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I Can Intern in France! Student Perceptions of Success during Their International Engineering Internship

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Cover Page Footnote

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INTRODUCTION

The international engineering internship differs in significant ways from a study abroad experience. The interns work in a professional setting where they must use their language skills, their intercultural skills, and their technical skills in order to meet the company's expectations. Their labors take place within a hierarchical situation, and they thus come in contact with superiors as often as peers. Their experience is educational and can have a dramatic impact on their future careers as shown by Norris and Gillespie in their study of IES alumni. In addition, their experience must have value for the company. Because of this, the pressures on students interning abroad are quite different than those on students spending a semester abroad and factors for success may differ. This article summarizes responses to an exit interview administered to French International Engineering Program (IEP) students at the University of Rhode Island (URI) upon return from their six-month internship in France. The interview aimed to assess to what degree students felt they succeeded during their internship and to what they attribute the success. The interview targeted language preparation, intercultural preparedness, and technical training, assuming that these three areas would form the cornerstones of their success. In addition, students were asked open-ended questions in which they also spoke of their growth in self-confidence and business savvy, indicating other areas of success.

Design Of International Engineering Program

Students in the French IEP simultaneously prepare a B.A. in French and a B.S. in an engineering discipline. In the five-year program, students generally spend one full year abroad. We strongly encourage students to study for a semester at the Université de Technologie de Compiègne (UTC), the partner institution of the French IEP. We require students to complete a six-month internship abroad, working with a company where they use their language skills and where they apply their engineering knowledge to projects of interest to the company. Some of our recent interns have worked on corrosion with the energy giant Total, wave energy feasibility with the underwater construction company, Géocéan, and polymer production with the materials company, Toray.

The internship experience forms the cornerstone of the IEP. Placing students on their internships involves a lot of one-on-one attention. Students need to first explain what aspects of engineering interest them the most. This helps focus the director's attention on the best company for the student or even the best division within a company. Students must also write a resume in French, following the format used in France. In addition, students supply a list of technical courses they have studied at URI. This list stands in for a transcript which helps the companies assess the training and expertise of the potential interns. Students also write a generic lettre de motivation or cover letter, which they learn how to modify to target a specific internship. As most companies now require electronic applications to the internships posted on their websites, students also need to learn how to read job announcements and determine if they qualify for them. If the company selects their candidacy for further review, the students will be interviewed by telephone in French and will also sometimes be brought in for an on-site interview as well. The company makes a serious investment in the students, and expects an equally serious commitment on the part of the student. The student will be expected to use French in the daily working environment. The student will have to interact effectively and appropriately with others at the

company. The student will need to apply his or her engineering knowledge in order to meet the goals within the project. The company's expectations match those of the IEP. As Director of the French IEP, I want students to improve their language skills, to develop a deeper ability to interact effectively with people in the company and beyond both professionally and socially, and to apply their technical skills and learn more about their engineering discipline. I use these criteria to gauge a student's success during the internship abroad.

FORMAT OF EXIT INTERVIEW

The exit interview I conduct aims to determine to what extent students perceive that they were prepared to succeed in their internship and which areas of preparation they feel were their strongest. I began administering the exit interview in 2004, a year after I became director of the French IEP. Since 2004, I have conducted eleven exit interviews. I have placed 25 students on internships, so there are a few who got away, as it were. The interview is based on a written evaluation form (found below in Table 1), but I conduct it as an interview so that I can ask follow-up questions if an answer seems ambiguous. This gives me the flexibility to respond to each student, to probe deeper, and ask for examples. However, the anonymity of the student's answer is lost since the program director conducts the exit interview. Students may be reluctant to share critical or negative information because of the closeness between the interviewer and the participants.

Table 1

IEP INTERNATIONAL INTERNSHIP EVALUATION

Name:	
Email:	
Company you interned with:	
Overseas location (city, country):	
Supervisor/Contact at company:	
Internship position title (if applicable):	
Stipend amount:	Dates of internship:

For questions 1 through 5, please circle the appropriate answer.

