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State of Construction Spanish and Hispanic Safety Culture Education in the US

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According to research studies, Hispanic and Spanish speaking labors make up about 30% of the fatalities in the construction industry. Experts concur that the language barrier between Spanish-speaking workers and English-speaking supervisors is the primary reason for these high rates. Construction Spanish courses need to be taught in construction management departments in colleges throughout the US in order to reduce the language/communication gap between labors and future construction managers or superintendents. This study examines the construction Spanish and Hispanic safety culture courses that are taught in construction programs in the US. It was determined that only a few construction Spanish courses are taught. There is a need to teach students construction Spanish language and Hispanic safety culture in order to reduce the rate of the Hispanic workforce fatalities and injuries.

Key Words: Construction Spanish, Hispanic Safety Culture, Phrases, Study Abroad

Introduction

In the U.S. construction industry, where a skilled labor shortage is a continuing problem, Hispanics represent a significant portion of the labor force. One in three workers in the US construction industry is Hispanic. The US Bureau of Labor Statistics (Na, 2022) reports that nearly one-third (31.5%) of the construction labor force is made up of Hispanics; additionally, the most common foreign language spoken among construction workers is Spanish at 75.2%. The US Hispanic labor force participation increased from 10.7 million in 1990 to 29.0 million in 2020 and is anticipated to reach 35.9 million in 2030 according to a US department of Labor blog (Dubina, 2021).

The most important demographic on the Hispanic workforce is job safety. The US Bureau of Labor Statistics (Na, 2022) reports that the Hispanic and Latino worker deaths as a percentage of total workforce have been increasing every year since 2011.

The literature shows that the majority of the Hispanic work-related fatalities and injuries can be attributed to their safety culture and communication barriers. Lavy and Porwal (2010) examined the safety measures taken by construction companies to address the linguistic and cultural barriers that exist among their Hispanic workforces. They concluded that the growing frequency of fatalities among Hispanic workers in the construction sector indicates that not enough is being done

to address the linguistic and cultural issues these workers' encounter.

Mowery (2017) surveyed construction industry executives, vice presidents, project managers, superintendents, assistant project managers, assistant superintendents, and field project engineers to identify the leading problems that English-Spanish language barrier creates in the industry. The results showed that 95.4% of the respondents indicated that a language barrier exists, with 65% of the respondents indicating that the problem is worsening over time. The study also showed that the top four consequences due to this language barrier were (1) difficulty in giving instructions (basic jobsite communication) at 30%, (2) greater safety risk at 27.3%, (3) loss of productivity/efficiency at 22.4%, and (4) lack of respect/diminished team atmosphere at 17.9%.

Mowery's (2017) research survey also showed that some construction companies are taking steps to teach Spanish to their English-speaking employees. These steps include training sessions; providing Spanish tutors, reference manuals/handbooks, and pocket translators; and hiring bilingual employees to mentor or teach. The survey participants responded that it is more likely and assumed more beneficial to teach Spanish to English-speaking individuals since their top consequence due to the language barrier was difficulty in giving instructions (basic jobsite communication).
These findings beg the question, how many construction programs across the country teach construction Spanish and/or Hispanic safety culture? The purpose of this study is to ascertain the state of construction Spanish and Hispanic safety culture education among the Associated Schools of Construction (ASC) in the US. Are ASC member schools doing their part to teach students construction Spanish and Hispanic safety culture in order to close the gap on the language/communication and cultural safety barriers that exists on construction jobsites among the English-speaking supervisors and Spanish-speaking workers?

Literature Review

The literature search showed that some effort has been made to develop college level courses on the topic of construction Spanish and Hispanic safety culture. Lopez del Puerto (2009) performed a comparative analysis on the "results between two Spanish for Construction class formats: a three credit (45 contact hours) junior/senior-level undergraduate course offered at Southern Illinois University- Edwardsville in Spring 2008 and a 16-contact hour module in a junior-level undergraduate internship at The University of Oklahoma also offered in Spring 2008. The course goal was to teach job-specific Spanish to non-Spanish speaking construction management personnel, with the long-term goal of improving job-site safety." In a paper titled, "Relevant, Memorable, and Brief: A New Approach to Teaching Spanish in a Construction Safety Course," Jenkins and Hartmann (2016) discussed the addition of construction Spanish to a safety course at Purdue University. Both the 2009 and the 2016 studies recommended that construction Spanish should be taught to construction management students.

Methodology

A qualitative cross-sectional research method was used to conduct this study. The detailed research methodology in outlined in Figure 1.

Figure 1. Methodology

Study Goal and Literature Search

The goal of this study was to determine the state of construction Spanish and Hispanic safety culture education among the Associated Schools of Construction (ASC) in the US. The aim of this study is to address the research question, are ASC member schools teaching students construction Spanish and Hispanic safety culture in order to close the gap on the language/communication and cultural safety barriers that exists on construction jobsites among the English-speaking supervisors and Spanish-speaking workers?

