

# Comparative cooperative education: Evaluating Thai models on work-integrated learning, using the German Duale Hochschule Baden-Wuerttemberg model as a benchmark

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The role of industry in the higher education system is becoming more prevalent, as universities integrate a practical element into their curricula. However, the level of development of cooperative education and work-integrated learning varies from country to country. In Germany, cooperative education and work-integrated learning has a long tradition, due to vocational institutions having strong links with industry. In contrast, the work-integrated study models in Asia, such as in Thailand, offer limited levels of practical experience, as part of the higher education curricula. In addition, Thailand continues to experience a lack of skilled graduates, who are exposed to work-integrated learning during their studies. The study on which this paper is based seeks to benchmark study models in Thailand, against the German Duale Hochschule Baden-Wuerttemberg (DHBW) study model, in order to identify development opportunities in the Thai model, focusing on the aim of meeting the needs of industry. The Office of Higher Education Commission in Thailand hopes to address the inherent issues, through implementing the recommendations made in this paper. (*Asia-Pacific Journal of Cooperative Education*, 2016, 17(3), 227-247)

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The Office of the Higher Education Commission (OHEC) oversees the development of higher education in Thailand. The role of cooperative education in the higher education system is assuming ever greater importance, due to the accrued benefits perceived by both public and private sector employers. The OHEC is responsible for developing this model of education in a sustainable way, which meets the skill requirements of industry and government. It is believed that by facilitating cooperation between institutions of higher education, who offer a work-integrated learning element to their range of courses, their sponsoring companies and the students themselves, the overall educational offering will be greatly improved, resulting in benefits for Thai society and the economy in general (Thailand-European Union Policy Dialogues Support Facility, 2015). It will also tackle the issue of industry establishing their own private forms of higher education institution, which are difficult for the OHEC to regulate.

Cooperative education and work-integrated learning in higher education in Germany, on the other hand, has a long tradition. The established models of study, offered by the universities of applied sciences and the former 'Berufsakademie', the forerunner of the Duale Hochschule Baden Wuerttemberg (DHBW), provide undergraduates with a blend of theory and practical experience. Critical to its success is the commitment from industry, who provide the practical element as sponsoring companies. Previous studies have sought to analyze the degree to which the German DHBW model can be replicated in Eastern countries, in particular Indonesia and India (Reinhard, 2006). It was found that there was much scope for elements of the German model to be transferred and implemented in Asia. A more recent study, comparing the DHBW in Germany with higher education institutions in South Africa and Namibia, resulted in a greater level of insight, as to which features of the DHBW model

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could be implemented in the African continent (Reinhard, Townsend, Pop, & Pogrzeba, 2016).

In this paper, an outline of the development of cooperative education and work-integrated learning in Germany and Thailand will be presented, which includes introductory information on the three principal universities of this study, the Baden-Wuerttemberg Cooperative State University in Germany (DHBW) in Germany, Walailak University, and Suranaree University of Technology (both in Thailand). The work-integrated learning models of the two Thai universities will be benchmarked against the DHBW model, which serves as a form of benchmark of internationally recognized criteria. Recommendations to further develop the Thai models will be articulated.

The authors will begin by presenting the background of cooperative education and work-integrated learning in Germany and Thailand. The relevant literature, pertaining to the study will then be set out, in terms of the terminology used, the differing models of cooperative education and work-integrated learning, and intercultural benchmarking. The methodology and framework of the study will be explained. The following results, discussion points, recommendations, and conclusions emanating from the study are structured according to the benchmark criteria.

## BACKGROUND TO COOPERATIVE EDUCATION AND WORK-INTEGRATED LEARNING IN GERMANY AND THAILAND

### *Germany*

The 1970s saw a period of sustained economic growth in the German state of Baden-Wuerttemberg. One limiting factor of this decade was the shortage of skilled graduates to serve the needs of the growing industries. The traditional universities were fully subscribed, leaving a gap for those individuals wishing to study in higher education, who had not been able to gain a university place. In addition, there existed a gap between the requirements of industry and the existing university curriculum, in that there was an emphasis on academic and not professional skills.

The state of Baden-Wuerttemberg in conjunction with three major homegrown companies, Daimler-Benz, Bosch and SEL, set about establishing a mode of higher education, which combined academic study with practical experience. The Baden-Wuerttemberg Cooperative State University, known in German as the Duale Hochschule Baden-Wuerttemberg (DHBW), was established in 1974, out of this collaboration between state and industry.

In 2009, the state of Baden-Wuerttemberg signaled a change in legal status of the state-run DHBW, from a polytechnic to a university. This allowed the various locations of the DHBW to be united under a common structure, similar to the American university system. The change in structure allowed the strengths of the system to be more widely leveraged, while protecting the local nature of the individual locations, with respect to their relationship with local industry (DHBW, 2011). The DHBW currently has partnerships with over 10,000 companies and offers study places in twelve locations.

### *Thailand*

The infrastructure already exists, to enable further development of cooperative education in Thailand. Albeit offering principally short duration practical experiences, over 100 Thai universities offer some form of cooperative education to their undergraduates. This is

underpinned by the active cooperation of over 13,000 sponsoring companies. Furthermore, the cooperative education system is divided into nine regional Cooperative Education Networks, who work with the institutions and industry in their respective regions to enhance the profile of cooperative education as a best practice model.

The internationalization of cooperative education in Thailand is somewhat less developed, with under 20% of the universities of cooperative education offering their students the opportunity to spend a period of study or work abroad. The Office of the Higher Education Commission aims to support the process of internationalization, by fostering international partnerships between Thai and non-Thai universities, to encourage the international mobility of academic staff and students alike, in addition to creating opportunities for Thai students to work abroad.

