Integrating Health Literacy and ESL: An Interdisciplinary Curriculum for Hispanic Immigrants

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Adult Hispanic immigrants are at a greater risk of experiencing the negative outcomes related to low health literacy, as they confront cultural and language barriers to the complex and predominately monolingual English-based U.S. health system. One approach that has the potential for simultaneously addressing the health, literacy, and language needs of Hispanics is the combination of health literacy and English as a second language (ESL) instruction. The purpose of the project was to evaluate the feasibility of using ESL instruction as a medium for improving health literacy among Hispanic immigrants. Objectives included the development, implementation, and evaluation of an interdisciplinary health literacy/ESL curriculum that integrates theories of health literacy and health behavior research and practice, sociocultural theories of literacy and communication, and adult learning principles. This article describes the curriculum development process and provides preliminary qualitative data on learners' experiences with the curriculum. Results indicate that the curriculum was attractive to participants and that they were highly satisfied with both the format and content. The curriculum described here represents one example of an audience-centered approach designed to meet the specific health and literacy needs of the Hispanic population on the U.S.–Mexico border. The combination of ESL and health literacy contributed to a perceived positive learning experience among participants. Interdisciplinary approaches to health literacy are recommended.

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INTRODUCTION

According to the 2010 Census, Hispanics now constitute 16.3% of the total U.S. population (50 million people), an impressive 43% increase from 2000 (Ennis, Ríos-Vargas, & Albert, 2011). But this increase has brought challenges: Hispanics disproportionally suffer from serious health conditions, compared with other ethnic groups (U.S. Department of Health and Human Services, 2009). Furthermore, Hispanics comprise 32.4% of the 45 million uninsured in the United States (DeNavas-Walt, Proctor, & Mills, 2004) and are less likely to seek and receive health care services (Guendelman & Wagner, 2000). Finally, there is evidence that Hispanics have lower rates of health literacy (U.S. Department of Education, 2006).

One major reason for these challenges include the cultural and linguistic differences between Hispanic patients and their health care providers (Phillips, Mayer, & Aday, 2000). Considering that more than 34 million Hispanics speak Spanish at home, and approximately 50% are foreign born (Shin & Kominski, 2010), it is not surprising that many adult immigrants often struggle with the literacy, linguistic, and cultural competencies needed to confront the complex and predominately English-based U.S. health system.

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Federal agencies have recognized the need for interventions that effectively address the health and language needs of Hispanics and facilitate their access to quality health care. *Healthy People 2010* recommended collaborations with adult educators and other community partners to facilitate the dissemination of health-related information to the community (U.S. Department of Health and Human Services, 2000). A developmental objective of *Healthy People 2020* is to "improve the health literacy of the population" (U.S. Department of Health and Human Services, 2010). One specific approach that has the potential for simultaneously addressing the health, literacy, and language needs of Hispanics is the combination of health literacy and English as a second language (ESL) instruction. This approach has particular relevance in communities with high concentrations of Hispanic immigrants such as the U.S.–Mexico border region, where many residents participate in some type of ESL instruction. ESL is perceived by Hispanic immigrants as an economic and social opportunity and a valued resource (Singleton, 2002), and in fact Hispanics comprise the majority of ESL participants (Creighton & Hudson, 2002).

Although there exists evidence on the benefits of incorporating health into adult education, including ESL instruction (Rudd & Moeykens, 1999; Rudd, Zacharai, & Daube, 1998), there is still a need to find approaches that effectively integrate health content and health literacy goals into literacy instruction (Hemming & Langille, 2006). In fall 2009, the National Heart, Lung, and Blood Institute funded the project *Health Literacy and ESL: Integrating Community-Based Models for the U.S.–Mexico Border Region*. The purpose of the project was to evaluate the feasibility of using ESL instruction as a medium for improving health literacy among Hispanic immigrants. Objectives included the development, implementation, and evaluation of a health literacy/ESL curriculum.

