

Developing best practice for cooperative and work-integrated education: Lessons from Germany, Australia and South Korea

KARIN REINHARD¹

Duale Hochschule Baden-Wuerttemberg, DHBW Ravensburg, Ravensburg, Germany

MONTE WYNDRER

University of the Sunshine Coast, Sippy Downs, Australia

WOO-SEUNG KIM

Hanyang University, Seoul, South Korea

Universities around the world face a common challenge – producing graduates with the necessary practical skills for employment. Cooperative education and work-integrated learning (WIL) make a valuable contribution to increasing graduate employability, however, there are differences in the level of cooperation from industry and government commitment. A comparative study of WIL in Germany, Australia, and South Korea, focusing predominantly on three universities, showed differences in the approaches to achieving practical experience and increasing graduate employability. The data underlying the research was derived from questionnaires, a focus group session, and the development of a descriptive, multi-case study. This allowed comparisons and contrasts between the three universities to be identified. The results and conclusions outlined in this paper aim to highlight best practice in cooperative education and WIL and provide recommendations for the future development of cooperative education, in order to improve graduate employability.

Keywords: Graduate employability, cooperative education, work-integrated learning, Germany, Australia, South Korea

Universities around the world face a common challenge - preparing graduates for employment. Ultimately, the objective is to produce graduates with the necessary work-based skills to become productive members of the workforce and so graduate employability has become an important indicator for measuring the value of a university education (Burke, Scurry, Blenkinsopp, & Graley, 2016). Employability is, in addition, one of the most important objectives of international education policies, both in the East and the West (Helmrich, Zika, Kalinowski, & Wolter, 2012; Ministry of Education, 2015). In the current knowledge and experience-based society, education systems and, in particular, cooperative and work-integrated education (WIL), make a valuable contribution to prepare students for the complex social, economic and political aspects of the modern economy.

Many universities are now offering degree programs, which embed varying forms of cooperative or work-integrated experience, with the aim of enhancing graduate employment prospects. Important distinctions can be drawn, however, on the level of cooperation from industry and support from government. The research outlined in this paper considers the relative benefits of alternative cooperative and work-integrated education practices, drawing on the experiences of three universities in Germany, Australia, and South Korea.

The intention of the research is to create a broader understanding of best practice for cooperative education and WIL, and provide guidance for academics and practitioners in developing such programs. The differences between these three universities highlight some of the specific challenges and opportunities that universities around the world face when seeking to improve the employability

¹ Corresponding author, Karin Reinhard: reinhard@dhbw-ravensburg.de

of their graduates. In particular, this research focuses on two success factors: achieving practical experience, and employability and job security, which are key to increasing the employability rate of graduates (Arias et al., 2018). The three universities have important differences in terms of their political context and the responsibility that industry accepts for providing work-integrated learning (WIL) opportunities. The ultimate aim of the study was to set out concrete recommendations for the future development of cooperative education, in order to improve graduate employability.

BACKGROUND TO COOPERATIVE AND WORK-INTEGRATED EDUCATION

Germany

Germany is internationally recognized for its cooperative and work-integrated education offerings, both at the vocational level and in higher education. The Baden-Württemberg Cooperative State University, known in Germany as the Duale Hochschule Baden-Württemberg (DHBW), is regarded as a pioneer in cooperative and work-integrated education. Its first dual study diplomas were offered in the early 1970s, emanating from the so-called Stuttgart model, the capital of the German state of Baden-Württemberg. The Stuttgart model was developed by the state government of Baden-Württemberg, in collaboration with three key regional employers, namely Daimler-Benz, Bosch, and Standard Electrics Lorenz. The model constituted a response to the shortage of skilled graduates, capable of applying their acquired academic knowledge in a business setting. The DHBW provided the means of combining practical professional experience with a polytechnic qualification.

However, despite the existence of the DHBW, there was said to be an education schism in that virtually no institution offered vocational qualifications at the university level as a form of education and career progression (Baethge, 2006). The advent of the Bologna and Copenhagen agreements harmonized the tertiary and vocational offerings with other European nations, enabling the state of Baden-Württemberg to change the legal status of the DHBW in 2009. The vocational diploma was elevated to a three-year Bachelor qualification and the state-run DHBW assumed the status of a university. With such organizational changes, the education schism was said to be broken in the sense that the DHBW was structurally a hybrid, drawing on the US-American university model, while providing a substantial vocational element to the qualifications offered (Powell & Solga, 2011). The DHBW was able to organize its various locations under a central organizational hub, while allowing the aforesaid locations the autonomy to develop their own academic specializations and develop a regional network of partner companies.

