

Second Language Advantages to the Construction Industry

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The university is well known for its prowess in construction management. It is essential for construction management students to learn additional skills. The current trend in construction management predicts its expansion across international borders. A construction manager will have an added advantage working abroad if they can communicate using different languages. Knowledge of foreign languages is advantageous as it increases the chance of securing job opportunities and sharing effectively with others. However, this can only be attained by encouraging more students to learn to integrate their skills with at least one or two foreign languages. It is, therefore, essential to encourage students to integrate their skills with at least one foreign language. Creating awareness about the importance of being multilingual in the construction industry can arouse the interest in studying more foreign languages. This research project will conduct by handling out seven questions survey of all current CM students. Communication is essential, especially when working with people from different backgrounds. This research paper aims to investigate the different perspectives about integrating foreign languages into the construction management curriculum. Out of the 48 responses, over half of the students have experienced requires them to use another language in the industry.

Keywords: Language, Second Language, Construction Management, Foreign Language, Construction

Introduction

Effective communication involves passing information from one person to another, and it is an essential component of construction management. Good communication ensures that the assigned duties are completed as required by head management. Most construction management institutions need students to learn foreign languages, but they do not provide the necessary resources to learn the essentials. Despite this, studies show that knowledge in an additional common language is an added advantage according to current trends in Construction Management. Multilingual international relations help stand out during competitions for jobs, strengthen connections with different people, attract more clients and opportunities, and effective representations during business reactions meetings with partners from other regions. Even though being multilingual is not essential, most people realize the importance of securing international job opportunities. It would be best to integrate foreign languages into the building and construction curriculum to avoid the regrets that come with not knowing a second language,

The lifting of travel barriers for trade improvement has enhanced international relations. Consequently, this has also lead to the globalization of the construction industry. Language skills are vital in the construction industry because different people from different regions work together to realize the intended goals of the construction projects. With the high competition in the industry, people skilled in construction tend to look for opportunities in different parts and regions. Globalization in the sector and diversification of people's backgrounds make it necessary to diversify the knowledge of other languages.

With the open doors to international borders, many immigrants secure job opportunities at construction sites located abroad. However, due to the diversified cultural backgrounds of those employees and their seniors, there is a hindrance caused by having a language barrier. The communication barriers caused by the difference in languages lead to low outputs and inefficacy. Some of the areas affected by the language barriers are assessments, training, and orientation skills, leading to a lack of clarity when passing on rules and policies; this significantly contributes to several accidents. The language barrier acts as a hindrance to workers, especially if they want to communicate safety measures. Spanish is the most used language in construction sites in the United States. The same case applies to English, Chinese, French, Portuguese, German Russian, and Arabic. A lot of universities require students to study foreign languages. Cal Poly has world languages and cultures sector whose role is to offer support for international studies. It provides students postgraduate courses in foreign languages like Chinese, French, German, and Spanish. The institute also offers undergraduate courses in Italian, Japanese, and Mandarin Chinese. Cal Poly's foreign languages and the cultural department are mandated to equip students with knowledge in foreign languages. Effective communication in the construction industry has dramatically necessitated the integration of foreign languages with the construction management curriculum. However, emphasis on the topic itself should be a priority and not a particular language.

