

## **Agricultural Research in Spain**

### Liam F's Final Report

I had arrived in the city three days before my internship began. My internship's first morning, I was escorted from my flat to the Neiker Biological Research Institute by the husband of my onsite mentor. This was an easy twenty minute train ride. In fact, the whole first day was easy, filled only with introductions to coworkers whose names I quickly forgot, a lunch with my boss in which we discussed my work, and a tour of the work building. I was nervous and embarrassed for my lousy Spanish, but everyone was very kind.

Just looking at the facilities made me excited to work. The Neiker building was a more professional work environment than I had ever been part of before, crowded with (relatively) new research machines, UV light in every room, and each worker with a private desk. When I saw I would have my own desk and personal computer, I knew my time here would be more substantial and independent than I had expected. This made me a bit nervous, but very excited and happy to be there. My first day was all pleasant surprises.

My Spanish was poor and eclectic. Before my internship I had two years of elementary school education, several months of private tutoring, and an unusual amount of self-study connected with my classes in English grammar. I had a relatively strong grammatical understanding (studying English grammar had put me at a significant advantage here) but I could express myself in simple concepts. Listening comprehension and vocabulary were both major weaknesses. Developing my Spanish was a major reason for my being there, and within the first two weeks I purchased two books in Spanish to read and enlisted myself with a tutor in the local "Hemingway Institute" school of Spanish for foreigners. I spent the majority of my weekends

studying Spanish by reading, listening to music, poetry, watching film, or practicing with exercises in Spanish. My ability to speak and write are now fairly good, my pronunciation reasonable. However, listening comprehension inhibits much conversation; I still require Spanish speakers to speak slowly for me to understand.

My internship benefited me professionally largely for two reasons. The first is that I operated independently in a biolaboratory work environment, utilizing all the same tools I will use in future employment in this field. I worked alongside biology graduate students, often doing the same work as they, the same work I'll do if I choose graduate school in biology.

The second professional value is that I wrote, largely independently, a scientific article. This article reviewed previous experiments which involved *in vitro* granuloma formation with Mycobacterium, their successes, shortcomings, techniques, potential usefulness, and work left to be done. While this work greatly expanded my understanding of immune system defenses and *in vitro* cellular growth, acquainting myself with the language and style of scientific articles was especially beneficial. To complete this project I had to read and understand many articles, then write one of my own with appropriate scientific style and vocabulary. It's hard to imagine a task which would better prepare me for engagement with the scientific community. In many senses, I had already engaged with the scientific community, as the article was proposed for publication with BioMed research international (we will know if it's accepted in several months).

The language barrier challenged me the most during my internship, though working through it personally rewarded me the most. There's no shortcut to learning a language; you just have to study and practice. But I was very fortunate to practice with native speakers, and taking part in this learning will change how I approach communication, even in my native tongue.

Learning another language forced me to reconsider the essential elements of a language, the roles of body language, “buzzwords,” and vocal tone.

I felt very grateful to be part of this organization and wanted very much to be an asset. The most obvious thing I did to make this happen was always arrive on time and stay productive throughout the day. I also regularly checked in with my coworkers to see if I could help in any extra ways. This led to reviewing several coworkers’ articles for English grammar and helping with sample collection on several occasions. I made clear to my supervisor when I had extra time and made clear that I wanted to help and be an asset in any way I could.

I had, and required, very little guidance from my academic faculty at home. At the beginning of the internship, my mentor on-site and I wrote a work plan which I sent to my faculty sponsor at home, who told me the outlined tasks would be appropriate. After that, he let me work independently, though telling me to make a PowerPoint presentation of my work to show him when I returned.

My mentor on site also encouraged me to work independently, which appreciated as important for my professional development. I could check in whenever I had questions or needed counseling on the next step, but my work itself was independent.

Of course I wish I had stronger Spanish before I arrived, but that would be the case even if I was a very strong speaker. All I can think of wanting to know beforehand was how independent my work would be. That I would do all my work alone and go days without counseling with my mentor was a very pleasant surprise, but I may have prepared myself differently if I had expected such. All in all, between all the cultural and professional IE3 orientations, I was very well prepared for what I experienced in Spain and in this internship.

I had few expectations of Spain going into my internship. I had heard Spaniards and other Europeans alike joke about the Spanish lack of work ethic, but I wasn't sure how seriously to take them. Right away I was impressed with the living conditions in Spain: the food was generally better and cheaper than I was used to in Seattle, and the streets were better oriented for pedestrians. The most striking differences were in how the Spaniards approached business: the stores did indeed close for a "siesta" in the afternoon, lunch breaks were a little longer, and no one *ever* worked on Sunday. But by the end of my stay, it was clear that besides time management, cuisine and greetings (my coworkers practiced the European two-cheek-kiss greeting) most things were the same as Seattle.

On a typically day I woke just before seven, ate breakfast, took a fifteen minute walk to a train which took me out of Bilbao and into a small town called Derio in twenty minutes. I then walked fifteen minutes from the train to my internship site, the Neiker Biological Science Research Institute. I typically caught the 7:30 train and arrived at my worksite before 8:30. I came to my desk and checked my emails (since we were sometimes on different work schedules, my mentor and I often communicated by email). Then I began whatever projects were available to me, usually either writing the review article mentioned earlier or extracting DNA from deer intestinal tissue. If I was writing, I worked upstairs at "my" desk. Laboratory work was downstairs with a white coat and plastic gloves. I took part in the fifteen minute coffee break at 11:30, the forty-five minute lunch break at 1:30, and worked until 4:00, when I caught the train back home. I often bought groceries after work, prepared lunch for the next day (lunch is the primary meal in Spain, and requires as much attention as American dinner), practiced my Spanish with a book or film, and slept eight or nine hours, always exhausted and happy.