



Enhancing higher education partnership between
Vietnam and the UK
Review report 2013–2016

HIGHER EDUCATION PARTNERSHIP (HEP) FUND

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Abbreviations

Birmingham City University	BCU
Higher Education Partnership Fund	HEP
Danang University of Technology	DUT
Hanoi University of Science and Technology	HUST
Duy Tan University	DTU
University of Education	UE
Nguyen Tat Thanh University	NTTU
Ho Chi Minh City University of Technology and Education	HCMC UTE
International Training Institute for Materials Science	ITIMS
Vietnam UK Institute for Research and Executive Education	VN-UK IREE
Water Resources University	WRU

Executive summary

Higher Education Partnership Fund (HEP) was created by the British Council in Vietnam for connecting higher education institutions between UK and Vietnam, which aimed at supporting higher education development of Vietnam by exploring the strengths of UK institutions in teaching, research, innovation and entrepreneurship. This report provides an overall assessment of the projects funded under HEP programme between 2013–2016, including major outcomes and recommendations for future projects.

Through 26 partnership projects focusing on curriculum development, quality assurance, leadership and management, teaching and learning, collaboration in applied research, commercialisation of research outputs, and entrepreneurship, the Vietnamese participating institutions have realised significant benefits in capacity building, improving research skills, and intercultural communication, especially in developing an entrepreneurship mindset. It was obtained through interdisciplinary research and diverse partnerships, as illustrated in the case of the International Training Institute for Materials Science (ITIMS) – working with 17 domestic partners and four UK institutions.

There are several tangible outcomes such as research findings published in international peer review journals, specific reformed curriculum, or partnership/dual degree programmes. Of additional crucial importance is the application of knowledge in improving institutional performance of participating organisations, as well as the establishment of mutually beneficial networks and the development of collaboration. These pioneers have actively contributed to Vietnam's higher education reform agenda at both the institutional and system levels.

Regarding the UK's partners, these projects are seen as opportunities to establish new partnerships with Vietnam, a part of their internationalisation strategy. These partnerships have been supporting the UK's institutions' missions in research, teaching and knowledge transfer. It has been made possible by the UK's contributions to improving learning outcomes for students and strengthening research and teaching skills of Vietnamese faculties. Sharing knowledge and experience enables the UK's academics to understand the contextual conditions of Vietnam better, which is vital for their internationalisation outreach.

To maximise the impact of HEP in future, we recommend that proposed projects should consider the long term strategies of the institutions, making the project consistent with institutions' particular goals and with a clearer overall picture of the system. The project teams need to gain leadership's support and commitment, as those factors are important for ensuring the project success. Priorities should be placed into interdisciplinary projects, which connect experts in various academic fields and include experienced researchers, practitioners, and organisations.

One particular focus which should be emphasised is the link between universities and industries in both countries in innovation and entrepreneurship. Those networks have significant potential to create more opportunities and collaborations in future.

Proposed projects should also pay attention to possibilities of influences to policy making at a system level for sustainability of the innovative ideas. For strengthening accountability, proposed projects should be prepared to measure tangible and intangible outcomes, and to promote communication with the general public about those outcomes.

I. General introduction

British Council is the UK's international organisation for cultural relations and educational opportunities. We create friendly knowledge and understanding between the people of the UK and Vietnam through active and sustainable contributions in English language teaching, Exams, Education and Society, and Arts.

British Council works with government agencies, individuals and organisations in Vietnam to help improve education quality, to build up skills for employability for Vietnamese students and also English proficiency.

Education is one of the five strategic priorities in Vietnam-UK bilateral relation. The UK is one of the leading forces supporting the educational reform process in Vietnam. Therefore, the British Council wishes to contribute to improving the quality and internationalisation of education in Vietnam through policy dialogues, development of the national qualifications framework, promotion of cooperation in higher education, research, science, and innovation between the two countries via funding schemes such as the Newton Fund or the Higher Education Partnership Fund (HEP).

This report focuses on the HEP fund. The goal of HEP is to foster collaborative programmes on education, research and innovation between the two countries by exploring the UK's established qualities in teaching, learning, innovation, and research capacities to contribute to the development of Vietnam's higher education. The HEP emphasises establishing partnerships between the universities of Vietnam and the UK. Priority also is given to the following areas: university governance (focusing on autonomy and quality assurance); initiatives to improve teaching and learning, social sciences and education; and especially endeavors to enhance the employability of the graduates.

The review report of HEP's activities during the period 2013–2016 will provide an overview of the fields and outcomes of the cooperative partnerships between the UK and Vietnamese higher education institutions, explore case studies and lessons learnt for future collaborative projects.

The Education team of the British Council hopes that the evaluation report will support Vietnam and UK universities and colleges in building successful and sustainable educational cooperation, thus contributing to improving education quality, expertise exchange, and implementing the internationalisation of education strategy.

Why the UK?

UK universities have a strong reputation in the global arena for their long-standing history and great contributions to humanity in the fields of science, technology and culture, as well as their remarkable achievements in terms of scientific research. 38 percent of Nobel Laureates studied in the UK, making it the country with the most Nobel Laureates in the world, according to a study by British Council in 2015. Three of the top ten universities in the global ranking are UK universities (World University Ranking 2015–2016 - Times Higher Education). The UK ranked first among the G8 for overall research quality, according to the results of FWCI (Field-Weighted Citation Impact) in 2012.