*a. Suranaree University of Technology*

Suranaree University of Technology was the first university in Thailand to incorporate compulsory cooperative education into its curriculum in 1993. This was an extension of the summer training programs offered to students and involves the students undertaking a work term at a sponsoring firm.

Taking into account the importance of both industry and academic input to the cooperative education curriculum, representatives of Thai industry and commerce, as well as academic staff were invited to promote collaboration between the university and private and publication organizations.

The nature of the practical experience mirrors the individual experience method, whereby students can either spend a minimal period of sixteen weeks at a company during the third term of their third study year or during any term in their fourth year.

Additional work terms are also encouraged, for students who wish to gain more experience. The work is full-time, has defined goals and is remunerated (Sirijeerachai, 2009).

*b. Walailak University*

The tourism and hospitality industry program at the Walailak Management School places great importance on the role of industry, such as hotels, resorts and travel and tour companies, in shaping the experience of their students.

This was achieved in 2013 through the incorporation of work-based learning projects into the curriculum, where industry sponsors work with academic staff from the university to impart the up-to-date and industry relevant skills and experience in the tourism industry. The nature of the practical experience in the second year mirrors the parallel method, in that the activities are part practical, part academic. Work-based learning projects are also a component of the third study year, in addition to three paid cooperative education trimesters, in the third and fourth study years, where the students work full-time at their sponsoring companies. This element of the program mirrors the alternate method of cooperative education, whereby students spend part of their time exclusively at their sponsoring firm and part of their time at the university (Pinpetch & Baum, 2009; Walailak University, 2013).

## RELEVANT LITERATURE REVIEW

### *Terminology of Cooperative Education and Work-Integrated Learning*

A review of available literature on the definition of cooperative education and work-integrated learning shows that a wide variety of terms are used, in addition to those in use in the Thai education sector, only some of which have the same or similar meaning.

Cooperative education and work-integrated learning can also be referred to as cognitive apprenticeships, traineeships, workplace learning, joint industry courses, pre-course experience, fieldwork, industrial placements, job-shadowing, professional practice to support a professional qualification, traditional sandwich courses, specific skills training in particular professions, co-operative programs, post-course internships, the theoretical application of practical experience in part-time professional courses and employer- or employment-based schemes, such as learnerships (Engel-Hills, Garraway, Jacobs, Volbrecht, & Winberg, 2010; Martin, 1997).

Cooperative education is often used mistakenly as a synonym with the concepts of 'work-integrated learning' (WIL) or 'experiential learning', which refer to a strategy of applied learning (learning integrated with work) involving a structured educational program that combines productive relevant work experience with academic study and 'professional reflection'.

However, many authors position cooperative education as a narrow subset of work-integrated learning, which focuses more on the progressive nature of the learning experience (Groenewald, 2004). The term 'progressive' in this context refers to a student undertaking multiple placements with industry partners, whereby the application of theory and level of responsibility increases, as the student progresses through their studies. The concept of work integrated learning acts as a form of 'umbrella term', to encompass different forms of practical-based education, such as cooperative education (Patrick et al., 2008).

There is often confusion between the terms cooperative education and cooperative or group learning. The latter is a collaborative arrangement between students (Groenewald, Drysdale, Chiupka & Johnston, 2011).

The National Qualifications Framework (Thailand NQF) refers to the terms of 'dual vocational training and 'dual vocational education' within levels three and four of the framework (National Qualifications Framework, 2014). The Thailand NQF, furthermore, refers at level five to the concepts of 'workplace-based internships', 'work-integrated learning programs', 'workplace internships' and 'collaborative partnerships'.

Suranaree University of Technology, the founding university of cooperative education in Thailand, and Walailak University, among others, use terms such as 'work-based learning', 'cooperative education' and 'cooperative work-integrated education' (Srisa-an, 2014; Walailak University, 2013).

The plethora of available terms to define work-integrated learning can lead to confusion. It is important, in the Thai context, to agree on either a single or reduced set of terms, when writing on, or referring to, the subject of cooperative education. The Thai Association for Cooperative Education (TACE), established in 2011, avoids such confusion in terminology by referring only to 'cooperative education' in their literature, particularly their documentation on education standards (Thai Association For Cooperative Education, 2015).

*Models of Cooperative Education*

The model used to achieve the practical element of cooperative education can also differ. In what Zegwaard and Coll (2011) refer to as diversity, universities engaged in work-integrated learning programs have the flexibility to determine the frequency, length and timing of the practical element. The alternating model, which is common in the US, Canada and Germany, involves the students alternating throughout their studies between periods of practical full-time work at their sponsoring firms and academic semesters at their university. Also common in the three countries is a hybrid of alternating and parallel studies, where the student completes the academic element of their studies, while working part-time at their sponsoring firm. Their studies are then completed by a full-time practical period at the end of the study program. A less concrete form of practical experience is referred to as individual experience or summer only programs, where the student seeks out an employer for a specific amount of time, during their semester breaks, most common during the longer summer holidays. This model has the advantage that students can gain experience with different employers or industry branches. However, the depth of the experience for the student can be somewhat limited and there is no guarantee of gaining a placement or retaining a position after their studies (Todd & Lay, 2011).

*Cooperative Education and Work-Integrated Learning in the International Context*

The term internationalization of cooperative education is also used today not only within universities and colleges, but also by international organizations including the World Association for Cooperative Education (WACE) (Franks & Blomqvist, 2004). However, the term is used in a number of different contexts in literature, often without being precisely defined. There is also often some measure of confusion or overlap in literature with related terms such as 'international co-op programming', 'international cooperative education', 'international co-op placements', and 'globalization of cooperative education' (Coll, Pinyonathagarn, & Pramoolsook, 2003; Reeve, 2004).

