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### ► To cite this version:

Gabriel Michel, Véronique Jeanclaude, Sorin Stratulat. Better Careers for Transnational European Students? -a case study for French-German diploma alumni. ICEUTE'15: 6th International Conference on European Transnational Education, Jun 2015, Burgos, Spain. hal-01235170

**HAL Id: hal-01235170**

**<https://hal.science/hal-01235170>**

Submitted on 28 Nov 2015

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# Better Careers for Transnational European Students ?

- a case study for French-German diploma alumni -

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**Abstract.** We present recent surveys about alumni of transnational degrees. The surveys have been conducted within two French-German university structures, ISFATES-DFHI and UFA-DFH, that organise regularly surveys about the future of their alumni.

We compare the results of Computer Science alumni with that for alumni of other fields, in particular Mechanical Engineering, and conclude that transnational diplomas are a clear added-value on the job market, especially for Computer Science alumni. Finally, we discuss about how to develop similar European programs at Bachelor and Master levels.

**Keywords:** Student mobility, Double degree, Master, Computer science, Europe, Intercultural, Learning, Professional skills, Surveys, ERASMUS

## 1 Introduction

Student mobility is a critical issue for the future of Europe.<sup>5</sup> Acquiring mobility skills is often considered as an important factor for any student development. In fact, the knowledge of several foreign languages and cultures as well as the living experience in different international environments are very useful for the professional life [5]. Moreover, it has been proved that international mobility implies higher salaries after several years of working experience [1]. It is therefore necessary to aim at a wide student mobility. In this respect, student mobility via ERASMUS exchanges is unanimously recognised as a big success: more than 3 million students have benefited since its creation in 1987. Only during the academic year 2012/2013, the ERASMUS program was followed by 322000 European students. The official statistics have shown that the number of ERASMUS

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<sup>5</sup> <http://ec.europa.eu/education/programmes/socrates/erasmus/evalcareer.pdf>  
and <http://www.touteleurope.eu/actualite/la-mobilite-des-etudiants-erasmus.html>

students increased steadily during the last seven years.<sup>6</sup> They have also shown that Spain, France, Germany, United Kingdom and Italy are among the European countries that sent and attracted the most part of the ERASMUS students. For example, during the same year 2012/2013, 35000 out of 2 million French students have studied abroad in the frame of ERASMUS exchanges, which represents 6% more than the previous year. In average, the exchange period was 6.8 months. However, the student mobility via ERASMUS exchanges is not enough<sup>7</sup> and it can also be improved by creating transnational diplomas. The number of French-German diplomas has increased, too, as confirmed by the evolution of the French-German University UFA-DFH (Université franco-allemande/Deutsch-Französische Hochschule). Consequently, its number of students augmented from 4800 in 2010 to about 6000, as it can be noticed today.

In this paper, we present surveys performed within two French-German university structures, ISFATES-DFHI and UFA-DFH, both proposing French-German diplomas. The surveys concern alumni from different disciplines of these structures, involving much more disciplines for UFA-DFH than ISFATES-DFHI but having access to more detailed answers from ISFATES-DFHI. Then, we analyse the results of these surveys. Finally, we discuss about how to develop similar European programs at Bachelor and Master levels.

## 2 Survey of the UFA-DFH alumni

### 2.1 Presentation of UFA-DFH

UFA-DFH (Université franco-allemande/Deutsch-Französische Hochschule)<sup>8</sup> consists of a network of French-German higher education establishments. Its administrative center is located in Saarbrücken (Germany) and its campus is spread over several French and German university establishments that offer joint or double French-German diplomas. It proposes a great number of curricula covering a wide range of topics: engineering sciences, natural sciences, mathematics, computer science, medicine, economics/management, law, social and human sciences as well as training for teachers.

During the academic year of 2009/2010, UFA-DFH counted 4800 students. Today, 6000 students are enrolled and follow one of the 166 curricula delivering over 1100 diplomas per year. Its main objective is to overpass 10 000 students in 2020.

