

Report on the study tour “The dual system of higher education in countries outside of Europe”

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The decision to conduct this study tour was a result of the experience and research findings of the last five years, from 2014 to 2019. During this time a dual course of study was implemented at a higher education institution outside of Europe, and the principle of a dual system of higher education was communicated at another higher education institution outside of Europe.

In addition a research project entitled: “The dual system of education from the viewpoint of the students” (2017) was conducted with more than 4,000 dual-system students. The report on this research project clearly points out the deficits in relation to enabling students from the dual system on Bachelor or Master courses to complete semesters abroad or gain international experience. This report on the study trip examines these results and considers them in the overall context of the general conditions for integrating semesters abroad into the dual higher education course.

Furthermore, a book was published with the title: “Implementation of a dual system of higher education within foreign universities and enterprises” (2019) ¹

The Association of German Chambers of Commerce and Industry (DIHK), Berlin supported the study tour. I wish to express my sincere gratitude for this.

It was not possible to submit an application for financing by the German Academic Exchange Service (DAAD) due to the inflexible system of regulations.

1 Aim of the study tour

The aim of the study tour was to verify the potential of and the need for a dual higher education system and to identify a closer interlinking between vocational training and academic education in the selected countries. At the same time, parts of the study tour focused on knowledge of the dual higher education system in Germany and hence promotion of the internationalisation of higher education institutions for applied sciences.

In a first step, discussions were held with German foreign chambers of commerce (AHKs) on the basis of an interview guideline. Examples included:

¹ Research report: Das duale Studium aus der Sicht der Studierenden (2017) [The dual system of education from the viewpoint of the students (2017)], can be downloaded at:

<http://edoc.sub.uni-hamburg.de/hsu/volltexte/2017/3155/>

The book entitled: Implementierung einer dualen Hochschulausbildung an Hochschulen und in Unternehmen im In- und Ausland (2019); can be downloaded at:

http://edoc.sub.uni-hamburg.de/hsu/frontdoor.php?source_opus=3221

Implementation of a dual system of higher education within foreign universities and enterprises (2018); is available for download at: http://edoc.sub.uni-hamburg.de/hsu/frontdoor.php?source_opus=3197

- AHK Shanghai, on 26 February 2019,
- AHK Hong Kong, on 5 March 2019
- AHK Ho Chi Minh City (no appointment came about here)
- AHK Singapore, on 20 March 2019
- AHK New Delhi, on 28 March 2019

2 Introduction

The dual system of higher education, a form of study that links academic studies at a higher education institution with practical training in an enterprise, has become significantly more important in recent years, not only in Germany but also internationally outside of Europe. Within ten years, the number of students involved in this model of higher education in Germany has increased from just under 40,000 to approx. 100,000 (see <https://www.bibb.de/>). An increasing number of employers appreciate the dual system of study because it not only achieves a better balance between higher education and the needs of the employment market but also makes it easier to recruit and retain students as future top performers and management personnel. Enterprises also see the high level of practical orientation within the study model as a crucial factor in their future economic success.

During the project work in Thailand and Kazakhstan from 2015 to 2019, there was great interest on the part of the higher education institutions and the companies, in particular among the managers, on promoting a dual system of higher education in their countries.

At the same time, it can be observed that there is no historically developed and institutionally rooted cooperation between state, i.e. state-run higher education institutions, and business in the field of practical qualification (vocational training) for the students engaged in study.

Often a formal (vocational education system) training system exists in parallel to traditional forms of professional education, such as in the informal economy.²

In the documentation for the expert workshop (2015), F. Feder, ICON, noted that only four to five successful projects had been recorded from the total of 17 investigated. At the same time, it is stated that: "The wealth of experience on the part of GIZ and KfW with reference to the dual system of higher education is, however, still rather poor on the whole."³

² The **informal sector** describes that part of an economy with economic activities that are not recorded in the official statistics.

³ Expertenworkshop: Potenzial von Berufsakademien und dualen Studiengängen in der Entwicklungszusammenarbeit; Hintergrundpapier 15. Juni 2015 GIZ Bonn [Expert workshop: Potential of colleges of advanced vocational studies and dual courses of study in development cooperation work, Background paper 15 June 2015 GIZ Bonn]

The overall situation gave rise to the need to analyse and promote the potential of the dual system at higher education institutions in countries outside of Europe.