Australia

In Australia, as was the case in Germany, an education schism exists between universities and vocational institutes, referred to as technical and further education providers (TAFEs). As noted in The Good Universities Guide (2019), there is a distinct difference between the more academic focus of traditional universities, in comparison to the TAFEs, which offer a more practical focus, based on the specific needs of industry. This represents a fundamental difference in the purpose of TAFEs and universities.

Twice as many students now go onto university education compared to the TAFEs, and most of those will be entering university directly from secondary education (Australian Bureau of Statistics, 2013). The majority of students attending university, as a result, have limited formal opportunity to gain practical experience, either prior to or during their studies. Furthermore, Elijido-Ten and Kloot (2015)

note that employers receive limited applications where internships are available as part of a university degree.

In Australia, five key stakeholder groups from industry and higher education launched the National Strategy on WIL in University Education in March 2015. "The objective was to build the productive capacity of Australia's workforce, improve graduate job prospects and meet the skills needs of employers" (Sachs, Rowe, & Wilson, 2016, p. 7). Public universities in Australia are also subject to the standards administered by the Tertiary Education Quality and Standards Agency (Tertiary Education Quality and Standards Agency, 2017), which recognize the importance, challenges and risks associated with implementing WIL.

The University of the Sunshine Coast (USC) opened in 1996 to provide opportunities for tertiary education for the Sunshine Coast, a rapidly growing region in Queensland. The university delivers degree programs in a number of vocational programs, such as nursing, paramedicine, and education, where work-placements are a required component. In other areas, such as accounting and business, the university is seeking to respond to government pressure and industry demand for "...generally trained, flexible graduates with relevant experience and enhanced work readiness" (Universities Australia, 2014).

South Korea

After the Korean War in 1950, South Korea was one of the poorest countries in the world. Gross domestic product (GDP) per capita was less than 100 USD and the nation received a total of 4.6 billion USD in foreign aid (Ministry of Education, 2015). All that was left after the Korean War were poverty on one hand and despair on the other (Jain & Dasgupta, 2018). The nation had nothing but its human resources to rebuild the devastated industries. The government invested in educating and training human resources and utilized their physical and mental talents to promote industrial growth. The educating of industry professionals fostered through industry-university cooperation contributed to the "Miracle on the Han River", which symbolized the rapid transition of the South Korean post-war economy from a developing to developed status (Ministry of Education, 2015). As a result, Korea achieved a GDP per capita of over 27,000 USD within half a century, and became the only nation in the world to transform from an aid-receiving nation to an aid-providing nation (Ministry of Education, 2015).

Government policies for cooperative and work-integrated education focus on improving university systems, while fostering students' job capacities and creativity, through cooperation between universities and industries. The South Korean government has supported this process by continuously expanding its policy framework for cooperative and work-integrated education, through the establishment and revision of relevant legislation.

Hanyang University ERICA has introduced industry-coupled problem-based learning that allows students to solve problems faced by industry, during the course of a semester, by studying problem scenarios based on collaborations between professors and industry.

TABLE 1: Summary of cooperative education models used at three universities.

Characteristic	Duale Hochschule Baden-Württemberg	University of the Sunshine Coast	Hanyang University ERICA
Ownership	State-owned public university	Public university	Private research university
Established	1974	1996	1939
Undergraduates	34,390	11,602	24,442
Faculties	Business Administration, Engineering, Social Work	Business, IT & Tourism, Creative Industries, Design & Communication, Education, Engineering & Science, Health, Nursing & Sport Sciences, Humanities, Psychology & Social Sciences, Law & Criminology	Engineering, Liberal Arts & Science, Politics & Economics, Music, Physical Education, Education, Medicine
Pre-requisite of enrolment	Contract of employment with one employer for 3 years, university entrance qualification	University entrance qualification	University entrance qualification
Coop study model	Alternating model between theory and practical phases	Work-placements on vocational programs only, internships conducted parallel to study workload, limited internship courses (12 weeks)	Limited opportunities for some students to spend their winter and summer vacation on a work placement
Remuneration	Monthly salary, also during theory phases	Students do not receive payment from the host organization	Government university funding, some students receive a small payment from their placement company, others receive no payment
Employment rate on graduation	Over 85 %	No data available	No data available
Practical element	Compulsory for all programs, curriculum for the practical phases in industry	Simulations, real world-orientated assignments	Simulations