### 2.2 The survey

The survey took place during February 7 - April 6, 2014 and concerned all the UFA-DFH alumni starting from year 2000. Globally, 1806 alumni have been in-

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<sup>6</sup> <http://fr.statisticsforall.eu/> and [http://europa.eu/rapid/press-release\\_IP-14-821\\_fr.htm](http://europa.eu/rapid/press-release_IP-14-821_fr.htm)

<sup>7</sup> <http://www.contrepoints.org/2014/11/17/188498-erasmus-la-mobilite-etudi-ante-nouvelle-fracture>

<sup>8</sup> <http://www.dfh-ufa.org/>

volved in a survey<sup>9</sup> available in French and German. Its conclusions are based on the pertinent answers given by 1582 among them which can be divided as:

- 41,5% men and 58,5% women, as well as
- 40% of French nationality, 52% of German nationality, 5% of both French and German nationality, 3% other European nationalities.

The major of their curricula are: 29% social and human sciences, 26% engineering sciences/architecture, 23% economics/management, 8% natural sciences/mathematics/computer science, the remaining 14% other domains. We will present here only a part of this survey.

One of the interesting questions of the survey was the search period for a job.

*How long you needed to find a job ?*

Almost 71% of the participants found in less than three months a job appropriate to their qualifications (35% received a job offer before graduation), 17% took three to six months to find a job and 12% more than six months. Most of the participants graduating engineering sciences (79%), law (76%) and economics (75%) succeeded to find a job in less than three months.

*In which country did you find the first job ?*

The answer was: Germany (57%), France (26%), others (17%).

*Would you recommend a French-German curricula to future students ?*

Almost 90% of the participants would strongly recommend a French-German curricula, while only 3,4% would not recommend any of them.

### **3 The survey of the ISFATES-DFHI alumni**

#### **3.1 Presentation of ISFATES-DFHI**

*History of a French-German institute.* ISFATES-DFHI<sup>10</sup> was created on September 15, 1978 during a meeting at the French-German summit of Aachen (Germany) in order to pose the first stepping stones of a European education. The institute was created between the towns of Metz (France) and Saarbrücken (Germany). Since its creation, it has not ceased to develop and adapt. Today, nearly 2500 French and German students followed the bi-national training of ISFATES-DFHI and obtained a double (French and German) university diploma. Since 1997, the institute belongs to UFA-DFH.

<sup>9</sup> [http://www.dfh-ufa.org/uploads/media/DFH\\_Alumni\\_Studie\\_D\\_web\\_01.pdf](http://www.dfh-ufa.org/uploads/media/DFH_Alumni_Studie_D_web_01.pdf)

<sup>10</sup> <http://www.isfates-dfhi.eu>

Currently, ISFATES-DFHI (or ISFATES, for short) has 6 branches: Computer Science, Logistics, Management Sciences, Civil Engineering and Infrastructures, Mechanical Engineering and Industrialized Manufacturing, and Engineering Systems. For each branch, a group of 15 to 30 French and German students “will travel” together each year from one university to the other. The students of a given year also have some “inter-branch” courses in order to maintain a certain cohesion. The structure of the programs is as follows:

- *for the Bachelor degree*: three semesters take place in Metz and three semesters in Saarbrücken; at the end, the students obtain a French-German Bachelor Degree. It is also possible to spend one semester using ERASMUS exchanges in another country. In the case of Civil Engineering students, they spend the first year in France, the second in Luxemburg and the third year in Germany; at the end of the three years, they get a triple diploma recognized by the three countries.
- *for the Master degree*: three semesters of study followed by a 6-month placement in a third country. For the three semesters of study, the first one takes place in Saarbrücken, the second in a third country or Saarbrücken, and the third one in Metz. In the end, a French-German Master degree is delivered.

### 3.2 The ISFATES-DFHI alumni survey

This survey has been conducted in January 2013 and concerned ISFATES-DFHI alumni. Since 2006, ISFATES-DFHI proposed a Bachelor-Master curricula for all of its 6 specialities, based on the conclusions of a previous survey [4] that suggested more management and soft skills-related courses. The first Bachelor alumni date from 2009 and the first Master alumni from 2011. This implies that the number of participants to this survey was significantly smaller than for the previous survey.