Literature Review

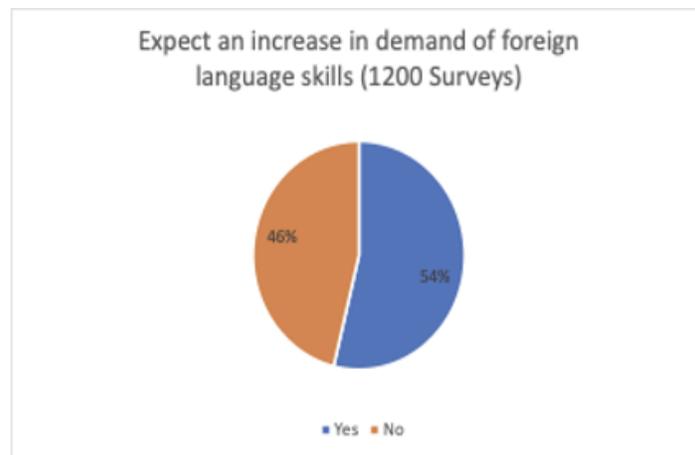
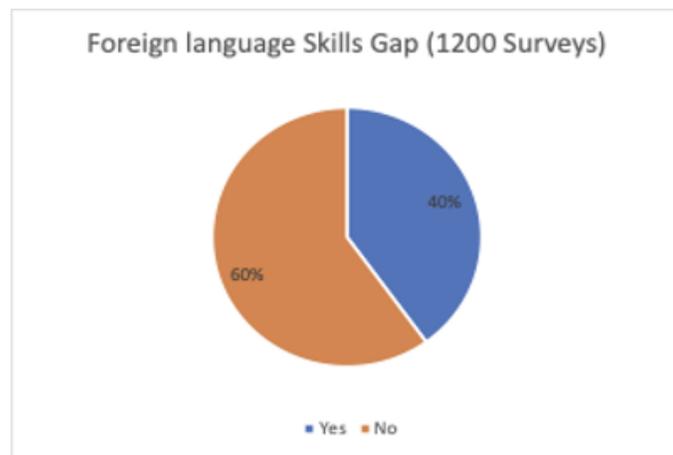
Workers in construction sites are usually busy. The workers have strict deadlines to meet and highly urgent goals that are expected to be accomplished. However, to manage all of this, teamwork is essential. This ensures that the delegated duties are carried out effectively to achieve the goals. Collaboration is accomplished when there is excellent and efficient communication. Teamwork brings cooperation to the sites and enables the workers to operate efficiently. When working as a team, information sharing would create trust and create a situation whereby everyone feels free. Teamwork helps increase the safety of the workers in the construction sites, thereby improving the productivity and quality of the project, creating a winning team. Due to the open doors, securing jobs in construction sites has become more accessible. It means that people from different backgrounds and cultures work as teams, but the language barrier might hinder teamwork in this case. The only way to mitigate the issue of the language barrier is through learning new languages. The difference in perceptions and people's reasoning often leads to misunderstandings. The language barrier makes it difficult to solve the misconceptions, leading to conflicts as everyone feels that their ideologies are not being prioritized. However, knowledge in one of the languages of the disputing parties can be essential in identifying clashes in ideas and solving the conflicts when they arise.

Communication is essential in the construction industry. Conversing people need to have the ability to understand the language that is being used to convey the message. A recent study has shown a vast difference in the language used by the workers and their seniors in the construction industry. During the survey carried out by the American Council on the Teaching of Foreign Languages (ACTFL, 2019), 40% of the contractors reported that there is high use of foreign language in their sites of management. In addition, 54% went ahead to confirm that there is a likelihood that the demand for learning new foreign languages will increase. The survey outcomes enhanced the need for studying foreign languages.

The only way to deal with the common language barrier would be to introduce foreign languages in university curriculums. Some international institutions have already emulated this idea and have started to teach the most common terms in construction using different languages like Spanish and English. These universities include the Iowa State University(2020) and Virginia state

Polytechnic(2020). If foreign language classes are offered in universities, the language barriers will significantly decrease within the next ten years. There is a high likelihood for the emergence of conflicts when different parties come together because disputes can be easily solved when a common language is used (Koutsogiannis 34). Not only does a common language help in solving conflicts, but it also helps in performing duties diligently, enhancing communication, creating job opportunities, improving communication, and helps in reducing accidents that are likely to occur in the workplace. Additionally, using a common language can enable one to alert other workers in case of an emergency, therefore saving lives.

A new report from the American Council on the Teaching of Foreign Languages (ACTFL 2019) suggests that the construction industry has the most significant gap between skilled workers who primarily speak another language and the number of managers who can speak those languages. Forty percent of contractors who responded to the survey reported a considerable gap in foreign language skills on their job sites. Fifty-four percent expected an increase in the demand for foreign language skills over the next five years.



(Data from ACTFL)

"There is no denying of the dominant position that STEM subjects have enjoyed in today's curriculum. Foreign languages, unfortunately, are often treated as a competing discipline. Our survey findings

highlight the need for world language skills to be recognized as complementary and interdependent. We already know the language learning deepens our connections to other cultures, boosts confidence, strengthens decision-making, and contributes greatly to national security; we also know that language skills are necessary to produce globally competent employees that businesses are seeking. This realization requires an education system that prepares graduates to be proficient in foreign languages to compete in the 21st-century global economy." says Howie Berman, ACTFL's executive director.

