today, teachers need to guide and support students to find relevant material and to appreciate how to link different strands of knowledge together. Most web-based learning environments are based on social constructivism, which emphasizes the impact of collaboration and negotiation in thinking and learning. These learning environments and their tools support collaboration between students and learning by communication. In such a scenario, the most important roles of the teacher are to be supporter, adviser and facilitator of learning (content and process) (Garrison 2006; Stacey and Gerbic 2008).

This pedagogical viewpoint was strengthened during this project. At the moment, the project has gathered only the initial experiences about teaching in web-based environments from the teachers’ perspective. Subsequently, project staff can utilize
these experiences and reflect on how best to teach in a web-based environment. In conclusion, it is important to remember that there is no method or teaching strategy that can directly promote learning. This is only achieved by ensuring that these methods and strategies are implemented in the most appropriative manner, i.e. how, where and when. The main points are where they can best be incorporated into the curriculum, when they can be used to improve the content of courses and how they are taught. This collaborative work is being continued.

The development phases of e-learning in the project were:

1. Analyse the current situation and resources in e-learning in partner institutions (need analysis and discussions with key persons in decision making).
2. Establish a working platform for web-based collaboration.
3. Train junior faculty members about the utilization of web-based platforms and contact teaching (good practices in e-learning, pedagogy in e-learning, course planning and web-based tools).
4. Pilot the first web-based courses (Public health issues and Public health in humanitarian crises) in all partner institutions.
5. Plan jointly other prioritized web-based courses.
6. Follow-up and monitor achievements.
7. Develop joint distance education material in collaboration with all partner institutions.

The first phase of the project involved mainly learning about the basic concepts of e-learning, those associated especially with the Moodle environment. The implementation of information literacy into the learning about how to use the Moodle was found to be effective: an individual best learns techniques when he/she has some motivation for utilizing the modern techniques in a familiar environment. Although we used many up-to-date digital communication techniques throughout the project, it was noted that talking to people face-to-face in their own institutions was important; for example, our partners had their own ideas about how to implement library and IT-technologies in their own institutions (Abdel-Aal 2012; Charles, Khangane & Joachim 2012). We also noted that this helped in building trust and co-operation between the African partners and promoted a true exchange of knowledge of the cultures involved in the project.

1.6. CONCLUSIONS

Modern communication technologies can support a shift in development aid from paternalistic co-operation towards active collaboration. The basic internet technologies are available both in Africa and in Europe and they make possible co-operation in teaching. These open up new perspectives, especially in those disciplines that can benefit from the expertise found in different universities all
over the world; for example, for the Finnish public health student this provides the opportunity to listen to online lectures from local specialists on African health issues, and vice versa. This encourages multicultural approaches in education and research. One can predict that in the very near future the availability of even faster bandwidths will open up entirely new possibilities, such as real-time video-teaching at multiple sites.

The main obstacles are mainly political and philosophical: do we really want to start to share our resources via these modern technological possibilities and, at the same time, can we modernize our curricula in order to enable our students to select the courses they want to be added to their final degrees? From both cultural and ecological points of view, better utilization of the distance learning tools could help to avoid unnecessary travelling, which is in line with the Finnish Development Policy and the UN Millennium Development Goal 8.

This novel approach to learning and teaching is based on the concept of cooperation, collaboration and trust between all of the participating partners; its foundation is the full ownership by the less developed southern partner institutions. Empowering the academic staff of these institutions ensures that the advances can be sustained, even after the financial support for the projects comes to an end. This present project showed that this type of approach is feasible, but one must allocate enough time for negotiations and meetings. It was also noted that the integration of discipline-based topics with skills to use novel teaching tools, here the e-learning environment and IL-skills, encourages the creation of multi-disciplinary skilled teams. Two years is quite a short time to create a capacity building project and to achieve sustainable results. Therefore, in agreement with previous experiences, all of the present partners share the view that the project should be extended by a few more years in order to ensure a true long-term impact. The decision on the second phase of the project was made at the beginning of 2013. There the main aim is to develop and/or improve the existing public health master’s degree programmes in all the universities involved.

References


2 Upgrading the public health curriculum and teaching methodologies

ARJA ERKKILÄ, SOHAIB KHAN, SAHAR SABBOUR, ELIAS CHARLES AND BERNARD OMAMBIA

The MPH programmes in the partner higher education institutions (HEI) differ in their focuses, duration and student backgrounds. Some characteristics of the programmes are first described to help identify the needs of the programmes (Table 1).

CUHAS offers an MPH programme lasting one year. The establishment of the MPH at CUHAS in 2010 was driven by the interests of the stakeholders, not only in the governing institutions but also non-governmental institutions and community health programmes and demands for public health specialists (Manzi et al. 2012; Mkony 2012).

At the beginning of the project, UEAB had applied for the MPH programme but it was not yet running. Approval to the programme was given by the Commission of Higher Education, the Republic of Kenya during the project in January 2014. The MPH programme at UEAB lasts for two years. For both CUHAS and UEAB, starting the postgraduate degrees was a big effort with limited faculty members with adequate public health training; and hence the partnership with international HEIs including the UEF was needed.

ASU offers the two-year MPH programme to medical doctors only, which makes the student population differ from the other programmes. At UEF, the MPH programme is a second cycle degree following the Bologna process and it covers 120 ECTS and takes two years to complete.
Table 1: MPH programmes in the partner HEIs

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<th>CUHAS</th>
<th>UEAB</th>
<th>ASU</th>
<th>UEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake</td>
<td>15</td>
<td>15</td>
<td>15-20</td>
<td>25</td>
</tr>
<tr>
<td>Background of students</td>
<td>B.Sc. Health related fields</td>
<td>Suitable B.Sc. degree</td>
<td>Medical graduate doctors</td>
<td>B.Sc. in health related fields</td>
</tr>
<tr>
<td>Duration</td>
<td>1 year</td>
<td>2 years</td>
<td>2 years</td>
<td>120 ECTS, 2 years</td>
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2.1. DEVELOPMENT OF COURSES

2.1.1 Needs analyses

The needs evaluation for the curriculum development was done in the first project phase (2011–2012), developing and piloting courses were done during the first and second (2013–2015) phases. The curriculum development process started with the self-evaluation of the existing curricula in the partner universities. The partners were quite satisfied with their current curricula. However, they had ideas about how to plan specialized MPH programmes (e.g. occupational health, nutrition) in the future in addition to improvements in general MPH programmes. Secondly, the partners were asked to identify the strengths and weaknesses of their curricula and the needs for development. The priority areas were identified in discussions during visits to southern partners and using e-mail communication and formulated together (Table 2).

Table 2: Identified priority areas for development

<table>
<thead>
<tr>
<th>Public health area</th>
<th>CUHAS</th>
<th>UEAB*</th>
<th>ASU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public health nutrition</td>
<td>Nutrition was embedded in non-communicable diseases course, hence not much emphasis in the curriculum. Special interests in nutrition include HIV nutrition and malnutrition</td>
<td>MPH offers 3 courses in nutrition (Public health nutrition, International nutrition, Maternal and child health nutrition).</td>
<td>As ASU takes only medical doctors in its MPH programme, and nutrition is included in medical school curriculum, basic nutrition course is not included in MPH. Topics in nutrition are included in Public</td>
</tr>
<tr>
<td>Public health area</td>
<td>CUHAS</td>
<td>UEAB*</td>
<td>ASU</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Occupational health</td>
<td>Limited coverage in Environmental health course. Strong presence of mining industry in the region makes this a priority area.</td>
<td>Included in the Environmental health for developing countries course.</td>
<td>Not included in the MPH curriculum, but all MPH students take course on occupational health in their Bachelors studies.</td>
</tr>
<tr>
<td>Public health and vulnerable groups</td>
<td>Not included in the curriculum.</td>
<td>Partly included in HIV/AIDS: implications for public health – course. Collaboration with ADRA in regard of disabled groups.</td>
<td>Not included in the MPH curriculum. Geriatric topics are included in the medical degree.</td>
</tr>
<tr>
<td>Public health issues</td>
<td>Not included in the curriculum.</td>
<td>Partly included in &quot;HIV/AIDS – implications for public health” course.</td>
<td>Not included in the curriculum.</td>
</tr>
</tbody>
</table>
| Public health in humanitarian crisis | Partly covered in “Environmental health and disaster preparedness” course. | Not included in the curriculum.                                      | Partly covered in "Environmental health and disaster management”.
| Research methodology              | Included; however, need to improve the teaching of this key skill.    | Included; however, need to improve the teaching of this key skill.    | Included; however, need to improve the teaching of this key skill.    |

* At the beginning of the project, the MPH programme was not running and all the priority areas had only limited coverage in the B.Sc. programme of public health.

### 2.1.2 Experiences from the development phase

All the priority areas were selected to be developed together as an E-learning course for the MPH curriculums. The work load of the courses was planned to be 4–6 ECTS. Two of the courses were existing courses at UEF (Public health issues
and Public health in humanitarian crisis) and they were modified to be offered in the network.

The principle of development work included that all the partners took responsibility for a nominated section of the course and therefore all the partners can later use the planned courses in their curricula. The responsible teacher at each HEI selected and developed the materials, developed the assignments and graded the assignments that students submitted during the piloting phase. All the courses were planned to be for totally e-learning so that all the HEIs could have equal access to the courses.

Most of the course planning processes began with a live session with all the nominated teachers. That helped agreement on the course aims and contents and facilitated later the planning process. This meeting was not possible for one course. After the initial meeting, all the courses were planned using e-mail communication and the Moodle platform.

The planning phase of many of the courses was affected by challenges. Effective communication and keeping within planned schedules among the teams turned out to be difficult. The heavy workload of teachers in their home HEIs was one likely contributor to this. Another factor could be different working cultures as suggested by Hofstede’s framework (Hofstede 1980). For example, the power distance reflected by acceptance seeking by superiors in the lower and middle level staff is suggested to be high in many African countries and that aspect differs from European cultures (Muriithi & Crawford 2003). Furthermore, there were changes in staff allocated to the teams. A change of staff delayed the process as the newcomer had to be introduced to the work done earlier. CUHAS and UEAB have a limited number of staff and finding a teacher with the necessary expertise in a specific area of public health (e.g. occupational health, nutrition) was challenging especially in cases of staff changes.

Only some of the teachers had previous experience on e-learning. This made further requirements to the course planning necessary. Not only topic-based expertise was required, but, in addition pedagogical solutions for e-learning were needed. Teachers were supposed to be supported by the TOTs in their HEIs to get help on e-learning pedagogics. In addition, the responsible teacher at UEF would help the teachers at HEI with practises to plan online materials and assignments. The different practices of the teachers—such as in selecting suitable scientific materials for students—could be observed. Assessment of students’ workload also required a different type of thinking in online teaching than in contact teaching, which was more familiar to the southern teachers. Finally, the new way of teaching might have also affected the teacher’s commitment to the course. Introducing new teaching methods can be regarded as risky as comparison to traditional classroom teaching and thus decisions regarding it are more likely to be avoided (Jetu et al. 2011).

Furthermore, it was discussed how teachers teach, guide and communicate with students in online courses. The development process showed that teachers and students need instructions on how to communicate in e-learning. Teachers felt that
the revision process of the course materials and assignments was very beneficial, as it gave practical examples on how to manage an e-learning course. A new type of working provided mentorship for junior faculty members to advance in curriculum development and teaching skills in addressing local needs with a global health focus. In one of the courses, ASU nominated a team to develop one course, and that proved to be a successful approach, as they could get support from each other and manage time better.

2.2 PILOTING THE COURSES

2.2.1 Courses
As described in the previous chapter, a total of six courses were planned to be developed and piloted during the two phases of the HEPHS project. These courses were:

a. Public health issues 6 ECTS
b. Public health in humanitarian crises 6 ECTS
c. Introduction to occupational health 5 ECTS
d. Global issues in public health nutrition 5 ECTS
e. Research methodology 4 ECTS
f. Public health and vulnerable groups 4 ECTS

Two of these courses (Public health issues + Public health in humanitarian crises) were piloted in the first phase of the project. These courses had been a regular part of the MPH curriculum at UEF, with an annual intake of about 50–60 students from UEF and from other Finnish universities via national academic networks such as the Finnish University Partnership for International Development (UniPID) and Doctoral Programmes in Public Health (DPPH). Even though these courses existed already with defined objectives and content, changes were still made to the contents of the two courses, specifically for the project, and input from new teachers from partner institutes was introduced.
The remaining four courses were piloted during the second phase of the project. These courses were new to the curricula of all the collaborating institutes, including the UEF. This meant that development went from the idea stage to piloting. Different aspects of the piloting phase will be described in the paragraphs below.
Before the piloting of each course, teachers from partner institutes discussed, decided and divided their exact roles and responsibilities among themselves. One teacher or a team of teachers and 10–15 students joined from each institute for each course.

2.2.2 Platform
The online Moodle platform specifically created for HEPHS during the first phase was selected to run these courses. As the staff of partner universities had already
been familiar with the medium and how to operate it, the idea was that they could handle their roles for the courses on the Moodle easily. Additionally, further instructions and guidelines on how to use Moodle were provided to the teachers and coordinators of each partner institute. The layout of the courses was kept very simple in order to avoid any confusions and ambiguities. At the start of each course, the teacher was required to have an orientation session for students of his/her institute in order to introduce them to and instruct them in the Moodle and the course. Teachers and students were encouraged to communicate via Moodle, bypassing emails and other channels as much as possible, in order to get students and teachers more familiar with the Moodle platform. This Moodle communication replaced conventional means such as printed letters or emails. This also resulted in rather more organised record keeping of communication.

2.2.3 Lectures
Lectures were delivered by different teachers of partner institutes, and video-recordings were uploaded to the Moodle. Additionally, PowerPoint files were also provided with each video lecture. Commonly used digital formats were used so that the computer and internet systems at each institute could handle them. Lecture contents were kept in line with the needs of all partner institutes, and thus giving a quite comprehensive look to the subject themes. These lecture materials were considered the property of the project, and partner institutes were allowed to use them in future in order to sustain the courses independently at each institute after this joint piloting stage.

2.2.4 Assignments
Assignments were of various kinds: quizzes, essays, discussions, lecture diaries and exams. Instructions and dates were given clearly on the Moodle. These assignments were implemented in exactly the same way for students of all the institutes. For most of the courses, a teacher in each institute was assigned to take care of assignments of local students of that institute. This kept the workload even for each teacher, and was also a way for teachers to know the performance of their own students. In Public health nutrition course, one teacher was assigned to take care of an assignment of students of all the institutes. This gave a chance to teachers to observe the variations between students from different institutes.

Each assignment was accompanied by assessment criteria. Since evaluation methods were different at these different institutes, a consensus was developed beforehand and the most commonly used criteria were adopted. A local teacher was also responsible for giving the feedback to each of their institute’s students about his/her performance through the Moodle.

2.2.5 Teachers
Owing to the collaboration, a large pool of teachers was available for each course. These courses and the online format were preceded by the training of staff of each
institute by the UEF experts, which led to their understanding of Moodle and its basic functioning. But despite this training and guidance, teachers of southern partner institutes took some time in performing confidently and comfortably. This was quite understandable as this online teaching was a totally new type of activity for them. In each course, a UEF teacher took the central role and assisted them throughout.