3 Objective

The objective of the study tour was to identify the potential and need for a closer linkage between vocational training and academic education in the selected countries. At the same time, additional parts of the study tour involved establishing a strategic link in the sense of an extension of knowledge on the dual system of higher education in Germany and fostering internationalisation of the universities of applied science.

In a first step, the study tour was aimed at

- AHKs⁴ in countries outside of Europe

and in a further step (an additional investigation) at

- higher education institutions in countries outside of Europe
- enterprises in countries outside of Europe

At the same time, it is fundamentally necessary to verify the potential or need for a dual system of higher education.

It is important to view the dual system of higher education within the development context of the respective countries and to first include an information phase to point out the value added of dual courses of education. It has been demonstrated that the dual system of higher education has the potential to support processes of regional economical development. For the successful implementation of courses of study abroad, it is of no significance whether the country concerned has the status of industrialised, emerging, transition or developing. Deciding factors are one or more interested or convinced and committed higher education institutions and an entrepreneurial setting that is prepared to cooperate. National and multinational corporations can play a pioneering role and provide a strong stimulating effect in the implementation of dual courses of education.

4 Results of the research work 2015 – 2017 overseas experience of the dual system students

For students and employers, a semester spent abroad has for years been regarded as an important additional qualification, which can pay off in the application process and in professional activity (cf. Konegen-Grenier et al. 2011). However, analyses of the literature and an online survey by the German Academic Exchange Service (DAAD) and the German Economic Institute (IW) show that at the first recruitment stage, “despite the general appreciation of intercultural competence, overseas experience is classified as less important

⁴ German Chambers of Industry and Commerce Abroad (AHKs)

compared with other criteria” (DAAD and IW 2016: 140). Instead, at the top of the list of key selection criteria of companies in Germany there tends to be a certain level of practical experience on the part of the applicants. On the other hand, in a subsequent stage of the recruitment process, overseas experience can become more relevant. In addition to this, a stay abroad during the course more often leads to an occupation with international relevance (cf. DAAD and IW 2016).

Irrespective of this, the intention of the Bologna reforms was and is to increase the international mobility of students. The target level of 20% of university graduates with a period of study abroad during their course (cf. Council of the European Union 2011) is currently achieved with approximately 30% of students having gained experience abroad in their first or Master’s course (cf. Woisch and Willige 2015). “A good third of internationally mobile students (36%) are planning (at least) one further period of study abroad. In contrast, another 38% of internationally mobile students are not planning a further period of study abroad while roughly a quarter (26%) of the internationally mobile group is still uncertain about completing further stays abroad during their studies.” (Woisch and Willige 2015: 5)

Understandably, the proportion of students with experience abroad is significantly higher among students on Master courses (with a longer course duration) than among students on Bachelor courses. Interesting differences arise in a comparison of the different subjects: In economics-related subjects, the proportion of students with a semester abroad is 46% in total while the figure in the engineering sciences is only 24% (cf. Woisch and Willige 2015:9).

Contrasting with this are the results of the research project “The dual system of education from the viewpoint of the students”. Among the **students in the dual system** that we surveyed, only 9.1% indicated that they had already completed a semester abroad and 13.2% were planning such a semester in the near future. Consequently, this group of subjects, comprising more than 4,000 students in the dual system, exhibits a lower level of international mobility than the entire population of students at universities and other higher education institutions (cf. Woisch and Willige 2015). This conflicts with the idea of the Bologna reforms and may reduce the opportunities for students in the dual system to acquire key qualifications and operate professionally on a global basis at a later stage. With a view to enabling students to complete semesters abroad, the German Council of Science and Humanities (Wissenschaftsrat – WR) therefore recommends among other proposals that students from the dual system in courses integrating an apprenticeship be exempted from the obligation to attend vocational school, which it states would be legally possible and could in many cases be practised without sacrificing quality. “Extending the course of study also provides easier opportunities for dual system students to complete stays abroad, which are already provided for in some courses.” (WR 2013:30). The model of study also proves to be a key influential factor in connection with the issue of a semester abroad. For instance, 13%

of the students in courses integrating work experience indicated that they had already studied abroad compared with only 4% in the courses integrating an apprenticeship. The proportion of those planning to spend a semester abroad is also higher in the model integrating work experience.