With such a long-standing academic tradition, the UK is famous for its rigorous quality assurance standards and academic integrity. Additionally, the UK ranks second for largest international student population in the world, indicative of its appeal around the world (The Guardian, 2014).

Internationalising higher education is an important strategy of the UK. It is strongly supported by the government to maintain

the global influence of the UK as well as its international competitiveness. This strategy is implemented through such examples as expanding research cooperation, strengthening cross-border training, promoting faculty and student exchange, scholarship programs, and building relationships with industries aimed at fostering innovation and entrepreneurship.

Vietnam is one of the UK's priority countries for partnership and support. In Vietnam, the UK ranks third in the number of transnational education programs (Ministry of Education and Training, 2017). Through British Council, the UK government has launched activities to support Vietnam higher education reform agenda through implementing a number of programmes such as the higher education partnership fund, university management and leadership training and quality assurance. Regarding scientific research, the UK government has been committed to supporting the development of research and innovation for Vietnam through the Newton Fund, with the total investment of £19 million starting in 2014 and lasting until 2021.

II. The projects

1. General information

During the period of 2013–2016, 26 collaborative projects between Vietnamese universities and UK partner universities received grants from the HEP and other similar funds, with a total grant of over £380,000 from the British Council. The total budget for these collaborative projects, including matching funds from partners, was more than £770,000, equivalent to approximately VND22 billion. The projects involved both public and private universities in many parts of Vietnam, which reflects British Council's policies in equality, diversity, and inclusion.

The projects had participation from different types of organisations (e.g. ministries, ministerial-level agencies, businesses, etc.), proving that the partnerships between Vietnam and UK universities are developing more depth and sustainability. These organisations provided consultation and expertise, connecting and brokering for mutually-beneficial relationships, all of which played an important role in extending the influence and impact of the projects.

