

Adding Health Content to Adult Literacy Programs Phase 2: Final Report

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Background and Purpose

Many factors contribute to health disparities. Current research has suggested literacy is a better predictor of health disparities than either education or race.¹ Literacy is a dynamic component of an individual's ability to comprehend health information and, subsequently, use the information appropriately for positive health outcomes. Thus, literacy is a crucial element in health literacy, defined by Healthy People 2010 as "the degree to which individuals have the capacity to obtain, process, understand and act on basic health information and services needed to make appropriate health decisions."² Therefore, by improving the literacy of those populations at the highest risk of low literacy we can reduce health disparities. The goal of this project was to introduce health-related content into reading materials and activities used in adult literacy programs, so students would improve their health literacy skills while improving their literacy skills.

Tobacco use and its' impact on chronic illness, specifically diabetes and asthma, was the focus for phase 2 materials. Two of the foto-novelas address tobacco and diabetes, one directed to the Hispanic population and one to the African American population. The third foto-novela addresses tobacco and asthma and is directed to the African American population. Tobacco and asthma was also the topic of "*Mario Decides to Quit*" a foto-novela developed during phase 1 for the Hispanic population.

Tobacco

Tobacco use is the single greatest cause of preventable disease and death in the United States. Tobacco use causes more deaths than AIDS, alcohol, motor vehicle fatalities, homicides, illegal drugs, and suicide combined, or more than 1 in 5 deaths in the United States³. Although tobacco use is highest in populations with the lowest levels of income and education, these populations have the least access to state of the art treatments and medications. In fact, "future tobacco-

¹ Sentell, T.L. and Halpin, H.A. (2006). Importance of adult literacy in understanding health disparities. *Journal of Internal General Medicine*, 21, 862-866.

² <http://www.healthypeople.gov/Document/pdf/uih/2010uih.pdf>

³ http://www.cdc.gov/tobacco/data_statistics/factsheets/health_effects.htm

attributable disease” increasingly will be concentrated in socially disadvantaged populations, further exacerbating health disparities.”⁴

Diabetes

Diabetes affects millions of Americans and is one of the leading causes of death. Diabetes-related complications include heart disease, stroke, high blood pressure, blindness, kidney disease, neuropathy, amputations, and death. A diabetic who smokes is at increased risk for adverse health effects, including⁵ nerve damage and kidney disease; he or she is three times more likely than a nonsmoker to die of cardiovascular disease, and more likely to have elevated blood sugar levels, making it harder to control their diabetes.

Asthma

Asthma affects about 20 million Americans; 9 million of these are children. Symptoms of asthma include coughing, wheezing, shortness of breath and chest tightness. Environmental tobacco smoke, aka secondhand smoke, is one of the important triggers of an asthma attack.⁶ About 60 percent of American children from 4 to 11 years of age are exposed to secondhand smoke from parents or close relatives. These children are more likely to have bronchitis, pneumonia, and develop asthma.

Targeted populations

Hispanics

Overall, 16 percent of Hispanics are smokers, of which 21 percent are male and 11 percent are female.⁷ Hispanics are disproportionately affected by diabetes as compared to non-Hispanic whites. The percentage of Hispanics with diabetes is almost twice that of non-Hispanic whites, 11.1 percent versus 6.4 percent, respectively.⁸ Because of the high prevalence of diabetes and tobacco use in Hispanic males, the foto-novela developed in phase 2 focused on the health crises experienced by a young man with both problems.

⁴ Giovino, Gary A. The Tobacco Epidemic in the US. *Am J Prev Med* 2007; 33(s6):S318-326

⁵ Madsbad, S., McNair, P., and Christensen, M.S. (1980). Influence of smoking on insulin requirement and metabolic status in diabetes mellitus, *Diabetes Care* 3 (1980), 41–43.

⁶ <http://www.cdc.gov/asthma/triggers.html>

⁷ CDC. Cigarette Smoking Among Adults—United States, 2005. *MMWR* 2006; 55(42): 1145-1148.

⁸ CDC 2009. Summary Health Statistics for U.S. Adults: 2007

African Americans

Approximately 21.3% of non-Hispanic black adults smoke.⁹ It is estimated that 25.6 percent of African American men and 17.8 percent of African American women smoke.¹⁰ African American males with less than a high school education had smoking rates 3.4 times greater than AA males who completed college, 34.5 percent versus 10.1 percent.¹¹ African American adults are twice as likely as non-Hispanic white adults to have diabetes.