Cross country cooperative project work has never been mentioned explicitly or in the literature to define the internationalization of cooperative education. In this article, the term internationalization of cooperative education is used to cover all of these various activities.

Cooperative education has a long and successful history and much research has been done about its benefits for students, sponsoring companies and academic institutions (Cullen, 2005). Students gain exposure and valuable practice in various business cultures and work environments. This provides students with a better sense of their own abilities and a keener understanding of their own learning goals and outcomes. As Fleming and Eames (2005) posit, "a student exposed to the realities of ... industry may then have a greater sense of purpose and motivation for classroom learning" (p. 30). Co-op students also gain a more realistic sense of what different companies have to offer and thus are able to make better employment choices (Ng & Burke, 2006).

Sponsoring companies gain access to a young, enthusiastic workforce, and more successful recruiting (Ng & Burke, 2006). According to Cullen (2005), some employers also experience cost benefits associated with cooperative education. Academic programs benefit from the integration of real world practice and academic learning as well as enhanced curriculum development and marketing opportunities.

Such alliances between business and academia may take on many forms, including traditional cooperative education or internships, faculty, student and/or staff exchange programs between academia and industry and many others. Elmuti, Abebe and Nicolosi (2005) argue that strategic alliances between academic researchers and product development teams have long been fostered in many institutions of higher education.

Furthermore, in a work by Coll, Pinyonattagarn and Pramoolsook (2003) exploring Thai student perceptions of international placements, the authors explain that one of the primary benefits to students from international cooperative education was the improvement of their communication skills, “specifically their English language skills” (p. 3). In addition, the Thai students acknowledged a better understanding of cultural differences and how those differences can impact workplace practices. Interpersonal skills were also cited as benefiting from the international placement.

#### *Intercultural Benchmarking*

A long-standing approach to comparing study models in higher education between countries is to investigate the emic and etic criteria, specific to the cultures in question (Brislin, 1976). The approach sets out how relationships, in the form of similarities and differences, can be established between cultures (Berry, 1999). The starting point is the collection of data on emic aspects, specific to the cultures in question. This is described as an internal process, which requires those within the cultures in question to identify factors of relevance for the purposes of comparing the study models. The focus is on capturing the inner perspective (Barmeyer, 2012).

Once the emic aspects have been identified, the next step is to benchmark one study model against the other, in order to establish the etic aspects. The etic aspects are derived from an external review of study models in various cultures, using the emic aspects as a basis. The output of the process is the creation of core items or defining features, which serve to explain the nature of the relationship between the study models being compared, which would otherwise not be identified if only emic data were collected (Coll & Zegwaard, 2011). This undesirable state is referred to by Brislin (1976) as “no relationship expected”. The external nature of the etic stage of the process ensures a greater level of objectivity (Barmeyer, 2012). This is reflected in the methodologies used, as they are not so strongly linked to a particular culture, which in turn decreases the level of internal bias.

Figure 1 sets out the emic and etic aspects, adapted from Brislin’s model (1976).

Comparative research, such as the activities outlined in this study, contributes to understanding the similarities and differences between study models in higher education. Benchmarking is a subset of comparative research, being developed by industry, in response to the need to improve processes (Meffert, Burmann, & Kirchgeorg, 2012; Alstete, 1995). Alstete (1995) places emphasis on the need for institutions of higher education to affect improvements in ‘operational performance’, using data derived from benchmarking. The term benchmark can be defined as a reference point for conducting comparisons, with the aim of achieving quality improvements (Nagel & Mieke, 2014).

The concept of benchmarking fits well to the process of identifying emic and etic aspects, in that the former determines best practices internally and the latter provides a framework for external benchmark evaluation (Alstete, 1995). In the context of intercultural benchmarking,

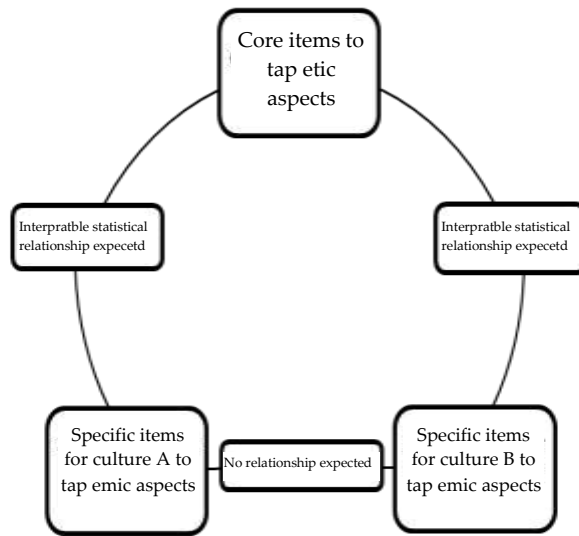


FIGURE 1: Method involving core items (ETIC) and culture specific items (EMICS)

the emic aspects provide the ground data from one study model in country A, in order to allow external benchmarking of the study model in country B. The methodology on how these concepts were applied to the study in question will be outlined in the following section.

#### METHODOLOGY

The starting point for the research methodology was to determine whether the aims of the intercultural benchmarking study could be best met using quantitative or qualitative methods or a blend of the two. Quantitative research is statistical in its nature and can be employed to test the authenticity of a theory or hypothetical question. Qualitative methods, in contrast, can enable a comparison of non-numerical situational factors. The authors aimed to highlight, in a descriptive manner, the similar and contrasting nature of the study models offered in Thailand and Germany, through identifying emic and etic aspects. The qualitative approach was deemed, therefore, to be more suitable for producing a more complete benchmarking analysis of the different study models (Eames, 2011).