There was a difference in experience and expertise of teachers from different institutes, as there were cases when senior professors were participating from one institute while a junior lecturer from another in the same course in similar roles. This was representative of a general mismatch between the partner institutes in terms of their teaching staff strengths. This might have affected the assessment of assignments and other aspects of the courses. This larger pool of teaching professionals became a source of bringing new expertise to the students as well as to the faculties of the involved institutes. Certain study areas which were previously weak in the curricula were strengthened. Teachers got access to and ownership of new study material which they could use in the following years. This contributed to future continuity and sustainability.

2.2.6 Students

Ten to fifteen students were enrolled from each institute, thus keeping the quality of education and the workload of teachers reasonable. Admission criteria made sure that all students came from a relevant health sciences background, but the final admission decision rested with the local teachers, as they were more familiar with their education system levels and how to interpret those. Again, just like the teachers, differences were visible also in the academic backgrounds of students from different institutes. This resulted mainly from the fact that partner institutes were offering public health degrees to students from different backgrounds as explained earlier. Students of southern partner institutes were new to the online format of the courses, but followed the lead of UEF students who had been taking such courses.

2.2.7 Remarks

Although the piloting phase did present challenges to the staff and students at the beginning, adoptability increased after the initial courses; teachers felt more confident in their roles and responsibilities, and the students were able to grasp the online nature of the teaching better than before. Technical issues persisted in some campuses, but, at the same time, the attention and interest level increased, as more and more students of southern partner institutes were applying to enrol in the later courses. Teachers saw this activity as something noteworthy to be included in their professional CVs, and as an experience to develop their teaching careers. Unfortunately, the intra-institutional transfer of this know-how and skillset stayed limited and southern partners looked to UEF for steering the piloting phase. Staff changed occasionally during the courses and frequently in between the courses, and the new staff started from the basics without gaining much guidance from their
colleagues beforehand. This brought the biggest challenge and slowed down the flow of the project.

2.3. STUDENT FEEDBACK

Most of the numerical feedback revealed that the courses had clear aims and students felt that they had learned according to the aims and the knowledge had been relevant to them. The courses received in general very positive feedback. Mixing students from different backgrounds and cultures brought up an interesting study environment for them, and it was reflected in the feedback. African students learnt about the European and Finnish public health issues and perspectives, and vice versa. There were, however, suggestions for improvement. Online teaching is characterized by a need for clear instructions on when and what the students are required to submit. One student expressed it as a suggestion:

“Creating writing guidelines for the assignments.”

For many students keeping up with the schedules was difficult and the most often given suggestion for improvement was that the time needed for assignments should be longer. Poor internet connectivity may have contributed to this. It may also reflect the fact that the coordination of the whole course should have been more efficient, as individual teachers may develop their assignments not taking into account the whole course workload. The way of teaching and student work load estimation is also likely to differ among the HEIs as, for example, the curriculum of UEAB lists a long list of course books which are not typical in UEF. Other overlapping courses and exams were also mentioned as causes of delays. One student wrote: “Feedback on time. Now at the end of the course, I still haven’t got any feedback from the assignments 5, 6, 7 and 8.” The comment above highlights the fact that teachers also need to accommodate enough time for the course. The benefit of online courses not being time and place dependent has its drawback that teachers and students need to be good planners of their time commitments. The heterogeneity of the teachers may have affected the level and quality of assignments and materials to differ within the courses. Given the nature of the course, the teachers preferred online materials, as same books might not have been available in all HEIs. In addition, access to online materials should be made as easy as possible in situations where the internet might have limitations, as one student wrote: “provide all the materials in downloadable forms so that I don’t have to look for internet access, I can download all at once and study them in my spare time”. Videos were especially difficult to open at times in southern HEIs, and the formats were modified to their needs.
Coordination of the whole course is important to monitor the types of assignments and amount of materials. In these courses, coordination was done by the UEF teachers. Given that collaboration continues, the southern partners can take more responsibilities in coordination of courses.

2.4 OTHER IMPROVEMENTS TO TEACHING AND ASSESSMENT METHODS IN PUBLIC HEALTH IN ASU

Student feedback regarding learning and teaching methods at ASU has been collected. A survey of MPH students revealed that 50% stated that assessment methods need improvement, as it is subjective in some examinations. Only 37.5% of MPH students strongly agreed that they can search for and analyse information from different sources.

As a result, there was a plan to improve the assessment of students in MPH and MD programmes in public health and epidemiology and to introduce activities that promote deep learning. These activities were enhanced after attending the TOT pedagogical training programme at UEF in April 2014, as part of the project activities.

Some new forms of MPH and MD students’ practical assignments and assessments introduced were to criticize a scientific article in terms of relevance, validity (design and sources of bias), results, and applicability (relevance to current setting and to practice, outcome, benefit/harm balance). Another new practical assignment was to design a checklist and use it in fieldwork to observe the infection control measures in a hospital ward or a checklist to assess the utilization of primary health care services and clients’ satisfaction towards this service. Small project works including a literature search and writing a short report, analysing national health surveys, planning a scenario for tracing an infectious disease or planning health promotion campaigns, such as for smoking cessation or substance abuse, have also been introduced to the curriculum.

These assignments are submitted as a written report and PowerPoint presentation. The written report is graded for competency, content, background information, tools used, data analysis and results, relevant conclusion and recommendations.

2.5. SUSTAINABILITY

The project aims dictated that these courses and the know-how should continue, further develop and become more refined at each partner institute well beyond the piloting stage. This process of sustainability is dependent on the following steps:

a. Intra-institutional dissemination of the knowledge and skills: southern institutes were encouraged to arrange workshops and other events where the local team members introduce and present these newly
acquired skills to their colleagues. The ASU’s department has been the most active in conducting such workshops and is also being supported actively by the higher administration. Inadequate material and human resources are indeed a limiting factor as UEAB has not been able to keep up with this activity as desired. At CUHAS, experience from HEPHS has provided an environment for expanding the scope of engagement within CUHAS to speed up e-learning and e-training at the university. The established capacity in terms of public health training and quality improvement has continued to attract different faculty members, including schools with the recent integration of the school of nursing and extension of the training to the medical school. Another key point in the dissemination goals is the involvement of senior academic staff, as a project aimed specifically at training junior staff, it was important that seniors join in at this dissemination stage and lead by example.

b. Tailor-fitting the piloted courses to the specific local needs: Each southern partner was to identify the areas and points within these piloted courses which were more in line with the local curriculum needs and then to modify and build on those areas even further. This customization should be a continuous process in order to evaluate the existing curriculums—a point noted by all southern partners.

c. Adding the piloted courses to the existing curriculum: Partner institutes did acknowledge the need for the continuation of these piloted courses, and the first step was their inclusion into the existing MPH curriculum. This process of inducting a course as a compulsory part of the existing curriculum has been affected by procedural delays from the administration of the southern institutes. ASU has been successful in transferring some of these piloted courses to their newly developed Moodle already, with the aim of running them as elective courses for the time being until the official approval to make them a compulsory part of their MPH programme. UEAB has also sent proposals to their university policy makers but are yet to hear the response. CUHAS is now conducting a curriculum mapping review following the successful uptake of the courses Public health issues, Public health in humanitarian crisis and Public health nutrition in Moodle to see how the new courses should be used in the future.

d. Developing new courses locally for local needs: CUHAS has just launched its first executive online MPH programme to meet the demand for those who cannot afford full-time classes. Some of the medical training, such as community medicine and public health nursing, have started using the same teaching methodology over the last two years. ASU and CUHAS are expecting that faculty members will continue their interest in extending the technology acquired and learnt via the HEPHS across
their universities to advance quality in public health training among other courses of interest.

e. Adopting and considering these practices over the long-term plans of the institute: It should be understood that the lack of engagement of local partners and a top-down approach to planning and implementing of the curriculum and model of teaching are significant barriers for scale-up, adaptability and sustainability, especially in Sub-Saharan Africa. This has not been the case in this project where the engagement and participation of the local partners has been the cornerstone of the project.

These steps will ensure the ultimate transfer of skillsets and knowledge, resulting in an upgrade to the existing capacities of southern partner institutes. The HEPHS Project became a conduit to introduce these new tools and techniques to the southern partner institutes, primarily focusing on the younger staff. The idea was to enhance the probability of continuity by enhancing the capacities of the younger members of the staff. New capacities and capabilities being introduced at earlier stages of their careers may make them a source of dissemination and change at the institutional and even regional level for longer terms. This may also add to the career development of these young professionals and give them opportunities to proceed in their careers while staying at their own institutes. This may bring an element of sustainability in terms of human resources by countering the issue of brain drain. It has been observed that respective departments at CUHAS and ASU have been successful in keeping their academic staff and with an upward career growth trajectory.

Another dimension of the experiences has been the bureaucracy factor. During the five years of this project, a distance was often seen between the departments and the administration of southern partner institutes. For instance, a proposal to implement a two-year MPH degree at UEAB, made during the very early days of the project, came for official approval only in 2014. Another instance was the unclear plans at CUHAS on whether to move from the existing one-year MPH diploma programme to a two-year degree programme. Changes to an existing activity or starting a new activity often takes time in certain work cultures, and HEI-ICI or any other similar collaborations must keep their agendas and goals in line with that. This applies to the future and sustainability discussion as well; despite the theoretical pathways available on how to proceed and continue the newly acquired capacities, we have to be realistic regarding the time element.

1.6. RECOMMENDATIONS AND CONCLUSIONS

Curriculum and course developments have benefited the students and teachers involved and the HEIs. The collaboration has changed the teachers’ views on teaching and learning. Teachers are more ready to switch to student-centred
teaching and want to enhance deep learning. Developing and co-teaching courses and reviewing the curriculum with senior and well experienced academics from the UEF has developed a good reputation for the southern HEIs. This has been recognized by, for example, the Ministry of Health in Tanzania and the CUHAS team has won the Global Health Research Innovation fund to carry out a community empowerment research project in Northern Tanzania for five years. Further, collaboration attracts potential students, not only nationally but also from neighbouring countries.

The HEIs have also had other simultaneous educational developments that have benefited from each other. CUHAS has launched a first executive online MPH programme to meet the demands of those who cannot afford full-time classes. Some of the medical training, such as community medicine and public health nursing, have started using the same teaching methodology over the last two years. In ASU, the extended modular programme (EMP) in MD training started in 2014. EMD uses methods to activate students such as team-based learning and learning by doing.

While having many positive outcomes, it is good to keep in mind that it is essential to reserve enough time and human resources for the curriculum and course development. Limited staff and support from administration can delay the process. Dissemination and sustainability also need attention and planning even from the beginning of the project.

References


3 Travelling together on the path for improving the public health higher education information services

WAGIDA A. ANWAR, ARI HAARANEN, OSCAR JOACHIM, ISMAEL KHANGANE, MONA ABDEL-AAL, LAMYAA SAID AL BAGOUR, JARMO SAARTI AND SAHAR SABBOUR

3.1 INTRODUCTION

The past two decades have witnessed a digital revolution which has impacted on the way that scientific knowledge is disseminated. In turn, this has meant that the information skills needed in academic studies, research and working life have become increasingly important (see e.g. Road to information literacy 2012). This is especially true within the health sciences, where the growth of knowledge proceeds exponentially and health care professionals need to be aware of these findings since they can save lives.

At the same time, we have seen the rise of open science ideology with the emphasis on open learning, open data and open access. In addition, the development of new open source software has higher education institutions to implement rather sophisticated software, such as for distance learning and digital library use. This development has been especially crucial for developing countries: it enables them to use an up-to-date digital environment when managing the knowledge needed in higher education and research. The open access movement also provides access to much of the most recent research without the barriers of the paywalls.

Last, but not least, the academic world acts globally in the ways that it exchanges ideas, creates innovations and tackles the global challenges facing humankind. Truly effective co-operation is now possible by adopting these up-to-date technologies, but they are only effective if the individuals who need these tools possess the knowledge of how to utilize them. This knowledge can inspire academic communities, making them not only more effective but also able and willing to co-operate in both research and learning development.

This paper describes in detail the work done in the CUHAS (the Catholic University of Health and Allied Sciences), Mwanza, Tanzania and ASU, Cairo, Egypt. The

1 The CUHAS part of this paper is based on Joachim & Khangane & Saarti 2015.
introduction of e-learning and its implementation in teaching and learning in the higher institutions and research centres will exert a major impact on knowledge management and dissemination and development of information systems. Currently, public health teachers and students at ASU and CUHAS are using the Moodle e-learning platform. The HEI-ICI (Higher Education Institutions Institutional Cooperation Instrument) project has also created new services and improved existing ones, particularly in adapting to changing habits and reading styles of our patrons, such as the adoption of e-resources; the introduction of the KOHA integrated library system, the exploitation of social media in learning and teaching. In addition, we will describe the whole project and its results in the other participating institutions.

3.2 TRAINING THE TRAINEES – THE HEI-ICI PROJECT

The TOT part of the project can be divided into the following steps and aims:

1. Analysing the current situation and resources in e-learning in partner institutions (need analysis and discussions with key persons in decision making) – this was done via field trips to the African partners.
2. Establishing a working platform to allow web-based collaboration – this was done by creating a project-based Moodle platform which was utilized as a discussion forum and a distance learning tool for the project.
3. Training junior faculty members in the utilization of web-based platforms and contact teaching, modern library and IT services – this was achieved with two visits to the UEF Kuopio campus, two junior professionals from each of the African partners (academic teacher and library/IT staff).
4. Implementing in-house services at the home institutions: e-learning courses, learning environments (digital and physical), library and IT services and software implementations.
5. Learning to work with individuals from different cultures – north-south and south-south collaboration.

One thread that spanned the entire project was to try to identify similar interests and to conduct as much collaboration as possible. Thus we planned and produced a Moodle information literacy course during the Kuopio visit to be implemented by all the project members in their own institutions. In addition, the project involved many site visits in Finland and job-shadowing in order to learn modern library, e-learning and IT-support services. The participants were encouraged to seek sustainable solutions that could be implemented in their home institutions, thus the emphasis was on exploiting open source and open access solutions.

One important aim was to learn to work with individuals from different cultural backgrounds. Thus, the cultural programmes during the visits were of great benefit to make the other participants aware of the particular problems as well as the
history and culture of each of the partners and their home countries. This has been important in building trust between the partners and it made it possible to create tailor-made, sustainable solutions for each of the partners and their home institutions.

### 3.3. FACULTY OF MEDICINE ASU, EGYPT – IMPROVING THE LIBRARY AND IT SERVICES

The Faculty of Medicine at Ain Shams University (ASU) is located in Cairo, Egypt. It was established in 1947 and was called the Medical College Demerdash. It was first affiliated with the University Fouad 1 (Cairo University now) but then became its own institution and is considered the third medical school in Egypt. ASU includes fifteen faculties: Medicine, Pharmacy, Dentistry, Science, Nursing, Law, Computer science, Engineering, Commerce, Education, Art, Linguistics, Agriculture, Girls, and faculty of Special Education. The Faculty of Medicine at ASU has 10 academic and 25 clinical departments and its vision is “To be the first in the Middle East to produce doctors with a competitive edge and lead the development of medical education” (http://med.asu.edu.eg/english/article.php?action=show&id=7203).