Most courses and the accompanying educational establishments have difficulty in integrating semesters abroad into the structuring of the curricula for their study models (ibid.).

Table 1: International mobility in dual higher education by subject (n=3,800)

Semester abroad completed?	Yes	No	No, but planned
Engineering sciences	146 (6.5%)	1851 (82.8%)	239 (10.7%)
Economics	207 (13.2%)	1086 (69.4%)	271 (17.3%)

Similar to the findings of Woisch and Willige (2015), there are also subject-related differences in the dual system of higher education (cf. Table 1). In both study models there are significantly more prospective graduates of economics-related subjects who prove to be internationally mobile than prospective engineering science graduates. In the engineering sciences gender effects also play a role: more women complete a semester abroad than men. To the extent that any differences can be identified at all in terms of the education institutes, in both models of study more respondents from the economics-related subjects at private higher education institutions, state-recognised colleges of advanced vocational studies and state-run universities of applied sciences/DHWB appear to have already been abroad than comparable students at state-run universities or private colleges of advanced vocational studies.

Table 2: On what does the completion of a semester abroad depend?

	Engineering sciences	Economics	Total
Workload during course	42.5%	30.9%	37.6%
Approval from the enterprise	58.6%	57.0%	57.6%
Funding	50.4%	64.6%	56.5%
Personal contacts	13.4%	10.5%	12.2%
Support from enterprise	37.6%	41.8%	39.1%
Other reasons	9.5%	9.2%	9.4%

Funding is more frequently regarded as an important aspect for completing a semester abroad in courses integrating work experience than by students in courses integrating an

apprenticeship. The size of the enterprise generally affects the students' responses in a very comprehensible manner. Consequently, funding and approval by the company in small enterprises with up to 49 employees are less important reasons because these enterprises tend to support a semester abroad less frequently. Conversely, the financial issue, which experience shows has to be frequently resolved by dual system students themselves, is much more important than in larger and major companies.

However, one considerably more important aspect for international mobility than the education institute is the size of the enterprise in which dual system students work. The larger the enterprise, the more probable it is that the respondents will have already spent one semester abroad studying or will have this as an aim.

As Table 3 illustrates, an examination by size of enterprise reveals significant differences in the replies from various subjects for almost all of the aspects listed apart from those of "Approval by the enterprise" and "Other reasons". Prospective graduates in economics-related subjects have a lesser tendency to indicate workload during the course or personal contacts as relevant reasons for or against a semester abroad but tend instead to indicate funding and encouragement by the enterprise to a greater extent.

The results suggest that the low international mobility of students in the dual system, at least in their perception, is essentially attributable to the attitude of the enterprise with respect to this issue. Employers apparently only support the dual system students to a limited extent in their acquisition of an important additional qualification that could be crucial for the progress of their career, because international mobility and experience thereof, at least in leadership positions, are required as a matter of course with the increasing internationalisation of the economy. As can be seen from the comments by our respondents in explanation of the category "Other reasons, namely", some companies do, however, compensate for the lack of an opportunity for a semester abroad with optional or partially also obligatory internships abroad, which can or have to be completed during or shortly after the dual course of studies. At the same time, the comments by the students show that spending a semester abroad is also primarily dependent upon the interest of the students themselves and their own corresponding initiative. Some respondents apparently fear that a semester abroad will have an adverse effect on their achievements or that they will not be able to manage the course during the scheduled time frame. The special significance of size of enterprise in relation to the semester abroad, as previously identified, also comes to bear in connection with the issue of a work-related stay abroad (cf. Table 3). The probability of already having worked abroad is significantly higher amongst students who are employed in enterprises with more than 1,000 persons than among those who work in smaller enterprises. This applies all the more, when students in courses integrating work experience are concerned because the second decisive predictor of whether a professional stay abroad has been completed or is

scheduled for the near future is the model of study. Consequently, of the students in courses integrating work experience who also work for a company with more than 1,000 employees, 28.9% have already worked abroad and 24.4% are planning to do so. Among the comparable group of students on courses integrating apprenticeships, professional overseas experience applies to only 10.8%, and an overseas stay is planned by 16.8%. Length of course proves to be the third significant predictor. Compared with students in the fifth or sixth semester, students in earlier semesters had a lower probability of having been professionally engaged abroad at the time of the survey.