1. Were you well prepared as an engineer for the technical aspects of your internship?

NOT AT ALL		MORE OR LESS		YES, ABSOLUTELY
1	2	3	4	5

2. Were you well prepared linguistically to handle your internship in the target language?

NOT AT ALL		MORE OR LESS		YES, ABSOLUTELY
1	2	3	4	5

3. Were you well prepared to handle cultural differences during your internship?

NOT AT ALL		MORE OR LESS		YES, ABSOLUTELY
1	2	3	4	5

4. Would you recommend an internship like yours to other IEP students?

NOT AT ALL		MORE OR LESS		YES, ABSOLUTELY
1	2	3	4	5

5. How would you rate your international internship experience on the whole?

HORRIBLE		PRETTY GOOD		FANTASTIC
1	2	3	4	5

For the remaining questions, please write out your answers.

6. Briefly describe your duties and/or the project you worked on during the course of your international internship.

7. How much oversight and guidance were you given while interning? Do you feel this was appropriate?
8. How much was your stipend and was it sufficient to defray subsistence costs (housing, food, transportation)?
9. What cultural differences did you note in the behavior and attitudes of the people you worked with?
10. What do you feel you learned from your international internship experience (professionally and personally)?
11. How did the experience change you?
12. What kind of socializing did you do outside of work?
13. How was the work visa handled? What steps did you take? How were you assisted with this?
14. What other advice – practical, professional or philosophical – would you give to another intern going to this location?

Exit Interview Results

The exit interview has two parts. The first five questions of the exit interview are quantitative and the remaining questions are open-ended. For the first five students select a number from 1 to 5 to indicate their answer. Question 1 targets technical preparation. Question 2 focuses on language skills. Question 3 pinpoints cross-cultural preparation. Question 4 asks for an assessment of the specific internship. The last question asks for an evaluation of the international experience overall.

The total results for the five quantitative questions are shown in Table 2.

Table 2

Interview Question	Number of students selecting value 1	Number of students selecting value 2	Number of students selecting value 3	Number of students selecting value 4	Number of students selecting value 5	Average Score
Question 1	0	0	3[1]	6[2]	2	3.95
Question 2	0	0	6[3, 4]	4	3	3.81
Question 3	0	0	1	3	7	4.54
Question 4	0	1[5]	3	3[6]	7	4.38
Question 5	0	0	2	3[7]	6	4.45

[1] One of these is an average of a 1 and a 5.
[2] A response of 4.5 is included here, but was averaged as a 4.5 value.
[3] There were two answers with two parts. One student said 3 at the beginning of the internship, and 4 at the end. Another said 3 for coffee break socializing and a 4 for one-on-one situations.
[4] A response of 3.5 is included here, but was averaged as a 3.5 value.
[5] This was a two-part answer, a 2 for the internship topic and a 4.5 for the company
[6] The 4.5 from the two-part answer is included here, but was averaged as a 4.5 value.
[7] Two responses of 4.5 are included here, but were averaged as 4.5 values.

The complete questions are listed below.

Question 1: Were you well prepared as an engineer for the technical aspects of your internship?

Question 2: Were you well prepared linguistically to handle your internship in the target language?

Question 3: Were you well prepared to handle cultural differences during your internship?

Question 4: Would you recommend an internship like yours at this company to other IEP students?

Question 5: How would you rate your international internship experience on the whole?

Results for Question 5 indicate that students finish their international internship feeling very good about the whole experience. Scores were nearly as high for students' likelihood of recommending an internship like theirs to other IEP students. One student gave a two-part answer to this question, saying that for the company, she would give it a 4.5. On the other hand, for the internship topic, she would give it a 2. The student's background was in bio-chemical engineering but the internship dealt more with environmental concerns and biological effects. The averages for Question 4 and 5 indicate a very high rate of satisfaction with the internship and the overall experience. By this measure, one can conclude that the internship experience was a success; that is, students returned to URI perceiving the internship as a success.