In all, 91 alumni have participated to the survey. Issued from different curricula, they can be divided as:

- 69% men and 31% women (in the first survey, we can notice a higher percentage of women which can be explained by the participation of social and human science disciplines), as well as
- 67% French, 20% German, 2% other Europeans and 11% Africans.

Among them, 40% had benefited of financial aids as member of underprivileged social classes.

We will present in the following only a part of this survey, concerning only Computer Science and Mechanical Engineering alumni.

#### *Presentation of the participants*

- In Computer Science: 19 participants (18 men, 1 woman). Nationality: 15 French, 2 German, 2 other nationalities. Graduate level: 16 Bachelor, 7 Master (among which 3 alumni did not graduate a Bachelor curriculum at ISFATES).

- In Mechanical Engineering: 16 participants (12 men, 4 women). Nationality: 8 French, 3 German, 4 both French and German, 1 from Cameroon.

It is worth to notice that, due to the big number of questions of this survey, there were participants that did not answer to all of them.

Here we detail the answers to some of the main interesting questions:

*How did you find your first job and how long did it take ?*

For this question, we distinguished the participants according to their degree level (Bachelor or Master). In fact, in France, the first jobs in Computer Science and Mechanical Engineering are difficult to reach after a Bachelor degree. For this reason, many of the French Bachelor students continue their studies in Master programs. The survey shows that this is not the case for the bi-national Bachelor diplomas.

- In Computer Science, only 13 Bachelor and Master alumni answered to this question. 6 received a job offer before graduation, and 4 within a month after graduation. Other participants have answered that they have the feeling that having a higher or lower degree level does not change the final result.

More exactly, among the 6 Master alumni that answered to this question, 3 received a job offer before graduation, and 3 have found a job within a month after graduation.

Also, among the 7 Bachelor alumni, 4 received a job offer before graduation, 1 within a month after graduation, 1 got the job after three to six months and 1 in less than one year (the participant from Cameroon).

- In Mechanical Engineering, there were 11 Bachelor and Master participants that answered to this question. 2 received a job offer before graduation, 2 in less than one month after graduation, 4 in a period between one and three months, 2 in a period between three and six months, and 1 in less than nine months.

When detailed according the study level, only 4 Master alumni out of 6 answered, as follows. 2 received a job offer before graduation, 2 within three months from graduation, 1 in a period between three to six months, and 1 in less than nine months (this alumni has benefited of a collaboration with Polytechnique Montréal to continue his studies by following a Master curricula of Technologic Project Management, then found his first job in Canada shortly after graduation).

7 out of the 10 Bachelor alumni have answered to this question, as follows. 2 received a job offer before graduation, 2 found a job within a month after graduation, 2 during a period between one to three months.

*In which country did you find the first job ?*

- In Computer Science: Germany (8), France (2), Luxemburg (1), and Canada (1).
- In Mechanical Engineering: Germany (6), France (4), and Canada (1).

*How do you perceive the future (of the job offers) ?*

- In Computer Science: ordinary (2), good (3), very good (3).
- In Mechanical Engineering: good (2), very good (5).

*And if it were to do it again, would you do it at ISFATES-DFHI ?*

- In Computer Science: 100% of positive answers.
- In Mechanical Engineering: 4 out of 6 alumni answered and the answers were 100% positive.

## 4 Discussion

For sake of simplicity, we denote by:

- E1, the UFA-DFH alumni survey, and
- E2, the ISFATES-DFHI alumni survey.

These two surveys about transnational French-German diplomas are different with respect to:

- the number of alumni (91 for E2 and 1802 for E1),
- the kind of diploma (engineering and management for E2 and any category for E2),
- the kind of questions (some questions have been formulated differently).