LITERATURE REVIEW

Common Definitions of Cooperative Education and Work-Integrated Learning

The term cooperative and work-integrated education was created by the World Association of Cooperative Education (WACE) to encompass the many words used in academic literature to describe the various forms of education with a WIL element. The reason for this is that the language used varies from country to country, which can be seen in the example of the terminology used by the authors of this paper. The German author, for example, frequently uses the terms dual studies, dual study model and cooperative education (Reinhard & Pogrzeba, 2016; Reinhard, Pogrzeba, Townsend, & Pop, 2016; Minks, Netz, & Völk, 2011). In contrast, the Australians tend to refer to WIL, work-based education, and professional and vocationally orientated faculties (Willcoxson & Wynder, 2010; Willcoxson, Wynder, & Laing, 2009). The South Koreans have coined other terms to describe cooperative and work-integrated education, such as co-op experience, industry-university cooperation, and industry-academy-related education (Hanyang University ERICA, 2017). For ease of understanding, and to reflect the differences in terminology, the terms cooperative education and WIL will be used throughout this paper. The two terms exemplify models of practical-based education, where either a “three-way partnership” exists, between the student, their employer and the university, such as in the case of cooperative education, or all other forms of practical experience, as expressed, using WIL as an umbrella term (Sachs et al., 2016, p. 11).

Employability

The impact of cooperative and work-integrated education on employability skill development is being discussed in current literature, and has contributed to the evaluation process of existing cooperative and work-integrated education programs (Hall, Pascoe, & Charity, 2017; Lloyd, Clark, Hammersley, Baker, Rawlings-Sanaei, & D’Ath, 2015; Messum, Wilkes, Peters, & Jackson, 2017; Reddan, 2017). Employability is defined as possessing the right skill set to meet the needs of industry and is a prerequisite for graduates in successfully entering the labor market on completion of their studies (Bridgstock, 2009; Holmes, 2013; Jackson, 2016). In contrast, Yorke (2010) argues that employability refers to the required skill set, but does not guarantee employment. He introduces the concept that work-readiness is also necessary, in order to increase chances of employment. In essence, employability and work-readiness are so closely interrelated that they should not be considered exclusive to one another (Sachs et al., 2016).

Employability can also be differentiated from the term employment outcomes, which include factors such as attaining employment after graduation (Burke et al., 2016; Zegwaard & McCurdy, 2014). The term employment outcomes does not focus on the skills required to produce the outcome and may be influenced by many factors that are beyond the control of the educational provider. It is clear, however, that the rapidly changing economy increasingly calls for cooperative and work-integrated education programs, in order to meet the changes in qualification and competence requirements (Berthold, Leichsenring, Kirst, & Voegelin, 2009; Heidenreich, 2011).

METHODOLOGY

A comparative study of WIL in Germany, Australia, and South Korea was conducted in 2017. The countries and the participating universities were chosen, due to their on-going cooperation with the German DHBW, in the areas of research and international exchange.

Research within cooperative and work-integrated education can be achieved through qualitative or quantitative methods. Quantitative methodologies are statistically based, and their outputs are analyzed in order to test a theory or hypothesis. A qualitative approach was considered better suited to address the research aims, and as a methodological approach for the comparative research outlined in this paper. A qualitative methodology allows the collation of verbal descriptive data, in order to form a much more context rich and detailed picture of a complex situation (Eames, 2011; Eckert, 2004; Nykiel, 2015).

Case Study Development

A multi-case study approach was selected (Strübing, 2008). It is based on the experience of the authors as they observe the phenomena within their unique environments that can be distinguished in terms of political and employer support and consequent university response. In this way cooperative and work-integrated education in Germany, Australia, and South Korea are studied within a real-life context (Yin, 2009).