African Americans are second to Puerto Ricans in prevalence of asthma. African Americans are also 3 times more likely to die from asthma and to develop lung cancer than non-Hispanic white adults who smoke.

Why Foto-novelas?

The use of fun and entertaining media has been a proven approach for the dissemination of health-related information to underserved groups.^{12,13} Incorporating health information into a culturally popular entertainment medium serves to create encouraging attitudes, thus, increasing motivation to learn and eventually change behaviors. Foto-novelas are small booklets with pictures that portray a story. They represent a popular form of entertainment in the Hispanic population and have the capability to become a valuable instrument in health education efforts. This project also assessed the popularity of picture stories (foto-novela) in the African-American community.

Theoretical framework

The goal of the foto-novela is to have the reader learn from the character and become influenced to make a behavioral change or share the information learned with family members or friends. Bandura's Social Cognitive Theory suggests individuals have the ability to learn by observing

⁹ <http://www.lungusa.org/stop-smoking/about-smoking/facts-figures/african-americans-and-tobacco.html>

¹⁰ AHA 2010. http://www.americanheart.org/print_presenter.jhtml?identifier=4559

¹¹ <http://www.lungusa.org/stop-smoking/about-smoking/facts-figures/african-americans-and-tobacco.html>

¹² Rogers, E. M. (2004). Delivering entertainment-education health messages through the internet to hard-to-reach U.S. audiences in the southwest. Mahwah, NJ: Lawrence Erlbaum Associates.

¹³ Singhal, A. & Rogers, E. (1999). Entertainment-education: A communication strategy for social change. Mahwah, NJ: Lawrence Erlbaum Associates.

others while building confidence to perform a behavior.¹⁴ The foto-novelas are intended for use in literacy classes in which it is typical for class members to read a story out loud. Students will be able to put themselves in the place of characters, portray the behaviors, and learn the behaviors.

The contents of the foto-novela were based on the widely used Health Belief Model.¹⁵ This model provides a scientifically tested framework that informs the contents of the foto-novelas. It is a value-expectancy theory made up of six constructs used to predict and motivate an individual's behavior.¹⁶ The constructs include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. These constructs are employed throughout each of the three foto-novelas developed in phase 1 and 2. Figure 1 in the Appendix displays the constructs, definition, and application of the Health Belief model in the *Pedro's Examination* foto-novela.

Adult learners in adult literacy classes were selected as the target population and site for this project. Teacher instructional guides were developed to accompany each foto-novela and provide technical assistance regarding their use. The teacher instructional guides include multiple activities such as an overview of tobacco smoking and diabetes with discussion questions, a review of vocabulary words, comprehension questions, a word search, a crossword puzzle, and a social identification fill-in.

Gardner's theory of multiple intelligences suggests students have various ways of learning material.¹⁷ The inclusion of multiple activities in the teacher's instructional guide should increase the ability of the students to absorb the health material.

¹⁴ Bandura, A. (1986). *Social Foundations of Thought and Action*. Englewood Cliffs, N.J.: Prentice Hall.

¹⁵ Rosenstock, I.M. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2, 328-335.

¹⁶ Becker, M.H., Drachman, R.H., & Kirscht, J.P. (1974). A new approach to explaining sick-role behavior in low-income populations. *American Journal of Public Health*, 64, 205-216.

¹⁷ Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books

Product Development

The product development and research team (project team) met weekly to plan, implement, manage, and assess all aspects of the project. The team decided early in the project to establish the FSU Health Literacy in Diverse Populations Advisory Committee (Advisory Committee) to provide input throughout the product development process. Storylines were initially developed through brainstorming by the project team. A graphics artist, Mr. Charles McCann, was recruited to create illustrations for the foto-novelas. Mr. McCann attended regular meetings of the project team to ensure the pictures were culturally sensitive and acceptable.

