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## Bridging the Literacy Divide

Developing methods and materials to reach a diverse—but largely Hispanic and semi literate—agricultural work force, challenges us to be more creative educators. According to the latest (2001-2002) National Agricultural Worker Survey, 68% of the foreign-born Hispanic workers in the US have six or less years of education. When asked if they speak or read English, a strong majority of foreign-born Hispanic workers answer “not at all;” less than 10% answer “some” or “well.” In addition, Spanish is not the universal language for all Hispanic workers. Some native Mexican workers in the orchards of Washington State speak Mixteco, and have little or no literacy in Spanish.

The Hispanic farm worker, if non-literate, will learn primarily by oral communication and in profoundly different ways than his literate counterparts. Oral cultures see things differently. Simple, flat illustrations are actually far better comprehended by this audience than more technically realistic portrayals which include background, shading, dimension, or other staples of illustration.

Our habits as safety and health professionals may also contribute to the literacy divide. Much, if not most, of the farm safety research, education, and intervention materials we all work with, for instance, are text-based. For semi or non-literate Hispanics, they pose daunting or impossible informational barriers. Professor Mark Landa’s

work at Eastern Washington University Center for Farm Health and Safety indicates that less than half of the pesticide safety materials studied was understood by the subjects. The more text there was, the less well it was comprehended. Clearly, if we wish to communicate with our audience, we must move beyond text-based practices and learn what works in today’s workplace.

### Pictorial Profiles and More

For example, Center co-director Matthew Keifer and his colleagues developed the Icon-Life History Questionnaire (ILHQ) to obtain complicated work histories from semi literate subjects. Some farm workers may have had many hundreds, even more than a thousand, jobs in every part of the country, working on all kinds of crops. To begin, the subject and the interviewer first place self-adhesive pictograms on paper calendars to represent the subject’s major life events (births, weddings, major purchases) that orient the respondent historically. Then pictograms are used to note work tasks, crops, geographic locations, and personal protective equipment used. The process is interactive, often entertaining, and can be easily reviewed for accuracy and corrected by the respondent. Compared to conventional work history questionnaires, the ILHQ provides more complete information and, as an added advantage, often results in a very positive interviewer-subject interaction.



*The positive interaction between interviewer and subject as they build the work history is one advantage of the ILHQ.*



Kit Galvin, the Center's industrial hygienist has also adapted her data collecting to work with semi literate audiences. To evaluate PNASH's fluorescent tracer contribution to the Washington Department of Agriculture's hands-on training for pesticide handlers, Galvin worked with the agency to develop a two-part instrument: An audiotaped, Spanish-language questionnaire and an illustration-based answer sheet (see below). The handlers used this method of testing with enthusiasm because it was more user-friendly and easier to understand.



*Galvin's evaluation tool asked subjects "What is the most common way handlers are exposed to pesticides while handling pesticides at work?" The audiotape then gave verbal prompts cued to the answer sheet's illustrations: mouth, breathing, skin, I don't know.*

## New Tools

PNASH began developing tools for semi literate farm workers in 2001. Dr. Patricia Boiko, lead investigator and previous outreach director, traveled through Washington, Oregon, and Idaho assessing needs. She noted, "The health and safety posters and materials that were available were mostly text and simply not reaching most of the intended audience. As to specific needs, the clinics were crying out for some way to evaluate mental illness, especially depression, among non-literate populations. Standard interview techniques and instruments simply don't work with people who don't understand the concept of circling an answer."

Boiko and her team came up with a self-administered, Spanish language, audiotape survey to diagnose major depression, substance abuse, panic and generalized anxiety, and domestic violence. More than 300 subjects from 11 migrant camps in the Northwest were surveyed. Seventy percent of those diagnosed with major depression received appropriate treatment and a new, inexpensive tool was validated. (see "An Audiotaped Mental Health Evaluation Tool for Hispanic Immigrants with a Range of Literacy Skills," Boiko, Katon, Guerra, et al., Journal of Immigrant Health, January 2005, at <http://depts.washington.edu/pnash/depression.php>).

**If you have questions or comments about PNASH, please contact us, (800) 330-0827, [pnash@u.washington.edu](mailto:pnash@u.washington.edu). For information on other PNASH activities visit our Web site <http://depts.washington.edu/pnash/>.**

Since then, PNASH has used audio tools for WPS evaluation pre- and post-testing and other surveys. A variety of media have also been used to reach Hispanic farm workers, including staged and videotaped productions about safety and health and photonovelas.

## Lessons from Home and Abroad

Much can be learned about effective outreach materials from both progressive programs in this country and international public health programs in general. Global development programs have a long history of systematic field testing and producing educational materials better understood in oral and semi literate cultures. One of the most important lessons to be learned from the field is no surprise: Don't produce text or visual materials without first field testing them with your target audience. They are the experts, not well-intentioned colleagues who may be old hands at traditional outreach, but not savvy to new realities. Only by asking the basic questions, like "what does the illustration show" will you know if your illustration communicates what you intend. It's also important to recognize that education and literacy are only parts of the capacity to learn. The highest score in Mark Landa's comprehension test was achieved by a 70 year-old woman with two years of formal education.

PNASH can draw from extensive international expertise. Outreach director Helen Murphy has spent most of her career working abroad with non- and semi-literate populations where illustration-based educational methods and materials are the norm. She has extensive experience throughout Southeast Asia in pesticide research and education. Center Co-Director Dr. Matt Keifer was an epidemiologist in Nicaragua. He researches the health effects of pesticides domestically and internationally, most recently in Vietnam, and conducts a monthly occupational medicine clinic at the Yakima Valley Farm Workers Clinic.

Our main focus at PNASH remains improving the health and safety of agricultural workplaces in our region. We also make significant contributions to international efforts, however, and in the process, believe the lessons we learn from our cross cultural experience abroad improve our communication skills here at home. We have a lot to learn still, but we also have some things to teach. For specific tips on the design and testing of materials for semi literate audiences, see <http://depts.washington.edu/pnash/literacy.php>.