Specifically, the research team describe the reality of cooperative and work-integrated education in each of the three target countries (Froese, 1983). This was achieved through a comprehensive national and international literature analysis, focusing on cooperative education models, in the context of graduate employability in higher education. In addition, two reports, one with a focus on WIL in European countries, the other comparing dual study models in European and non-European countries, were studied, with the aim of deriving evidence to support the aims of the research project (Arias et al., 2018; Graf, Powell, Fortwengel, & Bernard, 2014).

Secondly, members of the research team identified success factors regarding the implementation of WIL based on this literature review and the experience of DHBW in sharing their expertise with other universities. The authors then gathered data about their institutions, relating to the success factors. Reference was made to the literature, university documents, and the direct experience of the authors and other educators within their respective institutions. When the data had been gathered, synthesis around the research themes allowed comparisons and contrasts between the three universities. The three authors designed and completed a detailed questionnaire, with open-ended questions, drawing on their own expertise and the knowledge of their colleagues, who are directly engaged in the cooperative and work-integrated education element of their respective study models. Questions on the themes of achieving practical experience, employability, and job security were included. Respondee were asked to provide "as is" information, with the intention of creating a representative view of the current practices in cooperative education, in the respective countries, from the perspective of the three universities.

Thirdly, the German and South Korean team members conducted a focus group session, following the methodologies of Mayring (2016) at the DHBW, attended by 21 professors and administrators from the Hanyang University ERICA and the DHBW, and South Korean government representatives from the Office of Leaders in INdustry-University Cooperation (LINC+, a South Korean government initiative), with a male female ration of 20:1. The purpose of the focus group was to discuss the success factors for cooperative education. This third step was necessary, due to the research team having little previous experience of WIL in South Korea, within higher education. The output from the focus group allowed the research team to validate and further detail key points derived from the questionnaire stage.

The non-governmental participants were nominated by the respective universities from a group of stakeholders involved in the national and international development of WIL. The South Korean

administrators were male and hold leading positions in the Industry University Cooperation Policy Division and the LINC+ Administration Team at the Hanyang University ERICA. The participants from the DHBW work in the Department for International Business and the International Office. All participants agreed to their input and data being used for the sole purpose of the research project and resulting publications, in alignment with the requirements of the European Union General Data Protection Regulation (Regulation 2016/679 2016 [EU]).

Comparing and Contrasting WIL Opportunities

The descriptive, multi-case study design set out in this paper (Yin, 2009) seeks to provide concrete replicable insights into the factors necessary for a cooperative and work-integrated education model, which optimizes graduate employability. For the purposes of this paper, these factors are referred to as success factors and form the basis of the comparative study. The success factors were derived from a previous study, conducted by Reinhard and Pogrzeba (2016), as shown in Figure 1.