Advisory Committee

Stakeholders representing underserved populations and literacy programs were recruited to become part of the newly established Advisory Committee. The members of the committee provided input on potential story lines for development, direction relating to dialectical and illustration style, reviewed preliminary materials, identified potential field testing sites and dissemination routes for materials, and disseminated materials through their networks. Members of the committee met three times with the research team, face-to-face, to discuss materials and potential changes, and final approval. In addition the Advisory Committee evaluated the cultural sensitivity and competency of the foto-novelas via an assessment survey discussed later in this report.

The project team developed six products: three foto-novelas addressing tobacco use and either asthma or diabetes, and three accompanying teacher's instructional guides to provide technical assistance for the use of the foto-novelas in adult literacy programs. The products underwent a cultural sensitivity assessment and were field tested in adult literacy programs serving primarily Hispanic or African American populations.

Content Synopsis

Pedro's Examination

The main character of the foto-novela is a Hispanic male named Pedro. His sister, Lucia, is at the hospital due to complications from her untreated diabetes. Dr. Martinez, the physician attending Lucia, informs Pedro his sister must have her leg amputated because of her diabetes.

Stressed by the news, Pedro steps outside to smoke a cigarette. While outside he runs into his friend and co-worker Mario.¹⁸ Mario, an ex-smoker, discusses his tobacco use and the benefits of quitting. Mario informs Pedro that smoking not only harms the smoker but also his or her family. Mario also tells Pedro that quitting is possible because he quit, and Pedro should quit too. Back inside the hospital after his encounter with Mario, Dr. Martinez informs Pedro that he is at risk for diabetes because a close family member has the disease, and he should be screened for diabetes. Dr. Martinez reinforces the importance of the screening by telling Pedro that if his sister had seen a doctor and had her diabetes diagnosed and treated sooner, she would not have lost her leg. Dr. Martinez tells Pedro to get screened soon so that if he has diabetes, he can properly treat the disease. Convinced, Pedro goes to Dr. Martinez for the examination. The results indicate that Pedro has diabetes. Dr. Martinez tells Pedro that even though he is diabetic, as long as he takes care of his diabetes, he can avoid an adverse outcome. The doctor also tells him smoking makes the disease worse and that he must quit. Not wanting to end up like his sister, Pedro vows to do what it takes to live a healthy life.

The story was written at a 3.6 Flesh-Kinkaid reading level with a readability score of 84.8 percent.

Reggie and Shakey: Friends for Life

Shakey, a young African American male smoker, has uncontrolled diabetes. His best friend, Reggie, is also a smoker. Shakey injures his leg in an automobile crash and has to have it amputated because of circulation problems caused by his uncontrolled diabetes. Ella Mae, Reggie's grandmother, speaks to the doctor about Shakey's condition and later encourages Shakey to stop smoking. Shakey later decides to stop smoking and asks Reggie to do the same. The story ends with Reggie contemplating quitting smoking.

BJ Has a Bad Day

Byron, Jr. (BJ) is a four-year-old African American boy with asthma. His father, Byron, has a girlfriend named Tawana who smokes. BJ's mother, Lucretia, calls and asks Byron to take BJ to

¹⁸ Mario of "Mario Decides to Quit" a foto-novela for Hispanics developed in phase 1. <
<http://med.fsu.edu/HealthAffairs/ahec/fotonovela.asp>

the doctor. On the way to the doctor's office, Tawana begins to smoke in the enclosed car triggering a severe asthma attack in BJ. After tending to BJ, the doctor explains to Byron and Tawana that secondhand smoke is an important asthma trigger. The story ends with Byron sharing his concerns with Tawana about the incident. Tawana agrees to make some changes.

Cultural Sensitivity

One of the primary goals of this project was to create materials that will be culturally sensitive to the intended audience. Cultural sensitivity has been defined as being aware or utilizing knowledge related to ethnicity, cultural, gender, or sexual orientation when explaining and understanding situations and responses of individuals in their environment.¹⁹

In order to assess the cultural sensitivity of the materials pre-field test, the Advisory Committee members were asked to evaluate three foto-novelas using the Cultural Sensitivity Assessment Tool (CSAT).²⁰ The CSAT looks at cultural sensitivity using three levels: perceptual (text length, dialects, font, and print size), behavioral (individualism-collectivism, power, and masculinity-femininity), and symbolic (symbols, icons, colors).²¹ The CSAT is one of the only tools available to test the cultural sensitivity of print health materials.²² No validation studies have been done using the CSAT. Research that has been done using this assessment tool has utilized multiple testers to ensure inter-rater reliability.^{23,24,25} This method is congruent with how we have utilized the tool with the members of the Advisory Committee.