The table below shows that the survey participants agree with the overall order of the most serious to the most negligible severe consequences of the English-Spanish Language Barrier. The effects are as follows:

- 1) Difficulty in Giving Instruction (Basic Jobsite Communication)
- 2) Greater Safety Risks
- 3) Loss of Productivity/ Efficiency
- 4) Lack of Respect/ Diminished Team Atmosphere

Consequence	Total (all participants)	Super-intendents	Project Managers	Field Engineers	Other
Loss of Productivity/ Efficiency	22.4%	21.9%	22.6%	23.8%	19.5%
Greater Safety Risks	27.3%	29.1%	26.1%	27.5%	27.6%
Difficulty in Giving Instructions (Basic Jobsite Communication)	30.0%	29.8%	30.3%	30.3%	27.6%
Lack of Respect/ Diminished Team Atmosphere	17.9%	18.2%	16.7%	17.4%	25.3%
Other (Write In)	2.4%	1.0%	4.3%	1.0%	0.0%

(Data collected from ACTEL)

Efficient teamwork requires good communication among the team members. If there is difficulty in giving or receiving instructions, there will be severe consequences. For example, it will be frustrating to find a supervisor to provide the simplest of education as people will agree that they understand the instructions when they do not. They agree just because they want to keep their job and to please their upper management. Moreover, it also creates a greater safety risk and is dangerous for all workers because they cannot warn each other of immediate harm.

Universities should teach more foreign languages or include foreign languages as a small part of the construction program requirement. In that case, the percentage of language barriers might decrease significantly over the next decade. Younger professionals must agree that learning a second language is necessary. Some universities lead in helping their students become bilingual, specifically Iowa State University and Virginia Polytechnic Institute, and State University. At Iowa State University, the Center for Transportation Research and Education attempted to Create Effective Training for American Supervisors with Hispanic Construction Workers. They have SSL (Spanish as Second Language Survival Course) and CPCB (Concrete Paving Construction Basics).

SSL includes;

- 1) Meaning in Spanish

- 2) Meaning in English
- 3) Spanish pronunciation
- 4) A picture of the word

On the other hand, Virginia Polytechnic Institute and State University have incorporated *InterLingo* into their undergraduate program. InterLingo website contains all information for important tools for a specific program in the construction profession. For projects containing numerous individuals working together, conflicts may arise due to a language barrier. It is totally up to the companies and individuals to solve those conflicts. According to Koutsogiannis (2018), the advantages of learning a second language in the construction industry include:

1. Increase work efficiency
2. Construction is already a multi-language market
3. Increase your chances of expanding into new markets
4. Have a significant competitive advantage
5. Workers may not speak English at all
6. Reduce safety risks
7. Full disclosure in terms of communication
8. Lack of communication can be used as an excuse to overlook directions
9. Language can be a barrier in building long-term relationships with other colleagues

Methodology

To view a blank version of the survey, please see Appendix A.

The question of whether should add a foreign language to the construction management curriculum is prevalent. A quantitative survey was utilized for this research study. This study aimed to seek data on the student's opinions on improving the construction management program by introducing foreign languages. This involved collecting data and representing it with the number of students. The data was collected using a set of six questions. The questions were administered to students and professors in the second and fourth week of the winter quarters of the semester (26th October 2020 to 9th November 2020). Most people acknowledged the importance of studying a second language and its integration into the construction and management curriculum. The purpose of the survey was to bring out the importance of having an additional language in the construction industry.

The survey also aimed to investigate the challenges that arise because of language barriers in the construction industry and how they can solve them by integrating the construction management curriculum with foreign languages. The language barrier was a significant challenge for communication between the employees, contractors, and clients. The survey combines the different situations that the students have experienced without the foreign language and the advantages that can accrue because of studying additional foreign languages, especially in the building and construction industry.

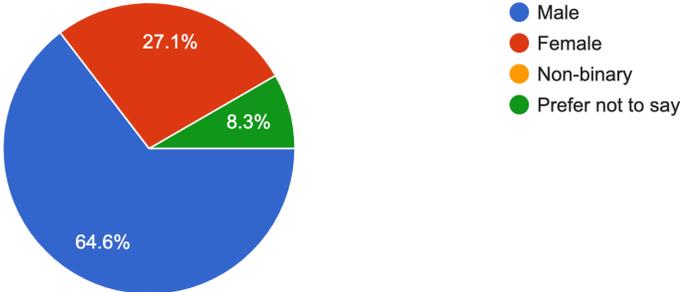
The project survey involved 48 students and professors from California Polytechnic State University. The results were compiled and analyzed. The questions asked were, what your gender is/what school you are in, describe a moment that has required you to use a foreign language. Question four and five were interrelated, with question five being optional. The data collected was presented using a pie chart and tabular representation with the actual percentages.