An average number of 1,200–1,500 students are enrolled yearly and they receive education at the Faculty of Medicine in each grade. It offers undergraduate and postgraduate studies in different specialties. With this huge number of students, we can no longer rely on face to face lectures alone without using another learning environment. One of the services for students is the Information and Communication Technology (ICT) and library services.

#### 3.3.1. THE IMPACT OF THE PROJECT ON THE E-LEARNING ENVIRONMENT AT ASU, EGYPT

E-Learning refers to all organized learning activities under the influence of an educational organization that are carried out with the help of Information and Communications Technology (ICT). In other words, it includes the use of new media and networked communications in faculty classes, and it includes classes that blend online and on-campus delivery methods, as well as less formal kinds of learning that takes place outside of organized classes. The increasing number of students and the rising generation of students who have grown up with the web, require us to reconsider the way we teach and the way we
reach. The students who graduate from ASU need to be able to think creatively and work collaboratively in a knowledge economy, where information comes in many media, and where co-workers may not be co-located.

The learning management system – i.e. Moodle – was first established during 2007 in the Faculty of Medicine of the ASU already years before the HEPSH project (http://telemed.shams.edu.eg/). It became more utilized in 2010 when it was installed on a more up-to-date server and was also one of the requirements for faculty accreditation by the Quality assurance unit. It was not widely used by staff and students from all the departments. The main function was to share staff lectures, update relevant resources and perform online multiple choice questions (MCQ) quizzes for the formative assessment of students. Upon the start of each academic year, students are enrolled in their courses and obtain their account details (username and password). Only a few departments were trained to use Moodle as a learning environment; however, on a limited scale.

Since the initiation of the HEPSH project in spring 2012, the trainees added to their knowledge and experience through the Training of Trainers (TOT) programme of the project. It was required to disseminate this knowledge and experience to other faculty staff and to expand the use of e-learning in teaching public health. For this purpose, the TOT team set its goals and objectives. The goals were to make e-learning a part of the core curricula of all departments of ASU Faculty of Medicine and to make almost all staff members and students competent to select and use a range of e-learning facilities, techniques and tools to enhance the quality and efficiency of their teaching and learning. The team then started working on their core activities which were:

• Building academic and technical staff capacity to support and extend the e-learning environment.
• Development and deployment of e-learning courses for all faculty departments.
• Student capacity building to allow them to operate effectively within an online learning environment.
• Continuous evaluation of the e-learning environment to ascertain ways to improve this mode of teaching and learning.

Several workshops have been organized by the Faculty of Medicine E-learning Unit on E-learning Concept & Methodologies, construction of e-content, graphics design using Photoshop programme, using Adobe Flash programme, Moodle as a Learning Management System (LMS), online question bank and online exams. After implementing a number of training workshops, many staff members became qualified enough to develop their own courses with the technical assistance of the e-learning unit. A number of e-courses were developed and used by faculty staff and their students. In addition, online quizzes were widely expanded to be used by almost all faculty departments. Fortunately, implementation of e-learning as a learning tool in the faculty was the vision of our faculty administration at that time. This facilitated the improved actions taken by the TOTs and the enthusiasm of staff to attend the workshops and to develop e-courses.
The HEPSH project created a better understanding of the library data at a time ASU was starting to be a part of the Egyptian Universities Library (EUL). Ain Shams University Library is a member of EUL project. EUL is the first library consortium of Academic and Research libraries in Egypt. It includes 15 public academic universities in Egypt, which means it serves about 75% of researchers and scientists in Egypt. It is funded by Egyptian Universities (under the Supreme Council of Universities) & the ICTP project (Information and Communication Projects in Higher Education). The EUL project consists of two main components. The first is establishing a consortium for E-Resources. The major goal of the consortia is to provide interactive information services to Egyptian scholars and students. Currently, the project provides access to more than 22,000 e-journals (Bibliographic & Full Text) that covers most of the fields of interest for the members of the Egyptian academic community. More journals and databases will be added in the near future. All the consortia services are electronically available through the EULC portal.

- Under preparation is the Union Catalogue for EUL. The union catalogue will facilitate achieving more cooperation and resources sharing among all the members of the EUL.
- For future library system development, the EUL cooperates with the ICTC to enhance and develop the system using an international list of specifications. The project objective is to standardize the system to cope with the international standards of library automated system and to generalize it in the automation of the EUL.
- Another important objective of this project is building a national database for the awarded theses and dissertation from the Egyptian universities, besides building a task force for the electronic theses and dissertations metadata standard (ETDMS) which would allow the higher education researchers full submission of their theses to the system using an international electronic standard format. Since its opening in 1950, the library of the Faculty of Medicine in Ain Shams University had many collections of Textbooks-Atlases-Dictionaries -Thesis MD-MS from 1948 until 2014. The start of HEPSH project in 2012 came at the same time as the renovation of the library of the Faculty of Medicine and establishment of the digital library. The new library started its operations in 2015 with a functioning digital library as part of the EUL project. The following improvements have been implemented in the library as a result of collaboration in this project:

1. The HEPSH project had a major role in capacity building of ASU staff, especially junior members. The project created a better understanding of the library database, automation and information literacy, through TOT.
2. Attending those TOTs, junior members of HEPSH project were able to:
   - gain awareness in information technology and information literacy,
   - visit UEF libraries and improve their knowledge and experience on different library and repository functioning,
   - benefit from working with other experienced university partners.
3. Staff members of the Community Medicine department started a new lecture on information literacy for undergraduate fourth year medical students as well as postgraduate students enrolled in the research methodology course. The content of the lecture includes how scientific information is published and how to access and systematically search scientific information sources, such as databases and electronic journals. Students were given learning tasks on how to formulate search queries, search for books and journal articles, find facts and statistics, and cite sources correctly and create a bibliography in basic style (Harvard/Vancouver).

4. Starting from the academic year 2015–2016, undergraduate second year students will be taught the principles of copyright and the ethical use of information, such as avoiding plagiarism.

5. Training of junior staff members on basic information skills so that they can disseminate knowledge to undergraduate students.

Other experiences have been gathered from this project, such as the different ways of teaching and learning, how best to use multimedia in teaching and learning, novel teaching techniques and the digitization of printed resources.

3.4. RENEWING THE LIBRARY AND IT SERVICES AT THE CUHAS, TANZANIA

The Catholic University of Health and Allied Sciences (CUHAS-Bugando) is located in Mwanza, Tanzania. The vision of the university is "to become an outstanding Tanzanian Catholic university excelling in training, research, and health care; while remaining responsive to societal needs". CUHAS-Bugando, as a Constituent University College of St. Augustine University of Tanzania (SAUT), became operational in September 2003. It was granted a Certificate of Interim Authority (CIA) on 28 March 2002 and a Certificate of Provisional Registration (CPR) on 27 March 2003. Since 2005, the college has been firmly established and accorded full registration status by the Tanzania Commission of Universities (TCU). The commission at its 53rd meeting approved a request from SAUT to transform the college into a fully-fledged university and granted CUHAS-Bugando a Certificate of Full Registration.

From its very inception, it was envisaged that CUHAS would be organized in faculties, institutes and directorates. In 2009/2010 it was decided to transform into a school and therefore four schools were established: the Weill Bugando School of Medicine (which replaced the Faculty of Medicine), the School of Pharmacy, the Archbishop Anthony Mayala School of Nursing, and the School of Public Health. The new Schools had their first intake in the academic year 2010/2011. The Institute of Allied Health Sciences was established within the Bugando University of Health Sciences in 2006/2007.
The university started with a modest intake of 10 medical degree (MD) students. Enrolment into the MD programme increased gradually but is now capped at 175. In 2010/2011, the university launched three new undergraduate programmes in Pharmacy, Medical Laboratory Sciences and in Nursing Education. CUHAS-Bugando now provides training for nearly 1,700 students enrolled in the undergraduate, post-graduate and paramedical programmes (http://www.bugando.ac.tz/discover.html).

Since the initiation of the HEPSH project in spring 2012 many junior members of staff have gained expertise in information technology, information literacy and automation of library systems, and these have had an enormous impact on teaching and learning and project management of IT projects. It was good to learn that the three African partners did have unified core activities and they have extended their relationships via academic resources and infrastructures. In 2012, it was decided to implement a campus network infrastructure; CUHAS was able to learn from similar partners about how they had devised and implemented their local/campus networks. A star-topology fibre backbone building to building (B2B) campus structured fibre network was installed in December 2012. Thus, today it is easier to collaborate in teaching, learning and undertake major projects in a simpler way than before due to the presence of a reliable and stable network infrastructure.

The training sessions provided much practical knowledge on the use of multimedia, video streaming recording for lectures, information quality management trends and challenges and how to overcome the exponential growth of metadata. They also tackled current and future security issues as well as providing instruction on how best to use open software platforms, such as Moodle, in enhancing teaching and learning and how to adopt KOHA for the library system, etc.

The customization and development of KOHA and Moodle to cater for our requirements are still on-going efforts. Other IT-based services projects that have emerged as a result of co-operation and collaboration include the development of an electronic student information system (eSiS) and a procurement software system (EPS), which have been fully implemented using open software tools.

The IT and Library challenges that CUHAS were facing had been mostly resolved through this collaboration. CUHAS has benefitted from working with experienced university partners, and has now conducted several project self-evaluations and there is also a programme that allows some junior members to visit the UEF.

3.4.1. THE IMPACT OF THE PROJECT ON THE CUHAS LIBRARY

It is more than ten years now since CUHAS was established. Initially, the library was not automated and even several modern technologies for handling the library resources had not been fully utilized, such as the cataloguing activities and the collection database. Furthermore, the university had no experience in using Moodle
as an e-learning management system or in utilizing different open social media tools. Since the HEPSH project started in 2012, the library’s services have clearly improved as a result of the experience gained through this project.

The HEPSH project created a better relationship between the ICT department and the library. Both started to work together as one department with integrated planning of service provision. CUHAS now has access to a customized library management system KOHA, Moodle as an eLearning management system and accessing of the library network (Wi-Fi) via a password when the users are in library. The university has also been active in training its staff and students on how to use the eLearning possibilities and resources. For example, we have started to catalogue our books online by using the Library of Congress and British Library tools and catalogues which were used manually before.

The following improvements have been implemented in the library as a result of collaboration in this project (see also Fig. 1.):

• The re-organization of our library materials using similar approaches and knowledge obtained from the UEF library during the first exchange trip in order to make them accessible for our users.
• The university has increased its library online resources.
• The library has established a book bank project to allow the student to borrow books for the whole semester after a small payment (10%) according to the price of the book (the money gathered is invested in the purchase of new books in addition to the original 21 titles).
• The library has also increased the use and awareness of relevant open access resources and moved away from reliance exclusively on the Google search engine towards more scientific resources available.
• The library has learned how to create a library blog and use it as open source resource for our users.
• The library has extended its orientation system—previously it was only one day but it now lasts for one week to enable students to become familiar with the library services.
• The library has started to share experiences with other institutions, especially in the cataloguing of library material by using online cataloguing.

Other experiences have been gathered from this project; for example, the different ways of teaching and learning, how best to use multimedia in teaching and learning, novel teaching techniques and the digitization of printed resources.

1.5. CONCLUSIONS

In conclusion, this novel approach to learning and teaching has been based on the concept of co-operation, collaboration and trust between all of the participating partners; its foundation is full ownership by the less developed southern partner institutions. By empowering the academic staff of these institutions, one can ensure that progress can be sustained, even after the financial support for this kind of project comes to an end. This present project demonstrated that this type of approach is feasible, but one must allocate enough time for negotiations and meetings. It was also noted that the integration of discipline-based topics with skills to use novel teaching tools—here the e-learning environment and IL-skills—is a good way to encourage the creation of multi-disciplinary skilled teams.

We noted that the co-operation with the public health faculty and the library/IT staff was extremely fruitful. One can state that without the help and knowledge of the service personnel, the universities could not have achieved all the results. Thus the project helped also in understanding the role of the services, i.e. IT and library, in building modern and open learning environments.

We have also noted that there are many open source resources available to the library, IT as well as material for teaching in higher education. Although nowadays these can be accessed with very basic computer resources, at the present their exploitation demands that there is an educated faculty. It is clear that these open-access resources represent a potential treasure-trove for all academics, especially those in the developing countries: they can modernize their learning and research environments at very moderate costs.

Perhaps the most important result of the project was that we all learned about different cultures: all of the participants became aware that they face similar issues and challenges within the higher education system. It is only by joining forces and working together that we can triumph over these challenges. This project proved
that although it is possible to co-operate between continents with modern IT-tools, it also is important to meet people face-to-face to build mutual trust, and it is crucial that we learn best by tackling problems together.

References


4 Information literacy dissemination and pedagogic skills in public health higher education: training of the trainers

HEIKKI LAITINEN, TUULEVI OVASKA, ULLA RITVANEN, NIINA RÄSÄNEN, ARI HAARANEN AND JARMO SAARTI

4.1. INTRODUCTION:

In order to further emphasize the Finnish development work being done in the Higher Education Institutions (HEI), the Ministry for Foreign Affairs (FMA) initiated a new programme in 2010 (Ministry for Foreign Affairs Finland 2012):

“The intention of this programme – Higher Education Institutions Institutional Cooperation Instrument (HEI-ICI) – is to create a mechanism through which HEIs in Finland and developing countries can cooperate to produce institutional reforms. The projects are aimed at promoting the strengthening of developing country HEIs’ administrative, methodological and pedagogical capacity, as well as supporting their own development plans. Cooperation between Finnish and developing country HEIs shall be based on needs defined by the developing country HEIs, and built on the principles of mutual learning and equal partnership.”

The UEF has an international reputation in the fields of health, environment and well-being, with particular strengths in community-based teaching and research, internationally recognized research programmes on chronic diseases, as well as conducting research in biotechnology, biosciences and molecular medicine. The UEF is one of the most prolific postgraduate research training centres in Finland. The Institute of Public Health and Clinical Nutrition in the UEF is the most internationally oriented unit within the Faculty of Health Sciences at the UEF. It trains professionals in health sciences and medicine and provides a wide range of international courses and programmes in English. There are many student and staff

2 This paper is based on Laitinen & Ovaska & Saarti 2013.
exchange programmes with several universities, including the partners in the North-South-South Programme (NSS) and in the HEI-ICI (see http://www2.uef.fi/en/kttravi/etusivu).

Positive collaboration between the UEF and three partner institutions in Africa, i.e. the Ain Shams University, Egypt (ASU), the Catholic University of Health and Allied Sciences, Tanzania (CUHAS) and the University of Eastern Africa, Baraton, Kenya (UEAB) has been established over several years through an extensive exchange of expertise in the fields of higher education and research. This established collaboration provided a firm foundation for a partnership projects “Improving the Quality of Higher Education in Public Health Sciences I in 2011–2012 and II in 2013–2015” which was funded by the FMA. The Institute of Public Health and Clinical Nutrition decided to ask for the university library to be a part of the project already at the planning phase.