Table 3: Professional stay abroad by size of enterprise (n=3,868)

Size of enterprise in persons	Up to 9	Up to 49	Up to 249	Up to 549	Up to 1,000	More than 1,000	Total
Yes	7.7%	5.6%	7.3%	10.0%	13.4%	21.3%	14.3%
No, but planned	5.5%	5.6%	6.7%	10.2%	11.7%	21.0%	13.8%
No	86.8%	88.7%	86.0%	79.8%	74.9%	57.8%	71.9%

Unlike a course-related stay abroad, the subject of study does not have an essential influence on whether the dual-system students have been deployed outside of Germany for professional reasons or are about to be. In the model integrating work experience, more prospective engineering scientists than economists have been internationally mobile to date, but if those students are included from whom a deployment abroad is planned in the near future, this subject-related difference is cancelled out.

Similar results emerge in relation to dual training (skilled trade apprenticeship). According to an online survey by the German Chambers of Commerce and Industry (DIHK: 2016), only about 9% of the **enterprises** currently offer **their trainees** (apprentices) the chance for experience abroad. In 2018, 37,623 **trainees** (apprentices) went abroad during their training. This is equivalent to a proportion of 6.3% of all completed training contracts. Roughly half of this group – 3.8% – took advantage of the EU’s “Erasmus” promotional programme. The target set by the German Bundestag is that by the year 2020 at least one in ten trainees should have completed a stay abroad by the time they have concluded their training. In order to achieve this target of 10%, more determined efforts will be required on the part of the Federal government and the chambers.

5 Initial results of the study tour and added value

5.1 Organisation and main duties of AHKs

AHKs in the four countries mentioned essentially concentrate on services for enterprises such as promotion and support for German enterprises. In detail, these may include marketing, market research, investment issues, legal counselling, project support, support for company delegations, brokering business partners, provision/recruitment of personnel, translations, press and public relations (PR) as well as the dual system (vocational training).

The AHK in India has more than 6,700 German and Indian members/enterprises. This makes it the largest of all 140 German Chambers of Industry and Commerce Abroad (by number of members). One focus of the AHK New Delhi is the Indo-German Training Centre, DUALpro: VET brand of IGCC; i.e. in the dual system of vocational education and training. In the last 25 years, more than 1,500 young Indian persons have been trained for approx. 100 German and Indian enterprises.

China has approx. 6,000 German enterprises, of which approx. 2,700 are members of AHKs at various locations such as Beijing, Shanghai and Guangdong. The AHK Shanghai comprises approx. 200 members. In collaboration with partner schools, AHKs offer a broad spectrum of basic and further training in China. There is no central training centre at the AHK Shanghai, but instead there are approximately 20 cooperation arrangements for vocational education and training (VET) decentrally organised and spread across the country. At the same time, the AHK Shanghai invests a lot of effort into persuading even German enterprises of the benefits of a dual system of vocational education and training although the funding of a training place costs only approx. EUR 1,200 per annum.

The AHK in Hong Kong has approx. 450 members and is involved in the dual system of education with approx. 25 trainees per year (and hence 50 trainees/for two-year courses). The AHK is involved in cooperation with approx. 30 companies that take on one to two trainees. The trainees receive approx. HKD 8,000 per annum (EUR 907.20), with living costs amounting to approx. HKD 20,000 per annum (EUR 2,267.90).

The AHK Singapore has approx. 1,800 enterprises as members and is involved in the dual system of higher education. The enterprises enable some of their students in the dual system to stay in Singapore, supported by the AHK on the issue of visas. Available for this purpose is a visa designated for "Intercompany Training" or a visa with the designation "WHP Work Holiday Pass".

The Singaporean education system is divided into different levels, with an A-Level leading to university entrance but also a route via the polytechnic. The route via polytechnic corresponds to a vocational training course over several levels, including an internship for three months. This training course also permits access to a higher education institution (comparable with a university of applied science/Fachhochschule).