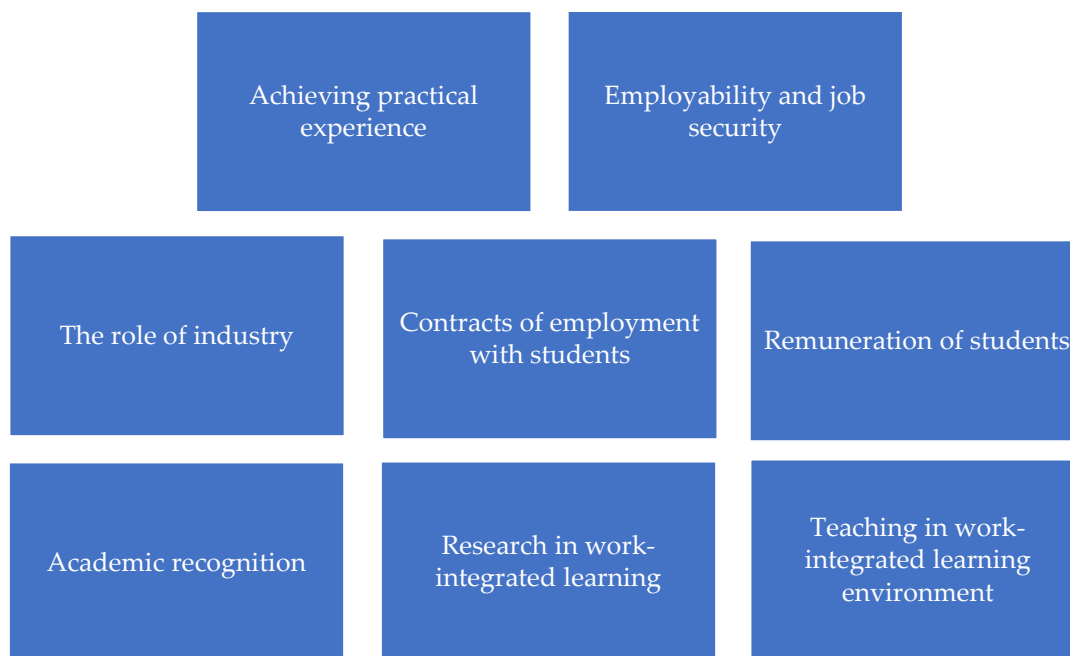


FIGURE 1: Framework of success factors of cooperative and work-integrated education.

For the purposes of this paper, the research team focused on achieving practical experience and employability and job security. They are judged key elements for enhancing employability, and are considered, therefore, critical to the further advancement of cooperative education and its aim to meet the needs of industry, in terms of providing skilled employees. Focusing on these two success factors, the challenges and responses of three universities were benchmarked against each other (Nykiel, 2015; Zabeck, 1966).

RESULTS

Achieving Practical Experience

The practical element of the DHBW study model is compulsory for all students, regardless of which bachelor's degree program they are taking (Duale Hochschule Baden-Württemberg, 2017). A prerequisite to studying at the DHBW is a contract of employment for the entire duration of the degree program, between the partner company and the student. To ensure legal consistency and fairness, the DHBW provides a standard contract template. The partner company can stipulate the level of remuneration and holiday entitlement for the three-year course, in alignment with their own company practices. The student, therefore, only secures a study place once they have been recruited by their partner company. The DHBW stipulates the frequency and duration of practical and theory semesters. This commonly occurs on a three-month rotation, with the practical element covering half of the duration of the three-year bachelor's degree course. Certain degree courses, such as in tourism, offer a six-month rotation to meet the resource demands of the tourism industry in the summer months. An advantage to the rotating method is that the content of the practical element and the intervening theory are dovetailed, to allow the skills learned in lectures to be applied to a subsequent phase working in industry, or vice versa (Reinhard & Pogrzeba, 2016).

Many courses at the USC seek to expose students early in their studies to the realities of their future careers through simulations and real-world-oriented assignments. In some tourism courses, students contribute to projects or events that occur over a limited period. More substantial opportunities for cooperative education are provided for a few students through an internship course (questionnaire responses, Australia, November 5, 2017). This is a single elective course, offered as one of the 24 courses completed in the bachelor program. Internships, however, are restricted to students with a grade point average (GPA) of at least 4.5 (out of 7.0), having successfully completed at least two-thirds of their degree. Enrolment is limited by availability; it requires a willing industry supervisor and a placement involving 96 hours of relevant work activities over a 12-week period that aligns closely with the university's semester dates. Finding willing and appropriate industry partners is one of the most difficult challenges to providing meaningful cooperative education and WIL opportunities for business students at the USC (questionnaire responses, Australia, November 5, 2017).

In addition, at USC the internship must be completed concurrently with other courses. Although there is some flexibility to complete the 96 hours of supervised activity within a concentrated period, it still needs to be managed within the constraints of the student's other courses. The limitations of these existing WIL opportunities, and the importance of giving all students work-ready skills, has been recognized by this Australian university. The business school has sought to balance scalability with authentic experience by developing a required course within the business and commerce undergraduate degree programs. This course will focus on generic and work-relevant skills in order to increase the employability of all graduates.