Results

The gender question showed that most of the people interviewed were male with 64.6%, females with 27.1%, while the rest preferred not to say their gender. The data were represented as shown below.

1. What is your gender?

48 responses



(Pie chart collected from my survey)

2. What year of school are you in?

48 responses

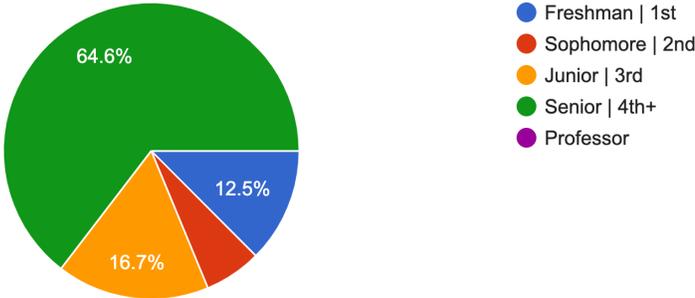


Figure 2. Year Results

Most of the interviewed participants were students in their fourth year of study on campus, while the minority were in their second year.

3. Describe a moment from school or internship experience that required you to use another language in the Construction industry?

Question number three on whether the interviewees have ever had an experience requiring the use of a foreign language had several responses. The responses were based on a situation where they were required to use a foreign language but could not communicate efficiently. The interviewees were very

clear that the language barrier is a massive hindrance to communication in the construction sites. Communication with both the colleagues and the senior is essential for smooth flow and coordination of activities in the workplace. Lack of knowledge in international languages causes misunderstandings, leading to inconveniences, job delays, and safety risks.

Several of the indicative responses were:

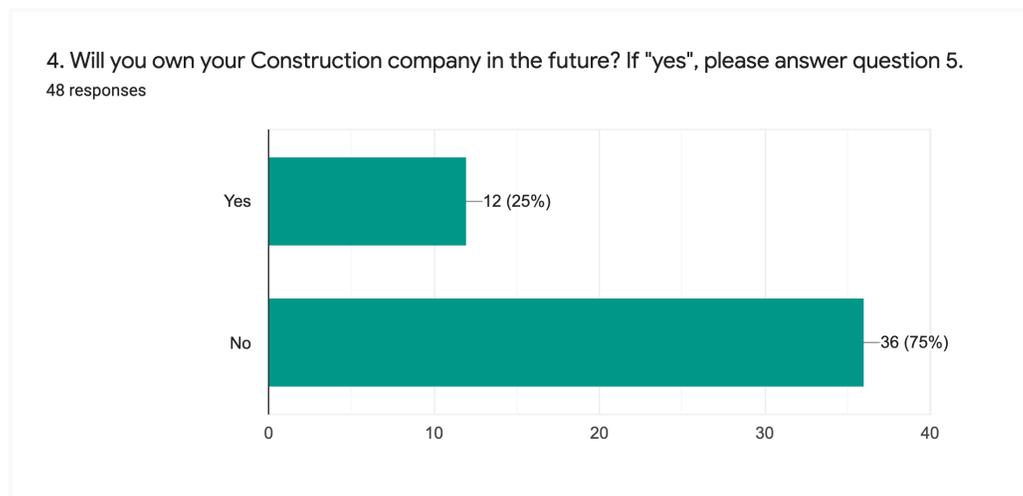
Several of the meaningful responses are:

“My last internship is during COVID time. I designed two check-in sheets for my job site. According to the variety of races on the job site, I asked my subcontractor(Mexican) to write a Spanish version of the check-in sheet. I wrote the check-in sheet in Chinese.”

“During the summer internship of my junior year, I interned as a carpenter apprentice. I used the basic Spanish skills I learned in high school to use basic phrases. I was not required.”

“Sometimes it is beneficial to be able to speak Spanish when talking with some tradesmen.”

“For my first internship experience, some Mexican painters did not turn off the light after painting the wall. I asked them to turn off the light in English, but it seems like they did not understand what I was talking about. Unfortunately, their foremen were not next to them. At that moment, I was super frustrated and hopeless because it was my first internship, I could not even communicate with my subcontractors. After reactions that, I started finding some language learning applications to improve my Spanish.”