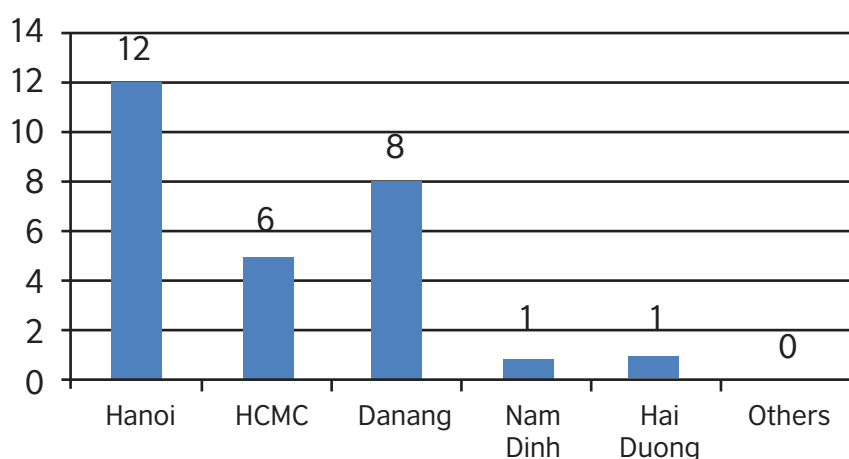


Table 1: Numbers and locations of HEP projects

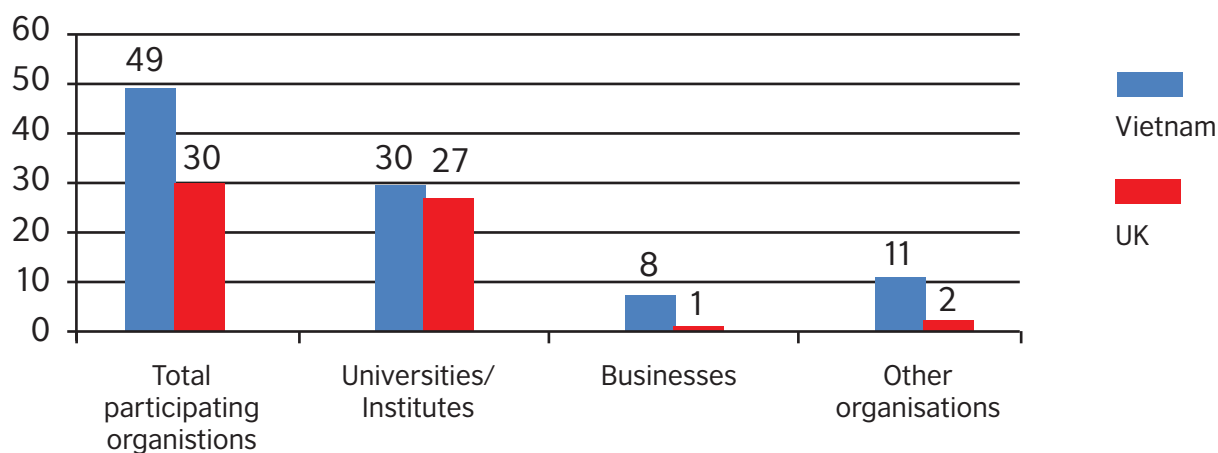


Table 2: Number of participating organisations in HEP projects

2. Content of the projects

Fields of cooperation

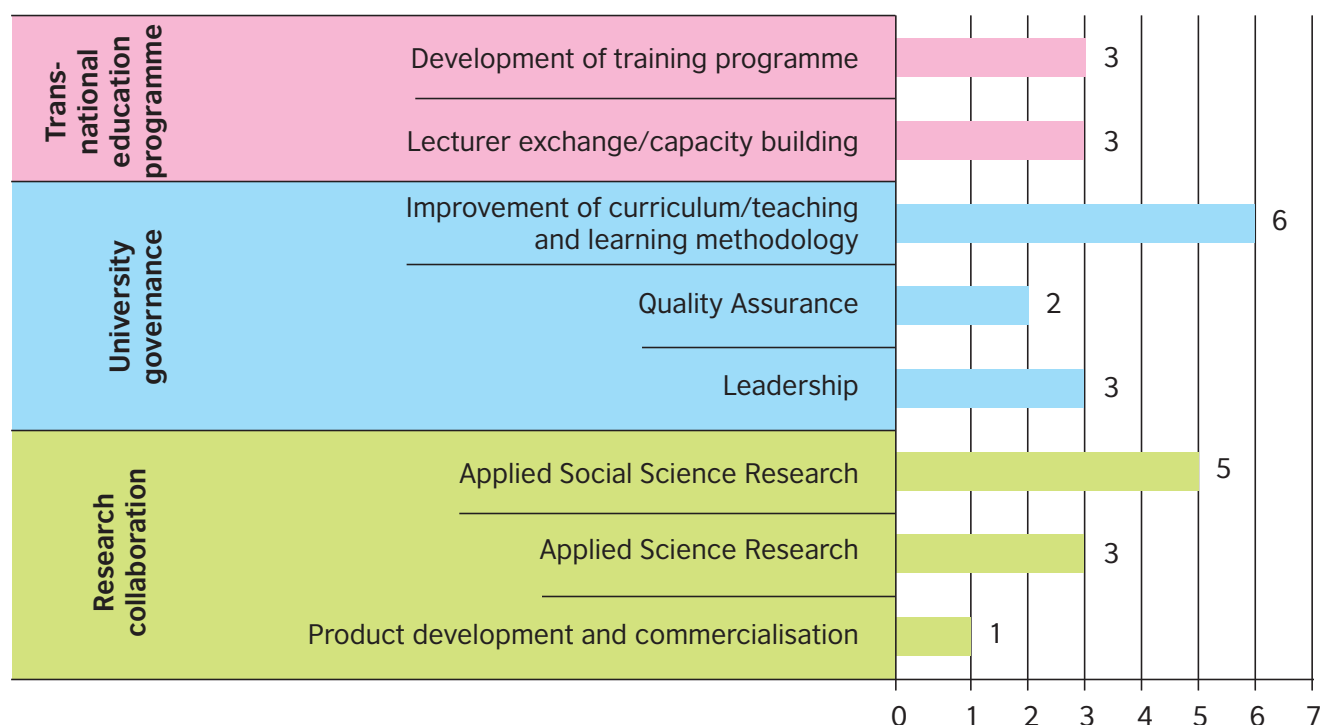


Table 3: Fields of cooperation in HEP projects

Fields of study

HEP projects covered many different fields of study, including science, technology and social sciences such as Electrochemical, Biomedical, Civil Engineering, Information Technology, Logistics, Tourism, Law, Geospatial Science, Accounting Management, amongst others.

3. Evaluation of the projects' achievements

3.1 For Vietnam

The projects have contributed positively to **the development of individual capacity, research capacity, communication, multicultural understandings, and professional knowledge in the universities**. Another remarkable achievement was the development of the entrepreneurial mindset, the capacity to capture and identify opportunities in research, innovation and real-life application of research.

Diverse partners and interdisciplinary research: a typical case representing this is the 'integrated bio-refinery for high value curcuma longa production' project by the Institute of Chemistry, Vietnam Academy of Science and Technology. Led by the Institute of Chemistry, this collaborative research and manufacturing project, including knowledge transfer and connectivity, successfully integrated the utilisation of technology, experts, equipment, and wholesale trade; it was made possible by local businesses supplying raw materials, and ten UK organisations provided knowledge and technological support for product development, quality assurance,

biodiversity conservation and sustainable development.

High-tech product development cooperation: the International Training Institute for Materials Science (ITIMS) of the Hanoi University of Science and Technology (HUST) cooperated with 17 domestic partners and four partners from the UK. They successfully implemented three case studies that integrated the shared knowledge and experience from the UK's partners into Vietnam's practical needs and development issues, with the potential of promising start-ups.

Academically, **several projects had joint scientific articles published in peer-reviewed international journals or monographic books or chapters**. Some samples are:

New Tech Research Group, Institute of Research and Hi-tech Development, Duy Tan University (DTU) launched a project about energy saving in electronics and telecommunications with their partner being Associate Professor Duong Quang Trung from Queen's University Belfast.



Institute of Chemistry, HUST, hosted a research project on wastewater treatment, partnered with Professor Sudipta Roy from Strathclyde University.

As the results and research methodologies of the two aforementioned projects have been evaluated and approved by competent professionals in the industry, this confirms that both projects resulted in clear improvements regarding the research capacity of experts from the participating universities.