South Korean universities want their students to have experience in industry (questionnaire responses, South Korea, October 23, 2017). Typically, most of the students who participate in cooperative and work-integrated education spend less than two months at a company, as the nature of their studies restricts them to using the summer and winter vacation periods. The ratio of students spending a whole semester at a company is not large. The South Korean Ministry of Employment and Labor is seeking to expand cooperative and work-integrated education by operating a program similar to the DHBW model, where the students alternate between attending classes at the university and working in

industry. Currently, about 20+ universities are participating in the program. In some cases, the participating companies do not bear any costs for providing practical experience, as the level of government funding is significant. Despite governmental financial support, which encourages the university to actively participate in cooperative and work-integrated education, in many cases practical field experience is not yet reality for many South Korean students. Government strategy promotes the development of curricula that reflects industry needs. However, there was historically no mechanism for industry to communicate their views on the curriculum. Some universities have more recently appointed an industry advisory board for each of its majors, so that industry can participate in the reorganization of the curriculum and the field practice. This is seen as a positive development in the level of industry commitment in higher education, however, this practice is not yet the norm in South Korea (questionnaire responses, South Korea, October 23, 2017).

Employability and Job Security

A wide range of companies in diverse industry sectors supports the DHBW study model. Partner companies are located throughout Germany and beyond. DHBW students are completing their practical experience in not only companies with a global presence, but also with small and medium enterprises, provided they can offer their students the required range of experiences in different departments and disciplines. DHBW partner companies, regardless of their size and global reach, are able to clearly identify the needs of their respective industries in collaboration with the university. This is reflected in the cooperative and work-integrated education curriculum offered to undergraduates. Partner companies participate in the majority of decision-making bodies at the DHBW. Due to this close level of collaboration between the DHBW and its partner companies, the graduate employment rate at the DHBW stands at over 85% (Duale Hochschule Baden-Wuerttemberg, 2017). This is defined as graduates who have gained a contract of employment, either with their partner company or another company, on graduation.

In Australia, the high cost of university education has also increased the rate of part- or full-time work necessary for students to support themselves while studying. A survey by Universities Australia (2018) revealed that in 2017 83% of domestic Australian students were in paid employment, with 12% working 30+ hours each week. Less than 40% of domestic students were engaged in work that was related to their studies or ultimate career. At USC, 33.7% of Bachelor of Commerce students are enrolled part-time. The Bachelor of Commerce is the entry degree for the accounting professional bodies. Anecdotally, many of these part-time accounting students are working in accounting firms where they receive practical experience. Although completing their studies as part-time students delays the higher salary given to graduates, it achieves some of the outcomes achieved by the formal programs offered by the DHBW. A notable difference is that the student is not receiving credit toward their degree for the industry experience that they are receiving through their employment. Furthermore, the depth and breadth of their experience is limited since the purpose of the employment does not necessarily include exposure to a range of experiences in different departments.

Another interesting development in Australia is the emergence of private internship providers. Responding to a demand by industry, and a gap in supply by universities, these private providers organize unpaid work (internships) for a fee of approximately AUD 2000. In some cases, these private internship providers are linked to major universities. Oversight and careful management of such arrangements is necessary to avoid exploitation (Patty, 2016).

In South Korea, youth unemployment is becoming a social problem. The population of South Korea is over 50 million, and the university entrance rate is over 70% (Korean Educational Development Institute, 2016). There are 200 four-year universities and 136 professional junior colleges. More than half a million students graduate each year, but finding work with a “good” company is not easy. If the employment rate exceeds 70%, a university is considered excellent in terms of employment. Measures to address the employment issue in South Korea are focused on developing cooperative and work-integrated education. Unlike the DHBW example, where the initiative is shared jointly by industry and the university, the South Korean government is taking a leading role through projects such as the Leaders in INdustry-University Cooperation (LINC) program (Ministry of Education, 2015). The LINC program was launched in 2012 and it ended in 2017. Fifty-five universities out of the 200 offering a four-year degree were selected through a series of performance evaluations, based on their interest and engagement in cooperative and work-integrated education, and cooperation with industry. In order to develop and propagate advanced cooperative and work education models, and cooperation with industry, the government provided 258.3 billion KRW (225 million USD) annually on the project. After analysis of the LINC project outcomes, the Ministry of Education launched LINC+ in 2017. The program will end in 2022. The goal of LINC+ is to innovate the university education system and to activate cooperation between universities and industry. Furthermore, the project aims to develop practical educational programs and start-ups, and to strengthen research activities and support regional industries.

The features, relating to the two key success factors for each of the three universities included in this study, are compared in the Table 2.