##### *Data Collection*

A blend of qualitative instruments was used for this study, such as document reviews, in-depth unstructured group interviews, a structured questionnaire and the development of case studies. The explorative nature of this blended qualitative approach allowed a multidimensional view to be created (Adamson & Morris, 2007). This allowed the cooperative study models in Thailand to be benchmarked against the German DHBW model, in the context of national politics and local culture. The need for openness and flexibility is particularly important when conducting intercultural benchmarking of study models. With this mind, a blended qualitative approach provides more scope to determine the emic and

etic aspects of the two study models, which accommodate cultural nuances, in comparison to the potentially false assumptions that can be made through analyzing quantitative data (Fairbrother, 2007).

Document reviews facilitated the process of establishing what information is currently available in written form, for example the Thai Cooperative Education Standard (TACE, 2015) and the Thai National Qualifications Framework (National Qualifications Framework, 2014). Furthermore, university policies and curriculum documents were made available for the purposes of the intercultural benchmarking study.

However, the authors found that facts stated in the available documentation did not necessarily reflect reality. It was important to check facts at every stage of the study, in order to ensure the integrity of this paper. Persistence was required to obtain certain documents, such as the TACE standards, and alternatives had to be arranged where no documentation was available or the translation from Thai to English was still work in progress.

In order to counter-balance this issue, a working group, comprising of thirty-four Thai participants, was formulated to facilitate knowledge gathering and transfer on the emic aspects of cooperative education in Thailand. Professionals and academics, working in the fields of engineering, tourism and hotel management and the agricultural industry were nominated by Office of the Higher Education Commission for the working group, to ensure that all stakeholder groups were represented and their requirements articulated. These fields of academic study were selected, to ensure a diversity of industries, where cooperative education is already implemented.

Initial meetings with the working group took the form of in-depth unstructured group interviews, where the aims of the study were explained and had the goal of capturing the different perspectives, values and approaches of the individual members. In addition, unstructured interviews took place with sponsoring companies in Thailand throughout the course of the study to identify how cooperative education can be implemented from the industry perspective and to secure their buy-in to the study. Barriers to implementation of a work-based learning environment were also articulated. Meetings with industry associations, such as the Thai Tourist Association, were also particularly useful in gaining a more holistic view of the current situation and future industry trends.

#### *Data Analysis*

The data, collected from the unstructured interviews with the working group and with industry, was systematically grouped, according to a range of parameters, based on benchmark identification with the German DHBW model of cooperative education. These parameters are referred to in this paper as benchmark criteria and represent the elements of cooperative and work-integrated learning, which are judged to be critical to the successful expansion of cooperative education in Thailand. They are also the features upon which the comparative etic element of the study was achieved (Manzon, 2007). These defining features are set out in Figure 2 and are derived from a comparative study between the DHBW Germany and higher education institutions in South Africa and Namibia (Reinhard, Townsend, Pop, & Pogrzeba, 2016).



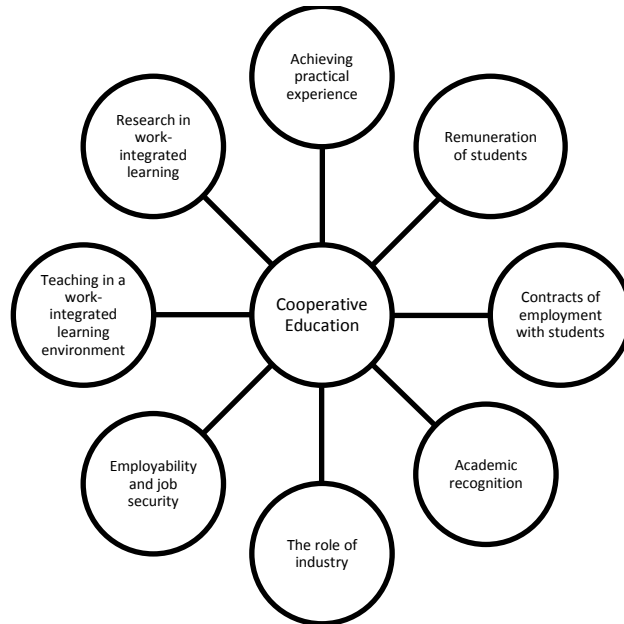


FIGURE 2: Framework of defining features of cooperative education

Developing single case studies allowed analysis of the benchmark criteria in the context of their cultural, political and educational background. There were two sources of input to the case studies. Firstly, a narrative description was formulated with the information gained through the unstructured in-depth interviews (Law, 2007). Secondly, further detail was added to the case studies through a so-called 'data matrix component', which sought to enhance the knowledge gained at the interview stage (Law, 2007). This took the form of a stakeholder group workshop, which was based on the Delphi method, with the intention of providing a more structured platform, for the benchmark analysis (Krystek & Müller-Stewens, 1993). Based on the benchmark criteria, members of the working group started an intercultural benchmarking process between the internationally recognized DHBW model and the existing Thai university models.

This was enhanced through the responses to a questionnaire, sent to a target group of sixteen universities, representing a sub-set of the institutions of cooperative education in Thailand. The questionnaire enabled the identification of further emic aspects and an etic analysis of the level to which Thai universities have developed their cooperative education offering, according to each of the benchmark criteria.

The resulting outputs from the workshop and questionnaires were documented and analyzed in support of the benchmarking process. To achieve more depth in the analysis, two Thai universities, who currently offer programs of cooperative education, from the fields of tourism and hotel management, agricultural industry and engineering, were selected.