It should be noted that some other projects aimed at **improving the university's performance**. Two typical cases are as follows:

Vietnam-UK Institute for Research and Executive Education (VN-UK IREE) undertook four projects in preparation for the establishment of the Vietnam-UK University. The projects are: the UK-ASEAN Research hub with the goal of developing a core research team; research on university governing board intended to prepare for university governance; educational quality assurance for research degrees; and setting up an entrepreneurship

hub which will develop relationships with local businesses to integrate entrepreneurial training with practice.

Danang University of Economics conducted two projects about university governance and curriculum evaluation to prepare for important reforms before transforming into autonomous status.

In teaching and learning, many projects achieved outstanding results **with specific products and outcomes**, for instance:

The Capstone Project had the goal of improving the graduation projects of the final year engineering students by solving practical problems of businesses. While working on such projects, students practiced various soft skills in conjunction with their acquired specialist knowledge in order to solve problems related to human relations and practical mechanisms. As a result, students received opportunities to develop relationships with the industry and increase their employment prospects. This knowledge transfer project resulted in the creation of a new training process/procedure that can directly affect the training method, training quality and



adaptability of students from technology universities of Vietnam. The project also strengthened the university–industry relationship.

The National University of Civil Engineering conducted a project with two UK partners, Loughborough University and Queen's Belfast University. The project's most important product was the updating of four key majors at the university: architecture, planning, civil engineering, and environmental science. In order to focus these studies on the practical needs of the world of work, the programmes were revised based on interviews with approximately 200 people including 20 ministerial managers, 80 lecturers and students, along with 100 individuals from different companies.

An important objective of HEP is to **connect universities of Vietnam and the UK**. In this regards, all projects within HEP gained remarkable achievements in developing partnerships between both countries.

The case of the University of Education (UE), VNU Hanoi: in 2015, HEP supported the first project on quality assurance of higher education, which was published as the Education Annual Report of 2015. UE then received another grant for their research on internationalisation of higher education with the University of Hull as the partner. Prior to the two above projects, relationships between UE and their international partners had been mainly based on personal contacts. Although there had been a signed memorandum between two international partners, no specific cooperation was implemented. The two above mentioned projects were international cooperation activities that generated tangible

outcomes and a strengthening of their partnership with UK's institutions. These two projects, funded by the British Council, had positive results in developing international relations, and currently UE has expanded to now have five projects in cooperation with the UK.

Another ongoing case showing the connectivity as an outcome is the project being conducted by Nguyen Tat Thanh University (NTTU) under partnership with Birmingham City University (BCU), UK. The project aims at developing student centred approaches in respect of teaching, learning and leadership. It is expected that the approach will impact positively upon student learning outcomes and employability. This project was initiated based on the previous relationships of the two universities; however, the implementation process has enabled the participants (from the faculties of Pharmacy and Nursing, NTTU) to systematically access BCU's knowledge and experience so that NTTU could carry out several improvements such as evaluating student internships, or surveying students' feedback on the internship. Through the project's implementation, BCU professors have been able to better understand the practical situation, and have worked directly with the lecturers and students, thus having a more comprehensive picture of the current context of Vietnam. Thanks to the positive results of the first phase, BCU was approved to receive a grant for the second phase, with expansion to two more universities, namely UE and Ho Chi Minh City University of Education.

3.2. For the UK

With various internal dynamics in the universities' internationalisation strategies, **promoting internationalisation is the UK's consistent policy** as it is essential to maintain competitiveness in a globalised world; HEP is well-received by UK universities as a bridge to accomplish partnerships with Vietnam. Most of the projects they participated in within the HEP fund were about knowledge transfer. The results of these projects from the perspective of the UK partners were considerably positive.

The UK universities stated that their participation in these projects is **to implement their internationalisation strategy, which focused on building new partnerships that support the university missions to teaching, research and knowledge transfer**. UK's institutions also shared common interests with Vietnamese partners in various types of cross-border education. The University of Kent was particularly satisfied with the projects' achievements, especially in terms of capacity building where lecturers engaged in the projects have made considerable progress.



Despite the small scale and limited funding of the projects, UK universities considered **these initiatives as the solid foundation for partnership.**

Kingston University was a typical case. In spite of financial difficulties from both partners and personnel changes midway through, their partnership continued to develop sustainably with a possibility to co-apply for an Erasmus Mundus funding, which may result in more visits from Kingston University lecturers to the University of Transport HCMC, and enhance the quality of teaching and learning.

In the project with Nam Dinh University of Nursing, Hanoi Medical University, and the University Medical Center HCMC, BCU, the UK partner, described their Vietnamese counterparts as 'extremely reliable'. These universities have been making efforts to develop modules delivered in English so that BCU can send their students to Vietnam to facilitate student exchange.

Professor Alex Kendall from BCU, project leader of two of the 26 HEP projects, said that she was really pleased with how the work evolved though the partnership between BCU and Vietnamese universities in this early stage of development. She stated:



“ Given that the partnership between our institutions was in an early stage of development at the outset of the project we were really pleased with how the work evolved. Our partners in Vietnam were pro-active, engaged and willing to share their own expertise as well as to learn from ours. We were surprised to find that despite the significant context and cultural differences between the UK and Vietnam the joint project team was very outcomes focused and worked very efficiently and effectively together. The project was delivered within agreed milestones and to budget.”