The idea of the dual system of higher education in modified form is part of the education system in Singapore, i.e. increasing importance is attached to a practical qualification. In this

field, cooperation arrangements are available between German higher education institutions and establishments such as Singapore Institute of Technology (SIT) and Singapore University of Social Sciences (SUSS), the National University of Singapore (NUS), Nanyang Technological University (NTU), Singapore Management University (SMU) and Singapore University of Technology and Design (SUTD), six state-run universities.

From 2014, SIT was the first higher education institution for applied learning in Singapore before the Singapore University of Social Sciences. The university offers industry-specific, applied courses.

5.2 Higher education and further training

The higher education system is regarded in all the countries visited as good to very good and is equivalent to the German level of higher education. As a result, there is a great potential of young graduates from which enterprises can select to fill their positions. This is essentially also the reason for enterprises to recruit employees from their own respective countries. However, questions of visa restriction for both German students and German managers also form part of the discussion for the AHK Shanghai in China.

Qualification measures or further training of employees in all of the countries visited is only of limited importance for the enterprises. This is to some extent due to the working and enterprise culture within the countries. In particular, the lack of allegiance in the sense of binding the employees to the company therefore raises questions concerning any qualification measures or further training. Qualification or further training measures are often a means for employees to change companies with a view to better remuneration and a future career.

In all countries – with the exception of the AHK in Singapore – the dual system of study only has limited significance for higher education institutions and enterprises. In none of the countries was it possible to indicate a higher education institution or a dual system of study. This does not mean that German training establishments, such as the Baden-Wuerttemberg Cooperative State University (Duale Hochschule Baden-Württemberg – DHBW) are not trying to agree cooperation arrangements with higher education institutions. At the same time, however, according to information from the AHKs, it can also be noted that both higher education institutions and enterprises, including government representatives, only have very limited knowledge of the dual system of higher education in Germany.

5.3 Prerequisite for the implementation of a dual system of higher education

The AHK Shanghai is interested in the implementation of a dual higher education programme and is gaining support for this from a state council decree on “higher vocational education” that provides for the promotion of vocational schools and colleges/technician schools up to Bachelor level. In contrast, structural issues such as the existing legal framework conditions

make it difficult for colleges and enterprises to cooperate. This notwithstanding, the above-mentioned decree may provide an opportunity to develop a Chinese model of dual higher education in the medium to long term.

A first step for the AHK Shanghai is to form alliances with Chinese colleges and companies as well as German higher education institutions. In May 2019, an initial meeting is to take place in Dortmund in this connection between various higher education institutions in Germany and the AHK Shanghai.

6 Summary

There were more than 100,000 dual-system students in Germany in 2018, of whom 36% were on courses integrating an apprenticeship in engineering science and 64% on such courses integrating work experience, while 22% were on courses integrating an apprenticeship in law, economics and social sciences and 78% on such courses integrating work experience. In terms of the total number of dual-system students, the distribution is as follows: 36% integrating an apprenticeship and 51% integrating work experience with 14% involving a mixed form (see Krone Sirikit, ff.).

Consequently, approx. 36,000 dual-system students are on courses integrating an apprenticeship and complete their professional qualification in the chambers of industry and commerce or their examination facilities. Within the study by Krone Sirikit⁵ it can be observed, that according to the appraisal by the dual-system students, 90% of the chambers of industry and commerce are involved in the preparation for the start of a career with little to very little support.

Greater commitment towards stays abroad by the dual-system students on the part of enterprises, particularly in courses of study integrating an apprenticeship, could strengthen this study model. Small and medium-sized enterprises, in particular, should promote the organisation, facilitation and completion of stays abroad for dual-system students through a cooperative network supported by the chambers of industry and commerce. Cooperation with the DAAD or the EU “Erasmus” promotional programme can be recommended in this connection.