Suranaree University was the first university in Thailand to incorporate compulsory cooperative education into its curriculum, thus is considered a forerunner in cooperative education in Thailand.

To provide a contrast, the Tourism and Hospitality Industry program at the Walailak Management School was selected due to its more recent inclusion of cooperative education in its curricula and the extent to which cooperative education is integrated into its degree program offerings.

The use of the German DHBW model was selected as a benchmark for comparison, being a university, which has fully implemented internationally recognized standards of cooperative education and work-integrated learning into all curricula.

## RESULTS OF THE BENCHMARK ANALYSIS

### *Achieving Practical Experience*

DHBW students are employed by the same sponsoring company for the duration of their studies. The acquisition of practice and theory is achieved through an alternating model of semesters at the university and the sponsoring company. The supporting curriculum seeks to link the content of the academic element to the role that is undertaken during practical semesters. The situation in Thailand varies insofar that students of cooperative education programs participate in periods of practical experience with different sponsoring companies over the course of their studies.

The Walailak Management School Tourism & Hospitality Industry Program works closely together with associations, companies, government organizations and local communities to provide cooperative education programs for its students. All the cooperative and work-based learning trimesters are supported by its partners. Students gain theoretical knowledge and work-related experience, which enables them to develop their capability from an entry to supervisor level. The experiential element is a compulsory part of their degree studies.

At the Suranaree University of Technology, students are required to work for a minimum of one trimester at a sponsoring company (16 weeks), and for a maximum of three trimesters (48 weeks), in order to graduate in their chosen program of studies. The periods of work experience are generally undertaken in the fourth and final year of their studies. Students are also required to take part in preparation courses to prepare them for their time in industry.

### *Remuneration*

DHBW students benefit financially from their chosen mode of study, as they receive a monthly salary for both practical and theory semesters.

At the Walailak University, students completing their cooperative education trimesters work predominantly in private companies (about 90%), where they receive either a monthly salary or a daily allowance. Hotels and resorts, for example, usually provide accommodation, meals, and transportation for students. However, government organizations and small companies in the tourism industry do not have budget for cooperative education programs, therefore, can offer their students no remuneration.

At Suranaree University of Technology, students work as temporary employees at their chosen workplace. The level of remuneration varies, depending on type and size of sponsoring company, although it is more than the minimum wage. The payments are referred to as compensation and not as salary, due to the temporary element of the employment. However, the students are guaranteed health and accident insurance for the duration of their practical period. Where a student undertakes a period of work experience

without regular pay, the sponsoring company is required to provide additional benefits, such as accommodation, food and transportation.

#### *Contracts of Employment*

A key difference between the DHBW study model and other less formalized modes of cooperative education is that it is the sponsoring company who recruits the students and not the university. A study place is first secured once a student has successfully met the recruitment criteria of their employing company. Recruitment criteria include both academic standards and requirements specific to the company. Once the student has been offered a contract of employment, they are able to proceed with the enrolment process at the DHBW. The contract is a standard document, provided by the DHBW.

There are no official contracts of employment between sponsoring firms and students of the Tourism and Hospitality Program of Walailak Management School. However, all sponsoring companies are required to provide a job description. Students have the freedom to choose their career paths, as well as the best available placements to complete their cooperative education trimesters. A cooperative education agreement is signed annually between the university and each sponsoring company, commencing from the first work-based learning trimester.

The situation is similar at the Suranaree University of Technology, where agreements exist only between the participating sponsoring companies and the Center for Cooperative Education and Career Development (CCECD), and not between the aforementioned sponsoring company and each individual student. However, a job description and a work plan is nonetheless developed, according to the student's academic field, which includes steps in performing tasks, presentation and evaluation schedules.

#### *Academic Recognition*

A typical university student can expect to receive 180 ECTS points (European Credit Transfer System) for their Bachelor degree. DHBW graduates accrue 210 ECTS credits, due to the practical element of their studies.

The Walailak Management School Tourism and Hospitality Program offers a Bachelor Degree in Business Administration in the Tourism Industry (B.B.A. in Tourism Industry) with a total credit of 141 credits. However, the number of credits awarded to students for their cooperative element is relatively small, at only five percent of the total credits.

The same can be said for the Suranaree University of Technology, in that only six to nine credit points are awarded to students in recognition of their cooperative education, depending on the type of program studied. On the other hand, the university offers students wishing to work in the field of cooperative education the opportunity to study cooperative education as a graduate degree program.

#### *The Role of Industry*

Sponsoring companies at the DHBW enjoy a close relationship with the university on two principal levels. Firstly, they recruit and train undergraduates enrolled at the university. Secondly, they actively participate in developing the DHBW study model to meet industry requirements in the future. Sponsoring firms are represented in nearly all decision-making bodies at the university, working with the university to produce curricula, which meet

internationally recognized standards, while providing industry with the skills it need to succeed commercially.

The DHBW model attracts companies from a wide range of industry sectors, both in private and state ownership, from a variety of locations in Germany and abroad. The size of the sponsoring company also varies from multinational corporations to small and medium-sized enterprises.

Sponsoring companies play different roles at the Walailak Management School Tourism and Hospitality Industry Program. A number of representatives from the tourism industry are involved in the curriculum evaluation and revision processes. The management and/or representatives of sponsoring companies, associations and clubs in the tourism industry are encouraged to provide feedback, discuss improvements, and engage in additional activities, both directly and indirectly, related to the cooperative education initiative. There are pre-, during and post-meetings with the top and senior management from the sponsoring companies.

Several prime sponsors from industry help support and provide facilities and services during the cooperative education trimesters, i.e., classrooms, meeting rooms, dormitory, and kitchen and restaurant facilities, in addition to performing site inspections, with the aim of maintaining uniform standards.