Professor Fiona Lacey from Aston University, in the project 'Sharing best practice in University governance and developing quality assurance procedures for research degrees' with VN-UK IREE, commented that:

“ The outcomes were very positive: the project identified the issues which limits doctoral training capacity in VN, and was able to identify (from UK practice) how changes could be made. Some of the barriers identified are difficult to change quickly, but there have been good first steps from the University of Danang, and the open discussion of governance issues does suggest a way forward can be found. ”



The project implementation enables UK universities to get involved in the daily operation of Vietnamese universities/institutes and increasing exchange and connectivity with Vietnamese colleagues. As a result, the participating professors obtained a better understanding of all aspects about Vietnam context including politics, economy, culture and education. These practical experiences enriched UK academics' knowledge of Vietnam, an indispensable condition to accomplish the internationalisation objective. The positive signal from these projects was that many projects resulted in long-term relationships afterwards.

3.3. HEP contributions to Vietnam higher education reform agenda

The projects yielded **tangible outcomes**, including scientific papers, commercially viable results, innovative solutions, and newly-established or improved training programmes. Typical examples were the curcuma longa product of the Institute of Chemistry, energy saving products in telecommunications of DTU, wastewater treatment solutions of HUST, to name but a few. The projects also achieved **intangible outcomes** such as newly formed networks between educational institutions and businesses, or changes in experience, skills, and perceptions of the participants after a training course, workshop, or project implementation, etc. Whether the result is tangible or intangible, HEP projects helped to realise several innovative and pioneering initiatives.

Some **knowledge transfer projects** realised new ideas in a Vietnamese context such as in the case of the aforementioned Capstone Project. These ideas, when successfully implemented at a university level, have a positive impact on the development of the university, and subsequently on the higher education system.

A number of research projects have the potential for **positive impacts on policy making processes**, such as the research on quality assurance for research degree programmes conducted by Aston University and VN-UK IREE, or the project hosted by Glasgow University, and UE and Vietnam Institute of Educational Sciences.

In addition to tangible, measurable results, the most obvious impact of the

projects is **changing the perceptions and capacities** of project participants and beneficiaries, as knowledge transfer was the most common component of the projects. Among those changes, entrepreneurship is seen as the most significant as it promotes sustainability and creates motivations for seeking or creating opportunities for changes.

3.4. Recommendations

Almost all participating institutions from both Vietnam and the UK greatly appreciated the opportunity for the strengthening of international partnerships provided by HEP projects. However, the outcomes might vary on a case-by-case basis, as it depends on how individual institutions maximised the opportunities, and on project team's capabilities, commitment and connectivity.

The projects would be more effective and convincing if the project teams actively measured and evaluated the impacts on recipients and beneficiaries.

Most projects did not pay much attention to communication to the general public to maximise social impact. Research projects that could potentially bring positive impacts to the state policy making would have been more influential if the communication between stakeholders was better implemented.

It is not possible to maximise the impact of knowledge transfer at a national level if it is separate from policy reforms in the context of both the system and the university level.

In order to bring changes from awareness into action, the universities will need appropriate policy infrastructure, which in many schools is not available yet.

4. Case studies and lessons learnt

In some cases, success, experience and problems encountered during the project time could imply significant and remarkable lessons. Two distinctive cases are as follows:

- Capstone project, implemented by three universities in Vietnam: Ho Chi Minh City University of Technology and Education (HCMC UTE), Danang University of Technology (DUT), Hanoi University of Science and Technology (HUST), in partnership with Newcastle University
- the project 'HAPIE - Enhancements of High-Quality Human Resources and Employability for Vietnam in Design and Development of High-value Added Products, Innovation and Entrepreneurship' led by the International Training Institute for

Materials Science (ITIMS), HUST in partnership with 17 domestic partners and four UK partners (Greenwich University, Cardiff University, London South Bank University, and Newcastle University).

The commonalities of these two projects are:

- having specific objectives and bringing concrete and meaningful results to the project implementing institutions
- being interdisciplinary, and formed from a network of many organisations and individuals in various fields
- showing entrepreneurship, creativity and prospects of further development in the future.



Capstone Project

Project implementers: Danang University of Technology (DUT), Ho Chi Minh City University of Technology and Education (HCMC UTE), Hanoi University of Science and Technology (HUST), and Newcastle University

Project content

The Capstone Project was a graduation project of the final year engineering students that aimed at solving practical problems of businesses/industries. This was done through the collaboration between the university and businesses in providing orientation/formulation co-supervision and co-evaluation for the students' graduation projects.

The Capstone project aimed at solving the real problems of businesses on bridging the gap between formal and experience-based knowledge – i.e. combining the theoretical expertise acquired at university and the specialist/technician/expert from the practitioners in the industries.

As mentioned above, the Capstone project created excellent opportunities for students to practice knowledge and skills needed for the real world, and establishing relationships with businesses, therefore increasing their employability.

The objectives of project was the successfully adoption of a new training model that could directly affect the training method, training quality and adaptability of students from Vietnamese technology universities, and the strengthening of relationships between the university and industry.

The project implementation process involved surveys with businesses, experience exchange among the three Vietnamese universities, as well as expertise and experience sharing through workshops hosted by the UK partner.