This article describes the curriculum development process and provides preliminary qualitative data on learners' experiences with the curriculum. The curriculum integrates theories of health literacy and health behavior research and practice, sociocultural theories of literacy and communication, and adult learning principles. The development process has implications for community-based research and practice with culturally and linguistically diverse populations. Additionally, the study described here represented a collaborative effort between an interdisciplinary university-based research team and a local community-based adult education program. This article addresses the health needs of a large ethnic/racial minority population in the United States, discusses concepts from several relevant health promotion and literacy theories, and promotes linkages between theory and practice.

THE SETTING

The study was conducted in El Paso, Texas, located on the U.S.–Mexico border. El Paso has an estimated population of 716,000 (U.S. Census Bureau, n.d.), and its Mexican counterpart, Ciudad Juárez, has a population of 1.4 million (Instituto Nacional de Estadística y Geografía, 2011). The two cities form one of the largest international U.S.–Mexico border communities. El Paso County is 82% Hispanic, almost 30% of whom are foreign born. In the county, 75% of the population speaks a language other than English at home, and only 55% of those who speak Spanish report speaking English "very well." Although 70% of those 25 to 64 years old have a high school diploma (U.S. Census Bureau, n.d.), there continues to be a strong interest in and demand for ESL programs.

THEORETICAL FRAMEWORK

The curriculum was informed by theories of health literacy and health behavior, sociocultural approaches to literacy and communication, and adult learning theory. The purpose was to integrate health literacy and language learning within a health context in order to foster students' interest in health while also enhancing their language learning experiences. Although the framework includes theories from various fields of study, they are interrelated in the fact that they all address the specific health, social, communication, and learning needs of the participants, thus facilitating an "audience-centered" approach. In this case, the "audience" is an adult Hispanic population, and the content of the curriculum was designed to be responsive to this particular group. For instance, the use of an appropriate communication system that addresses multiple literacies and includes authentic texts should appeal to Hispanic adults and may facilitate learning and result in improved self-efficacy.

Health Literacy and Health Behavior Theory

Rudd (2000) defines health literacy as the ability to apply skills to health situations at home, work, and the community. Related to health care, health literacy includes tasks such as accessing services, overcoming structural barriers to health, navigating institutions, and advocating for self and family (Kickbusch, 1997). This definition implies that health literacy interventions must include intrapersonal and interpersonal

aspects as well as social skills (Berkman, Davis, & McCormack, 2010), while ultimately promoting self-efficacy and empowerment (Nutbeam, 2002). Self-efficacy refers to one's perceived ability to perform a behavior (Bandura, 1977). Health literacy and individual and community empowerment are closely related, as poor health literacy tends to limit opportunities for personal, social, and cultural development (World Health Organization, 1998).

Sociocultural Approaches to Literacy and Communication

This curriculum is also informed by sociocultural approaches to literacy and communication, where reading, writing, and communication are seen to be embedded in and shaped by social interactions and social contexts (Barton, 1994; Street, 1995). This approach recognizes that different kinds of literacy are used in different domains. For instance, navigating the health care system requires knowledge about particular kinds of health-related texts (Shohet, 2002), including intake forms, prescriptions, and government assistance forms. A sociocultural approach also recognizes the increased use of digital literacies (Lankshear & Knobel, 2008), which are becoming an increasing part of the health care system.

One goal of the curriculum was to help familiarize students with the particular literacy demands of health care settings, so that they are better able to navigate these settings and the reading/writing/communication required within them. Consistently, the curriculum relied on the use of authentic texts found in real-world settings (Duke, Purcell-Gates, Hall, & Tower, 2006), such as a Medicaid forms, insurance quote requests, medical histories, and medicine labels. Learning how to deconstruct and manage these texts in the classroom is meant to provide students with the tools and confidence to effectively handle real-life situations within the domain of health care.

Similarly, the curriculum included content and materials that matched the cultural values, communication systems, and rhetorical patterns of the participating audience to facilitate the learning process, thus making the curriculum "audience centered" (Thatcher, 2011). For instance, it integrated *Salud para su Corazón* (Health for your Heart), a cardiovascular health promotion program for Latinos that has successfully been implemented in U.S.–Mexico border communities (Medina, Balcázar, Luna Hollen, Nkoma, & Soto Mas, 2007). *Salud para su Corazón* reflects the cultural and communication needs of Hispanics by including *fotonovela* stories, bilingual materials, and formatting and linguistic features that are consistent with the preferences of Hispanic audiences (Balcázar, Alvarado, Hollen, Gonzalez-Cruz, & Pedregón, 2005).