At the Suranaree University of Technology, sponsoring companies have an incentive to employ students for their practical semesters, due to the fact that they receive a 200% tax reduction from any expenses associated with the student (Srisa-an, 2014).

At the Suranaree University of Technology, the university sets standard criteria, which must be met by their sponsoring companies. However, representatives of Thai industry and commerce, as well as academic staff are invited to promote collaboration between Suranaree University of Technology and private and publication organizations.

#### *Employability and Job Security*

Despite the challenging economic climate in recent years, graduates of the DHBW have a very good chance of being employed by their sponsoring company after the end of their bachelor studies. The employment rate at the time of graduation stands in the almost 90%.

The newly revised curriculum of the Walailak Management School Tourism and Hospitality Industry Program was implemented in 2012. Some prime sponsoring companies in Koh Samui are offering employment opportunities for students from this program on the first day of their last trimester in cooperative education. This means that they will secure a job while still studying. In addition, most sponsoring companies are willing to offer a position at the supervisory level for students, to enable students to continue their career working at a middle management position.

Historically, employment rates after graduation at Suranaree University of Technology were low, with only 30.8% of graduates being offered a position at their sponsoring company. This was nonetheless an improvement on the years of economic crisis in Thailand, where employment rates were generally depressed (Sirijeerachai, 2009). Little is known about current employment rates for graduates of the university.

*Teaching in a Work-Integrated Learning Environment*

Teaching at the DHBW follows a blended approach, which involves input to the content from academics with industry experience and professionals with expertise in a particular element of their business. This ensures that the content remains academic in nature, while meeting the current standards required from industry. Full-time professors work alongside managers and practitioners from the sponsoring companies to deliver a curriculum, which places emphasis on viewing theory in a practical way. Research projects are often incorporated into the teaching mix, which involves input from students and academic staff in order to tackle a current issue in industry. To ensure standards, DHBW eternal lecturers are offered training on the latest teaching methods.

Full-time professors, lecturers from other universities, and highly qualified specialists from sponsoring companies, social institutions, associations and clubs in the tourism industry contribute to teaching at the Walailak Management School Tourism and Hospitality Industry Program. During the first work-based learning trimester, all students experience a twofold lecturer module – one academic from the university and another experienced manager from the tourism industry. The experienced and widely-accepted managers from industry, and their counterparts at the university, are a key part in fulfilling and bridging students' theoretical knowledge and experience. The work-based learning 'workshops' (group discussion) require both academic lecturers and experienced managers to reflect and facilitate students' learning. The venues and atmosphere for workshops have also contributed to the learning of students.

Experienced managers also take full responsibility in teaching students (i.e., Human Resource Management in Tourism course). Professionally-orientated courses, such as Western Spa and Aesthetics, and Thai and Oriental Spa, are delivered by the Samui Spa Business Association. This module integrates academic requirements and allows the professional body to teach, train and certify students' skills in a work-based environment.

The teaching model at the Suranaree University of Technology is somewhat different, in that experts from industry are only occasionally enlisted to deliver courses in their field of expertise. However, all academic staff and job supervisors, delivering courses and supervising students during their practical phases respectively, are required to have at least three years industry experience.

*The Role of Research in Work-Integrated Learning*

The DHBW actively seeks to promote research, as a means of combining the academic requirements of university studies with the practical requirements of industry. Early efforts to promote research projects between the university and industry were enabled through a sponsoring relationship between a specific sponsoring company and the university (Reinhard, Osburg & Townsend, 2008). The change to university status in 2009 enabled research activities to be formalized and integrated into the curriculum at the DHBW (Reinhard, Osburg & Townsend 2010).

Cooperative education in its present form, at the Walailak Management School Tourism and Hospitality Industry Program, commenced just three years ago. A research unit with a team of researchers and sponsoring companies was scheduled to operate, at the time of writing of this paper, by the end of 2015.

The Suranaree University of Technology has a well-established reputation for research in the field of cooperative education; however, the focus is academic and does not leverage opportunities for working with sponsoring companies to meet industry-focused research aims.

#### POINTS FOR DISCUSSION

##### *Achieving Practical Experience*

The fact that DHBW students are employed by the same sponsoring company for the duration of their studies ensures a constant relationship between the student, their sponsoring company and the DHBW.

In contrast, the Suranaree University of Technology and Walailak University provide work experience, as part of their compulsory curriculum, limited to the fields of tourism and hotel industry, engineering, and agricultural industry. Other institutes of higher education in Thailand offer at best internships, on a voluntary basis, which limits the level of practical experience gained.

In terms of the models of cooperative education used, the German and Thai examples differ in that the former offers its students an alternate study model, which enables work experience to be gained throughout the course of studies, whereas the latter tends to offer opportunities to work in industry at a later stage in a student's studies. Secondly, the German example allows students to work and develop professionally with the same employer throughout their degree course. In contrast the Thai students are free to choose a different employer for each practical period.

Additionally, the German model, used at the DHBW, places the responsibility on the sponsoring companies to select who studies at the university, whereas the Thai universities outlined in this paper select their students, based on their academic ability. These elements of alternating practical periods and fixed industry sponsors, who recruit students, based on their professional potential and personal skills have been key to the success of the DHBW, in that the absolute commitment of industry is ensured.

##### *Remuneration*

The benefit of DHBW students receiving a monthly salary means that the majority of students do not have to take on additional employment during their studies. Such students can concentrate completely on their studies.

In terms of remuneration, the majority of students at Walailak and Suranaree receive some form of payment from their industry sponsor, during the practical period, whether in the form of a regular salary, compensation, payment of living expenses or other non-financial benefits (e.g. health and accident insurance). This provides an attractive alternative route to completing studies in higher education for individuals who otherwise would be unable to afford the high costs associated with studying at a traditional university. Remuneration also ensures that the sponsoring company commits to the professional development of their students.