The aims of the projects were to build capacities and develop human resources in the African partner institutions in order that they will be able to address major public health challenges at the national, regional and district levels. The library was taken along in order to facilitate the evaluation of the present situation of the library and information services in the African partner universities. In addition, a course for the training of the trainees (TOT) was implemented at the UEF Kuopio Campus. The basic idea of the project was from the very beginning to create knowledge sharing co-operation between the partners, thus a lot of the emphasis was put on to the utilization of the modern information technologies (Brandenburg & de Witt 2011). Also the co-operation between the academic teachers and library experts was utilized throughout the project.

4.2. FIELD TRIPS TO PARTNER INSTITUTIONS

The evaluation part of the project started with site visits to the African partner universities. Already before that the partners had made a self-evaluation that was sent to the Finnish partners before the trip. One teacher and one library expert from the UEF visited all the universities involved in the autumn of 2011. The aim of this visit was to meet the trainees who would then later visit the UEF Kuopio Campus in Finland. At the same time, the teaching and library facilities were evaluated in order to give feedback on what should be developed locally.

The ASU clearly had the most modern teaching facilities; its library on the other hand was an outdated printed collection library. This was even more emphasized by the fact that at the national level Egypt had excellent programmes for library automation and digital document delivery. Also the need for the implementation of up-to-date IL tuition for the students and staff was recognized.

The CUHAS and UEAB had sound basic equipment and quite modern and working library facilities though the need for extra resources was reported and visible. Some efforts had already been made in these institutions in order to give basic knowledge to the students about information searching. The greatest lack was
the decent bandwidth in order to be able to utilize the electronic resources available. All the libraries started to implement renovations based on the evaluation. In addition, the visit affirmed the need for better IL tuition in all the institutions. Thus it was decided that one aim of the TOT would be planning and implementing a course for the information skills. To this we were able to integrate the expertise of the teaching specialist. Arabasz & al. (2003) state that adopting e-learning needs infrastructure support and skills building for the users; this was noted also in our case. So the syllabus for the TOT was planned taking along the ideas and observations made during the site visits.

4.3. TRAINING OF THE TRAINERS IN FINLAND

The African project participants visited the UEF Library for two weeks in March 2012. The main objective of the visit was to learn information skills course development in a Moodle virtual learning environment. In addition to that, the trainees visited the UEF library facilities (see Figure 1) at the main campuses. Moodle was used in all three participating institutions, but experiences in course creation were faint. Thus we had to start with the basics (Arabasz & Pirani & Fawcett 2003 and Garrison 2006).

![Fig. 1. Learning about library automation at the UEF campus library](image)

At first, we explained our own Moodle use in the UEF Library. All our information skills courses are on Moodle nowadays. So we have gained considerable experience in its use and usefulness. Hands-on sessions in Moodle administration and
technical issues were also arranged. Our final aim was to create the basis of a functional, pedagogically sound, introductory public health information skills course in Moodle. This course could then be utilized in the participating institutions in Egypt, Kenya and Tanzania.

First, we defined the course learning outcomes as follows:

- The student understands how scientific information is published.
- The student knows how to access and systematically search scientific information sources, such as databases and electronic journals.
- The student familiarizes himself/herself with the principles of copyright and ethical use of information, such as avoiding plagiarism.

The actual course development took place in microcomputer class sessions in UEF Kuopio campus. Three UEF Library information specialists moderated course development sessions. The information specialists also gave some of their own materials to be included in the course. We had previously created UEF Library tutorial for International students on Moodle and used this as a starting point. Project participants created additional materials and put the course together. The course “Information skills and sources in health sciences” consists of the following chapters:

1. Introduction and course content
2. What is scientific information?
3. Publishing process
4. Avoiding plagiarism; citing and reference management
5. Scientific information sources
6. Internet: academic search engines and open access sources
7. Search query formulation and search examples

During the training, we succeeded in making a basic framework for a course with some Open Access reference materials to be utilized in each institute’s own IL training.

4.4. WORKSHOP IN CAIRO, EGYPT

One of the authors (Ovaska) attended, as a representative of the library, together with an e-learning expert and a professor of occupational health from the UEF, and a nursing science expert from the Karelia University of Applied Sciences (Karelia UAS), the international workshop held in ASU, Cairo, at the University Hospital Learning Centre in November 2012 (see Figure 2).

The five-day workshop concluded the first phase of the project “Improving the quality of higher education in public health sciences”. Library and information skills education and learning were among the topics of the TOT part of the workshop. TOT promotes competence particularly in e-learning and e-library development. As the workshop was a checkpoint for the first part of the project, it gathered the achievements of the project in different areas, and outlined new plans, such as including also occupational health in the curricula and extending the aspect
of nursing science and nursing studies in the project. In addition to four Finnish delegates, the workshop was attended by four representatives from both CUHAS and UEAB, as well as several participants from ASU (see Figure 2).

Fig. 2. Workshop delegates in ASU, Cairo

The library skills and IL session of the workshop was facilitated by one of the authors (Ovaska) who gave a presentation that aimed to deepen the participants' knowledge and understanding of (academic) IL and its criteria. The TOT group discussed and studied the topic based on the presentation, their own implementing experiences, and four research articles related to it. They also discussed the use of distance IL instruction, implementing IL training into a university curriculum, the supply of learning materials, and the importance and the role of librarians and library services. The session was very interactive and all participants were eager to continue to promote the teaching of IL skills in their own universities. There were also preliminary discussions about comparing IL training outcomes in the partner universities.

The workshop showed that each of the African universities had progressed during the project in their own way, and each had tailored the resources created during the TOT to their own special needs as well as utilized the knowledge gained during the training period. Some examples of the achievements are the distance learning team of ASU with a good representation of different faculties, the rapid progress of the intranet and other web-based services of CUHAS, and the wide range of discipline-specific IL training courses in UEAB.

4.5. WORKSHOP AT UNIVERSITY OF EASTERN AFRICA BARATON

The second workshop for TOT was arranged in Kenya, UEAB in November 2013. The main purpose of the workshop was to explore the current situation of all
southern partners as to library and IT services promotion after the first project and prepare the second TOT visit to Kuopio. The five-day workshop concluded visits to the Library and IT-administration of University of Eastern Africa Baraton, making Personal Study Plans (PSP) for training in Kuopio, group works based on PSPs and SWOT analysis of the current situation at partner universities.

There have been many activities since the beginning of the second phase of the project at partner universities. The Moodle e-learning platform and e-courses in public health and information literacy (IL) were implemented. Co-operation between academic and support staff (IT and Library) has been improved. For example, workshops for staff and students on how to search, assess and use scientific information in libraries and faculties were arranged. All three universities had started to plan a new library or reconstruct an old one.

Two of three universities had been improved and extended their network infrastructure and developed online systems for students, such as online registration and information systems. One of them got new human resources for IT-support. Three trainees had been advanced in their academic careers. One of them was named as a Head of E-learning Centre and the other graduated as an academic librarian. Additionally, an academic junior member was selected for the training programme of academic librarians.

There were also challenges at partner universities. All of them had insufficient networks for active e-learning, a lack of technical support for teaching staff and a lack of academic librarians for teaching information skills. However, TOTs believed in the future and they saw more possibilities than threats. E-learning, library and IT-support staff has gotten enhanced visibility in universities and their work was appreciated more than before by university administration.

Preparation for training in Kuopio was started during the workshop. PSPs were made by TOTs in two different groups: library and ICT/e-learning. According to Ansel et al. 2006, a personal study plan can be seen as a personal development path, which underlines a trainee's own study path, holistic growth and development as a lifelong process. In this project, PSP was a tool for professional plans and learning reflections in training. TOTs were requested to answer the next questions in their PSPs:

- What kinds of competencies and expertise do you have at the moment and will have in the future?
- What kinds of needs do you have in developing your expertise? What kinds of resources do you have at the moment?
- What kinds of goals and expectations do you have for training in the second phase?

The main results of group working and PSPs have been described in Table 1.
Table 1: The main contents of the Personal Study Plans

<table>
<thead>
<tr>
<th>Contents</th>
<th>ICT/e-learning group</th>
<th>Library group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current competencies</td>
<td>Computer networks</td>
<td>Professional librarian</td>
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<td></td>
<td>Technical support</td>
<td>Educational experience</td>
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<td></td>
<td>Moodle</td>
<td></td>
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<tr>
<td></td>
<td>Software and hardware analysis and design</td>
<td></td>
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<tr>
<td>Current needs</td>
<td>Sharing resources with library and ICT</td>
<td>Training for Moodle (library courses)</td>
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<td></td>
<td>Moodle administration and technical support</td>
<td>Establishment of open source software for library</td>
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<td></td>
<td>Cyber security</td>
<td>Managing digital library and repository</td>
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<tr>
<td></td>
<td>E-teaching methodologies</td>
<td>Academic writing</td>
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<td></td>
<td></td>
<td>Institutional repository</td>
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<tr>
<td>Expertise in the future</td>
<td>Moodle administration</td>
<td>Experts in digital library</td>
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<td></td>
<td>Technical expertise</td>
<td>Research consultant</td>
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<td></td>
<td>Development of e-courses</td>
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<td></td>
<td>E-teaching methodologies</td>
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<td></td>
<td>Cyber security</td>
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<tr>
<td>Expectations for training</td>
<td>Integrated learning systems for learning centre</td>
<td>Design to IL curriculum</td>
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<td></td>
<td>More pedagogical methodologies for the training of the faculty staff</td>
<td>Establishment of e-learning centre</td>
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<td>Training for scientific publishing</td>
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<td>Training for institutional repository</td>
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<td></td>
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<td>Evidence-based management</td>
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</tbody>
</table>

In conclusion, the second workshop was a success. South-South co-operation has been started between partner universities and they understood that they can learn from each other and solve mutual challenges together. However, they need more encouragement and support in that. Additionally, they needed good practices and models to advance their collaboration inside the university between different faculties and departments. Participants in the workshop agreed on the aims and methods for the training in Kuopio in the spring 2014. The best way to support an academic career and the expertise of TOTs would be to strengthen their pedagogical basis of learning, arrange job shadowing and tailored training, encourage mutual writing to scientific papers and train their reflective skills to assess their own know-how.
4.6. SECOND TOT VISIT TO KUOPIO – EMPHASIS ON PEDACOGICAL SKILLS

4.6.1 Objectives and implementation
Student and Learning Services in the UEF organized Pedagogical Training Programme in spring, 31.3–11.4 2014. Eight participants attended the training: 3 teachers, 2 librarians, 1 person from IT-services, 1 researcher, 1 PhD-student. The programme was intensive, two weeks of theory and practice.
The aim of the programme was to introduce the participants to the basic pedagogical concepts and principles and to promote their application to the participants’ own teaching and work. The methods used in the programme were short lessons on theoretical issues, collaborative discussions, learning assignments, reflective writing on a blog and job shadowing (see Fig. 3.). The learning process, materials, timetable and learning assignments were designed on the Moodle. Reflections written in blogs were shared and discussed in lessons.

Fig. 3. Collaborative learning discussion in a lesson.

The programme aimed to find answers to the following questions: What is learning and do you plan learning processes? How do you activate a student’s independent and collaborative learning? How do you write learning outcomes and how do you assess learning? How do you use student feedback in a quality assurance system?
The learning outcomes were also formulated. After actively attending the training programme, the participant should be able to:

- Define learning as a process, which promotes deep learning.
- Design and activate student-centred learning processes (on the internet, face to face).
- Plan and use basic learning methods for independent, teacher-led and collaborative learning.
- Use learning outcomes as a basis for a learning process and assessment of learning.
- Plan and use student feedback as part of quality assurance.
A special part of the training was the Job Shadowing programme. The job shadowing programme includes discussions with specialists, support and administrative staff of Student and Learning Services. During the job shadowing programme participants introduced themselves to the practices of giving support services and training to the students and teachers of the UEF. The purpose of job shadowing was to get useful models, tips and advice to apply to the participants’ own organizations.

The personal blog was a tool for writing learning assignments and reflecting on the learning process. The blog was also used for gathering ideas, examples and good practices during the training. Participants could also use their own blogs as a forum for sharing ideas with colleagues in their home counties or as a travel report of their visit to Finland.

4.6.2 Evaluation and conclusions

The Pedagogical Training Programme was evaluated by the participants after the training. The overall opinion of the Pedagogical Training Programme was really positive. All the participants were satisfied that they attended the training and thought that the training was successful as a whole. The personal objectives were also met well. Most of the participants were also satisfied with the learning tasks; lessons and the job shadowing programme (see Fig. 4.).

When we asked about the most significant issues of the training, participants said that collaborative and/or student-centred learning (also deep learning) were the most valuable parts. Some trainees reflected on learning from the viewpoint of their institutes.
“I don’t think that any student prefers superficial learning, we are the ones who put them in this situation by making the learning process teacher-led rather than motivating them to student-centred deep learning.”

“The typical lecturing of large classes in our university can be described as superficial learning which leads to routine memorization but in small working groups, however, students can have opportunities for deep learning through assignments, presentations, classrooms discussions and feedback. Students should be allowed time for that.”

The use of ICT to promote learning and teaching was also important, as well as writing learning outcomes, assessment of learning and the use of student feedback in the quality assurance system. Some of the participants also mentioned that the experience of job shadowing was positive.

“The contents were well-designed for a two-week course. All in all, a very good and intensive programme. Useful and informative for someone like me without previous pedagogical studies. I enjoyed the interaction and discussions between students and teachers and trying different teaching techniques and learning about the different modern applications available that can be used to support teaching.”

“The most positive experiences were: use of a blog, Moodle, ICT, job shadowing, 3D Smart Boards and video conferencing.”

In the future, according to the feedback, the programme should emphasize even more learning and practising; for example, assessment and ICT application for learning and teaching.

“Give more time to practise computer applications in e-learning and not only to trying them in the session.”

The overall experiences of the Pedagogical Training Programme were very positive and encouraging. Of course, the time was limited and the contents were quite broad. The most important impact of the training would be if the participants are able to apply their learning and implement their good experiences in their own organizations.

4.6.3 Experiences of trainees
At the end of the Pedagogical Training Programme trainees wrote collaboratively on their experiences for the blog of UEF, Institute of Public Health and Clinical Nutrition. The blog text is available at http://kttravi.blogspot.fi/2014/05/hei-ici-training-at-kuopio-campus.html. Here are some excerpts from text, which deal with social media and Information Literacy.
Social media is a logical addition of what the libraries have been doing during their history. One of the key components in successful social media marketing implementation is to build social media authority. Social media in a library can be used in different ways, such as:

- Blog for disseminating news and ideas (to inform patrons and get feedback from them).
- Wiki for course instruction, reference work, team project, collaboration, and knowledge bases.
- Social bookmark for resource collection, subject guides and reading lists.
- Twitter/Facebook for breaking news, and so on.

Nowadays, the world is changed and many libraries have started to use social media as tools for communication, collaboration as well as community building. Librarians, lecturers, students and other library users are connected through social media. Librarians must keep themselves up to date with the possibilities and tools. Library users must also keep themselves up to date with what the library offer for them through social media. As in the UEF, we saw and learnt how these social media can promote the library and bring it closer to users. Social media is the key point especially in the digital generation that we have. Public and private libraries must use social media is their services for the benefit of users and the community surrounding them.