The project results

Most data on the implementation process was provided by DUT (2014–2015). There were 21 students of the Information and Technology Program of the university's Center of Excellence, which implemented the Capstone project. Nine of them conducted four graduation projects at Bosch Vietnam Co., six of them conducted two projects at eSilicon Company, two worked on one project at Viettel Network Corporation, two worked on one project at Van Thanh Company, and the other two worked on one project at the Central Power Corporation.

The Capstone projects of nine students conducted at Bosch Vietnam Co. focused on software development and application. Bosch highly appreciated these projects, and all students in this group were awarded marks of Distinction and High Distinction for their products. The evaluation panel comprised by faculty members of DUT and experts working for Bosch, assuring the objectivity of the grading process.

According to Mr. Pham Van Tuan, Director of the Center of Excellence, DUT, students who conducted the Capstone projects truly acquired the important soft skills from the projects. Their topics were close to the real demands of the world of work since they were proposed by the industries where they implemented the projects.



As for HCMC UTE, Dr Ngo Van Thuyen, Vice Rector, stated that Capstone was not a strange concept to the university. As a prestigious training provider in technology and engineering, HCMC UTE had been paying special attention to strengthening relationships with businesses and leveraging their professional capabilities, network and support in training. However, prior to the project implementation, employer engagement in students' graduation projects was not systematically performed. The knowledge transfer activities of UK partners organised by HCMC UTE helped related stakeholders, especially the lecturers, to transform their perceptions, which then resulted in a framework to guide the implementation and evaluation of Capstone projects.

Recommendations for further improvement

Changing perceptions, and enhancing knowledge and skills were just the initial steps. In order for the transferred knowledge to become tangible products, to solve specific problems, or to generate concrete advances, the support of school leaders, as well as the commitment and great effort of project team members are required.

Capstone project was based on employer engagement and expected to solve specific issues of the industries. Under the context of lacking strong relationships between universities and industries in Vietnam, it was not easy to find enough available employers who would closely engage with universities and support the implementation of Capstone projects.

Theoretically, the ideas of the Capstone project are not complicated; nonetheless, its implementation requires that universities have good relationships with businesses especially in the absence of supportive policies. It also requires students to be well-prepared so that they are capable of performing practical tasks in the current business environment. University lecturers will need to have a common voice with the practitioners, experts and technicians working for the industries. Moreover, it also requires related functional units within the university such as the Department of Academic Affairs or the Department of Finance to provide support. Therefore, in order to turn Capstone-related theories into reality and bring about better results for students, the project implementers must have a strong entrepreneurial spirit and commitment to the job.

Enhancement of High-Quality Human Resources and Employability for Vietnam in Design and Development of High-value Added Products, Innovation and Entrepreneurship' (HAPIE) project

Project implementers

The International Training Institute for Materials Science (ITIMS), HUST partnered with 17 domestic partners and four UK partners (Greenwich University, Cardiff University, London South Bank University and Newcastle University).

Project content

The main activities of the project are developing training programs, conducting workshops with UK partners, and especially carrying out mini-projects to achieve the project objectives.

The expected outcomes of the project include:

- training programmes on innovative designing, product development and start-ups
- transferring UK approach in assessment, teaching and learning to Vietnam, focusing on problem-solving teaching and learning methods, active learning and group learning
- surveying and developing UK Vietnam partnerships in knowledge transfer and internship programmes
- developing research collaboration between the UK and Vietnam.

The project led by ITIMS enjoyed the active support of experts from UK universities, including 21 partners; 15 of those provided matching funds and six provided in-kind support.

Many experts from different fields of study participated in the project, including such notable fields as Information Technology, Robotics, Mechanical Engineering, Medical Sciences, Biology, Neuroscience, from UK and Vietnam universities, as well as technology companies and hospitals.

Among 26 HEP-funded projects, this project held the record as having the largest number of participating organisations in both countries as it was implemented by partners spreading from the south to the north of Vietnam; and being an outstanding project in interdisciplinary and cooperation by various sources of human resources both domestically and internationally.

Some may be surprised at the involvement of experts from the Water Resources University (WRU), as this university initially may appear irrelevant to the backgrounds of the other fields the mini-projects focused on (information technology, robotics, medical sciences, etc.); however, the project members explained they were included to calculate and digitalise the flow and pressure of blood flow in the

vascular system. WRU experts might not have medical-related experience, but they were experts in calculating these variables in an open/fixed system with obvious transfer value to the study of blood flow/pressure.

The research team wisely mobilised experts from seemingly unrelated fields to share their expertise over the problem.

Project results

Compared with projects which had similar subjects such as international curriculum development, knowledge transfer and application of the UK's assessment, teaching and learning methods to Vietnam's context, this project was distinctive as its approaches were not just seminars or lectures, but delivered through three specific mini-projects.

The first project created prosthetic arms for an ethnic minority student who had lost both arms in an accident at the age of 15. The research team examined the student's needs for the most essential functions of the arms that he wanted (dragging a computer mouse, holding a cup, using a pen, etc.), then designed two robotic arms with those functions.

The second project measured and calculated the size of a missing piece of bone in the right jaw of the patient, then used a 3D printing technique to accurately print the missing bone sample for surgeons to exactly plan and transplant the missing bone. This technique helped shorten the surgery from 12 hours to only nine hours and was successfully performed at 108 Hospital on 24 March 2017.





