



# Effective Construction Training Program for Hispanic and American Supervisors and Craft Workers

tech transfer summary

July 2007

## RESEARCH PROJECT TITLE

Effective Construction Training Program  
for Hispanic and American Supervisors  
and Craft Workers, Phase IV

## SPONSORS

Iowa Department of Transportation  
(CTRE Project 06-132)

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The mission of the National Concrete Pavement Technology Center is to unite key transportation stakeholders around the central goal of advancing concrete pavement technology through research, tech transfer, and technology implementation.

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An effective training program can increase worker productivity in multilingual crews by reducing unnecessary conflicts and tensions between Hispanic and American construction workers.

## Objectives

- Develop a training course in basic safety and construction terminology for Hispanic workers in the transportation industry
- Present the course to workers and supervisors in the target industry
- Evaluate the effectiveness of the training in terms of safety, productivity, and worker retention

## Problem Statement

The composition of the work force in much of the construction industry is changing, with an ever-increasing proportion of entry-level jobs being taken by recent immigrants from countries with different cultures and languages. For a variety of reasons, this workforce is experiencing a disproportional share of workplace accidents, resulting in injuries and fatalities. There are also productivity issues with this workforce, in that communication problems are interfering with work flow and quality.

From the point of view of the contractor, there is another problem. Retention of Hispanic workers has been poorer than the contractors would like, costing valuable production time and money to train new workers.

Training for workers (and others) to improve safety, productivity, and worker retention needs to be developed and presented.

## Research Description

There have been a number of efforts aimed at improving the language skills of immigrant workers in the U.S. These efforts have primarily involved Hispanic workers and have focused on teaching them English (such as English as a Second Language courses). Based on earlier research conducted by Dr. Jaselskis at Iowa State University, the project team determined that language was not the sole issue; rather, the problems were related to differences in culture and relationships.

The training course developed as part of this project—the Toolbox Integration Course for Hispanic workers and American supervisors (TICHA)—consisted of nine modules covering basic terms in English and Spanish (words, colors, body parts, and numbers), as well as terms related to safety and the workplace. These materials were presented in a unique fashion centered on developing and nurturing personal relationships between workers and supervisors.

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The training session would usually occur on the job site, prior to the start of the work day. A typical day's training session would begin with a brief review of previous material. Next, the current session's material would be presented, followed by a question and answer session between the workers and their supervisor. For example, the workers would ask the supervisor to say the word for "trowel" in Spanish (paleta), often by pointing at the picture in the training material. The supervisor would then ask one of the workers how to say "chaleco" in English (safety vest). The cultural aspect to this process lies in educating the workers that it is acceptable to ask questions and that a question is preferable to a mistake. The supervisor thus learns that the workers are not accustomed to asking questions of their bosses. By encouraging questioning in a non-threatening environment (one in which there is no penalty for asking), relationships are improved and differences are reduced and understood.

Research was also conducted, using nine experimental and four control groups, to measure the effectiveness of the training.

## Key Findings

- The TICHA course resulted in quantifiable improvement in English (on the part of the workers) and Spanish (on the part of the supervisors) language skills in the experimental groups when compared to the control groups.
- Supervisors felt that productivity and safety had improved in their teams as a result of the training.
- Training given by a native Spanish speaker, also fluent in English, provided a better connection to the workers; this trainer was better able to understand and ameliorate the cultural differences between the workers and supervisors.
- Safety improvements, although not statistically significant, were seen. A review of relevant literature suggests that two to three years of safety data are required for an adequate analysis of safety benefits.

## Implementation Benefits

- An integrated program of language and cross-cultural training can improve interpersonal relations and communications, yielding improvements in work quality, safety, and employee retention.

## Implementation Readiness

- Additional training and testing will be performed as a part of a project extension, planned for the fall of 2007.
- The method can be applied to workers in other industries, although in some cases the training material would need to be modified to match the needs and skills of the new industry group.



*Sample of training material*



*Handing out training material*



*Reviewing training material*