Information Literacy (IL) is the ability to identify what information is needed, understand how that information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically and share and access that information. The IL courses offered at the UEF are structured, embedded, examined, and graded to give it the seriousness it deserves. A recommendation to all the participating universities is that they should develop IL policies that make it compulsory for IL to be structured, examined and graded.

The month in Kuopio was full of learning experiences, meetings and exchange of new ideas. We noted that the academic world is changing and thus academic institutions and people working in those institutions have to adapt to the new, emerging digital world. This world is about networking and co-operation. It is essential that both students and staff learn the new skills needed in the digital revolution of academic research and learning.

4.7. CONCLUSIONS

Our experience is that library, information and pedagogical professionals should be involved in these types of international projects in academia. The academic IL skills are essentially our field of expertise but often the librarians’ proficiency is also linked to learning skills and collaborative methods necessary in international cooperation. In addition, the cultural extra edge here opened eyes in all the
institutions involved. It was also noted that the internet has provided tools for cooperation between continents—distances can no longer be used as an excuse. This kind of cooperation proved to be fruitful. The project participants succeeded in creating the information skills course. However, the concepts of advanced information retrieval and information skills teaching were somewhat vague among the participants. Thus we had to spend considerable time in explaining those concepts at first.

A virtual learning environment is useful in information and learning skills teaching. Students can utilize course materials when it suits them best, regardless of time and place. It is easy to include many different types of learning materials in a virtual learning environment. Interaction with the teacher can be implemented into the course, using the tools available in the learning environment.

Our previous experiences and course feedback in the UEF Library show that many students would like to have classroom lessons in addition to studying online learning material. They would like to see a teacher showing them in practice how searches are done. This is not surprising. Information skills are by nature practical whereas self-study materials tend to be more or less theoretical. It is like hand-knitting a sweater: easy to state what has to be done but difficult to achieve in practice (Stacey & Gerbic 2008).

Although online learning environments are very popular and even hyped today, they are not suitable for each and every student. There will always be learners who prefer other kinds of teaching and studying methods. The best possibility would be a hybrid method, where the main content is in the virtual learning course, and this is supplemented with classroom teaching.

Higher education is definitely globalizing. Especially in the field of health sciences a lot of the challenges and interests are very similar all over the world, so there clearly is a need for cooperation. We aim to deepen our cooperation and try to implement a joint course for IL tuition, if possible, for all the libraries involved.

References


5 Learning disaster preparedness – Analysis of the CRIPS project and joint master’s programme by using the Complex adaptive systems framework

IKALI KARVINEN, GUN-BRITT LEJONQVIST, MARKETTA FREDRIKSSON, RIIKKA HÄLIKÄ, RIIKKA HALONEN AND EIJA-RIITTA KINNUNEN

In 2013, Diaconia and Arcada Universities of Applied Sciences (Finland) and the University of Eastern Africa, Baraton, (Kenya) launched a development project in health care education. The aim of the project was to improve the capacities of crisis preparedness and the incident and emergency health care both among the higher education and health care stakeholders in western Kenya. This article describes analyses and synthesizes the project and a Master’s degree programme, later referred to as ‘the case’, by using the Complex Adaptive Systems Framework by Wang, Han & Yang (2015). The analysis is based on the selected project documentation and evaluation data which was collected at the end of the intensive course. Results show that learning support is crucial for the success of the programme, team-teaching adds to the value of the teaching and a joint multicultural programme adds to equality and fairness and to the development of the academic skills of the students in the common learning process. Capacity building gives the programme a clear goal and makes it beneficial for the community.

5.1 INTRODUCTION

The Capacity Building in Crisis Preparedness in Health Care (CRIPS) development project was launched in 2013 by Diaconia University of Applied Sciences (Finland), Arcada University of Applied Sciences (Finland) and the University of Eastern Africa, Baraton, (Kenya). The main aim of the project is to improve the capacities of crisis preparedness and the incident and emergency health care both among the higher education and health care stakeholders in Western Kenya. The project has
two components including the establishment of the Master’s Degree in Global Health Care with a specific focus on disaster management and the launch of the Crisis Preparedness and the Incident and Emergency Health Care Repository (CRIPS-repository). In addition to the CRIPS project, the partnering higher education institutions were funded to run simultaneously a North-South-South mobility project Crisis Preparedness Education in Health Care (PREPED) which allowed combining the capacity building with teacher and student mobility and an intensive course (Diaconia university of Applied Sciences 2013). In this article we aim to describe, analyse and synthesize the CRIPS project and Master’s degree programme, later referred to as ‘the case’, by using the Complex Adaptive Systems Framework by Wang, Han & Yang (2015). As empirical material we use the selected project documentation and the evaluation data which was collected at the end of the intensive course.

5.2 CRIPS AND PREPED PROJECTS

CRIPS and PREPED projects aim to contribute to the enhancement of capacities of crisis preparedness and the incident and emergency health care both in higher education and among health care stakeholders in Western Kenya. The above mentioned projects are funded by the development cooperation funding provided by the Ministry for Foreign Affairs of Finland. Besides the official partnership between the higher education institutions the projects have developed a strong cooperation with the working life partners, namely with the Finnish Lung Health Association (Filha), Finn Church Aid (FCA) and Kendu Adventist Hospital (KAH). HEI-ICI (Higher Education Institutions Institutional Cooperation Instrument) is an instrument for higher education institutions’ development cooperation initiatives supporting the development policy of Finland. Higher education has an active role in fostering socioeconomic and cultural development at the national as well as local and regional levels. Higher education is a process of constructing and co-creating knowledge and providing skills to individuals to empower them to participate in development, decision making and the democratic process. Effective education takes place when students are able to participate fully in and benefit from the education (MFA HEI-ICI Project Document 2011, Finland’s Development Policy Programme 2012).

The HEI-ICI project Capacity Building in Crisis Preparedness in Health Care Education CRIPS contributed to the enhancement of health in the Kenyan rural communities in particular in crisis situations. The project had two result areas: developing and piloting the implementation of a joint Master’s Degree Programme in Global Health care and creating a Global Health Care Repository for the use of local health care professionals, academic staff and students. When working towards these two main areas the partners have reached several complimentary results, which were not necessarily anticipated fully: intensified cooperation with working life organisations in Kenya and in Finland, enhanced cooperation and capacities not
only in the academic and pedagogical matters, which are described later in this article, but in many administrative aspects of the university (finance, international affairs, project instruments expertise, student services to name a few). On the other hand, all partners identified new needs in terms of a more holistic approach to capacity building of the universities and their surrounding communities and regions. Despite a relatively short project span of 34 months, the project partnership of three universities and their stakeholder groups has developed into a strategic partnership.

Project partners also received complementary funding from the North-South-South University Network Cooperation programme which provided funds for teacher and student exchanges, an intensive course held in Kenya September 2014 and for the dissemination of the intensive course results. As the programme is mainly online-based the structures that supported the shared learning needed to be carefully and pedagogically planned. The programme used the intensive course as a kick-start to the whole programme and by bringing the whole student body together at the start of the studies was able to create a sense of belonging and commitment to the studies. The student and teacher exchanges from Kenya to Finland and vice-versa provided possibilities not only for individuals taking part, but widely to all students, teachers and working life partners. Exchanges are point of encounters which create possibilities for deeper communication which can continue at electronic platforms.

5.3. DISASTERS AND DISASTER RESPONSE TRAINING

Natural hazards are naturally occurring phenomena caused by events which can be a) geophysical (earthquakes, landslides, tsunamis and volcanic activity), 2) hydrological (avalanches and floods), 3) climatological (extreme temperatures, drought and wildfires), 4) meteorological (cyclones and storms/wave surges) or 5) biological (disease epidemics and insect/animal plagues). Technological or man-made hazards are complex emergencies/conflicts, famine, displaced populations, industrial accidents and transport accidents which are events that are caused by humans. This can include environmental degradation, pollution and accidents (The International Federation of Red Cross and Red Crescent Societies 2015).

Disasters occur everywhere, but some geographical areas are more likely to meet natural or man-made disaster due to the historical, geographical or economic reasons. For instance, the Horn of Africa is challenged by harsh weather conditions which often lead to the drought and causes famine. Ember, Adem and Skoggard (2012) pointed out that there exists a relationship between resource unpredictability and warfare. Kenya also has the fourth-largest HIV epidemic in the world. In 2012 about 1.6 million people were living with HIV, and nearly 60,000 people died from AIDS-related illnesses. There are 1.1 million orphans due to the epidemic (UNAIDS 2013). Between 3,000 and 13,000 Kenyans lose their lives in road traffic accidents.
every year and many more are injured (WHO 2015.) These figures show clearly the Kenyan vulnerability to disasters of different kinds. Since the disasters, on a large scale, are evident in Kenya and nearby regions it causes pressure to the tertiary education to offer evidence-based and context-fitting disaster training. According to Hsu et al. (2006), the need for effective and evidence-based disaster training of health care staff at all levels is set at a high priority by the global disaster response community.

Our Master’s Degree programme in Global Health Care aims at deepening the students’ knowledge of global health and global health research with an emphasis on emergency and disaster management. The programme is based on the theory of transcultural care by Madelaine Leininger (2006) taking into account the cultural differences in understanding health and health care systems, as both generic and professional habits. We try to build a system that promotes compassionate care and respect for the dignity of both caregivers and receivers. Basic values of love and forgiveness and a relationship-centred care guide the studies. The values as the base of the programme give it a unique profile.

The following study modules constitute the 90 ECTS curriculum: 1) Fundamentals of global health, 2) Basic epidemiology and health situation in globalizing world, 3) HIV/AIDS prevention and management, 4) Emergency, disaster preparedness and management, 5) Global health policies and actors on the global arena, 6) Crises, globalization and health care, 7) Administration, management, leadership and professional development, 8) Global health ethics and values, 9) Biostatistics in global health, 10) Research and project methods, 11-13) Master’s Thesis I, II and III and 14) Elective studies. Both man-made and natural disasters are included and addressed in the studies.

The studies started with an intensive study period in Kenya, during which the curriculum, learning platform and learning strategies were introduced to the students and the multi-cultural and multi-professional working groups were formed.³

The main challenges for the programme design and implementation were the general requirement for capacity building and the scope of disaster training competencies. Also the international and multi-professional student group set its own challenges for evidence based training.

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³ Blended learning requires a combination of technical and pedagogical resources and in this Master’s programme the project partners chose to use Diak’s already existing software tools for online learning. The study modules were built to the Fronter online learning environment, and the lectures were broadcast using Adobe Connect Pro system.
5.4. METHODOLOGY

1.4.1 Materials
In this article, we analyse and synthetize the development and the results of CRIPS and PREPED projects and Joint Master’s degree programme in Global Health Care by using the Complex Adaptive Systems Framework. As an empirical material the following project documentation and materials are used:

• The Curriculum of the Master’s Programme (Anjejo, Dixon; Karvinen, Ikali; Kinnunen, Eija-Riitta; Lejonqvist, Gun-Britt; Njeru, Mary; Nyaundi, Nehemiah & Obey, Jackie 2013, Master’s degree in global health care: The curriculum)
• The project report of the planning phase of the project (Karvinen, Ikali; Lejonqvist, Gun-Britt; Kinnunen, Eija-Riitta & Njeru, Mary 2013. Love and forgiveness in the global community. Designing Master’s Degree in Global Health Care – Master of Health Care)
• The interim project reports to the MFA 2013 and 2014
• The interim project evaluation document (Korpela 2015)
• The evaluation material of the intensive course 2014

5.4.2 Methodological premises
In this article, we describe the case by using the Complex Adaptive Systems Framework (CABLS) by Wang et al. 2015 and the framework forms the basis for our document analysis. Wang et al. describe the Complex Adaptive Systems as a theory for re-conceptualizing the blended learning. According to them, the complexity of blended learning is not formed only between new elements of learning and teaching but also in the changes in these new elements. According to our own understanding, our project and Master’s programme as a whole is extremely suitable to be examined in the framework of complex adaptive systems theory. For this particular framework, Wang et al. 2015 states five fundamental attributes which are complexity, self-organization, adaptability, dynamism and the ability to co-evolve. In our case the complexity describes multiple subsystems which are, according to the Wang model, teacher, content, technology, learning support, institution and learner. Self-organization in our case means the system interaction through continuous feedback and iteration. Adaptability has similar meaning as Wang et al. state: it has been required that we are constantly able to form new rules and information. Through dynamism we have been sensitive to needed changes.

In our analysis, we describe our project and master’s programme with the categories given in CABLS framework (Wang, Hang & Yang 2014, 383), see Figure 1.
Fig 1: The Complex Adaptive Blended Learning System (CABLS) (Wang, Hang & Yang 2014)

5.5. THE CASE DESCRIPTION BY USING THE COMPLEX ADAPTIVE BLENDED LEARNING SYSTEM (CABLS)

1.5.1 The learner

In the feedback survey (The evaluation material of the intensive course 2014) conducted after the intensive course, 9 out of 16 informants replied that they had some prior experience of blended learning. As a specification they mentioned, for instance, that they had completed some online studies in their past bachelor studies or they had participated in other e-training courses outside their degree studies. (The evaluation material of the intensive course 2014.) In that sense the group of learners was quite heterogeneous and for some of the students the blended learning was a new approach to their studies.

In Wang et al. (2014) model the learner is an active participant in learning and is in constant change and interaction with other sub-systems. In our Master’s degree education the student is understood both as an individual and as a member of a team. According to our understanding, both individuals and teams have a potential to learn and act towards achieving the learning outcomes. Moreover, we felt that, in a way, students also became important actors in our achievement of capacity building. In the evaluation material students reflected their experiences as members of a multicultural and multi-professional group as follows:
“Being in a multi-cultural and diverse team has always been a medium of constructive learning. Having been in the team from a different background, it enhanced my ideas and thoughts towards society. The productive and skilful ideas from my team members helped me to groom my learning skills. My team members were supportive in every aspect. Though sometimes there is a conflict of ideas while working with team members with same level of expertise, it comes as a valuable outcome which always encourages further learning.” (The evaluation material of the intensive course 2014.)

During the intensive course the teams were formed and members adopted their roles in the teams and negotiated their methods of learning. Later on the teams continued to study together as online-based entities.

5.5.2 The teacher

According to Wang et al. (2014), in complex adaptive blended learning systems teachers have several roles, including the roles of facilitator, guides, advisors and e-moderators. In our case, the teachers needed to adopt new roles in different phases of the project. As key experts of the project they were in important roles of designing the project, programme and the curriculum, but later on they also acquired the roles of e-moderators, field instructors and guides for new cultures for the students. Multi-professional co-operation between the different experts has been a key element since the planning of the programme, hence the roles of information specialist and specialists in international relations have been especially important. There has been a mutual understanding of the importance of different types of knowledge in the process. According to the evaluation material, this has also been visible for students, since they reflected on the role of the teachers in the evaluation material by writing:

”There were many different teachers with different competencies, which was very helpful.” (The evaluation material of the intensive course 2014.)

The teachers’ role in the group work was reflected in the student feedback and it shows the teacher’s evolving role as a moderator and even as a co-worker (for the students:

“Blended learning. The presence of six experts in all sessions was quite enriching and their active participation in the field activities cannot be appreciated enough with words alone.” (The evaluation material of the intensive course 2014.)