The third project designed and developed a 3D printing technique for problem-based learning and teaching. To carry out this mini-project, the team utilised a systematic approach including such steps as conducting a market analysis of the product (3D printing in the food sector), identifying market size and potentials, planning for products, then detailing the product design, before selecting and specifying the best design ideas, after developing and testing the product, building the working principles and the key functions of the product, and so on.

The results above were specific practices of creative design, product development, successful start-ups, problem-based group learning, in addition to theories acquired and transferred. This helped graduate and undergraduate students

participating in the project acquire the theories through practice rather than remain an abstract intellectual activity.

These products were voluntary-based and not profit-driven; however, technology transfer and the commercialisation of the products are very feasible in the future. This is because ITIMS's working methods were truly entrepreneurial, stemming from investigation and identification of real demands of society.

The project is not completed at this stage, however, thanks to this project, the team mastered the core methods to further develop ideas for subsequent projects, which were also entrepreneurially-focused. One project was 'Uber in Healthcare', with the goal of connecting specialists in central and local hospitals through technology.

5. Towards the future

Through the evaluation of the effectiveness of HEP projects over the past years, the research team and British Council made a number of recommendations for higher education cooperation between Vietnam and the UK as follows:

5.1. Be systematic, long-term, strategic and sustainable

Future project proposals should consider HEP as a ‘seed grant’, an initial support for the implementers to start the long journey ahead. This requires project teams to have vision, to link project activities to the universities’ overall strategy, and to apply this overall strategy to the overall picture of the whole system.

The projects also need support and strong commitment from university leaders so that university-level policies and mechanisms can support both implementation and application to the regular operation of the universities.

In order to maximise the effectiveness of the system, projects should be interdisciplinary, requiring the coordination of experts from various disciplines, demonstrating the ability to mobilise multi-sector resources, having experts/ organisations who have previous experience about the research subjects, and a long-term research strategy.

One of the HEP’s major focuses is to connect universities with industries from both countries with an emphasis on innovation, creativity and entrepreneurship. Vietnamese universities should use the opportunity to connect with UK experts and universities/institutes not only to run

projects but also to explore potential prospects. The projects’ success should be explored beyond immediate products or outcomes, but more importantly, to obtain active and sustainable partnerships. Strong partnerships will bring more opportunities and possibilities for closer cooperations in the future.

Last but not least, in order to enhance project impacts, especially to ensure sustainability and realisation of innovative ideas, research proposals should explore the possibilities of having impact on policies at a system level.





5.2. Evaluation of projects' results

The project team should proactively introduce a number of assessment tools to measure the results and impacts of each project. In terms of evaluating tools for efficiency, the implementers should pay attention to long-term goals rather than focusing on short-term measurements such as the number of participants in workshops, number of beneficiaries, number of documents, articles, etc. as several projects will require a few years maturation before the the results will come out.

These evaluation measurements may include assessments about the impact of project outcomes on beneficiaries of the

project; surveys to examine teachers' acquisition and transformation in teaching methods after participating in the project; plans or proposals to adjust remuneration and policies related to the university system to encourage teachers to apply methods learned from UK experts.

5.3. Dissemination and communication of projects' results

The extent to which project teams publicly disseminate the results can significantly limit or reinforce the effectiveness and impact of the projects. Therefore, project proposals should focus on research results or other achievements of the projects which can be easily disseminated through diverse communication channels.

Appendix: List of HEP projects 2013–2016

(in chronological order)

No.	Project title	Vietnam partners	UK partners
1	An Integrated Biorefinery for High value Curcuma longa Products in Vietnam (2013–2018)	Vietnam Academy of Science and Technology (VAST) Institute of Chemistry, Vietnam-UK Excellent Interdisciplinary Centre for Natural Products Research (ICNaP) Union of Chemical and Environment Science and Technology (UCEST) Techbifarm	Newcastle University, School of Agriculture, Food and Rural Development (SAFRD) University of York, Centre for Novel Agricultural Products (CNAP), Biorenewable Development Centre (BDC) University of Strathclyde, Strathclyde Institute of Pharmacy and Biomedical Science (SIPBS) University of Aberdeen, Marine Biodiscovery Centre (MBC) University of Leeds, Colour and Polymer Science University of Brighton, School of Pharmacy John Innes Centre/ Institute of Food Research (JIC/IFR), Norwich Royal Kew Garden (RKG), London
2	Expert Exchange and establishment of collaborative programmes in the newly developed course on 'Naval Architecture and Ocean Engineering' of VMU	Vietnam Maritime University	University of Strathclyde, Naval Architecture and Ocean Engineering
3	Design a 'capstone project' course for last year engineering students in Vietnam	HCMC University of Technical and Education Danang University of Technology, The University of Danang Hanoi University of Science and Technology, School of Electronics and Telecommunications	Newcastle University
4	Developing market research reports on construction management – UK and Vietnam education and industry	National University of Civil Engineering, Research Centre of Construction Investment	Queens Belfast University
5	ICT for sustaining and renovating logistics services in Vietnam, a UK-Vietnam research partnership	University of Engineering and Technology, Vietnam National University, Hanoi Ho Chi Minh City University of Transport (UT-HCMC) Nippon Express Vietnam Co., Ltd (NE)	Liverpool John Moores University AIMES Grid Services CIC (AIMES)
6	Self-Powered Multimedia Wireless System: An Application to Smart Cities	Duy Tan University	Queens Belfast University