Adult Learning

Finally, the curriculum was informed by adult learning theory, which posits that adults and children learn differently in part because of the different quality and quantity of their life experiences. Knowles (1984) has highlighted six key principles of adult learning: (1) adults have a need to know why they should learn something; (2) adults tend to be self-directed; (3) adults bring rich, extensive prior knowledge to the learning situation; (4) adults learn better when they themselves perceive the need for learning (rather than the need being defined by an outsider); (5) adults tend to have a more problem-centered (or task-centered) approach to learning, with the goal of application rather than content mastery; and (6) adults are driven by both intrinsic and extrinsic motivators to learn. This curriculum particularly emphasizes Principles 3 and 5: It draws on adults' extensive background knowledge to facilitate language and literacy learning, and there is extensive use of problem-centered approaches to instruction, where learners have the opportunity to apply their language and literacy learning, particularly with respect to health-related issues.

CURRICULUM DEVELOPMENT PROCESS

The development of the health literacy/ESL curriculum was a collaborative process between the interdisciplinary university-based research team comprising researchers from the specialization fields of health education, communication, and adult literacy and practitioners from a local community college that offers an adult literacy program. The intent was not only to develop a theory-based curriculum but also to incorporate best practices in both health literacy and ESL instruction in response to the needs of the potential audience. Consistent with this principle, the planning process involved qualitative data collection from adults participating in community-based instruction, the collection of health-related materials and forms, and ongoing consultation with researchers and practitioners. The development process occurred over a period of 2 academic years, including planning and formative research (fall 2009–spring 2010), pilot testing (summer 2010), and implementation and evaluation (fall 2010).

Prior to the actual curriculum development process, qualitative data were collected through semistructured group discussions with Spanish-speaking students

enrolled in a community-based General Equivalency Diploma class. Questions focused on language, literacy, and sources of health information. Approximately 70 students participated in the sessions, which were recorded, transcribed, and analyzed. Participants mentioned bureaucratic forms as one of their primary obstacles with respect to health literacy; they also mentioned communication barriers in health care settings, the importance of lifestyle changes to maintain better health, and the computer (Internet) as a key source of information about health problems and services. This formative research was instrumental in selecting curriculum content that was consistent with the perceived needs of the potential audience.

The ESL component of the curriculum relied on the use of a widely used textbook series, *Excellent English* by McGraw-Hill (Forstrom, Pitt, Vargo, & Velasco, 2008). The selection was based on book's structure (it included 12 discrete units), its emphasis on academic English, and its prevalent use in adult education programs in nearby border communities in West Texas and New Mexico.

The health literacy component of the curriculum was developed by members of the university-based research team in conjunction with the community partner, particularly a certified bilingual teacher and a practitioner with decades of experience in adult education who had also worked extensively as a community health worker. The content emphasized prose literacy, document literacy, and numeracy, the three areas included in the National Assessment of Adult Literacy (U.S. Department of Education, 2006). Each unit was framed by language objectives related to ESL and health literacy, as well as Texas Adult Education ESL standards. Finally, each unit contained detailed procedures for implementing the lessons, including time frame, educational materials, supplies, and equipment. A sample lesson plan is included in Figure 1.

CONNECTING THEORY AND PRACTICE

The curriculum integrated theory and best practices to create an audience-centered approach to health literacy/ESL instruction; it consisted of 12 stand-alone units, each opening with a vignette describing the experiences with health and the health care system of a recently arrived immigrant family. The story, which was presented in the students' primary language of Spanish, focused on themes such as understanding medicine labels; communicating effectively with health care providers; and interpreting information about cardiovascular health. The use of vignettes created an opening for students to share their stories. Consistent with Knowles's (1984) principles of adult learning (Table 1), this type of discussion, contextualized within their life experiences, allowed students to draw on their prior knowledge and also set the foundation for a problem-based approach to learning.