A further step involves reorganisation of the dual system of study in Germany. With the model of study that currently predominates at higher education institutions – attendance at the higher education institution during the semester, compulsory presence in the enterprises between semesters – students in the dual system are only able to complete a stay abroad with difficulty. In this respect, it is seen as urgently necessary to reorganise the dual system of higher education and compel the higher education institutions to offer students a stay

⁵ Krone Sirikit, Nieding Iris and Ratermann-Busse Monique DUAL STUDIEREN – UND DANN? [STUDYING IN THE DUAL SYSTEM – AND THEN?] Hans Böckler Stiftung Study No. 413 · January 2019, Page 169.

abroad. Furthermore, the higher education institutions should be obliged to ensure that the stay abroad becomes a constituent part of the contract between enterprises and dual-system students.

Internationally oriented companies can also provide a key contribution by not only making promises via their marketing slogans such as “Von Brooklyn nach Korea - und zwischendurch ins Unternehmen” [From Brooklyn to Korea – and into the company between times] (Stifterverband für die Deutsche Wissenschaft 2016: 14), but instead ensuring that they both authorise their dual-system students to complete a stay abroad and urge them to do so as well.

The countries visited differ radically in their structures, in political, cultural, economic as well as social terms. A regional exchange of experience between AHKs particularly on the topic of implementing a dual system of higher education would represent added value for the employees of the AHKs.

Regardless of the willingness to cooperate among the players – namely higher education institutions in Germany (1), higher education institutions outside of Europe (2), the enterprises (3), the AHKs (4) and the governments (5) – the legal framework, such as legislation for higher education institutions, is an important step that needs to be discussed and clarified in the information phase with the higher education institutions and the enterprises, because obstacles relating to higher education law currently seem to be insurmountable in the implementation of dual courses of higher education.

Higher education institutions, such as the universities of applied science in Germany, can act as strong partners in supporting the implementation of dual courses of study. At the same time, these cooperation arrangements will lead to a greater degree of internationalisation for the Germany universities of applied science.

Not least iMOVE, an export initiative by the German Federal Ministry for Education and Research (BMBF), should contribute to promoting the dual system of higher education in countries outside of Europe. As a working division within the Federal Institute for Vocational Education and Training (BIBB), iMOVE is intended to foster international collaboration and the forging of business relations in vocational education and further training. Using the slogan “Training – Made in Germany”, iMOVE is advertising German expertise in vocational training. Since 1 July 2017, the iMOVE office in China has been located in Shanghai. (<https://china.ahk.de/de/services/aus-und-weiterbildung/imove/>, as of May 2019).⁶

⁶ In the documentation for the expert workshop (2015), F. Feder, ICON, noted that only four to five successful projects had been recorded from the total of 17 investigated. At the same time, it is stated that: “The wealth of experience on the part of GIZ and KfW with reference to the dual system of higher education is, however, still rather poor on the whole.”

Table 4: Support (of dual students) in preparation for starting a career – groups of persons providing support from the training and examination institutes

Group of persons	No. of semesters	Very much/much	Little/very little	Total
Higher education institution representatives (N = 4241) (Spearman = .063**)	1 – 3 semesters	46.1% (595)	53.9% (696)	100% (1291)
	4 –5 semesters	39.4% (525)	60.6% (806)	100% (1331)
	6 and more semesters	38.2% (619)	61.8% (1000)	100% (1619)
Vocational school representatives (N = 4241) (Spearman = .128**)	1 – 3 semesters	32.1% (201)	67.9% (523)	100% (627)
	4 –5 semesters	17.0% (107)	83.0% (523)	100% (630)
	6 and more semesters	18.1% (156)	81.9% (706)	100% (862)
Representatives from chambers (N = 4241) (Spearman = .066**)	1 – 3 semesters	11.0% (67)	89.0% (541)	100% (608)
	4 –5 semesters	6.4% (44)	93.6% (642)	100% (686)
	6 and more semesters	6.3% (165)	92.3% (1980)	100% (851)

Source: IAQ online survey 2015

7 Cooperation partners

- The Association of German Chambers of Commerce and Industry (DIHK), Berlin
- German Chambers of Industry and Commerce Abroad (AHKs), AHK Shanghai, AHK Hong Kong, AHK Ho Chi Minh City (no appointment could be arranged here), AHK Singapore, AHK New Delhi
- German and international enterprises
- Higher education institutions in Germany
- Higher education institutions in countries outside of Europe

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