The CSAT was uploaded into Survey Monkey and the survey links were emailed to the steering committee members along with the draft foto-novelas. Members were asked to complete their

¹⁹ Facione, N.C., (1996). Delay versus help seeking for breast cancer symptoms: a critical review of the literature on patient and provider delay. *Social Science Medicine*, 36, 1521–1534.

²⁰ Guidry, J., Larke, P., Walker, V., Fagan, P., McDowell, T., & Cormeaux, S., (1996). Cultural Sensitivity Tool Manual. Cancer Prevention Materials for African Americans, www.cprit.state.tx.us/pcemat/cover.html.

²¹ Friedman, D., & Hoffman-Goetz, L., (2006). A systematic review of readability and comprehension instruments used for print and web-based cancer information. *Health Education Behavior*, 33, 352-373.

²² Ibid.

²³ Ibid.

²⁴ Guidry, J., Larke, P., Walker, V., Fagan, P., McDowell, T., & Cormeaux, S., (1996). Cultural Sensitivity Tool Manual. Cancer Prevention Materials for African Americans, www.cprit.state.tx.us/pcemat/cover.html.

²⁵ Guidry, J.J., & Walker, V.D., (1999). Assessing cultural sensitivity in printed cancer materials. *Cancer Practice*, 7(6), 291–296.

reviews within two weeks. Average scores on each of the three categories were calculated. The resulting scores range from 1-4 with a score greater than 2.5 classified as culturally sensitive. In addition, Advisory Committee members were encouraged to provide comments about the materials. Materials were then revised before being field-tested. Members also reviewed the teacher instructional guides and provided suggestions for improvement.

Cultural Sensitivity Results

Pedro's Examination

Results are summarized in Table 1. Six Advisory Committee members completed questions related to *Pedro's Examination*; five Advisory Committee members completed questions related to *Reggie and Shakey: Friends For Life* and *BJ Has a Bad Day*. The mean scores for all three foto-novelas were greater than 2.5. In the format category, referring to the general organization of the information, the three foto-novelas had a mean scores ranging from 3.19 (Pedro) to 3.53 (Shakey). The written message refers to the way the underlying themes and ideas in the materials are written. This category had average scores ranging from 3.08 (Pedro) to 3.89 (Shakey). Lastly, the visual message refers to how well themes and ideas are delivered through the graphic components in the materials. The scores in this category ranged from 2.86 (Pedro) to 3.35 (Shakey).

Table 1: Mean scores for each CSAT category

Foto-novela	Format	Written Message	Visual Message
Pedro's Examination	3.19	3.08	2.86
Reggie and Shakey: Friends Forever	3.53	3.89	3.35
BJ Has a Bad Day	3.47	3.20	3.29

The results of the CSAT indicate that the literacy modules all reflect cultural sensitivity. All of the categories for each of the story lines resulted in scores higher than 2.5, meaning that they are at an acceptable level for cultural sensitivity.

Field Testing

The foto-novelas were created with the intention that they be used as a classroom reading exercise, supplemented by activities contained in the teacher's instructional guides; which reinforce learning objectives and generate class discussions about the health content. The foto-novelas and instructor guides were field tested in three different literacy program sites, one with a Hispanic clientele, and two with a primarily African American clientele.

Pedro's Examination

The field test was conducted in an adult literacy class offered by the Panhandle Area Educational Consortium (PAEC) Migrant Education Program and was lead by the instructor of the class, Mr. Gonzalez. PAEC and Mr. Gonzalez, participated in the phase 1 field test for *Mario Decides to Quit*. Mr. Javier Vazquez, a project intern on the project team, met with the instructor on a date prior to the field test to review the materials and outline the field-testing process. On the day of the field test, after first signing his "instructor" informed consent form, Mr. Gonzalez read a Spanish consent out loud to the 14 students in the literacy class. All 14 students agreed to participate in the field test, which involved allowing the investigator access to the results of their comprehension tests, and providing comments to the investigators about what they liked and did not like about the foto-novela. A copy of the story was then distributed to each student.