That the story and discussion took place in Spanish was significant on several levels. First, it helped frame the health lesson in a language that was familiar to participants and pave the way for participation from students who might normally not share their experiences in a second language. More important, it helped provide a linguistic frame for the lesson: The Spanish-medium discussion served as a basis of transferring linguistic and conceptual knowledge from Spanish to English. The notion of transference is well known in the field of bilingual education and second language acquisition. As stated by Baker (2001), "concepts already attached to words in the first language will easily be transferred into the second language" and "the acquisition of literacy skills in the first language tends to facilitate the acquisition of literacy skills in the second language" (p. 363). The discussion of a health-related situation helped students draw on health-related vocabulary in Spanish to learn the new vocabulary in English. Similarly, the use of the vignette was one important way of creating linguistic and cultural connections between the curriculum content and students' lives to facilitate meaningful language and content learning.

After the opening vignette, all instruction took place in English. Just as each unit opened with a vignette, each of the health literacy activities presented within the unit were framed using questions designed to draw on participants' prior knowledge and experiences with the task at hand. In keeping with a sociocultural approach to literacy and the emphasis on authentic texts, several of the lessons contained authentic texts procured from real-life health care settings. For instance, in Unit 1 the teacher gives instructions on how to fill out Texas Medicaid forms and students then practice filling them out on their own. This provides students the opportunity to use authentic texts to manage the print literacy demands they face on a regular basis in health care settings.

Another important feature of the curriculum was the integration of technology. The decision to include technology was based in part on the recognition of technological literacy as one kind of literacy. It was also based on the data collected by the group discussions prior to curriculum development, where several participants noted the use of computers and the Internet as one key source of health information. Every unit of the curriculum contained a technology component. In Unit 2, for

Health Literacy/ESL UNIT 3

DAILY ACTIVITIES

Session 3

Language Objectives
•Simple present: statements and spelling rules.
•Adverbs/ Expressions of frequency.
•Practice making a medical appointment through role play.

Health Literacy Objectives
•Document: Read and fill out a medical history form.
•Numeracy: Read and interpret medical appointment slips.
•Prose: Read and interpret the Bill of patient's rights and responsibilities.

Texas Adult Education ESL Standards
•Listening 3.4 Distinguish similar sounds in conversations from speakers in a variety of settings to determine meaning.
•Speaking 2.2 Use some basic grammar conventions in structured communication.
•Reading 4.2 Locate familiar information in short, simple text with guidance and in response to questions or prompts.
•Writing 2.3 Organize information into simple and compound sentences following a minimally structured format.

ESL Level
•Low beginning-Low intermediate

Duration
•3.5 hours

Materials
•Excellent Eng. Teacher Edition
•Excellent Eng. Student book
•English dictionary
•English-Spanish dictionary
•Writing paper
•Pens/pencils/markers
•Adhesive tape
•Appointment Cards (Act. 3.5)
•Vignette 3 (Act. 3.7)
•Graphic organizer: Network tree (Act. 3.9)
•Patient's Bill of Rights and Responsibilities (Act. 3.9)
•Medical instructions brochure *About your CT exam* (Act. 3.10)
•Medical instructions brochure *About your MRI exam* (Act. 3.10)
•Medical instructions brochure *About your ultrasound exam* (Act. 3.10)
•Medical instructions brochure *How Should I Prepare for the Stress Test?* (Act. 3.10)
•Medical history form (Act. 3.11)
•Worksheet #5, EE Teacher Edition pg. 298. (Homework)
•Worksheet #6, EE Teacher Edition pg. 299. (Homework)

Key Health Vocabulary

•Rights
•Interpreters
•Second opinion
•Challenge
•Responsibilities
•Appointment
•Schedule
•Medical history
•Stroke
•Prevent
•Weight/overweight
•Sodium
•Fats: Saturated/Trans
•Prescribed
•Blood pressure
•Cholesterol
•Glucose

Procedures

Introducing the Session (25 min.)