7	Development of high-efficiency Electrochemical Water Treatment and Metal Recycling for industry in ASEAN region	Hanoi University of Science and Technology, School of Chemical Engineering National University of Civil Engineering	Newcastle University, School of Chemical Engineering and Advanced Materials
8	For the sustainable development of high quality, multi-disciplinary education (advanced programs teaching in English) in Architecture and Planning, Construction, Transportation and Environment sectors to meet the UK industry's intellectual skills	Department of Technical Infrastructure, Ministry of Construction Vietnam National Architecture Institute (VIAI) Department of State Assessment of Construction work quality (SACQI) Vietnam Water Supply and Sewerage Association (VWSA) Association of Cities of Vietnam (ACVN) Vietnam Federation of Civil Engineering Association Institute of Science and Environmental Engineering (IESE)	Loughborough University Queens Belfast University
9	Internationalising higher education in Vietnam: building high quality research and teaching through sustainable strategic leadership	University of Education, Vietnam National University Hanoi University of Education, The University of Danang	University of Hull
10	An evaluation on the business curriculum in the UK and Vietnam and its impact on Advanced Management Accounting	University of Economics, The University of Danang	Aston University
11	The socio-economic impacts of coastal tourism: lessons from Halong Bay	University of Social Sciences and Humanities, Vietnam National University Hanoi	University of Kent, Kent Business School
12	Creating a prospective high-tech start-up culture in Danang – the VN-UK Hi-tech Business Hotspot	Vietnam UK Institute of Research and Executive Education, The University of Danang Danang Hi-tech Park, Management Park DATADC	Aston University
13	Setting up an Entrepreneurship Hub at VN-UK IREE to develop hightech start-ups in Vietnam using best practices and experiences from the UK	Vietnam UK Institute of Research and Executive Education, The University of Danang Danang Hi-tech Park Management Park	Aston University Birmingham Science Park
14	Improvement of research and educational capacity in geo-spatial modelling, Geographical Information System (GIS) and remote sensing	Hanoi Mining and Geology University	University of Southampton
15	Number of benefits for higher education and the teaching of employment discrimination law Kings' at VNU-Law – Enhancing our Research, Teaching and Impact	School of Law, Vietnam National University	Kings College, The University of London

16	INT-TEL - Internationalising HE pedagogy and curricula through UK-Vietnam collaboration on CPD programmes for HE teachers informed by technology-enhanced learning	HCMC University of Transport (UT-HCMC)	Kingston University London
17	Capacity building through professional development and collaborative research to enable educational reform implementation in Vietnam	University of Education, Vietnam National University Hanoi Vietnam Institute of Educational Sciences (VNIES)	University of Glasgow, Robert Owen Centre, School of Education
18	Improving employability outcomes through student-centred approaches to learning A collaborative approach to the development of academic effectiveness through student centred approaches in respect of teaching, learning and leadership, and the consequent impact upon student outcomes and employability.	Nguyen Tat Thanh University	Birmingham City University
19	Sharing best practice in University governance and developing quality assurance procedures for research degrees	Vietnam UK Institute of Research and Executive Education, The University of Danang Department of Quality Assurance (QA), The University of Danang	Aston University
20	Enhancements of High-Quality Human Resources and Employability for Vietnam in design and development of high-values added products, Innovation and Entrepreneurship	International Training Institute for Materials Science (ITIMS), Hanoi University of Science and Technology (HUST) Saigon Hi-Tech Park International University, National University Ho Chi Minh City Hung Yen University of Technology and Education Le Quy Don Technical University Thuy Loi University Nha Trang University Advanced Industry and Education Equipment DongTam Engineering Bach Tung Mechanics Co., LTD Vietnam National University Hanoi HCM University of Medicine and Pharmacy, University Hospital Military Central Hospital 108 Fostering Innovation through Research, Science and Technology (FIRST) National Technology Innovation Fund, Ministry of Science and Technology (NATIF) 3C Machinery Co., LTD Khoa Thuong Co., LTD	University of Greenwich (UK) Cardiff University (UK) London South Bank University (UK) Newcastle University (UK)
21	A study of the governing boards in Vietnam Higher Education Institutions	Vietnam UK Institute of Research and Executive Education, The University of Danang	University of Southampton University of Essex

22	Internationalising Education for Greater Employability' Developing a Dual Degree between the University of Nottingham and Vietnam National University in Hanoi	University of Social Sciences and Humanities, Vietnam National University in Hanoi	University of Nottingham
23	The development of a sustainable partnership to facilitate the development of evidence based generalist, specialist and advanced nursing practice.	Nam Dinh University of Nursing Hanoi Medical University University Medical Centre, Ho Chi Minh City University of Medicine and Pharmacy	Birmingham City University
24	Laying the right building blocks to achieve the effectiveness and sustainability of university governance	University of Economics, The University of Danang	Heriot Watt University
25	A comparative study of Quality Assurance Processes for Higher Education: UK and Vietnam	Vietnam - UK Institute for Research and Executive Education, The University of Danang	University of Southampton
26	A collaborative approach to the development of academic effectiveness through student centred approaches in respect of teaching, learning and leadership, and the consequent impact upon student outcomes and employability	Ho Chi Minh City of University of Education Nguyen Tat Thanh University University of Education, Vietnam National University Hanoi	Birmingham City University

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