The instructor began the exercise by asking if any students were current smokers. Two students admitted to being current smokers. Several other students said they were not smokers but knew of family and friends who are currently smokers. The instructor then introduced the vocabulary words from the story. Together as a class, the students practiced pronunciation of the vocabulary words and reviewed their definitions before reading the foto-novela. . The instructor selected students to read the roles of the characters, while the remainder of the class followed along. A second reading was done with different students assigned to play the different characters. After the second reading a short discussion about the story took place. Due to time constraints, the activities in the teacher's instructional guide were not completed.

To test for comprehension, a three-question fill-in-the-blank worksheet was passed out to each student. The worksheet had three sentences with a single blank in each question. There were

four answer choices in the word box for the students to choose from. Every student filled each blank with the proper word, receiving a score of 100 percent.

Mr. Vazquez observed the students working as a group to complete the comprehension activity. Working as a group is not unusual for the literacy class and facilitates learning among the students. With the class being made up of students at different levels of literacy, those at the higher level help those at the lower level.

The field test concluded with the investigator posing a number of open-ended questions in hopes of eliciting the opinions of the students regarding the content and graphics of the story.

To acknowledge their participation in the field test, all students and the instructor received a \$10 gift card to Wal-Mart.

Reggie and Shakey: Friends For Life and BJ Has a Bad Day

The field tests were conducted in the adult literacy classes offered by the Tallahassee Community College (TCC) Adult Basic Education program and the Leon County Schools Adult and Community Education (ACE) program. Prior to the field tests, Ms. Tammye Farmer and another project intern, met with the instructors twice. The first meeting which included both instructors and students, was held to provide information about the project and field test, and to build rapport. The second meeting, a week prior to the field test, was for instructors only at which time they were given the Teacher's Instructional Guides. The instructors were asked to review the guides and provide feedback to Ms. Farmer at the end of the field test. Together, Ms. Farmer and the instructors chose the activities to be used during the test. A written description of the process to be employed during the field test was emailed to the instructors prior to the field tests.

Reggie and Shakey: Friends For Life was field tested at the Adult Basic Education program at TCC. There were 15 students in the class: 7 males and 8 females. All are African-American.

Reggie and Shakey were selected for field testing at this site because there were many males in the class who smoked and were in the same age range as the characters in the story.

BJ Has a Bad Day was field tested at the Leon Schools Adult and Community Education (ACE) program located at Lively Technical Center. There were 10 students in this class: 6 males and 4 females. Two of the students (1 male and 1 female) are Caucasian and the remaining students are African-American. Because there were young mothers in the class who smoked, *BJ Has a Bad Day* was selected for the field test. Several of the men in this class were smokers and all members of the class indicated they had friends who smoked.

After the instructor signed the informed consent form, Ms. Farmer read the student consent aloud to the students of the literacy classes. All the students attending the session consented to participate in the field test.

During the field test, instructors reviewed the vocabulary words, including the pronunciation and definition of the words. The foto-novelas were distributed and the students volunteered to role-play the characters in the storyline. After reading the stories, students were given a three-question fill-in-the-blank worksheet to test their comprehension. The class completed the activity as a group and answered all comprehension questions correctly. The social identification activity was then distributed and completed in conjunction with the discussion on smoking and asthma or diabetes. The questions on the discussion page were addressed to the class, which led to greater participant interaction and involvement.

Prior to the end of the class session, Ms. Farmer asked the class for pertinent feedback on the foto-novelas and collected both written and verbal feedback from the instructors.

At the end of class, the students initialed a Receipt for Gift Card for Participation in Research form and received their \$10 Wal-Mart gift card as they exited the classroom.

Results

Detailed edits and suggested changes from each of the field tests are located in Appendix B.

Conclusion

The results from the field tests provide evidence that foto-novelas are an acceptable and popular resource for providing health information to both the Hispanic and African American adult literacy populations. All the participating students completed the comprehension test with 100 percent accuracy, suggesting the foto-novela is an effective tool for educating individuals with low literacy skills about health issues associated with tobacco, diabetes, and asthma.

It is important to continue searching for innovative and cost-effective methods of disseminating health information so that it reaches all populations regardless of their literacy. The number of health questions raised during the discussion portion of the field test regarding diabetes and smoking illustrate the lack of knowledge on the subject in this particular population. This lack of knowledge certainly demonstrates the need to share information and education especially when diabetes and tobacco are adversely affecting the uninformed population.