However, the surveys' results seem to converge on the following particular points:

- the French-German diplomas allow to find rather quickly a job adequate to the qualification level (less than three months for 71% of participants in E1, and 92% of the Computer Science alumni and 72% Mechanical Engineering alumni in E2, respectively).
- the country of the first job is mostly Germany for both surveys (57% for E1, and 67% for computer scientists and 54% for mechanical engineers in E2, respectively), then France (26% for E1, and 16,5% for computer scientists, 36% for mechanical engineers, respectively), and finally other countries (26% for E2, and 16,5% for computer scientists and 9% for the mechanical engineers, respectively).

- great satisfaction has been noticed for making the choice of a French-German curriculum since the question “*Would you recommend a French-German curricula to future students ?*” received 90% of positive answers in E1, which is comparable to the answers received for the question in E2 “*And if it were to do it again, would you do it at ISFATES-DFHI ?*” (100% of positive answers for the involved computer scientists and mechanical engineers). We didn’t notice big differences between nationalities.

To our knowledge, surveys conducted for alumni of national degrees did not include similar questions. For this reason, we have found difficulties to compare our results with them. Our results show the added-value of the French-German transnational diplomas, particularly, for majors from the domain of engineering sciences, as we have seen for mechanical engineers and, even more predominantly, for computer scientists. In fact, there exist to our knowledge only four French-German curricula in Computer Science: 1) at ISFATES-DFHI, 2) at UFA-DFH, involving INSA from Lyon (France) and University of Passau (Germany), 3) in the frame of the ECS (European Computer Science) network [2], between University of Lorraine (France) and HAW of Hamburg (Germany), and 4) in the frame of an ERASMUS Mundus Master in Information Technology for Business Intelligence.<sup>11</sup>

Going back to the Computer Science alumni, the conclusions of our surveys can be explained by the small number of alumni with respect to the needs of the French-German job market (recall that Germany is the first economy partner for France). There are few of such diplomas and many potentially interested enterprises may ignore their existence. On the other hand, it seems that only some students are interested by such curricula: the demand of computer scientists is still strong on the market and the added-value of transnational diplomas is not necessary for most of the cases. There are other reasons that may explain the lack of popularity of French-German diplomas:

- the lack of interest to learn a foreign language for those interested in following a scientific career, in particular the learning of the German language in France or of the French language in Germany, which diminishes year after year;
- the little attractiveness for France or Germany: other countries are currently more demanded, as the United States of America or Canada;
- the lack of information to be disseminated in high schools about the job opportunities offered by the French-German curricula in Computer Science and, more generally, in other engineering domains.

The main question that we can ask is how to augment the number of candidates for French-German curricula ? Its answer depends on how effective is the learning of the partner language (only 7% of French pupils learn German and 8% of German pupils learn French). But this is all about political choices to be taken in both countries.

<sup>11</sup> <http://www.fib.upc.edu/en/masters/it4bi.html>

## 5 Conclusions

Even if the two surveys concerned only French-German joint diplomas, we have confirmed once more that transnational curricula imply a great added-value to students. The conducted surveys have shown that bi-lingual Computer Science alumni are among the most demanded on the job market.

In particular, the transnational diplomas are a chance for all of us: for students (acquisition of intercultural competences, achievement of maturity and autonomy in a way more effective than for no-mobile students [4]), for the enterprises operating in France as well as in Germany (speaking the local language may limit the cultural problems), and for universities (having bi-cultural groups may benefit to no-mobile students and the teaching experience is more lively).

The main question is how to augment the number of bi-national curricula students, in France, Germany and, more generally, in Europe. Clearly, a more effective political and financial help from UE is needed to advertise the transnational diplomas at European level. We think that there are other solutions that could be effective, too. Here are some of them:

- to advertise them in high schools by the means of, for example, short video movies (to witness alumni experience or to share the student experience in a foreign country, ...) that can be remotely accessed by internet using smartphones or tablets.
- to make aware the German language teachers in France and French language teachers in Germany about the opportunities offered by the French-German curricula.
- to send in high-schools alumni and current students already convinced by the benefits of transnational diplomas and talk about them in front of pupils, to become in some way ‘ambassadors’ of these curricula.

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