CONCLUSIONS AND LIMITATIONS

The three institutions considered in this study differ significantly in the level of industry support and government involvement. Although there are important national contextual influences, there are significant intra-national differences between these universities. When drawing conclusions and making recommendations it is important to consider scalability and the generalizability of the desired outcomes. The authors believe that there are general principles that can be identified; however, the specific application is likely to be very different between universities.

The Commitment of Industry and Government

Cooperative education and WIL require a three-way partnership between employers, universities, and the student (Sachs et al., 2016). Based on feedback from employers, Eljido-Ten and Kloot (2015) identify a number of challenges that limit the success of WIL. Employers in Australia want better prepared students that will be more productive within the organization. From the students’ perspective, their study found that many students were given “general business or tele-marketing placements” that did not achieve the desired goals of WIL (p. 215). This is in contrast with the commitment by German firms to the training of the students and providing long-term employment prospects (Duale Hochschule Baden-Württemberg, 2017).

Furthermore, the research set out in this paper shows that the commitment of industry partners and government can be differentiated by monetary and non-monetary support. Such support impacts directly on the employability of graduates of cooperative education and WIL programs. Monetary support includes financing of cooperative education initiatives, driven by government policy. This form of support is clearly present in the case of South Korea, where the Ministry of Education actively

TABLE 2: Comparison of key success factors at three universities.

Key success factor	Duale Hochschule Baden-Württemberg	University of the Sunshine Coast	Hanyang University ERICA
Achieving practical experience	Compulsory for all students	Elective internship course	Voluntary
	Students recruited by their partner company	Minimum grade requirement. Enrolment through the university	Enrolment through the university
		No formal contract	
	Standard DHBW contract template	Student pays fees	No formal contract
	Student remuneration for the three-year program		Government financial support
	Three-month rotation between theory and practical phases	Concurrent with other courses 96 hours over 12 weeks	Less than two months in summer or winter vacation
	Real-world-orientated assignments (two project theses and one bachelor thesis)	Real-world-orientated assignments	Real-world-orientated assignments
	Awarding of credit points for practical element	Credits for elective internship course only	No credits awarded for practical element
Employability and job security	Wide range of partner companies in diverse industry sectors. Both global and regional companies	Lack of companies to provide internships. Presence of private internship providers	Lack of companies to provide practical experience
	Graduate employment rate at over 85%	No data available	Youth unemployment is becoming a social problem
	Partner company participation in many decision-making bodies	Professional body involvement at university limited to master's level and certain professions	Government LINC+ program activates industry and university cooperation
Students work in a variety of departments, relevant to their field of studies		Practical experience limited in depth and breadth	Government aim to develop practical educational programs and strengthen research activities
		Majority of students have to take on part-time work, not relevant to their studies, to support themselves	

promotes the expansion of cooperative education through the LINC and LINC+ projects on a national level, in order to improve the employment prospects of their young population (Ministry of Education, 2015). In contrast, the Australian Government includes factors related to work integrated learning in its funding model for universities. In Germany, European Union policy, related to the modernization of Europe's higher education systems, seeks to meet the employability objectives of the labor market on a continental level (Arias et al., 2018). Monetary support can be provided via industry in the form of regular remuneration for students undertaking a practical element to their studies. DHBW students receive a monthly salary for the entire duration of their studies, which means that they can concentrate fully on acquiring the necessary theoretical and practical skills required to enhance their employability (Graf et al., 2014).

Non-monetary support includes the active participation of industry in the decision-making bodies of their respective partner university in order to ensure that the curriculum meets the needs of industry. In Australia some industry bodies and professions, such as accounting, primary and secondary education, and nursing, specify university content to meet their requirements for associate membership or accreditation. These professional bodies can be powerful lobbyists for the allocation of university resources, for example by establishing expectations for student / staff ratios and staff educational levels (Willcoxson & Wynder, 2010).

The provision of opportunities for practical experience in industry is also an example of non-monetary support. In the case of the DHBW, industry partners take the initiative in recruiting their students for the entire duration of their studies. This industry-driven approach provides work-ready graduates for the workforce, as opposed to the models in Australia and South Korea, which generally place the onus on the student and university to organize practical placements. Notable exceptions in Australia are professions such as education and nursing, where work-based learning is a program requirement, which is then supported by placements within both government, private schools and hospitals. In general, and in contrast with the DHBW and the Hanyang University ERICA, the USC traditionally does not have a culture of industry involvement in university education. Improved cooperation between industry and university requires commitment by employers, flexibility and facilitation within university programs, and recognition by students that WIL opportunities are a valuable investment in employability (Arias et al., 2018).