##### *Contracts of Employment*

The DHBW system stipulates that a contract of employment exists between the student and the sponsoring company, for the entire duration of their studies. This means that the DHBW

only becomes involved in the process once the student has been recruited by their sponsoring company. It also provides physical evidence of the commitment of the sponsoring company to their student. The fact that a standardized contract is used for all degree programs protects the integrity of the employment contract.

The requirement of contracts of employment, as a pre-requisite to study in higher education, would not be feasible in the Thai models described in this paper, as the students are currently free to choose a different employer for each practical period, in addition to the number of practical periods undertaken, as in the example of Suranaree University of Technology. The compromise for these models is that job descriptions are required, as an alternative to a contract of employment, which at least set out the parameters of the practical experience in a formal document.

However, some lodging firms in Thailand have recently indicated their intention to offer contracts of employment and management traineeships to Walailak University students in their final cooperative trimester, which enables them to continue working with their sponsoring company after graduation.

#### *Academic Recognition*

DHBW graduates have an advantage over non-DHBW graduates, when it comes to academic recognition, as they already possess the 210 ECTS points, which are often a pre-requisite to undertaking studies at the master level. This means that DHBW graduates can commence their master's studies directly after completing their bachelor, without the need to demonstrate further professional experience.

To preserve the close relationship between the DHBW and its sponsoring companies, the DHBW has offered occupational master programs since 2011, which allows professionals to continue building their career, with their sponsoring company, while they complete their studies. With the increasing trend in Germany toward master studies, it is particularly important for DHBW sponsoring companies to retain their graduates, should they wish to continue their studies at the master's level. Otherwise, the original investment and commitment in the student would be lost.

International research nonetheless has shown an historical tendency to downplay the academic level attained through cooperative education, in that higher education programs were often compared to high school studies (Du Pré, 2010). Heinemann (1988) reported widespread academic cynicism that questioned whether practical experience was comparable with the high standards of the traditional universities.

The growth and success of work-integrated learning has shown that this cynicism has been overcome. Graduates from universities of cooperative education benefit from their practical experience and are, therefore, considered to be more attractive on the job market. The number of companies willing to invest in work-integrated learning has increased, providing undergraduates with more opportunities to combine their bachelor studies with practical, paid employment, instead of choosing the traditional university route.

This improved reputation can be seen in the case of Walailak University, where the intensive nature of the practical experience is seen as essential for graduates, as most tourism firms have always considered 'professional experience' above other criteria, when promoting someone to the supervisor or managerial level. The accumulated professional experience is

also supportive for any students pursuing to continue their education at the postgraduate level.

The principal difference between the three study models is the way in which the cooperative element is recognized. The number of credits allocated to the practical experience gained by students is much higher in the case of the DHBW, when compared to the two Thai universities considered in this paper. The current Office of the Higher Education Commission standards do not provide any flexibility for an increase in the credits allocated in the work-integrated learning curriculum. This leaves the Thai universities with few opportunities to raise the standing of the practical element.

#### *The Role of Industry*

The role of industry at the DHBW is critical to the success of this study model, as the resulting curricula meet the expectations of industry, while adhering to internationally defined standards for university education. Walailak University also recognizes the importance of the role of industry by actively seeking the input of industry in evaluating and revising their curricula. There appears to be little input from industry in formulating the curricula at the Suranaree University of Technology. However, the collaboration, which takes place between Suranaree and Thai industry and commerce, is a step in the right direction. The practice of offering tax reductions to industry in return for taking on Suranaree students is not seen by the authors to be a positive trend in encouraging cooperative education. It reinforces the image that undergraduates are a cheap form of labor, rather than a value-adding human resource.

#### *Employability and Job Security*

Graduates emerging from cooperative education programs tend to be viewed as more employable than traditional university graduates, due to the practical element of their studies and their overall readiness to commence their careers. However, due to DHBW students having the same sponsoring firm throughout their studies, they have a greater degree of job security on graduation than their Thai counterparts, who generally have to seek employment on graduation. Some Thai employers do nonetheless recognize the value of employing a student with whom they have already collaborated during the course of their studies.

The fact that students from the two Thai universities have developed relationships with different sponsoring firms during the course of their studies nonetheless gives them an advantage on graduates, who do not complete cooperative education programs. Graduates of the two Thai universities also have a greater degree of certainty over the field of industry in which they want to have their career, due to the breadth of their practical experiences.

#### *Teaching in a Work-Integrated Learning Environment*

The DHBW places great emphasis on the importance of external industry experts delivering theoretical content in a practical, innovative and modern way. This blended approach of both content delivery from industry and professors achieves the aim of ensuring a dovetailing of current industry developments, coupled with the underpinning theories and frameworks. The experience of work-based learning projects at the Walailak University, where lecturers work with a sponsor from industry, also shows the benefit of implementing a mix of teaching from industry and academia. External input to teaching at the Suranaree



University of Technology is limited, albeit a good starting point for further external teaching assignments.

What is seen as important for all three study models is that external lecturers have the required level of industry experience, in combination with the necessary pedagogical knowledge. Likewise, university professors require a certain level of industry experience, in order to convey the theoretical content.

#### *The Role of Research in Work-Integrated Learning*

Research in a cooperative education environment can draw on the academic expertise of the university, the professional expertise of the participating sponsor companies and the innovative thinking of the students.