During the intensive course teachers also had a possibility to be learners, since the local students were the experts in Kenyan culture, local habits and the local health care system. This is, according to our understanding, part of the new elements of teaching and learning mentioned by Wang et al. (2014). Many of us felt that this experience was one among best in our professional life.
5.5.3 The content
Wang et al. (2014) state that the content that learners are engaged in in blended learning has never been as rich and engaging as it is today. According to our understanding, there is not much research on how to implement disaster studies by blended learning. This has also been a learning process for the programme developers. The content of the studies was categorized by using four broad competency domains with specific learning outcomes. These include:

- “Competency area one: Evidence-based global health, global health ethics and values.
- Competency area two: Global health research and development.
- Competency area three: Global health policies and actors, global health management and leadership.
- Competency area four: Emergency and disaster management.” (Anjejo, Karvinen, Kinnunen, Lejonqvist, Njeru, Nyaundi & Obey 2014)

Leininger’s transcultural theory (Leininger & McFarland 2006) forms the guiding theoretical framework for the Master’s programme and it is accompanied with a strong emphasis on love, forgiveness, compassion and participation as core values. The content itself can be categorized in three different categories, including research and project methodology studies, management, leadership and administration studies and professional studies. In this case the professional studies were determined by the core of the capacity building project which was the enhancement of disaster preparedness.

5.5.4 The technology
The latest study from Kenya shows that many challenges can be identified for the implementation of blended learning and specifically e-learning. Among the others, the inadequate ICT and e-learning infrastructures, financial constraints, lack of affordable and adequate internet bandwidth and lack of e-learning policies are mentioned (Tarus, Gichoya & Muumbo 2015). By being aware of this the capacity building project had in its early phases a component of enhancement of the internet capacity in the UEAB campus. The project also secured that sufficient audio-visual hardware was available for online lectures, meetings and group work. In this programme the blended learning is facilitated by two of the main technical solutions. The Fronter platform has been used as an online platform for discussions, assignment submissions and for overall learning. Adobe Connect conference programme has been used for the online teaching and tutorials. Even though traditionally it is thought that blended learning is the combination of face-to-face teaching and online-based studies (Graham 2006, 5), in this education the online-based studies are emphasized. However, still as a part of the programme the intensive course was offered to students. The intensive course was a valuable experience for the students:

“Crisis preparedness is a huge area itself which includes various different components. So, a week is not enough to learn it in details. But still, it gave
me a quick reflection on what might be the situation if we have to work in a real scenario. There were not many ethical dilemmas and the community was so supportive that we did not get into any problems. Community is the place where learning blossoms and the same happened this time as well. Learning by doing grooms our own expertise, and I am just overwhelmed by the response the community gave to us.” (The evaluation material of the intensive course 2014.)

5.5.5 The learning support
In our programme, learning support has two domains including academic support and technical support (see Wang et al. 2015). The Master’s programme itself has had an academic coordinator in each partnering institution. These have been the primary contact persons for students. The academic support has included the possibilities for tutor sessions, reviewing personal study plans and recognizing prior learning. The technical support has been organized through the IT and Library personnel. It has been both technical support to use the online platform but also more importantly, the support of information literacy and more specifically for using the electronic resources and databases. In this project we’ve noticed that the faculty members need to have strong ICT skill to be able to facilitate the learning process in this programme. Pedagogical support has been offered by the teachers who already had more experience from blended learning, but also the role of the ICT and information specialists has been crucial. In the evaluation data students gave good grades for how support for information literature was organized during the intensive course. On a scale from 1 to 5 where five is the highest mark, both the availability and accuracy of the services as well as the guidance to information search got marks between three and five.

5.6 THE INSTITUTION

This Master’s programme has been piloted by three tertiary-level academic institutions which are located in different cultural and academic environments. That is why it has been evident that without strong commitment for the project it would not been possible to run the programme. According to our understanding, the commitment has been possible through the shared ownership, shared values and continuous dialogue between the project personnel. The Master’s programme itself has been genuinely a joint programme. That means that all the institutions have had the same rights and responsibilities. On the other hand, that has been made possible through the deep discussions about the common and shared values; which in this case have been love, compassion, forgiveness and participation. The interim evaluation report by an external evaluator reflects the commitment of the institutions as the following:
“North South mobility funding for student and staff exchange has been secured, which also meets one of the aspirations shared by students and staff to be able to interact and collaborate on joint research and publications. The North South funding is a separate funding instrument from this project but it builds on the achievements of this initiative and helps to ensure the success of this project. It is also evidence of the commitment of partner universities to collaborate beyond the scope of this project.” (Interim evaluation report 2015)

This project has also opened up new possibilities for other programmes in the partnering institutions, which is an important added value besides the actual results of it.

5.7. CONCLUSIONS

It has been enriching for the project team to analyse the project and the Master’s programme by using the Complex Adaptive Blended Learning System framework. By doing so, more nuanced and deeper information is gained for further evaluation of the process. The analysis presents the students as active co-creators in capacity-building, which has been one of the leading principals in the programme. Student work is shared via CRIPS-repository which strengthens their role as experts in the field.

Our project shows that the teachers have diverse roles in the capacity building, but the learner him-/herself has the control over the learning process and how he or she can use the experience. Learning support is in the foreground of both academic effective learning strategies as technological support (cf. Wang et al. 2014). The possibilities to work together team-teaching have added to the value of the content and each teacher’s special talent has been maximized.

The content aimed at capacity building and developed during the progress of the programme from the needs of the students and the present situation concerning global health. New threats such as the outbreak of Ebola in western Africa in March 2014 (CDS 2014) and the earthquake in Nepal April 2015 were addressed.

The technology challenges both teachers and students in this programme even though both the Frontier platform as the ACP connection has been functioning quite well.

In the future, ethical questions need to be considered during the fieldwork and in writing results from the field. According to our understanding, the best possible solutions, based on the evidence, was not always possible due to the lack of resources.

The communication within the group of teachers and students has been well functioning. Continuing support from the ICT-department has been important since the programme required high competence in computer skills among the teachers. A competence in web-design would have also been beneficial. Adjusting the programme to the three different universities has had its own challenges, since
the credit system differs. The common value base as the guiding principles for the programme has eased the process.

We can conclude that according to our experience:

- Students need to be active participants in their own studies, not only as learners but also as coaches and teachers for others.
- Learning support is crucial for the success of the programme.
- Team-teaching adds to the value of the teaching.
- **A joint multi-cultural programme adds equality and fairness and develops academic skills.**
- Capacity building gives the programme a clear goal and makes it beneficial for the community.
- A culturally sensitive approach in community work is important and the programme gives possibilities to develop a global understanding of researched phenomena.
- Technological support is needed for the success of the programme, the web-design should be developed.
- High quality information resources and fluent access to reliable research information is important in this kind of Master’s programme.
- Shared value and theoretical base for the curriculum is important for the success of the education.

**References**


Hsu, EB; Thomas, TL; Bass, EB; Whyne, D; Kelen, G D & Green, G B (2006). Healthcare worker competencies for disaster training. BMC Medical Education 6 (19).


6 Leadership and management in nursing education

ARJA-IRENE TIAINEN, ELINA LYYTIKÄINEN, PIRJO VESA, SABAH AL-SHARKAWI, IMMACULATE MARWA, ASTERIA NDOMBA AND GLADYS MOOKA

This chapter describes in detail the work done at the Catholic University of Health and Allied Sciences (CUHAS), Mwanza, Tanzania, University of Eastern Africa, Baraton (UEAB), Kenya, Ain Shams University (ASU) Cairo, Egypt and Karelia University of Applied Science (Karelia UAS) Joensuu, Finland, in developing a Leadership and management course for nursing education. The introduction of e-learning and its implementation in teaching at the higher institutions will exert a major impact on teaching management and leadership skills for nursing students. Currently, nursing teachers and students at CUHAS, ASU, UEAB and Karelia UAS are using the Moodle e-learning platform which has been developed during the project. The HEPHS (Improving the Quality of Higher Education in Public Health Sciences) project has also created a new Moodle platform specifically for Qualitative research for nursing teachers.

6.1 INTRODUCTION

The Ministry for Foreign Affairs (MFA) of Finland initiated a new programme in 2010 (Ministry of Foreign Affairs 2010, 4) and the University of Eastern Finland (UEF) decided to apply to participate in this programme together with Karelia UAS. The role of Karelia UAS has been under the UEF but it has organized independently nursing education with a separately allocated budget. Karelia UAS has an impressive history of training nursing professionals in health care, and its curriculum contains international courses in English. Besides, Karelia UAS has long experience with international student and teacher exchange programmes. Fruitful collaboration between the Karelia UAS and the three partner institutions in Africa, i.e. UEAB, CUHAS and ASU has been growing during the two phases of the HEPHS project. During Project HEPSHI 2011–2012, the only southern partner in Nursing was Kenyan UEAB. Later during HEPHSII 2013–2015, our southern partners have been UEAB, CUHAS and ASU. The projects were funded by the FMA and in this chapter, both projects, HEPHSI and HEPHSII, will be reviewed.
In practical terms, this project aimed at building capacities and at developing human resources in the African partner institutions to allow them to be able to address the major public health challenges at the national, regional and district levels. Even though the project has been directed to public health, nursing has a key role and specific goals were set for nursing to support public health. The curriculum development agenda included the addition of health promotion courses to the nursing curriculum in southern universities.

The identification of priority programmes and modules was based on a careful assessment of local needs in nursing education, and the project has been implemented via full ownership by the southern partners. The Karelia UAS is the coordinating institution in nursing. The southern partners are also involved in developing strategies, procedures and activities in higher education which will be sustained long after the end of the project. In this respect, the project adheres to the Finnish development policy, i.e. it is sustainable and it promotes full ownership by the southern partners (Improving the Quality of Higher Education in Public Health Sciences 2011-2012, 2010).

Management and leadership skills have become increasingly important in professional circles in recent times. This is especially true within health care and nursing, where the growth of management skills has proceeded exponentially, and health care professionals need to be constantly updated with these findings.

The idea of developing a Management and leadership Moodle course was decided together with all nursing partners.

### 6.2 WHY NURSES NEED LEADERSHIP AND MANAGEMENT SKILLS

In this chapter we describe the need for leadership and management skills in all countries which were part of the project.

In Finland nursing leadership and management takes place in various situations and tasks. The nurse leader creates customer centred care at the social and health care services to achieve and maintain high-quality and cost-effective services. This requires leaders who are familiar with all the new tools and methods in order to make the social and health services more effective. The managers are also required to develop new organizational skills to take forward the policies and to ensure equal access to treatment for all and provide customer-oriented service packages. The leaders create the conditions for quality services and efficient collaboration with other professionals. The lack of a nursing leader is reflected in inadequate treatment of patients and customers, treatment errors, bad quality of care, high costs, and dissatisfaction of staff. Furthermore, the nurse leaders respond to the needs and make sure that there are sufficient resources available to provide the adequate quality of services, as well as to promote the skills development of workers. They are responsible for the development of research conditions and
environment to offer integrated evidence-based practices to promote the health and well-being of population, patients, customers and workers. In addition, knowledge management is an integral part of leadership and management. Knowledge management can be seen as a part of the implementation of strategy. In temporary expertise, lifelong learning is the key focus for the sake of the client. Also the individual’s own learning and development is important. It should be noted that nurses’ own learning and development will continue informally and unplanned (Collin & Watson 2014). 

In Kenya nurses form the backbone of the health care system, their roles cut across services delivery to leadership and management positions. Grohar-Murray and DiCroce (2003) emphasize that in order to formulate a framework in which nursing role will be used appropriately, then management and leadership skills in nursing are needed. Nurse managers are responsible for the day to day running of the institutions they work for. Nurse managers ensure patient-centred care services; they participate in planning and budgeting communities of different levels of health care facilities. On the other hand, nurse leaders provide advocacy for patients and their families, through quality and efficient care provision. Currently in Kenya training of health professionals in leadership and management is a priority for the government towards achieving the countries development goals vision 2030, and provision of better healthcare which is responsive to the health needs of the people. Nurses in a clinical setting form part of the team responsible for service delivery to patients and their families. In teamwork this has to be coordinated, planned and evaluated to ensure it meets the intended quality and standards. This requires that nurses in their training, just like all other healthcare providers, are equipped with adequate skills and knowledge in leadership and management at different levels of service delivery, particularly middle level managers at the County Government (Nursing Council of Kenya 2012). The Nursing Council of Kenya is responsible for the registration of nurse, and it requires that all nurses trained in Kenya are well-equipped with leadership and management skills for all levels during their training (Nzinga, Mbaabu, & English 2013).

In Egypt nursing leaders play a key role in shaping the nursing profession to be more responsive to give nurses a voice in the improvement of patient care. Nursing leaders in Egypt can be but are not limited to chief executives; frontline, middle and senior managers; administrators; professional practice leaders; government officials; and policy makers. The educational systems in Egypt offer Nursing leadership and management courses for undergraduate and postgraduate students to build the leadership and management capacity of government hospital nurses to improve their performance in health care settings. Nursing students are exposed to skilled and positive leadership role-modelling that significantly enhances their learning experience. The idea is to give students the requisite skills to think and behave as leaders during their nursing education at nursing institutes to support their values and attitudes in being a professional. This skill development is retained and carried on throughout nurses’ subsequent professional careers. Leadership
training in the nursing education system is context specific for the nursing profession, and includes practical strategies for students to adopt and assimilate into practice.

In Tanzania nursing leadership and management skills are of paramount importance for nurses. The health care system and the educational systems in Tanzania are structured in a way that necessitates nurses to have leadership and management skills. The health sector reforms in Tanzania through decentralization have been spearheaded in order to make sure that the objectives of the Health policy are met. These reforms have affected all parts of the health industry both in education and services delivery in order to produce a high-quality workforce which will be responsible for delivering high-quality services for all people in Tanzania. In the training institutions, from certificate, diploma to the university level educators need to have leadership and management skills in order to meet the vision and mission of the training institutions and of the country. The products produced in these training institutions are deployed in the health care delivery systems at district, regional and national/tertiary level hospitals as leaders and managers. Currently, we have nurses as district, regional nursing officers who are doing an excellent job despite the challenges they face in human, material and financial resources to provide supervisory visits and provide quality care to the patients and clients. As leaders and managers, they need to work as a team. At the regional and district levels, Council health management teams (CHMT) are formed and the regional & district nursing officers are members of these councils.

6.3. LEADERSHIP AND MANAGEMENT EDUCATION IN NURSING

In Finland, nursing education is based on competence learning. Competence refers to broad areas of expertise, which describe the overall criteria required in the professional capacities, abilities and characteristics. In Finland, the education competencies are based on eight European qualifications framework (EQF) and the qualifications and other learning national reference framework (NQF). The competences are client-work-competence in nursing, competence in health promotion, competence in clinical nursing, competence in health care service systems, learning and guidance skills, ethical competence, work community competence, innovation competence, and internationalisation competence.