The first three questions on the survey can give us some insights on which factors ensured the success of the international internship experience. Language competency, technical training, and cross-cultural sensitivity constitute the three most important aspects of the international internship, and the first three quantitative questions each examine one of them. A cursory view of the data would suggest that cultural preparation constitutes the most important criteria for success. Indeed, students gave the highest total average marks to Question 3 in which they assess their ability to handle cultural differences during their internship. This is the highest average score for any of the five questions. Clearly students felt that they had been well prepared to handle cultural differences during their internship. In Question 9, I ask students to comment of the cultural differences they noticed in behavior and attitudes of their co-workers. One student said that her French colleagues were more blunt, and that in France "people speak their minds." She noted that criticism was more frank and that people expect to be criticized more than in the US. Another student said that he anticipated a more "laid-back attitude" but it was not. In addition, he said people were informal, using the "tu" pronoun and addressing each other by first names. A student at a different company also noted an informal atmosphere, but said that the French at his company were "very proud of the 'work to live' philosophy," adding that coffee breaks were often very long. One also spoke of the use of informal and formal second person singular pronouns, saying that learning to apply them correctly at her company was a challenge. She added that there were "a lot of rules for politeness" specifying the need to use a "Bonjour" and "Au revoir" when encountering people. Another student mentioned that it was important to be "more used to independent and autonomous work." Another student noted that her work site was very casual, but that the biggest cultural difference was that "boundaries were less distinct." She added that personal space was defined differently, saying that nobody worked alone and that socializing and social skills were very important. She suggested that this might have more related to her specific work situation. She was interning with a construction company that was building a highway in a remote area. The work site consisted of a cluster of temporary trailers. Another intern at a construction company involved in building an office tower noted that the biggest cultural difference was the mix of cultures. He said there were workers from Portugal, Spain, and Morocco on the site -- some of whom spoke little French. He also found the one- to two-hour long lunches with wine to be strange. Another intern noted that her French colleagues "watched their watches a lot," always monitoring when they would be able to leave work. Another intern remarked on the daily greetings with handshakes all around. He also noted a more relaxed work environment with regular coffee breaks. There are three likely explanations for the high scores relating to cross-cultural preparation. The first is simply that the students were in fact very well prepared to recognize and adapt to the French cultural differences. Within the French IEP, we prepare students culturally within the courses that are part of any French major's curriculum. Cultural instruction is embedded within their language courses. We have a business French course, but this course is an upper-level course usually taken by students during their last year at URI. In addition, we offer pre-departure workshops which sensitize students to cultural differences. Students' favorable perception of their cross-cultural skills should be a source of pride for the French IEP because as Karin Fischer notes in a recent article for The Chronicle of Higher Education, "recruiters put a premium on the ability of potential hires to succeed in unfamiliar situations with co-workers from different backgrounds and cultures." A second explanation for the high scores could be that

corporate culture has its own rules which are more explicit. The variety of comments from the students on their workplace culture prove that these are definitely micro-cultures. Whether or not the cultural rules within them are more explicit is beyond the scope of this article. Nevertheless, the students' comments on workplace culture prove their ability to observe the culture and adapt to it. A third explanation could be that cultural misunderstanding took place but that the student was unaware of it. It is certainly possible that students were blind to moments of culturally crossed signals. The reason for suggesting this cultural blind spot is that three of the eleven respondents answered Question 9 by saying that there were not significant cultural differences. One said, that there were "not too many" cultural differences. A second, who had interned in Québec, said that for cultural differences there were "None to note." A third said that for cultural differences there were "none really, they work on an American system. They work really hard, over 40 hours a week." However, overall students demonstrated cross-cultural awareness as evidenced by the examples and observations they provided during the open-ended part of the exit interview, suggesting that their self-perception was accurate.

Concerning their technical preparation, students felt that they were prepared for the technical aspects of their internship. One of the three students who gave a score of three to this question had a two part answer. The student, a computer engineering student, said that since his internship required him to program in Python, a computer language he had never studied, he felt as if he should rate his technical preparation a 1 and say that he not at all prepared for the technical aspects of the internship. However, given that he was able to learn Python and use it to complete his internship successfully, he felt that he should also say his technical preparation was a 5. As a compromise, he decided to say 3, that he was more or less prepared for the technical aspects of the internship. The other two students who gave answered this question with a score of 3 said that the internship was modified to fit their training. One said that the company taught her a lot on the job and the other said that they based the internship on the skills of the students. The low score of 3 that they gave themselves on their technical preparation suggests that there was a significant amount of adaptation of the internship, either through the on-the-job training or through modification of the intern's responsibilities. In fact, most criticism related to technical preparation centered on the topic of the internship. Two students felt their topic was more science-oriented and that they spent most of their time designing and conducting laboratory experiments rather than doing the engineering they felt they had been training to do. A third student said her internship involved a lot of desk work, compiling databases and using office-style computer programs. She remarked that she was completely prepared for this since she knew how to use all the computer software, but she gave a mark of 3 to her international experience on the whole because of the heavy office work that her internship topic required of her. Overall, the average score for responses to this question represents success. The internship is a learning experience designed by the French companies with pedagogical objectives. As such it should stretch the students beyond their existing base. In addition, the companies that have hosted interns have all either taken on more or have expressed a desire to do so.