The Degree of Practical Experience Relative to the Theory Acquired

The research demonstrates that the greater degree of practical experience in industry, relative to the theory acquired, the more closely the learning outcome is aligned to the employment criteria of industry. The rotating model, as offered at the DHBW, allows students the opportunity to apply their acquired theory in a broader practical setting. Students can cement their professional knowledge, at the same partner company, while contributing to the goals of their company (Duale Hochschule Baden-Württemberg, 2017; Reinhard & Pogrzeba, 2016).

The level of credit points awarded for the practical element at the DHBW demonstrates the value placed on cooperative education, as a component of the academic degree program. In contrast, the lower emphasis on practical experience is reflected in the lower level of credits awarded in Australia and South Korea. Consequently, the importance of the degree of practical experience is underplayed by the university, industry and students alike in comparison to the DHBW.

The timing of the practical element is important, in that it should be planned in such a way that the students can concentrate fully on the requirements of their practical phase. The DHBW offers fixed

semesters, throughout their three-year degrees, which allows students to immerse themselves not only in their work, but also fully experience the business culture of their partner company. The use of holiday periods, such as in South Korea, to complete practical phases is an alternative, but the timeframe is often too short for students to consolidate their knowledge and contribute to their company. The concurrent nature of internships, as experienced at the USC, presents a challenge for students to manage their study load while working.

Limitations

The research team drew on the experiences of the cooperative education and WIL study models of the German DHBW, the Australian University of the Sunshine Coast and the South Korean Hanyang University. While all three universities are considered representative of the general state of development of cooperative education and WIL in the three countries, it is acknowledged that multiple variations exist. Further research should include other universities, from the three target countries, in order to test the veracity of the results of this study.

In addition, the success factors emanating from the framework into the study are specific to the German DHBW model (Reinhard & Pogrzeba, 2016). Further research could focus on determining and comparing the success factors associated with other cooperative education and WIL study models.

Furthermore, the measures outlined in the results section of this paper are specific to the three universities contributing to the study. While many of these measures have achieved success in their respective countries, it cannot be assumed that such measures can be replicated in all countries. Factors, such as economic development, infrastructure and industry specialization will have an impact on their feasibility. However, the development of hybrid measures may still be possible and could provide the impulse for further studies.

Concluding Observations on Employability

The experiences of the three featured universities in Germany, Australia and South Korea demonstrate differences in approach, with regard to enhancing graduate employability. The DHBW has a long tradition, when it comes to the role of industry in determining the future orientation of curricula. Partner companies, regardless of their size and territorial reach, play an active role in all decision-making bodies of the DHBW. This ensures that the DHBW will continue to meet industry needs in the future. Hanyang University has also acknowledged the importance of industry input, in the development of cooperative education, as a mechanism to tackle rising graduate unemployment. The appointment of industry representatives to advisory boards was made possible, through Hanyang's participation in the LINC+ program, which seeks to support university industry collaboration. In contrast, industry cooperation at the USC is limited to the participation of industry bodies on specific degree programs. There is much potential to extend industry involvement to other programs of study, in order to identify current and future skill requirements, from the industry perspective.

However, the existence of an industry-driven curriculum alone does not guarantee employability. Industry has a further role to play in attracting, training and retaining future talent, through the provision of opportunities for practical experience. The DHBW study model is based on the concept that undergraduates are employed by a partner company for the entire duration of their studies, with the intention that the student continues their career post-studies with their respective partner company. This requires a significant investment on the part of the partner company. The study model also relies on a large pool of partner companies, willing to offer study places for DHBW students.

This is an area, which requires much development, with regard to the situation in Australia and South Korea. Students at both the USC and Hanyang struggle to find practical training opportunities, which fit their requirements, in terms of frequency, duration, and content. Further formalization of the practical element in the curriculum, as a compulsory element of all degree programs, would be an important first step for both universities. It would force industry to take a more active role in the educating of students. The awarding of credits for the WIL element would also signal an acceptance of the importance of the practical element and its contribution to graduate employability, as compared to traditional academic degree programs.

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