1. HOMEWORK REVIEW (20 min.)
•The teacher will begin the session by asking each student to share the information they obtained about a local health organization by calling 211.
•The teacher will go over the answers for the verb list, changing verbs from the base form to the present continuous form (-ing)

1. Look-looking	6. Slide-sliding
2. Read-reading	7. Cut-cutting
3. Say-saying	8. Hurt-hurting
4. Hit-hitting	9. Smoke-smoking
5. Buy-buying	10. Drink-drinking

•What's happening? Worksheet#3 pg. 296 EE The class will go over the answers for WORSHEET 3 ANSWER KEY: EE Teacher Edition, pg. 31

FIGURE 1 Sample Lesson Plan *(continued)*

FIGURE 1 (continued)

2. INTRODUCTION (5 min.)

- The teacher will write the unit language and health literacy objectives on the board.
- A few students will practice reading the objectives out loud for the class.

Conducting the Session (65 min.)

3. Students will be engaged to begin grammar pg. 39, EE book. (15 min.)

- GRAMMAR CHART: Simple Present Tense

The students will go over the affirmative and negative statements. They will use simple present to talk about daily activities and go over the spelling rules.

- WRITE. Students will complete the affirmative/negative sentences using the present tense.

ANSWER KEY: EE Teacher edition, pg. 54

- WHAT ABOUT YOU? Students will practice writing affirmative and negative sentences.

- TALK. Students will practice reading their sentences to a partner.

4. Students will be engaged to begin grammar Activity 2 LISTEN on pg. 75, EE book. (10 min.)

- This activity will serve as a guide for a medical appointment role play.
- The script is a conversation taking place in a medical office setting.
- Students will switch roles to practice the conversation.

5. GAME What time is your appointment? (20 min.)

- The teacher will give everyone an appointment card with a different time.
- Learners look at their cards and practice reading their appointment dates and times.
- Learners line up in order of their appointments. Play this game 3 times. Round 1 is to line up by dates (e.g., March 21, March 23)
- Learners ask each other "When is your appointment?"
- Round 2 is times of day, learners ask each other "What time is your appointment?"
- Round 3 is for students to line up by dates/times mix-and-match. Students take turns asking and answering the following questions:

- *When is your next appointment?*
- *At what time is your appointment?*
- *Where should you go?*
- *Where can you call to obtain more information?*

6. Students will be engaged to begin grammar on pg. 45, EE book. (20 min.)

- GRAMMAR CHART: Students will practice using adverbs of frequency and expressions of frequency in sentences and go over the spelling rules.

- CHART EXPANSION ACTIVITY: Frequency continuum, EE Teacher Edition, pg. 63. Students will get cards with adverbs of frequency and expressions of frequency to go up and tape them onto the continuum/chart at the right place.

- WRITE. Students will put the words in the correct order to correct scrambled sentences.

ANSWER KEY: EE Teacher Edition, pg. 63

- WHAT ABOUT YOU? Students will write sentences about their routine using *always, usually, sometimes, rarely, never.*

- TALK. Students will read their sentences to a partner.

Practice and Application (120 min.)

7. VIGNETTE (10 min.)

- The teacher will make an introduction to the lesson by reading a vignette (in Spanish) to provide context using a story that is unfolding.
- There will be a brief group discussion about the content of the vignette which can take place in Spanish or English.

8. VOCABULARY DEVELOPMENT (15 min.)

- The teacher will write new vocabulary words (civil rights, responsibilities, appointment, medical history, interpreters, second opinion, challenge, stroke, prevent, weight, overweight, sodium, saturated fat, trans fat, prescribed, blood pressure, cholesterol, glucose) on the board and read them.
- Students repeat vocabulary words after the teacher reads them.
- As a whole group, the students will brainstorm the meaning of the above mentioned concepts.

9. PROSE (30 min.)

- The teacher will distribute to each student a "*Patient's Bill of rights and responsibilities*" document and a graphic organizer (network tree).
- The teacher and the students will scan the document to become familiar with the content (e.g., the right to be informed in advance about a medical service to be provided and the responsibility to give accurate and complete health information).
- The teacher will post an enlarged graphic organizer (network tree) on the board.
- The teacher will form small groups (5 students).

(continued)

FIGURE 1 (continued)

10. MEDICAL INSTRUCTIONS (30 min.)

•The teacher will divide the class into four groups.
•The teacher will distribute a different brochure about medical instructions before an exam (stress test, x-rays, MRI, ultrasound) to each group.
•The teacher will guide the students to identify key sections on the information sheet.
•Each group will read and interpret the preparation instructions on the pamphlet assigned.
•Each group will participate in discussions about the information presented about what to do before, during, and after a certain medical procedure.