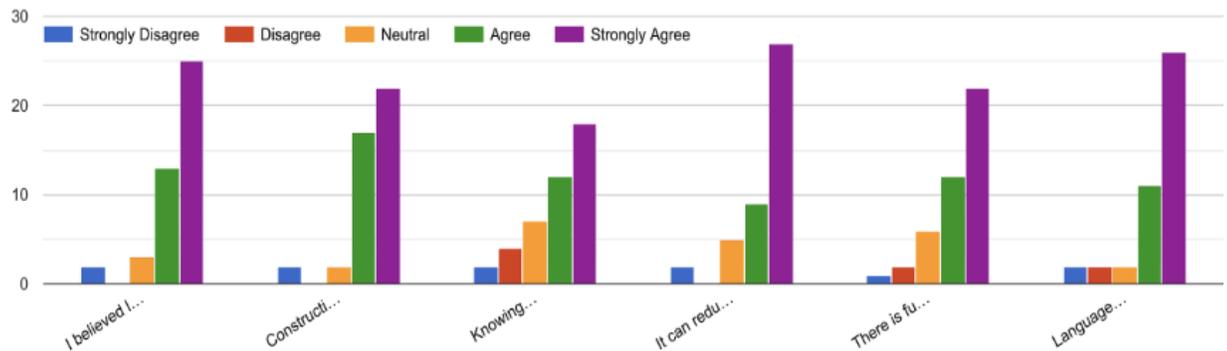
(Question 4 data collected from my survey)

The majority of the interviewed students had aspirations of owning construction companies locally, while the minority preferred to go international. One of the interviewees explained how it feels when they tried to communicate with a person who was using a different language. Language disparities often lead to inconveniences in the construction and management industry, leading to failure and unexpected adverse outcomes at the end of the projects.

5. Do you have a plan to expand your company to the international market?

We received 13 responses, and out of the 13 responses, four people wanted to expand their company to the international market.

6. Please mark your level of agreement with each of the following statements.



The choices for this question were:

1. I believed learning a foreign language will increase my chances of expanding internationally.
2. Construction is already a multi-language market.
3. Knowing multiple languages will create significant competitive advantages
4. It can reduce safety risks
5. There is full disclosure in terms of communication
6. Language can be a barrier in the construction industry

Analysis

The research showed that most of the students studying construction management in the California polytechnic state university are males, as 65.1% of the interviewees were males. However, with the diversifying economies and shortage of jobs, females are increasingly enrolling in construction management courses. Over the past decade, the industry has been mainly dominated by males. However, recent research has brought to attention that this is due to the lack of relevant training institutions. Others point the finger at the gender biases in most societies. Women constitute 9% of the labor force in the construction industry in the U.S. (Bureau of Labor Statistics). The projected increase of international opportunities in the sector suggests a likelihood for the shortage of competent workers. Integration of foreign languages and encouraging more women to take up construction management courses will surely solve the projected scarcity of competitive workers in the construction industry.

Professionals in the construction industry gain more knowledge as they stay longer in the industry; this creates room for expertise in the field. During this research, the highest number of students interviewed who supported the introduction of foreign languages in the construction management curriculum were in their final years. This shows that the little experience they gained from their attachment during studies has contributed to realizing the necessity of studying a foreign language. The first and second years in Cal Poly contributed to the minor support for introducing foreign languages in their construction management curriculum. This could have been due to their lack of knowledge on the

importance of studying a foreign language. However, with globalization in the industry, most construction and management fields will require one foreign language.

Globalization has led to the importation of human resources from different cultures, countries, and backgrounds. This has created opportunities in the construction industry where most of these immigrants secure jobs. Constructions are mainly done through communications which enhance coordination and teamwork. The language barrier has been and continues to be a significant problem in creating an effective work team. Diversity in the languages used by the workers and their seniors makes it almost impossible to communicate effectively. Regular effective communication helps team building by creating trust, reducing the risks, clarifying instructions, and enhances senior to junior communication about policies and expected outcomes. From the research, few undergraduate students had gone through situations that required them to use a foreign language, while some have not yet experienced such problems. This might be due to little or no experience in the construction industry. Most of the people interviewed used their past experiences to gauge the importance of introducing foreign languages in the construction curriculum. The people who had not experienced communication barriers in their day-to-day experiences saw the need to teach foreign languages in the curriculum.