Of all five of the first questions, the one with the lowest average score was the language preparation. There are thirteen total answers because two students gave two-part answers. One said that at the beginning of his internship, he was prepared linguistically at the 3 level, but at the end he was at the 4 level. A second said that for one-on-one conversations he was at the 4 level but that for the socializing during coffee breaks he was at the 3 level. Four students made comments suggesting that the main obstacle was lack of technical French. Two students stated this specifically. One said that "technical vocabulary was missing." Another said she rated her linguistic preparation at a 3.5 "because of [her] lack of technical French." A third made the same point but in the reverse direction. She rated her linguistic preparation a 5 because "the words weren't varied -- all the offers were written in English." Her internship involved compiling "calls for tenders" or "appel d'offres" by outside contractors. Her comment suggests that she may have found the technical vocabulary to be difficult if the offers had been written in French. The fourth student had the most ambiguous explanation of why she rated her linguistic preparation a 3. She said, "Nothing could have made me more prepared." I regret not asking her to elaborate, but the comment echoes that of the first student I placed on internship. Upon her return she told me that she lacked many of the technical terms. When I asked her if she thought we could incorporate them into a class, she said no, explaining that many of the terms were specific to the company she interned with, and some terms were even specific to her internship within the company.

In the more qualitative questions concerning their internship, students described a great deal of learning

and growth. And surprisingly, very little had to do with language or engineering. For instance, in regard to Question 10, which asks them what they learned from their international internship experience, and Question 11, which asks them to describe how the experience changed them, students overwhelmingly mentioned an increase in self-confidence. Of the eleven students interviewed, ten of them spoke of an increase in self-confidence, maturity, self-reliance or independence. One student said that she is now "more outgoing and confident," adding a touch of drama by saying that it is "good to know she survived" the international internship experience. Similarly, a student said that he learned that "I can do anything that I really try hard to do." He added that the experience boosted his confidence because he now knows he was "able to complete an internship overseas." In parallel with making her more confident, a third said she also realized that "she had to be more vocal to indicate understanding," which suggests that being a non-native speaker forced her into a more active conversational style. Another student said that in addition to developing more self-confidence, and she added, "The fear of not being able to do something well enough is gone." She expanded on this by saying that she learned that "complete knowledge isn't necessary before doing something." This idea of a new confidence beyond academics was echoed by a student who said that the "job site is more than the GPA." In an inspirational style, one student said simply she learned "you can do anything if you really want to." Rather than speak of confidence per se, one student remarked on his growth in maturity and independence, saying that he learned how to live on his own and make all his own decisions. This comment was echoed by another who added the important learning experience of "budgeting my money." This same student also said her confidence had grown and she is now "more active in class." Another student noted that personally she learned "that I could do it. It was a confidence booster." Another student said that his level of self-sufficiency increased during the internship. The students in the French IEP were nearly unanimous in noting the growth of their self-confidence. This type of growth has been noted by other researchers. For example, in their article, Orpett, Akande, Purdy, and Nakano also note that students participating their short-term program in Japan "reported that they now felt more confident that they could live in another culture" (103). The long-term internship abroad experience of the IEP fosters growth in student confidence in many areas. The French IEP students imply within all their comments the anticipation that the experience would be a challenge. And upon completing it, they realized that they stared the challenge in the face and did not blink once. This is clearly an area of enormous growth for the students.