Limitations

The field test did not include a pre- and post-test of knowledge related to tobacco use, diabetes or asthma. This limits our ability to fully assess the impact on knowledge of the foto-novela. The target population is adult learners in a literacy program, so it is reasonable to expect that they have some prior knowledge of the subject gained through any number of different venues. In addition, the products were developed for an individual with a third to fourth grade reading level. The levels of literacy widely varied among participants from those who could not read at all to those who could read at a basic level.

Dissemination

The finished hard copy products will be disseminated to organizations across the state of Florida including, but not limited to, the participating literacy organizations, members of the Florida AHEC Network, the Florida Literacy Coalition, the ACE Center, Whole Child Leon, the United Farm Worker Alliance, and Healthy Start Coalitions and the Fl AHEC Network. The materials will be free for download from the Florida State University College of Medicine AHEC website.

In addition the Florida Literacy Coalition and the Florida Association of Community Health Center will receive the materials electronically for posting on their respective websites.

Next steps

With the completion of this contract, the project now has four foto-novelas directed toward two racial/ethnic groups. Evaluation of the effects the foto-novela has on the targeted populations will be necessary for future studies. It will be beneficial to know if the knowledge gained from reading the foto-novela leads to changes in behavior and positive health outcomes.

An important research question is whether and how the knowledge gained is subsequently used: Do student smokers express intent to quit smoking after using the reading resources? Do those who express intent to quit subsequently quit? Do students express intent to share the materials with members of their social network who smoke and/or have diabetes or asthma? Do those who express intent to share the materials subsequently share the materials?

The rate of smoking among Native Americans and Alaskan Natives is higher than that of Whites, African Americans, and Hispanics for both adults and youth.²⁶ An additional task from the phase 2 contract was to make contact with a representative of the Native American population in Florida with the goal of beginning to explore working with that group on the development of foto-novela(s). Contact was made with Mr. Jerry Lang, Sr. Health Officer, Lower Muskogee Creek Tribe of Georgia and Chairman of the American Indian Advisory Council for the Florida Department of Health. Mr. Lang was invited to be a member of the Advisory Committee and has participated in the CSAT survey and the November 2009 Advisory Committee meeting. Discussions relating to phase 3 are scheduled to begin in earnest with Mr. Lang in April 2010.

²⁶ <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5303a2.htm>

Appendix A
Health Belief Model: Constructs as employed in *Pedro's Examination*

Construct	Definition	Application
Perceived susceptibility	One's belief of the chances of getting a condition	Pedro's sister, Lucia, had leg amputated due to complications from diabetes.
Perceived severity	One's belief of how serious a condition and its consequences are	Pedro learns from the doctor about the dangers of diabetes and smoking. If he does not make changes in smoking behavior and does not properly treat his diabetes he may have some serious health problems.
Perceived benefits	One's belief that the advised behavioral change will provide a reduction in risk and/or impact of condition	Pedro believes that if he quits smoking and properly treats his diabetes he will be able to live a normal and healthy life.
Perceived barriers	One's belief about the physical and psychological obstacles of behavioral change	Pedro's believes his addiction is too strong to overcome and it will not be possible for him to quit.
Cues to action	Events that trigger action	The doctor informs Pedro that he is at great risk due to a family member having the condition. Pedro decides he needs to act in order to avoid an outcome similar to Lucia's.
Self-efficacy	One's belief in their ability to take action	After speaking with Mario, a friend, Pedro realizes it truly is possible for him to quit smoking.

Figure 1

APPENDIX B:

Edits and changes recommended by field test participants

Pedro's Examination

The response from the students was quite extraordinary. The students were very enthusiastic about the subject and without additional prompting provided comments and opinions, as well as, helpful suggestions.

The students believed the graphics depicted the Hispanic population well. They suggested a straw hat be added to the male character, Pedro, on the cover page to enhance the appearance. Additionally, there were some concerns that a potential reader would not be interested in reading the foto-novela because the cover page did not indicate the content of the story. A student suggested adding a picture of the character, Lucia, with an amputated leg. Another student suggested adding a sub-heading to the title on the cover page, which will give a potential reader some insight to the content of the story. Additionally, students suggested the font size of the story lines should be increased. Besides these minor suggestions, the overall consensus amongst the students regarding the graphics as a whole was very positive.