In contrast, those that had not had any experience saw no need for it. As per the interviews, it was concluded that there was a need to integrate foreign languages with the construction curriculum. It will help find solutions to language barriers in the industry and create competency in securing jobs in the competitive field. In question 4, most of the partisans from the California Polytechnic University were not interested in owning their own companies. At the same time, only a few showed interest. 26% had inspirations to hold their own construction companies, whereas 76% were not interested. The main reasons might be due to the challenges related to the complicated legal formalities of owning a company in the states. Construction companies can be sole proprietorship businesses or partnerships. Ownership of a company requires licenses and permits issued by the local authorities under the registered legal protocols.

On the other hand, the diversification and the stiff competition in the industry might also be contributing factors and why most of the students do not wish to own their own companies. Significantly future construction managers might be scared away by the high cost of investments required in the construction industry. Shying away from management and controlling people could also be a contributing factor even though most people like being their boss instead of being employed and managed. Out of the 26% of the students who had the aspiration to own their own construction companies, four focused on holding international companies while others just like being bosses in their own countries. This can be attributed to many factors, one of which might be the fear of experiencing the language barrier with people from different backgrounds who have secured international jobs.

Conclusion

The development of the construction industry requires a large pool of human resources. The introduction of foreign languages in the construction industry and a continued increase in the number of women enrolling in the construction industry will increase the number of competent female workers in the construction industry. Women are gradually getting into the construction industry and are even securing managerial positions in the construction industry. The construction job opportunities are expected to rise with 2000,000 jobs within the next two years; this means that the demand for workers will be high. This will require the willing females to take up the opportunities present in the construction industry. The introduction of foreign languages in the construction curriculums will equip females in the construction industry with competent skills. The ability to be multilingual, especially as an international construction worker, is essential and advantageous. Apart from socializing and

mingling with people from different backgrounds and cultures, it helps solve disputes in construction sites. Secondly, speaking a foreign language helps make communication effective from the chain of command and promotes teamwork, leading to the practical realization of the set construction objectives.

For construction workers who are on a mission to secure international opportunities, learning the foreign language of the people you are working with is of utmost importance. Learning their language will contribute significantly to minimizing the communication barriers. Communication barriers cause disagreements between people who speak different languages. Some of the impacts of the communication barriers in the construction industry include: lack of clarity in the instructions and policies from the chain of command, difficulties in assessing the skills and work, increased safety risk factor, and poses a significant challenge during training others. These challenges often lead to delays in deadlines and accidents that could otherwise be avoided when there is no language barrier. The introduction of languages in the institutions offering construction management courses is the best way to deal with the communication barriers in the construction industry.

The development of global economies has led to globalization. The restrictions and travel bans have been lifted. With the job insecurities in different regions, most people are migrating internationally to secure jobs. The migrants come from other places and cultures across the globe, where they communicate using similar languages. Traveling to new places to work with new people can pose a language barrier if the immigrants do not know the language of the commons. However, working together as a team without any language barrier contributes to the performance and output of the group. The diversified pool of human resources from different places causes language barriers, which change many individuals' perceptions in this field. Most people now realize the importance of introducing foreign language programs in institutions offering construction and management courses. This will minimize the drawbacks that the language barrier causes.

Language disparities cause misunderstandings and confusion. This is especially the case in construction sites, predominantly when workers originate from different regions and cultures. This hinders teamwork among the workers. However, the situation can be improved by learning new additional languages. Most advantaged construction workers are those that can communicate in more than one language. This ability can be gained from the schools attended during training in construction management or can be learned as an additional subject after completing the construction management courses.

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Appendix A

1. What is your gender?
 - a. Male
 - b. Female
 - c. Non-binary
 - d. Prefer not to say

2. What year of school are you in?
 - a. 1st
 - b. 2nd
 - c. 3rd
 - d. 4th
 - e. 5th

3. Describe a moment from school or internship experience that requires you to use another language in the Construction industry?

4. Will you own your Construction company in the future?

5. Do you have a plan to expand your company to the international market?

6. Please mark your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I believed learning a foreign language will increase work efficiency					
Construction is already a multi-language market.					
Knowing multiple languages will create significant competitive advantages.					
It can reduce safety risks.					
There is full disclosure in terms of communication.					
Language can be a barrier in building long-term relationships with other colleagues.					

7. Do you have any additional comments?