The course Leadership and development in social and health care is 5 credits for students. At the end of the course, the student will be able to understand the meaning of leadership in health and social care practice, recognize various theories of leadership and contemporary changes in work and in work life. Also, the student will be able to manage her/his own work and will know the significance of intrapreneurship and entrepreneurship, recognize labour law and apply it in practical cases. Furthermore, students will learn the skills of reflecting ethical
questions of leadership, knowing the basic principles of financial management, and evaluating and developing work communities and well-being at work. The content of the course includes subjects like introduction to leadership, management and work community development, contemporary changes in organizations, leadership in social and health care, labour law, knowledge and quality management, diversity management, work welfare management, financial management, ethical questions of leadership, and intrapreneurship and entrepreneurship. In management and leadership, the professional competence of a nurse consists of leadership and entrepreneurship. That means leadership skills, working community skills in social and health care and nurse’s work and career development.

In Kenya, the nursing students learn different competences of practice as they move higher in their training to become a nurse. The more senior they become, the more perfect their skills are meant to be and more critical thinkers they become to handle more challenging clinical scenarios. Students are given the opportunity to learn and practise their leadership and management skills in different levels of health care practices. Students rotate in community settings health facilities and hospital settings. Considerable emphasis is put on the students to implement a change in the unit they have practised as managers in nursing practice or work environment. The following are the competences they are to acquire during training: clinical nursing care skills, nursing professional skills and nursing management and leadership skills.

The leadership and management is a 6 credit course which has both theory based lessons and practical sessions for students in the clinical settings. In the course nursing management and leadership skills the student’s objectives concentrate on how to demonstrate the ability to use effective leadership styles and qualities in the clinical settings. How to enhance understanding of nursing theories and models and relate them to theory and practice? How to describe and analyse methods of organizing care in Kenya, from community to national levels and identify different ways of advocacy in the health care settings? How to demonstrate effective time management for self and others and demonstrate effective communication skills, to patients, family, peers and staff in care environment? And, how to evaluate management styles at the care level for self and others?

The course content consists of introduction to management and leadership, foundational blocks for effective management and leadership, planning hierarchy and strategic planning, organizational culture and structure, staffing issues, directing/leading from history up today (Kenyan legislative process, labour relations etc.) and quality control.

In Egypt, nursing education prepares nurses to be a leader through the nursing administration and leadership courses that are taught to under- and postgraduate students in all faculties of nursing and in technical nursing institutes. The total hours of nursing administration and leadership course for third year's students are
60 hours of theory, while the total hours being taught for fourth year students are 60 hours theory and 30 hours of clinical practice. In addition to one year internship, we train students in the administrative affairs in various departments of the hospital. We also teach nursing administration for graduate students (Masters and PhD), in addition to specialized diplomas in the nursing administration and leadership. These courses aim to equip nursing students with theoretical knowledge and intellectual skills that enable them to practise basic nursing administration and leadership functions competently within their roles at various managerial levels.

In Tanzania, the course addresses the importance of leadership within nursing and the need to recognize and develop leadership skills in the profession. Students are afforded with the opportunity to explore their own leadership skills and knowledge through fieldwork underpinned by relevant theoretical constructs in order to provide quality nursing care. The professional cognitive skills, professional psychomotor skills, professional affective skills are the expected competences. At the end of the course, the student will be able to differentiate leadership and management and be able to describe effective roles of the leader and the manager. The student will know how to employ suitable managerial and planning skills for proper development of human and non-human resources necessary for the provision of quality health services in Tanzania. The student will have acquired skills to demonstrate skills in leadership and management roles in nursing practice, to demonstrate effective decision making skills in assisting clients towards recovery and/or improving their health, and to demonstrate knowledge and skills suitable for managerial and planning human resources necessary for the development of good nursing leadership and services in Tanzania. Furthermore, the student will value the confidentiality of information gathered from the patients/clients during leadership and management practice, express compassion, respect and sensitivity to patient/client individuality during leadership and management practice, and finally respond professionally to the patient’s/client’s cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities, and other aspects of diversity during leadership and management practice. As well, the student will, at the end of the course, be able to observe respect, compassion, accountability and integrity while interacting with peers, other health professionals and the community at large during leadership and management practice.

An overview of nursing leadership and management content shows that there are various subjects taught like the leadership styles, theories and process, the behaviour and qualities of an effective leader and manager. For example, the nursing leadership and management skills education include subjects like team building and managing, conflict management, problem solving and decision making, and critical thinking, critical reflection and self-awareness. The lessons of leadership and management in nursing practice consist of subjects like the roles of challenges in leadership development, coaching and mentoring staff, and
evaluating staff performance. Furthermore, the leadership and management in health care organizations lessons will give the student skills in health care structure and organizational structure and theories, quality control, and health care policy, legal issues and ethics in health care delivery.

6.4 IMPLEMENTATION OF LEADERSHIP AND MANAGEMENT COURSE AND TRAINING

The interesting question is why we used the e-learning method and why we created a Moodle environment to teach management and leaderships skills for nursing students. The HEI-ICI Programme is not a teaching exchange programme and during this project we were not teaching any nursing students. Mostly, we conducted staff training and curriculum development. Teaching pedagogical methods was also part of the project work. One way to improve teaching abilities was e-learning course on Management and leadership.

The content and main subjects of e-learning Moodle course were:

1. Introduction to management and leadership in nursing.
2. Strategic, change, quality and financial management.

This was the first nursing e-learning course in partner institutes of Kenya and Tanzania, and during which also the e-learning working skills were improved.

6.5 PILOTING THE COURSE

The Leadership and management course was the first e-learning course at the nursing faculty in UEAB, Baraton. It was developed on the HEPHSII project platform. This was the first time when students used the web-based / virtual learning environments. Students were told the principles of learning and tutoring processes. One of the central features of web-based learning is continuous tutoring and feedback throughout the process, on the basis of how learners can improve their skills and knowledge. Tutoring can include, among other things, designing the web-based learning process, providing evaluation and feedback, and directing the process and its contents. In the learning process, the teaching situation, learning assignments, teaching, tutoring, feedback and evaluation are closely interconnected and form a chronological continuum.

Before the course, students were told how to use e-platform. They were shown how to use news area, how to upload their assignments and how to use tests. Because this was the first time for students to learn by virtual mode, it was very important to get know their experiences of web-based learning and web-based teaching. They were asked to give feedback about the course and how it corresponds to learning goals, arrangements for the study, scheduling workload, motivation and encouragement, supervision, and the criteria of evaluation. Students were also
asked about obstacles to learning. Students could give ideas on how to develop the course. Twelve active students gave feedback on the course. The students were told that answering the questions for feedback was voluntary and no identifiers were attached to the respondents’ data.

In the next section, we describe the results of the evaluation of the course. Course evaluation consisted of 13 multi-choice questions and three open questions. All of those who answered the feedback stated that the study module responded to their learning goals, and the goals of the study module were explicit.

All students agreed that arrangements for the study module worked well. The scheduling of the course was right for eleven students; one of the students could not answer. Briefings or other information during the study module worked well and students received enough supervision. Workload for the study module corresponded with the number of credits. All students agreed that discussion and web-based learning environment motivated and encouraged their learning. Tutors for the study modules were professional, interacted with students adequately, and gave feedback about student’s learning.

- Features which promoted learning during the study module included assignments, references, availability of notes, discussions and instant evaluation.
- Issues which formed obstacles to students’ learning during the study module included strict due dates for assignment submission, short allocated time, challenges in accessing internet time difference, slow internet and at first difficulty in understanding the programme.
- Student suggestions on how to develop the study module: included engagement in more discussions and evaluation of the students after every topic.

### 6.5. CONCLUSIONS

In conclusion, this approach to learning and teaching has been based on the concept of co-operation, collaboration and trust between all of the participating partners. Perhaps the most important result of the project was that we all learned about different cultures: all of the participants became aware that they face similar issues and challenges within the nursing education system. It was interesting to develop this work together. This project proved that although it is possible to co-operate between continents with IT-tools, it is also important to meet people face-to-face to build trust. An important result was also the material that we produced together during the Management and leadership course. The course will be moved to every university’s own e-learning environment and every staff member has the right to use it.
Acknowledgement

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References

Grahar-Murray, ME & DiCrae, HR 2003. Leadership and Management in Nursing. Published by Prentice Hall.
7 Managing multicultural projects

JARMO SAARTI, ARJA ERKKILÄ, SOHAIB KHAN, ARI HAARANEN, WAGIDA A. ANWAR AND JUSSI KAUPANEN

7.1. INTRODUCTION

The tone in this last chapter is personal and it reflects our own individual experiences and interpretations. The aim is to reflect practical issues that we confronted during our project. In addition to the project’s formal aims we noted that there were a lot of unspecified aims that the project was able to fulfil. A lot of these were about learning how to manage a long and multicultural project and a lot happened at a very personal level for each of the members: the project was a great learning experience and changed us as people in a positive way.

7.2. CHOOSING PARTNERS AND CREATING LOCAL TEAMS

The universities and other academic institutions have some similarities that are based on the academic teaching conventions and preferences in the way of conducting academic research. In addition, each university has its own special features that are visible in their local academic, political and cultural traditions; all reflecting the ways of home country that have affected the institution.

From the point of view of the project, we noted quite soon that one cannot rely only on the academic tradition and that it is conducted in a similar fashion in each of the participating partners, although we had a similar value base in being part of the global academic world. One definite character was the differences between universities that concentrate on teaching and that concentrate on conducting research: from the Finnish point of view this is often forgotten due to the fact that all the Finnish universities provide doctoral level instruction and are active in academic research.

Thus we had quite a long learning period in the first phase of our project that was used in getting to know the academic habits of each of the institutes and countries involved. The field trips at the beginning were important, and they made it possible to adapt the project’s aims and tasks especially for the TOT visits. We also noted that this learning process happened with the southern partners: the African academic field is diverse and learning from the best practices of others proved to be fruitful also here.
The human and material resources of the southern partners varied. The issue was acknowledged from the beginning; however, only practice showed that limited human resources and changes affect the progress of the project. From the positive side, the project also showed that even with limited staff and material resources, changes can be made when the will and attitude for progress exist. The differences in partners’ resources also provided a learning experience for project management. The project planning phase focused mostly on the activities and development of the academic staff. Once the project actually started and deadlines to report activities and finances at given intervals came, it became clear that the involvement and guidance of supporting and financial staff is also one of the aims not officially written in the project aims. Forming local teams of academic and administrative staff enhanced the work progress.

All universities were committed to the project and its aims magnificently, although the starting point for a project differed from place to place. The universities varied in size, culture and customs, and yet we found common challenges and needs in the development of higher education and support services like IT and library. The need for change and development was a good motivator. In this case the motivational factor was the urge to update higher education for modern learning and teaching by using new methodologies, technologies and collaborative expertise. Everyone was learning something new from each other.

However, the project lasted a total of five years and many changes in the project staff and partners happened during that time. Every change among the project staff in any of the institutions required time for trust building and getting to know new acquaintances. It was clear that this inevitably led to the slowing down of achievements in the project. Without motivated and fully committed project staff and partners, the aims of the project were not achieved completely.

Despite lengthy details of the plans on paper, nothing is certain when it comes to running a multinational project. The always turning and twisting nature of global current affairs these days causes unexpected unwanted events quite often. This project was no exception. The intense events of the Arab spring in Egypt lead to the cancellation of a few events in this project. A seemingly calm work environment at the ASU was at some point not a suitable place to host travellers from abroad. Cancellations happened at the last minute, and they were necessary, but they took place at the cost of the project time schedule and finances. Kenya suffered from multiple terrorist activities during the project time frame, which understandably prompted hesitation among the staff of northern institutes to travel. Each of the partner institutes was alert and conscious of the risks involved. Embassies were consulted, and local advice was listened to, in order to take all required precautions before every trip. Open communication was the key in such situations. As an obvious rule, any unnecessary risk-taking was avoided, and alternate plans were employed to compensate for the loss of time and performance in project activities.
7.3. LOCAL PERSPECTIVE FROM THE POINT OF VIEW OF AFRICAN PARTNERS

The sustainability of the project achievements and building of the network among African institutions are key aspects after the actual project phase. In this chapter, the key aspects of continuous development are discussed.

The capacity building of academic and supporting staff in the southern HEIs requires the development of institutional structures and academic infrastructure for improved utilization of all human resources. Based upon their ownership of the project, the developing country partners are committing their staff to the project, administrative support, provision of classrooms and other facilities and existing networks. The main beneficiaries include the academic staff in charge of planning and implementing academic public health science training programmes, modules and courses including development of research methodologies. It is recommended to continue supporting the development of skills of junior academics which will be in charge of the academic activities in the future.

Training and education development should become a part of regular curriculum development at the southern HEIs. Such examples include the Medical Education Department in ASU (MED) using problem-based learning (PBL), and the development of integrated modules and student feedback system in southern partners. More generally, the promotion and enhancement of the quality of education at several levels of the society including school programmes and researchers would also be needed to support the university education change. Capacity building of young scientists in different institutions with the assistance of other well established institutions elsewhere in the world, such as Finland, is helpful to see the differences in teaching culture and academic culture in general.

Possibilities for future network cooperation should be utilized. A collective pool of expertise and junior staff who have been trained during the project are available to all partners on the basis of need. Partners can share expertise and improve their strategies; building a collective pool of networks, and funds that can accelerate development. For instance, Kenya and Tanzania can cooperate in most areas while Egypt can provide support and expertise for further development in the near future. With Egypt being assisted to develop course modules through this project, and prior experience, they can assist Kenya or Tanzania to start similar programmes in the future. A network of communication between students, teachers and institutions through effective mechanisms to communicate should be maintained.

Personal contacts using new ICT technologies have become essential to improve communication and to understand that some details of the communication culture are very different in the three countries. Old communication modalities caused delays and frustration in the process of planning details of exchange.

Possibilities for future communication include, for example, designing a dedicated website, for the purposes of collaboration. The website should be linked to other existing websites available in different institutions. Sharing information using
website or publications about different activities and resources needs to be disseminated more effectively to enhance public awareness. Other possibilities for communication are conferences, workshops and training courses. Specialists are encouraged to convene on a regular basis (e.g. every year) to share ideas and experiences, enter into debates and consider the developments and implications of National Programmes for common public health problems. Multidisciplinary conferences, workshops or training courses dedicated to education and training in tools for scientific research and practical prevention programmes with the aim of getting consensus on relevant curricula and the sharing of knowledge on methodologies and tools are recommended.

In addition to continuing development activities in own institutions and within the existing project network, encouragement to international cooperation and fundraising is essential. The existing bilateral agreements in the field of education and research should be updated and revitalized. These agreements could include exchange programmes for graduate students, postdoctoral research and sabbatical programmes. Work on finding financial support for established cooperative projects, such as from WHO, while at the same time seeking to establish a strategy for the optimal usage of research funds is encouraged.