11. DOCUMENT (25 min.)

•The teacher will distribute a medical history form to each student.
•The teacher will guide the students to identify different sections of the form mentioned above.
•With the guidance of the teacher, the students will individually read and fill out some sections of the form using their personal information.

Homework assignment (10 min.)

•The teacher will photocopy and distribute worksheet #5, EE Teacher Edition pg. 298.
•Students look at pictures to identify true of false statements and write three affirmative and three negative sentences about the people in the pictures to complete the worksheet at home.
•The teacher will photocopy and distribute worksheet #6, EE Teacher Edition pg. 299.
•Students will number the sentences from most frequent to least frequent and practice completing sentences at home.
•The teacher will ask students to write a paragraph (minimum five sentences) about their typical day describing their personal schedule including medication and/or supplements taken. This assignment will be shared with the class in the next session.

ESL Tips Students will be assigned a specific function (secretary, monitor, presenter) when participating in small groups. The students will take turns to assume the different positions throughout the sessions.

Technology Tips Students will be encouraged to practice filling out their medical history forms online and/or set up a medical appointment online.

Resources

Aerocareusa.com. *Patient's Bill of Rights and Responsibilities* . Accessed at http://www.aerocareusa.com/Patient_Education/Patient%20Bill%20Of%20Rights%202000.pdf on April 14, 2010.

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TABLE 1
Connecting Theory and Practice

Theory	*Author(s)*	*Main/Guiding Constructs*	*Examples*
Health literacy and health behavior theory	Rudd (2000) Bandura (1994) Nutbeam (2002)	Health literacy is the ability to apply skills to health situations at home, work, and the community The beliefs that determine how people feel, think, and motivate themselves and behave. Four processes that affect self-efficacy and human behavior include cognitive, motivational, affective, and selection processes	Searching for health-related information using the Internet Calling to request information about the locations of local clinics and hospitals Practicing dialogues related to the health care setting through role-play. Presenting posters to the whole class
Sociocultural approach to literacy and communication	Barton (1994) Street (1995) Duke, Purcell-Gates, Hall, and Tower, (2006)	Reading, writing, and communication are seen to be deeply embedded in and shaped by social interactions and social contexts. This approach recognizes that different kinds of literacy are used in different domains To handle everyday literacy demands, (especially related to the health care domain) learning how to deconstruct texts to provide learners with the tools and confidence to effectively handle texts in real-life situations	Health care settings—including hospitals, clinics, and even the home—require particular knowledge about particular kinds of texts, including intake forms, prescriptions, and government assistance forms Authentic texts here include Medicaid forms, medical history forms, prescriptions, as well as medicine and nutritional labels
Adult learning theory	Malcolm Knowles (1984)	*Six key principles* (1) adults have a need to know why they should learn something; (2) adults tend to be self-directed; (3) adults bring rich, extensive prior knowledge to the learning situation; (4) adults learn better when they themselves perceive the need for learning (rather than the need being defined by an outsider); (5) adults tend to have a more problem-centered (or task-centered) approach to learning, with the goal of application rather than content mastery; and (6) adults are driven by both intrinsic and extrinsic motivators to learn	There is particular emphasis on Principles 3 and 5. The vignette written and discussed in Spanish at the beginning of the session incorporated adults' rich, extensive prior (language and content) knowledge to the learning situation

example, the teacher models how to navigate the Internet to find information on health issues and on local health resources; students are then assigned an online search activity. In Unit 3, students are encouraged to practice filling out online medical history forms on their own.

Confidence in communicating effectively in English and understanding the demands of the health care system was promoted throughout the entire curriculum, specifically through grammar, conversation, and hands-on activities such as completing insurance forms, using

the Internet for seeking health information, and reading prescription labels.

Finally, to ensure that the cultural values, communication system, and rhetorical patterns of the audience were properly incorporated, the curriculum included materials that have specifically been developed for Mexican adult audiences. One such material is the *fotonovela* "An Ounce of Prevention: A Guide to Heart Health" developed by the National Heart, Lung, and Blood Institute and the Office of Research on Minority Health. The *fotonovela* portrays a Mexican American family (*familia* Ramírez) whose members include three generations at different levels of acculturation (*abuelitos, padres e hijos*) dealing with common health problems and health care issues. The format reflects the family-oriented structure that tends to exist in Mexican society, and the linguistic and rhetorical patterns are consistent with the communication style of Latino communities, making the materials appealing to the participating audience.