Implementing research activities has a mutually beneficial result for both industry and students. Research outputs have a concrete impact on the strategies, products and services of the participating sponsoring companies. The benefit for the students is that they see the direct link between the academic content and its practical applications. The university and students gain access to company resources, while the sponsoring company benefits from the input of academic staff and students, in order to resolve a company-specific problem.

## RECOMMENDATIONS AND CONCLUSIONS

### *Achieving Practical Experience*

It is recommended that the Thai Office of Higher Education (OHEC) should centrally set the level of work-integrated learning, which should be offered by universities of cooperative education. This should include provision for more frequent opportunities to gain practical experience throughout the course of studies and not limited to the final year.

Acknowledging the difficulty in Thailand in securing a sufficient number of sponsoring companies to commit to a student for the duration of their studies, a compromise arrangement should be sought. This would allow the alternate model, promoted by the DHBW, to be used to increase the frequency and timeliness of practical experience, however, with the key difference that Thai students would have to apply for different positions in each practical phase. Given a potential lack of available sponsoring companies, a much fairer and optimal system would be to allocate placements to Thai students, based on their professional requirements.

While the authors of this paper acknowledge that the DHBW model of attracting one sponsoring company for the entire duration of the studies is not feasible, it is nonetheless important to develop a strong network of participating companies, to ensure that all Thai students in work-integrated higher education have access to practical experience, as an integral part of their studies.

Given that the relationship exists primarily between the Thai universities and industry, and not between industry and the students, as in the DHBW example, it is recommended that recruitment stay with the universities (and not with the sponsoring companies).

### *Remuneration*

Analysis of the two participating Thai universities shows that while some form of remuneration or non-financial benefit is awarded to students, during their practical period, the payment of a regular salary for the duration of an individual's studies, such as at the

DHBW, would not be feasible, for two reasons. Firstly, Thai students tend to spend their practical periods at different companies, which would leave the question, who would sponsor the student during their theory phases? Secondly, many Thai companies do not have the financial capacity to offer students a regular salary.

The expanded use of non-financial benefits as an innovative model of remuneration, such as free accommodation, food and travel costs, would be a good alternative from the industry perspective, where a traditional salary arrangement would otherwise not be economically feasible. This alternative model would also ensure that the student is appropriately rewarded as a human resource asset. It also reduces the barriers to higher education for socio-economically disadvantaged groups.

#### *Contracts of Employment*

This study demonstrates the importance of a contract of employment, as symbol of commitment between the student and their sponsoring company. The presence of a contract ensures that the rights and obligations of both parties are explicitly documented.

The requirement for job descriptions for all student placements at the two Thai universities is an important pre-cursor to the development of a contract of employment. In the case of the Walailak University, this process has already started on a somewhat smaller scale, with the offer of contracts of employment for final year students from the Thai lodging firms.

There is potential at both Thai universities included in this study for contracts of employment to be introduced on all degree programs, using the job description as a basis. To ensure a degree of uniformity across all degree programs, it is recommended that the Thai universities work with the OHEC, as the responsible governing body, in order to create a standardized contract of employment, as shown with the example of the DHBW.

#### *Academic Recognition*

The minimal standards, required by Thai universities of higher education, should be increased, to reflect the contribution of practical experience, as part of a study program. This can only be achieved through consensus with the OHEC, who have the final say on the setting of standards in higher education.

This deficit in Thailand needs to be addressed, in order to raise the profile of cooperative and work-integrated learning in Thailand, particularly in the eyes of industry.

#### *The Role of Industry*

The development of curricula with working groups comprised of academic staff and industry sponsors can help achieve a balance between practice and theory. This approach serves to meet academic and industry requirements, due to both major stakeholders having a say in how the curriculum for a particular program is developed. Therefore, industry participation in the future development of study models and their resulting curricula is recommended, to ensure the needs of industry are met, while maintaining international standards in higher education. Additionally, the involvement of industry in the work-integrated study models in Thailand will increase the level of commitment from the sponsoring companies and organizations.

#### *Employability and Job Security*

The paper demonstrates a positive correlation between the level of commitment from

industry to a work-integrated learning program and employment levels on graduation. The DHBW example shows how a strong relationship between student and partner company throughout the course of studies presents a greater degree of job security for the former. The Thai universities should continue to focus on building strong relationships with sponsoring companies, in order to improve the employment chances of its students after graduation.

#### *Teaching in a Work-Integrated Learning Environment*

Given that work-integrated learning programs are much more practically focused than their traditional university learning environments, it is recommended that the Thai universities further focus on creating a balance of academic and industry-sourced teaching.

Where problems have existed, with regard to the quality of teaching from external industry lecturers, there exist two feasible solutions. Firstly, the practice of Walailak University in offering a twofold lecturing model, where the content is jointly provided by an academic from the university and a senior manager from industry, can assist in maintaining standards, fitting to a university qualification. Secondly, the provision of training for external lecturers is key to ensure the quality of teaching is maintained.

#### *The Role of Research in Work-Integrated Learning*

It is important that faculties initiate the process of research in a work-integrated learning setting and provide the framework for interaction between industry, faculty staff and students. This ensures that academic standards are maintained. Academic staff at the Thai universities in this study should be supported in creating close relationships with their sponsoring companies, in order to gain awareness of the issues and problems that industry faces and develop research initiatives and projects to address them.

To sum up, this intercultural benchmarking study in cooperative education emphasizes that regardless of the longevity or nature of the respective study models in Thailand and Germany, the primary focus is on the dovetailing of a university qualification with a work-integrated element, in order to prepare graduates for the demands of a modern economy.

The degree of success in developing the above benchmarking criteria depends on the absolute commitment of industry in partnership with the universities who offer work-integrated learning programs. Without the buy-in of industry, the benefits of cooperative education will only be limited.

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