The next most frequently mentioned area of growth was knowledge of business practices. Five students noted to this. One student remarked that she learned "about the dynamics of a big company" and that her boss "was a stickler for scientific evidence" who "had high professional standards." Concerning professional success, one student said he learned that social skills count a lot. He explained that "friendly relationships are important. You have to be technical but also be able to joke and interact." Another said that she learned "how big companies work." Learning about "the behind-the-scenes part of a construction site" was invaluable to a civil engineering student. A different civil engineering student wrote about specific work-related accomplishments. He said that professionally "school gave the base, but the company trained," and that he learned "how to interact with a client, present reports, [and] draw AutoCAD for a worker's perspective." Working within a company gave the students a chance to learn about the business of engineering. It is not all about calculations.

Related perhaps to learning about business practices, was the understanding of one's likes and dislikes. One student said she learned she does not like office work and does not want to do any kind of "managerial engineering." Another said she learned she liked working with ocean data and designing off-shore structures. Two students said they learned they did not want to work in France. One said that the computer engineers hired at his company (which was not a computer science company) were contractors and that their pay was low and the jobs were volatile. The other said that she learned that "I don't want to work in France permanently." She added that she likes stores to be open till 9 pm and on Sundays. She didn't like the hierarchy within the company, adding that the department heads were contemptuous of the technicians and there was a great divide between the levels. Another said he learned he liked the work he did and would like to continue doing it.

Only two students mentioned learning technical things during their internship. One said he learned the computer language Python. Another said she learned things on quality control techniques. More common was for students to say they learned to broaden their cultural perspectives. One said, "It opens your eyes when you travel." Anther said that he learned about the world. And another said the experience gave him a "broader view of cultures."

Another said it made her realize she can work outside the US and that she now "looks at the US differently." Another said she learned to "respect other cultures and their differences."

CONCLUDING REMARKS

One interesting result stemming from the exit interview was the low marks students gave to their language preparation in spite of the overall high marks concerning their satisfaction with the international internship experience in France. One could be tempted to argue that for these international engineering students, language learning is not an important criteria for success. This line of reasoning is suggested in Heather Willis Allen's article. In it, she stresses the importance of students' motivations in their language gains while abroad. She states that learning a language "to communicate or cooperate with others ... arising from an intrinsic interest in learning" will produce better linguistic gains that "learning with the goal of obtaining a result" (467). In other words, if the student focuses on interning in France as a way to increase their chances of landing a job, they may be less likely to improve their language skills. However, this is another respect in which an internship abroad differs from study abroad. Clearly the IEP students will have multiple motivations, including quite probably the improvement of both their engineering skills and their language skills. These multiple motivations need not be seen as mutually exclusive, and, in fact, the goal of the IEP is to demonstrate that these multiple motivations are complementary. Future research in this domain should include an evaluation of the motivations of the IEP students. One thing lacking in this study is that students were not asked to state what they consider to be criteria for success. Based on the students' comments about their lack of knowledge of technical French, I would conclude that more of this needs to be incorporated into the curriculum. However, it would be impossible to prepare all the French IEP students with all the technical vocabulary they might need. Instead, I would recommend building in independent learning experiences where they can learn how to anticipate necessary vocabulary. These are the conclusions that Amuzie and Winke came to in their article. They say that international students coming to the US to learn English "came to more strongly believe in the importance of learner autonomy and came to less strongly believe in the importance of the teacher's role in learning." In addition, successful language learning abroad becomes a more social activity. Celeste Kinginger, in her important study of study abroad programs and their role in language learning, stresses the importance of "deliberately situating [one's] learning experience primarily in informal settings" (8). In her conclusions, she notes that "language development in study-abroad programs is shown to relate closely not only to the qualities of student experiences, but also to the personal stances that students adopt in relation to these experiences" (107). Specifically, Kinginger emphasizes the adoption of a vision of "study abroad as a locus of growth through interpersonal relationships" (107). In this respect the international internship is likely to be a high-quality learning experience for students since the placement within a company requires a fair amount of social interaction. Concerning the company, it would also be important in future studies to add the employer's perspective. This would allow for an external confirmation of the students' perceptions of themselves.

The exit interview assessed three things. First, it measured how satisfied students were with their experience, and overall students were highly satisfied with the experience. Second, it measured the extent to which students felt they were prepared for their internship. For this, questions target their preparation in language, engineering, and cross-cultural communication. In general, students felt that they were well prepared for their international engineering internship. Third, it evaluated the extent to which the experience changed them. In summary, the international engineering experience transforms students and changes them in ways that go beyond their academic preparation.

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