CURRICULUM EVALUATION

The curriculum was first presented to two ESL teachers and two students, who provided feedback on content and format. It was then piloted over a 2-week period with a group of 12 ESL students. Classes were observed and notes on curriculum administration and class dynamics were compiled. The information was used to make modifications to the curriculum, such as adjusting time allotted for classroom activities and adding captions to handouts. The curriculum was then finalized and implemented in a 6-week course with 84 students in fall 2010.

Qualitative data were collected on the experiences of students through a semistructured discussion with all students at the end of the program. Sessions were recorded and transcribed. The transcriptions were analyzed and coded for themes related to students' satisfaction with the curriculum and the integration of theory and practice. Findings point to a high degree of satisfaction with the curriculum on the part of students. On the whole, students communicated positive feedback on the course, as seen in comments such as "it was marvelous because we learned about health;" "it [the course] helped us a great deal;" and "what I learned was useful" (Group Discussion, October 28, 2010).

There were also specific comments that indicated explicit, concrete learning on the part of students with respect to health literacy and ESL. One student noted,

> We also learned that there are forms and how to fill out [those] forms which we sometimes don't know. Many times when we go to the doctor, we just sign [the form] without reading it. So we learned that it's very important to read because it's basic to being able to exercise our rights. (Group Discussion, October 28, 2010)

In this instance, the student not only highlights a learning outcome related to completing forms, which was connected to the integration of authentic texts, but she also specifically connects reading and understanding health forms to her rights as a patient, a topic that was covered in Unit 3.

Regarding reading and interpreting medicine and food labels, one participant noted, "Now I go to the store and I have to check the labels to see what they say." Another participant stated, "We saw products that have a high quantity of sugar which we, or I, did not know, and sodium, and many things that affect us . . . that affect our health, so we learned how to read them" (Group Discussion, October 28, 2010).

Students also perceived an increased technological capacity. One participant emphasized,

> I [used to] look at the computer and I did not even want to turn it on, I don't like it, and with this program with the worksheets that they gave us, with the suggestions that the teacher gave us, it's that now I'm getting the sweet taste of investigating. . . it was good because now I am interested, it's not only to take the dust off of the computer. (Group Discussion, October 28, 2010)

Similarly, another participant commented: "Everything that they assigned us for homework to look for things on the computer, that was very, very interesting for me, and now I look for everything there" (Group Discussion, October 28, 2010). The program seemed to contribute to a perceived increase in self-efficacy, as one participant noted: "We have more confidence when speaking and understanding what people are saying" (Group Discussion, October 28, 2010).

On the whole, the qualitative data indicated that the curriculum was attractive to participants and that they were highly satisfied with both the format and content. Findings from the group discussions indicate that the combination of ESL and health literacy contributed to a perceived positive learning experience among participants. Whereas the individual and social advantages of learning English may have provided participants with the motivational incentive to sign up for the program and attend the sessions, the health context helped maintain the interest of the participants and enhanced the learning process.

CONCLUSION

The curriculum described here represents one example of an audience-centered approach designed to meet the specific health and literacy needs of the Hispanic population on the U.S.–Mexico border. Qualitative results suggest that the combination health literacy/ESL may constitute an appropriate approach to addressing the health and education needs of language minority populations. Although this article describes the development process and key features of an integrated health literacy and ESL curriculum designed for use with Hispanic immigrants, it can serve as a model that is internationally applicable to other regions and population groups. Unique aspects of the curriculum include the reliance on sociocultural approaches to literacy, a focus on the audience, the interdisciplinary nature of the development team, and the collaboration between a university-based research team and a practice-oriented community partner.

In summary, the health and education needs of diverse population can be best addressed by interdisciplinary approaches that include not only health researchers and health care providers but also social scientists, educators, and practitioners. The curriculum may constitute an effective tool for health education and promotion practitioners and researchers.

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