The content of the story received much praise from the students. They felt the topic of diabetes and smoking was very relevant to the Hispanic population. They knew of family and friends who were affected by diabetes and smoking but admitted to not knowing very much about either. This was very evident from the many questions the investigator received during the discussion phase of the field test. The students believed it was very good to pass on the information in the form of a story as opposed to an informational brochure which can often be very complicated and difficult to understand. Overall, education regarding diabetes and smoking is very much in demand and needed in the Hispanic population.

Minor edits were made to the field-testing materials. A straw hat was added, per student suggestion, to Pedro on the cover page. Also on the cover page, the sub-heading "A Story About Diabetes and Smoking" was added to provide additional information about the content of the story. The font size of the story lines was increased as suggested by several students.

Summary of changes to Pedro's Examination
Instructional Guide

- Social Identification pages
 - Insert another Social Identification page.
 - Social Identification (Part III): Identify those who smoke AND have diabetes.
- Include girlfriend, boyfriend, and spouse in the association boxes.

Foto-novela

- Include title in Spanish
 - Add subtitle: "A Story About Smoking and Diabetes."
- Increase font size from 12 point to 17 point font.
- Include Spanish translation on final page.
 - El Examen de Pedro
- Add straw hat to Pedro on the title page.

Shakey and Reggie: Friends For Life: The African American students were very positive in their response to *Shakey and Reggie*. The group requested additional discussion between Shakey and Reggie about diabetes and smoking. Many indicated that they would read a longer story. They liked the characters. Minor edits were made including the addition of a sub-title on the front cover to indicate content; adjustments to the graphic of the conversation between Ella Mae and Reggie to clarify that Reggie is in the hospital; and additional dialogue between Shakey and Reggie. The African-American students were also positive in their response to *B.J has a Bad Day*. The group liked the story and the graphics. They recommended that the graphic of Tawana be changed to look more life-like and realistic.

Summary of changes to Shakey and Reggie: Friends for Life
Instructional Guide

- On Page 4 and 5 - Change the instructions for the fill in the blank section.
 - Directions: Complete the sentences by using the vocabulary words in the box below.
- On Page 5

- Correct the numbering
- Correct the answer for sentence #5. The answer is “doctor”.
- On Page 6 and 7 - Change the instruction for the word search puzzle.
 - “Directions: Using the words below, find and circle each word in the word search puzzle. Words may be vertical (up and down), horizontal (sideways) or diagonal.”
- Social Identification pages
 - Insert another Social Identification page.
 - Social Identification (Part III)
 - Identify those who SMOKE and have DIABETES
 - Include girlfriend, boyfriend, and spouse in the association boxes

Foto-novela

- Add extra text on the title page.
 - “A Story about Smoking and Diabetes”.
 - Make changes on the acknowledgement page
 - Change instructor “from” to instructor “for” the....
- On Page 5
 - Add a caption under Reggie saying, “Reggie is at the hospital...” or add a graphic in the background that says “emergency room”.
- On Page 9
 - Add more text for a longer conversation

B.J. Has a Bad Day:

The students, the majority of whom are African-American, were positive in their response to *B.J Has a Bad Day*. The group liked the story and the graphics. They recommended that the graphic of Tawana be changed to look more life-like and realistic.

Summary of changes for BJ Had a Bad Day Instructional Guide

- Change the instructions for the fill in the blank section.

- *Directions:* Complete the sentences by using the vocabulary words in the box below.
- Change the instruction for the word search puzzle.
 - *“Directions:* Using the words below, find and circle each word in the word search puzzle. Words may be vertical (up and down), horizontal (sideways) or diagonal.”
- Social Identification pages
 - Insert another Social Identification page.
 - Social Identification (Part III)
 - Identify those who SMOKE and have DIABETES
 - Include girlfriend, boyfriend, and spouse in the association boxes

Foto-novela

- Add extra text on the title page.
 - “A Story about Smoking and Asthma”.
 - Made changes on the acknowledgement page
 - Change instructor “from” to instructor “for” the....
- On Character page.
 - Change the graphic for Tawana to make her more life-like and realistic.