Given the relatively large number of funding possibilities for programmes that include student and researcher exchanges between Finland and Egypt or other African countries and the relatively low use of these funds, a more detailed study on the interests of students and researchers from both sides for exchange periods could provide important additional information. Future programmes should cover a relatively large number of students in both countries. More information distribution and advertising on the various student and researcher exchange funding possibilities in all partner countries could be done. The developing country partners are involved in other activities and networks that may be complementary to the objectives of this project and could be used to find synergy in future projects. The general strengths and weaknesses of student and researcher exchange possibilities are relatively well known. These include, for example, possibilities for cultural exchanges at the micro level and expanding of cultural understanding and knowledge; on the other hand, there is a danger of brain drain and often-limited impact on wider scale cooperation. Whenever possible, the North-South-South programme works with the same practical arrangements as the well-established Erasmus programme. The home university advertises, informs and counsels students about North-South-South exchange and selects the best candidates for the exchange. The host university will, however, make the final decision. The gender balance of the participating students is also considered important. At UEF, the international students participate in the courses of the Master degree programme in public health (MPH). This programme offers courses also to European exchange students, who mix in with the degree students and the incoming African students. The studies successfully completed during the North-South-South exchange should be accredited in the student’s academic degree at the home university.
Further collaboration options are within public health research. Establishing partnerships and research cooperation between countries and institutions on specific research topics that help to prevent diseases is of particular interest. Multidisciplinary research projects could be formed. For example, a community based intervention survey to map the level of preparedness to face the challenges of increasing non-communicable diseases would be highly needed. Since the HEI-ICI funding does not cover research, the partners need to explore alternative sources of research funding including private sector.

**7.4. NORTH-NORTH ASPECT**

The Institute of Public Health and Clinical Nutrition in the University of Eastern Finland (UEF) and the Centre for Social Services and Health Care in the Karelia University of Applied Sciences (Karelia UAS) started their collaborative preparation of a joint project in 2009. The Ministry for Foreign Affairs of Finland (MFA) granted funding to project under the Higher Education Institutions Institutional Cooperation Instrument (HEI-ICI) two times in 2009 and 2012. UEF was responsible for coordinating the project and the role of Karelia UAS was independently to build the partner universities’ capacity to provide training and educational programmes, and course modules in the areas of nursing and medical laboratory science with own budget.

The project was not limited to bilateral cooperation between UEF and Karelia UAS, but extends to cooperation with other expert institutions in Eastern Finland, such as Adventist Development and Relief Agency (ADRA), Finnish Medical Association (FMA) and North Savo Society for Development Co-operation.

Later, two other Finnish Universities of Applied Sciences, Diaconia and Arcada, were granted HEI-ICI funding by MFA for the Capacity Building in Crisis Preparedness in Health Care (CRIPS) development project with the University of Eastern Africa, Baraton (UEAB). We were a little concerned that the situation could get out of hand in Kenya, because of funding to a parallel project at the same university could harm nascent cooperation. Immediately after the funding decision, discussions were arranged between both projects. The purpose was to clarify interfaces in projects and possibilities to cooperate in Kenya. After the discussions it was noted that both projects can support each other; for example to disseminate the results of both projects in seminars and reports, and this happened. However, combining both projects into one could have been desirable. It would have diminished some misunderstandings in Kenya. Communication between the Finnish higher education institutions was open and the working cultures had more similarities than differences. Communication helped institutions to use their own strengths and to learn from each other. In conclusion cooperation was fruitful and productive.
7.5. NORTH-SOUTH ASPECT

Communication between northern and southern partners took many shapes and forms during the two phases of the project. The standard procedure was to list the tasks and assign an individual or team for each institute to do it. This seemingly straightforward process often got into problems owing to many reasons. At UEAB, there was the rapid turnover of staff, which interrupted the communication; at CUHAS it was often the technology aspect of communication; at ASU it was the involvement of a rather large number of staff members with unclear boundaries of tasks and responsibilities between them. Also, the cultural nature of workplace hierarchy was noticed as a barrier to easy fluent communication between southern and northern project staff. The northern institutes have their own unique, to-the-point, working-as-equals-in-a-team style of work culture, which was observed as a mismatch with the work cultures of the southern institutes.

Both northern and southern institutes worked together right from the developing stages of the project application, but there were often some extra expectations attached to the project activities from both sides. Northern institutes sometimes expected a faster speed for activities, especially in the issues which required approvals from policy makers at southern partners – a process that is notoriously slow in developing countries. Expectations were also attached to the financial aspect of the project; as the project focused more on building the capacities in southern institutes through training, and less on buying the material equipment. Another dimension was the extent of involvement of the northern institutes; it needed to be clarified at times that the project was to move forward according to the agenda and goals decided at the application stage, and the main aim is for southern institutes to move forward and build on these newly acquired skills and capacities on their own once the project runs its time course.

These issues were tackled by using approaches based on equality. Northern institutes (especially UEF) took the lead in initiating the tasks and they did so by setting up an atmosphere of open communication and input from the southern partners. Details of all the activities were decided based on mutual agreements, coming equally from all the partners. Each partner was asked to bring in their ideas and plans according to their existing capacities and local needs, as well as their vision for the future of their institute. This lead to a degree of customization of the eventual benefits that each southern partner institute hoped for from this collaboration. This practice also ensured that there is no force-feeding practice in play from northern institutes upon southern institutes.

7.6. CULTURAL LEARNING

One of the main issues in our project was co-operation between different cultures. As mentioned earlier we all shared a similar background: the operational environment was academic and we were focused on public health issues. Beyond
that we noticed that this was a learning experience where we all started to change: first our impressions and ideas about different cultures and very soon the working habits of each individual and institution.

If one compares the TOT part of the first and second phase, one can note that maybe the biggest change in how the group worked was actually in how it was composed of smaller entities within the TOTs. The work started pretty much in groups that already knew each other. It then gradually evolved into co-operation between all the members that were present. This helped us especially in enhancing the co-operation between the African partners.

We noted that there were several cultural differences that had to be managed. First, was naturally the fact that we came from different countries (see. Fig. 1). For the Finnish people one of the most surprising findings was to see the richness and variety of the African cultures. Usually the rhetoric about Africa in Finland stays at the continent level. It helped a lot to understand that in Africa there are long and different cultural traditions that have their own historical backgrounds – some of what have been traumatizing – shaping the behaviour of people. Different religious ideologies also had to be taken into account, sometimes at the level of everyday meetings, for example, when it came to food culture and some other habits.

We noted that a lot of effort needed to be put into trust building, especially at the primary phase. That meant cultural learning; we had to widen our understanding of the different cultures that we were dealing with during the project. This was the basis that had to be built in order to achieve the project’s goals.

Thus, when visiting partner countries we spent some time in cultural and social activities at and around each institution. The Africans in turn got to see what ice fishing means in Finland. We all learned a lot about the natural environment in
which people live. Having fun and eating together are simple ways to build the 

sense of community and give perspective to the basic things of what it means to be 

a human being.

Being from different cultures and speaking different languages meant that we had 

to adjust our communication. Not only verbally, but also in the way we understand 

the behaviour of others. Our aim was to build an atmosphere where everybody 

could feel they were being treated as an equal partner and a valuable contributor to 

the project and its goals.

7.7. PROJECT MANAGEMENT LEARNING

Project management was a learning experience for all partners, even though all had 

previous experience. Prior project types and their management, however, had 

differed from this one. In addition, the southern partners’ view on what a project is 

might have differed from that of the northern partners. The partners also had other 

projects going on at the same time, which might have limited the time available to 

each of them. In partner selection assessment of partners’ other simultaneous 

projects and commitments should be taken into account.

Due to different views and experiences of project management, the involvement of 

financial staff from the beginning is crucial. Setting the common understanding for 

financial management and reporting was started from the beginning using e-mails 

and visits. The coordinators of the project met to clarify these items and in addition 

the financial staff met during one of the meetings in the south. Despite all the 

efforts to get the financial management fluent, this proved to be challenging and 

there were significant delays in reporting. Getting all the required financial 

documentation in English was not easy.

One example which shows the different ideas of project management is the self- 

contribution part of the partners. Even though the amount and ways of self- 

contribution were clearly indicated in the project agreement and instructions and it 

had been explained verbally, at the end of the project some of the southern partners 

still had wrong ideas on how to cover it. This emphasizes the need to use a lot of 

time in explaining the principles of project management to the financial staff and 

also to get the full commitment and support of the deans and other relevant 

directors in the partner institutions. In this project the deans were presented in the 

project board that had annual or semi-annual meetings to monitor the project. 

The amount of resources needed for project management turned out to be higher 

than planned. In future projects, allocating enough resources for financial and 

administrative coordination within both northern and southern partners’ 

organizations should be secured as part of the project’s actual costs.
7.8. LESSONS LEARNED

Managing multicultural projects is not only about managing the project and its subject. At least as important is managing the cultural situation. This means that in the project one must allocate time and resources for cultural and social issues and try to manage these as soon as possible. This includes the very basic project management issues – i.e. economics and staff management issues.

The academic world, and especially public health education, is a global one and it becomes more and more important to learn to work with people from different cultures. The major public health challenges are quite similar in all parts of the world and the digitization of education makes the learning environments similar, and, at the same time, gives new possibilities for networking between continents and countries.

And maybe the most important issue in co-operation is that all the partners must be treated equally, given a possibility to shape the project according to the needs of one’s own institution. This gives us the possibility to make a sustainable change globally by starting it from the very local level.
Authors

Mona Abdel-Aal, PhD, is an assistant professor at Community, environmental and occupational medicine department, Faculty of medicine and the director of e-Learning Center, Ain Shams University, Cairo, Egypt. She acted in the HEPSHI and HEPShII projects as course developer for occupational health and as a TOT team member.

Wagida A. Anwar, MD, PhD, is a professor at Community, environmental and occupational medicine department, Faculty of medicine, Ain Shams University, Cairo, Egypt. She acted as the HEPSH project coordinator in Egypt.

Lamyaa Said Al Bagoury, PhD, is a lecturer at Community, environmental and occupational medicine department, Faculty of medicine, Ain Shams University, Cairo, Egypt. She acted in the HEPSHIR project as TOT team member.

Elias Charles, MSc, acted as a coordinator of HEPHS project at the Catholic University of Health and Allied Sciences, Bugando. He also worked in the course development.

Arja Erkkilä, PhD, adjunct professor, works as an assistant professor in public health nutrition at the University of Eastern Finland. She acted as a project coordinator of the HEPShII project and coordinated the development of the public health nutrition course.

Marketta Fredriksson served as an information specialist in the CRIPS project and was responsible for the information literacy, library services, student supervision and acquisitions.

Ari Haaranen, PhD, works as a coordinator at the University of Eastern Finland, Aducate - Centre for Training and Development. He acted in the HEPSHI and HEPShII projects as an expert on e-learning and as a consultant in academic public health education. He also trained the academic junior staff of the partner institutions.

Riikka Halonen, M.Soc.Sc., works as a specialist, international affairs in Diaconia University of Applied Sciences. She was the administrative coordinator of the complementary NSS project PREPED.

Riikka Hälikkä works as the head of international affairs at the Diaconia University of Applied Sciences. She was the administrative coordinator for CRIPS project.

Oscar Joachim, works as library assistant at Catholic University of Health and Allied Sciences-Bugando. He was one of the TOT’s in HEPSHI and HEPShII projects.
Ikali Karvinen, PhD, R.N., is a principal lecturer at the Diaconia University of Applied Sciences, Helsinki, Finland. He acted as a project director for CRIPS HEI-ICI and as a project coordinator for Preped NSS project.

Jussi Kauhanen, MD, PhD, MPH, is the professor of public health since 2003, and the director of the Institute of public health and clinical nutrition at the UEF. He has been the HEPHSI and HEPHSII project director in 2011-2016 at the University of Eastern Finland (UEF).

Sohaib Khan, MBBS, MPH, PhD is senior lecturer of International health at Institute of public health and clinical nutrition, University of Eastern Finland. He acted as academic coordinator and expert and was involved in curriculum development and related tasks in HEPSHII project.

Ismael Khangane, works as the IT specialist at Catholic University of Health and Allied Sciences-Bugando. He was one of the TOT’s in HEPSHI and HEPHSII projects.

Eija-Riitta Kinnunen served as a key expert in the CRIPS project and was responsible of the curriculum development and study unit development.

Heikki Laitinen, MSc, works as an information specialist at the University of Eastern Finland Library. He assisted in the development of the public health information skills course on Moodle during the HEPHSI and HEPHSII projects.

Gun-Britt Lejonqvist, LN5c, principal lecturer and degree programme director for nursing at University of Applied Sciences Arcada, Helsinki, Finland. She acted as project coordinator at Arcada.

Elina Lyytikäinen, MSc, she works as lecturer of management and leadership in health and social care at the Karelia UAS. She acted in the Karelia UAS project as an expert and trained e-learning related issues.

Immaculate Marwa, MScN, works in the department of nursing, University of Eastern Africa, Baraton, Kenya. She was a TOT in the e-learning and a course teacher of management and leadership nursing in the Karelia UAS project.

Juhani Miettola, MD, PhD, acted as a project coordinator of the HEPSHI project and is currently retired.

Asteria L.M. Ndomba, RN, Dipl. NE, MSc.N, works as a lecturer in CUHAS Archbishop Anthony Mayalla School of Nursing, Mwanza, Tanzania.

Bernard Omambia, MSc, works as assistant lecturer at the University of Eastern Africa, Baraton. In the HEPSH project, he worked in the course development.

Tuulevi Ovaska, MA, is the head of services of the Kuopio University Hospital Medical Library and an information specialist at the University of Eastern Finland Library. In the HEPSHI and HEPHSII projects she trained information skills and information literacy.

Ulla Ritvanen, M.Ed., works as a coordinator in Student and learning services at the University of Eastern Finland. She acted as a pedagogical expert in a pedagogical training programme of the HEPHSII project.

Niina Räsänen, M.Sc., works as a coordinator of the Student and learning services at the University of Eastern Finland. He acted in the HEPSHII project as a coordinator of the pedagogical training programme.
Jarmo Saarti, PhD, is the library director of the University of Eastern Finland library. He acted in the projects as a library advisor and trained in library related issues in HEPSHI and HEPSHII projects.

Al-Sharkawi Sabah, Doctorate Degree in Nursing, works as nursing professor at the faculty of nursing Ain Shams University, Cairo, Egypt. She acted in the Karelia UAS project as developer of leadership and nursing management curriculum and trainer.

Sahar M. Sabbour, MD Public Health, is the professor of public health and community medicine, Faculty of Medicine in Ain Shams University, Cairo, Egypt. She acted in the project as an academic expert and one of the course developers in the Public Health Nutrition web course in HEPSHI and HEPSHII projects.

Gladys Chepkorir Seroney, MSCN, works in the department of nursing sciences at the School of medicine, Maseno University, Maseno, Kenya.

Arja-Irene Tiainen, Lic.Ed., M.Sc.N, works as principal lecturer of management and development in health and social care at Karelia UAS. She acted in the Karelia UAS project as the academic coordinator and as an expert.

Pirjo Vesa, PhD, works as principal lecturer of nursing at Karelia UAS. She acted in the Karelia UAS project as an expert and trained research related issues.
The academic world, and especially public health education, is a global one. The present report deals with the important trio of development, health and education. The aim of the projects has been to improve higher education in public health sciences in three African universities in Egypt, Kenya and Tanzania. University of Eastern Finland coordinated the project with Karelia University of Applied Sciences as Finnish partner. The funding was provided by the Ministry for Foreign Affairs of Finland.