The first step in this study was to conduct a literature search to determine what has been published on the subject of construction Spanish and/or Hispanic safety culture college level courses.
The second step in this study was to develop a survey questionnaire to determine if construction Spanish and Hispanic safety culture are offered at ASC member schools.

The third step in this study was to pilot test the survey questionnaire and then send out it to the ASC member school department chairs and coordinators throughout the US.

The fourth step in this study was to compile the survey responses and discuss the findings.
The fifth step in the study was to draw conclusions and make recommendations.

Survey Questionnaire, Pilot Test, Sampling Frame, and Data Collection

As a result of the limited published literature on construction Spanish and Hispanic safety culture taught at the college level, a survey questionnaire was developed to determine if construction Spanish and Hispanic safety culture are being taught at ASC member schools and to what extent. The survey instrument was pilot tested. The sampling frame for this study was the member schools of ASC. Qualtrics, a web-based system, was used for data collection. The survey questions included background information: university name and name of department/program. The next four questions inquired if they offered a standalone construction Spanish course: are standalone construction Spanish course(s) taught in your program? If yes, what is the course(s) name, number, and number of credit hours? Is the course a required or an elective course? How often is the course offered?

The next four questions inquired about the program's option if a standalone course was not offered: is Spanish taught as part of another course? If yes, what is the course number, name, and number of credit hours? If no, do you require students to take a Spanish course from another department? If yes, which course?

The next four question inquired if they offered a standalone course on Hispanic safety culture: do you have a standalone course on Hispanic safety culture? If yes, what is the course(s) name, number, and number of credit hours? Is the course a required or an elective course? How often is the course offered?

The next two questions inquired about the program's option if a standalone course was not offered: do you require students to take a course on Hispanic culture from another department? If yes, which course?

The last two questions inquired about a study abroad course to a Spanish-speaking country: do you have a study abroad course to a Spanish-speaking country? The response choices were: Yes, traveling to a country for an entire semester/quarter/mini-semester; Yes, traveling to a country for part of the

semester/quarter; Yes, no travel-it's virtual; No. If yes, what is the course(s) name, number, and number of credit hours? And which country? How often is the course offered?

Findings and Discussion

The survey was emailed to 97 programs across the country. There were 14 responses, a response rate of 14.4%. The response to each question is discussed below.

The response to the question, "Name of your Program or Department": Out of 14 responses that were received, 5 were from construction management program and the remaining were from construction building/engineering/technology/science program.

The response to the question, "Are standalone Construction Spanish course(s) taught in your program?": out of the 14 responses that were received, 13 said No and 1 said Yes. That is 92.9% of the respondents do not have a standalone construction Spanish course offered at their program. Only one (7.1%) said that they have a standalone course construction Spanish course taught in their program. The course is called Technical Construction Spanish for the Jobsite, a 3 credit-hour required course taught every semester. For the 13 that said no, construction Spanish is not taught as part of another course in their program, nor do they require their students to take Spanish from another department.

When asked if there are any standalone courses on Hispanic Safety Culture that are taught in their program, all 14 (100%) respondents said no, nor do they require their students to take a course on Hispanic culture from another department.

When asked about if their department offers a study abroad course to a Spanish speaking country, 13 out of the 14 respondents said no. One said yes, traveling to Costa Rica for part of a semester. The course is a 3 credit-hour course offered in the Spring semester.

Conclusion

There is a vast volume of research which shows that the majority of the Hispanic work-related fatalities and injuries can be attributed to their safety culture and language/communication barriers. Mowery's (2017) survey of construction industry executives, vice presidents, project managers, superintendents, assistant project managers, assistant superintendents, and field project engineers believe that English-Spanish language barrier exists and that the impact of the problem is worsening over time because of the increase in the Hispanic workforce on construction jobsites. This same group stated that the top four consequences due to this language barrier are (1) difficulty in giving instructions (basic jobsite communication), (2) greater safety risk, (3) loss of productivity/efficiency, and (4) lack of respect/diminished team atmosphere. They also believe that it is more beneficial to teach Spanish to English-speaking individuals since their top consequence due to the language barrier is difficulty in giving instructions (basic jobsite communication).

The idea of breaking down the communication barrier between English-speaking supervisors and Spanish-speaking workers by teaching future construction managers essential construction Spanish terms and phrases is not a novel one. A few courses in construction Spanish are provided by a select few institutions and universities. This research demonstrates additional evidence that there are a very limited construction Spanish and Hispanic safety related courses being taught at construction management programs across the US. It is imperative to teach construction Spanish and Hispanic

safety culture to students in construction related fields to better prepare them for the challenges they will face in practice and to reduce the Hispanic workforce rate of injuries and fatalities on construction jobsites.

For future study, a list of commonly spoken English phrases by construction jobsite field supervision needs to be developed. These phrases will then need to be translated and transliterated into Mexican and Central American Spanish since majority of the Hispanic construction workforce comes from Mexico and Central America. These phrases can then be taught to students in construction related programs through a course developed to teach construction Spanish and Hispanic safety culture. Study abroad courses to Spanish-speaking countries will provide first-hand experience into understanding the Hispanic safety culture.

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